

# **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

Dept. of International Language Studies and Computational Linguistics  
Copenhagen Business School

May 21, 2010

## Abstract

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

---

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

# Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>Top-level relations: ANY</b>	<b>3</b>
<b>3</b>	<b>Syntactic relations: SYNTAX</b>	<b>5</b>
3.1	Complement relations: SYNCOMP . . . . .	5
3.2	Adverbial adjunct relations: ADVERB . . . . .	11
3.3	Other adjunct relations: SYNADJ . . . . .	20
<b>4</b>	<b>Morphological relations: MORPHOLOGY</b>	<b>27</b>
4.1	Compositional relations: MORPHCOMP . . . . .	27
4.2	Derivational relations: MORPHDERIV . . . . .	29
4.2.1	Prefix relations: PREFIX . . . . .	29
4.2.2	Suffix relations: SUFFIX . . . . .	32
<b>5</b>	<b>Discourse relations: DISCOURSE</b>	<b>39</b>
5.1	Functional relations: DISCFUNC . . . . .	39
5.2	Semantic relations: DISCSEM . . . . .	41
<b>6</b>	<b>Anaphor relations: ANAPHORA</b>	<b>46</b>
6.1	Coreference relations: coref . . . . .	46
6.2	Associative anaphor relations: assoc . . . . .	47
<b>7</b>	<b>Semantic relations: SEMANTICS</b>	<b>48</b>
7.1	Qualia relations: QUALIA . . . . .	48
7.2	Thematic role relations: SEMROLE . . . . .	49
<b>8</b>	<b>Word alignment relations: ALIGN</b>	<b>55</b>
<b>9</b>	<b>Rule schemata for complex relations: RULE</b>	<b>56</b>
<b>10</b>	<b>Relations misplaced outside the ANY hierarchy</b>	<b>59</b>
<b>A</b>	<b>Overview tables</b>	<b>60</b>
<b>B</b>	<b>Index</b>	<b>71</b>

# 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**;  
isa **super** it has immediate super type **super** and is defined in row 12 in the spreadsheet. When  
[12] describing a relation, we also lists its other properties, if relevant, including its:

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

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

## 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

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

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

Subtypes: DIM RULE.

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

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

**DIM:LEVEL** *Dimension: linguistic level.* Dimension specifying the linguistic level of the relation.  
isa DIM The classification of relations into linguistic levels is slightly arbitrary (there will be  
[6] borderline 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.  
[7]

+ *Segment concatenation* (long: CONCATENATION). A concatenation relation between  
isa DIM:TYPE two adjacent segments. This relation is used if an indecomposable lexeme has mis-  
[30]

takenly been segmented into two segments. Lexicalized complex expressions are instead marked as IDIOM relations with the "#" suffix.

Related types: IDIOM.

**IDIOM** *Idiomatic relation*. Idiomatic relation. Ie, relations between tokens in a complex  
isa DIM:TYPE lexicalized expression.  
[31] Subtypes: PRIM"#".

**PRIM** *Primary dependency relation* (long: PRIMARY). A primary dependency relation. Ie, a  
isa DIM:TYPE relation 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  
isa PRIM by the adjunct, ie, the lexical entry of the adjunct specifies the permissible adjunct  
[26] frames for the 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: DISCFUNC DISCSEM SYNADJ.

**COMP** *Complement relation* (long: COMPLEMENT). A primary complement relation. The  
isa PRIM relation is licensed by the governor, ie, the lexical entry of the governor specifies the  
[25] complement frames 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.  
isa DIM:TYPE Eg, the secondary dependency relation in filler-gap constructions such as relatives  
[27] without a relative pronoun (the relativized noun is a secondary dependent of the  
relative verb), raising and control constructions, and elliptic coordinations.  
Subtypes: "["PRIM"]" "{"SEM"}".

## Chapter 3

# Syntactic relations: SYNTAX

SYN: syntax level

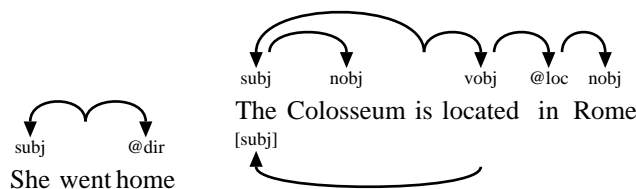
Figure 3.1: The relations matching SYNTAX-SYNCOMP-SYNADJ.

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

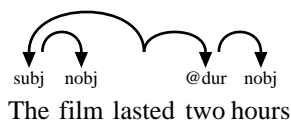
### 3.1 Complement relations: SYNCOMP

**SYNCOMP** *Syntactic complement.*  
 isa COMP SYN Subtypes: @space @time aobj avobj dobj fobj gobj iobj nobj numa numm part pobj possd possr [70]  
 pred qobj robj subj vobj.

**@space** *Valency-bound location/direction adverbial.*  
 isa SYNCOMP Related types: dir loc. [79]



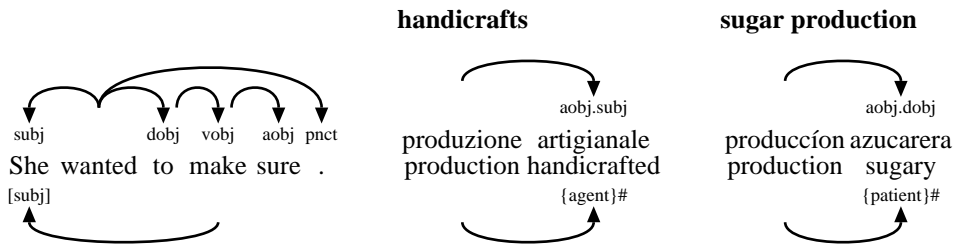
**@time** *Valency-bound time adverbial.* A valency bound time expression. Formerly analyzed as locative object, but we have decided to provide a general mechanism (@) for converting adverbial relations into valency-bound relations.  
 isa SYNCOMP Related types: cont dur ext hab prec succ. [95]



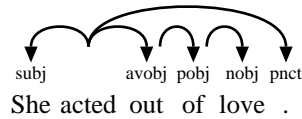
SYNCOMP: syntactic complement  
 @space: valency-bound location/direction adverbial  
 @time: valency-bound time adverbial  
 aobj: adjectival object  
 avobj: adverbial object  
 dobj: direct object  
 fobj: filler object  
 gobj: genitive object  
 iobj: indirect object  
 nobj: nominal object  
 numa: 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.

**aobj** *Adjectival object.* If the adverbial object is part of a NP which nucleus is de-  
 isa SYNCOMP verbal, the following annotation possibilities are available: aobj.subj{SEMROLE}  
 [86] aobj.dobj{SEMROLE} aobj.pobj{SEMROLE} aobj.iobj{SEMROLE} The relevant  
 semantic roles in this context are agent, patient, recipient, experient, location.  
 Related types: avobj.



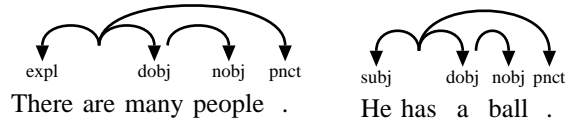
**avobj** *Adverbial object.*  
 isa SYNCOMP Related types: aobj part.  
 [87]



**dobj** *Direct object.*  
 isa SYNCOMP  
 [75]



Related types: iobj robj.  
 Confusion<sub>1</sub>: pnct<sub>100%</sub> .

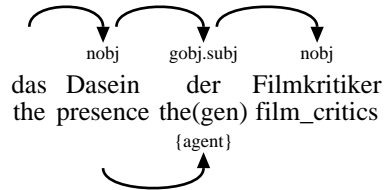


**fobj** *Filler object.* NO LONGER IN USE; see gapping constructions.  
 isa SYNCOMP [88] Related types: GAP.

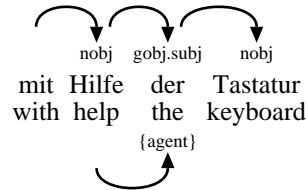
N/A

**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} gobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.  
 [77] Related types: SEMROLE attrg.

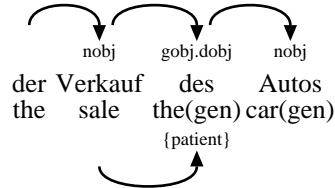
**the presence of film critics**



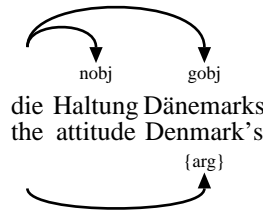
**with help from the keyboard**



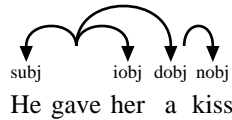
**the sale of the car**



**Denmark's attitude**

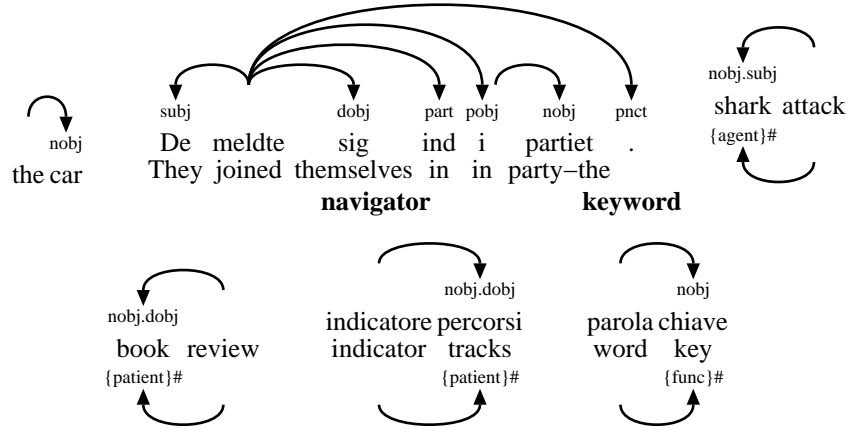


**iobj** *Indirect object.*  
 isa SYNCOMP [78] Related types: dobj.



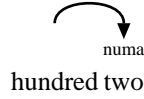
**nobj** *Nominal object.* If the nominal object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE} nobj.pobj{SEMROLE} nobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.  
 [85] Confusion<sub>1</sub>: pnct<sub>100%</sub> .

**They joined the party.**



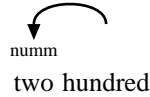
**numa** *Additive numeral complement.*

isa SYNCOMP [89] Related types: numm.



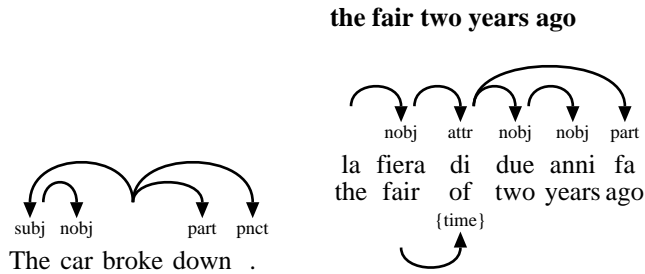
**numm** *Multiplicative numeral complement.*

isa SYNCOMP [90] Related types: numa.



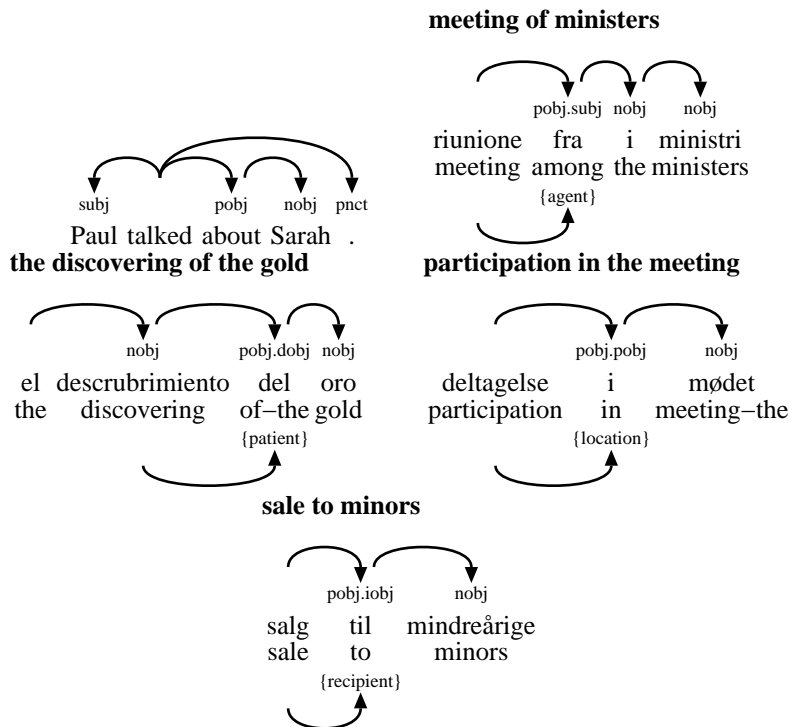
**part** *Verbal particle.* Verbal particle.

isa SYNCOMP [91] Related types: avobj.



**pobj** *Prepositional object.* If the prepositional object is part of a NP which nucleus is

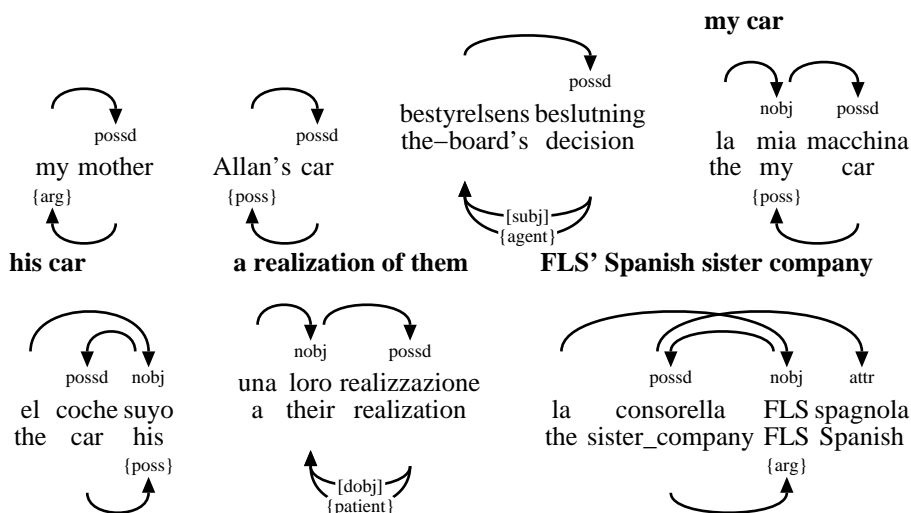
deverbal, the following annotation possibilities are available: pobj.subj{SEMROLE} pobj.dobj{SEMROLE} pobj.pobj{SEMROLE} pobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location. Related types: SEMROLE avobj.



**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.

isa SYNCOMP [92]

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



**possr** *Possessor complement.* NO LONGER IN USE

isa SYNCOMP [93]

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.

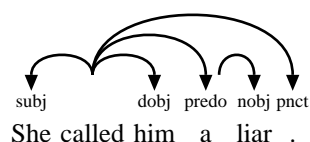
Related types: poss possd.

N/A

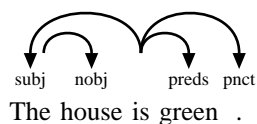
**pred** *Predicative.*  
 isa SYNCOMP Subtypes: predo preds.  
 [80] Related types: predo preds.

V->predicative, P->predicative

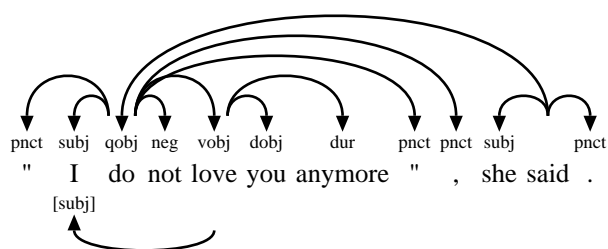
**predo** *Object predicative.*  
 isa pred Related types: preds.  
 [82]



**preds** *Subject predicative.*  
 isa pred Related types: predo.  
 [81]

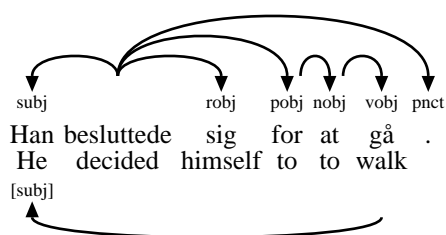


**qobj** *Quotational object.* A phrase or discourse segment functioning as directly quoted speech, typically by an attribution verb. Indirect speech is analyzed as "dobj" or "nobj".  
 isa SYNCOMP [94]  
 Related types: xpl.

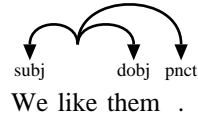


**robj** *Reflexive object.*  
 isa SYNCOMP Related types: dobj.  
 [84]

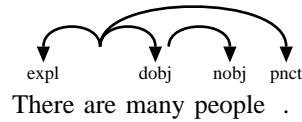
**He decided to walk.**



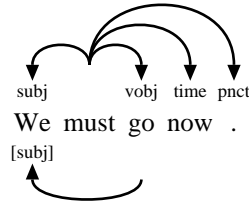
**subj** *Subject.* A subject relation.  
 isa SYNCOMP Subtypes: expl.  
 [73] Related types: expl.



**expl** *Expletive subject.*  
 isa subj Related types: subj.  
 [74]



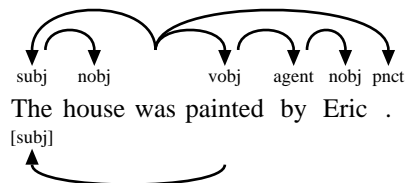
**vobj** *Verbal object.*  
 isa SYNCOMP Related types: ["\$PRIM"].  
 [83]



## 3.2 Adverbial adjunct relations: ADVERB

**ADVERB** *Adverbial* (deprecated other). V/N/P->adverbial  
 isa SYNADJ Subtypes: agent ben cause comp conc concom cond cons degr exem man neg other prg source space  
 [134] struct time.

**agent** *Agent adverbial.* The passivized agent in passives.  
 isa ADVERB  
 [172]

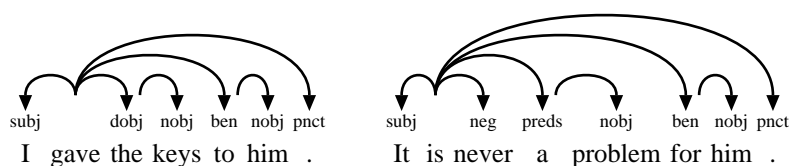


**ben** *Benefactive adverbial.* Free dative  
 isa ADVERB Related types: pobj.  
 [171]

ADVERB: adverbial

- agent: agent adverbial
- ben: benefactive adverbial
- cause: causation adverbial
  - goal: goal adverbial
  - reas: reason adverbial
- comp: comparison adverbial
- conc: concession adverbial
- concom:
- cond: condition adverbial
- cons: consequence adverbial
- degr: degree adverbial
- exem: example adverbial
- man: manner adverbial
  - accom: companionship adverbial
  - inst: instrument adverbial
- neg: negation adverbial
- other: other adverbial
- prg: pragmatic adverbial
  - att: attitude adverbial
  - discmark: sentence-initial discourse marker
  - epi: epistemic adverbial
  - eval: evaluation adverbial
  - focal: focalizer adverbial
  - pcond: pragmatic condition adverbial
- source: source attribution adverbial
- space: space adverbial
  - dir: direction adverbial
  - loc: location adverbial
- struct: text-structuring or connective adverbial
  - add: additive adverbial
  - bg: background adverbial
  - contr: contrast adverbial
  - elab: elaboration adverbial
- time: time adverbial
  - cont: contemporaneity adverbial
  - dur: duration adverbial
  - ext: extent/frequency adverbial
  - hab: habituality adverb
  - prec: precedence adverbial
  - succ: succession adverbial

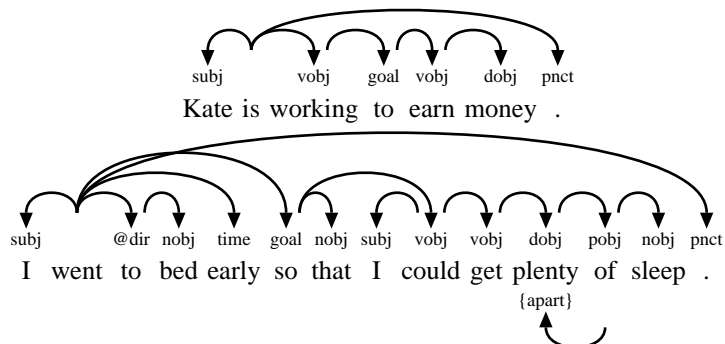
Figure 3.3: The relations matching ADVERB.



**cause** *Causation adverbial.* Causation adverbial. Describes why the event occurred.  
 isa ADVERB  
 Subtypes: goal reas.  
 [160]

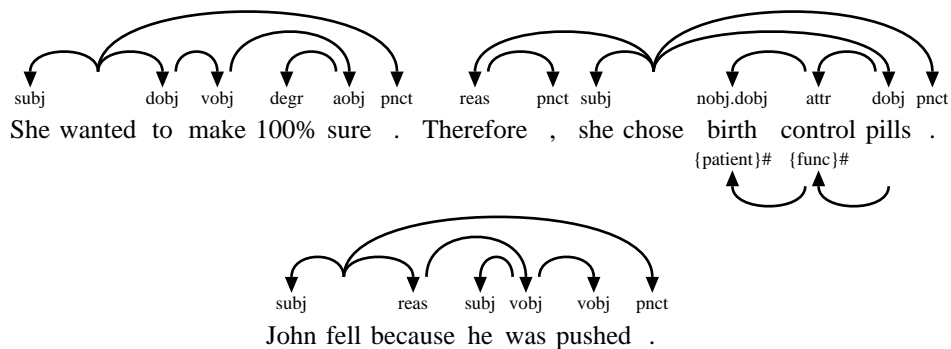
**goal** *Goal adverbial*. Describes the intended goal of the event/action.

isa cause  
[161]



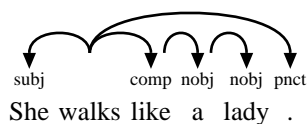
**reas** *Reason adverbial*. Describes the cause of the event/action.

isa cause  
[162]



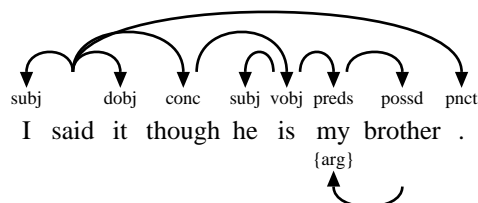
**comp** *Comparison adverbial* (deprecated compare). Comparison

isa ADVERB  
[166]



**conc** *Concession adverbial*. Describes the concession of the event/action.

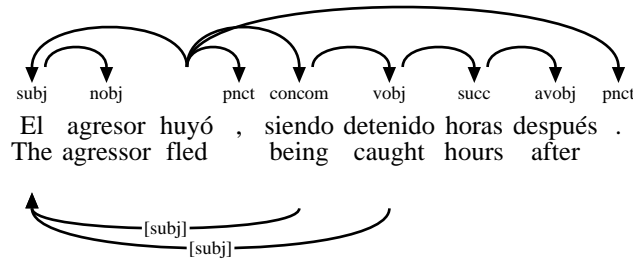
isa ADVERB  
[165]



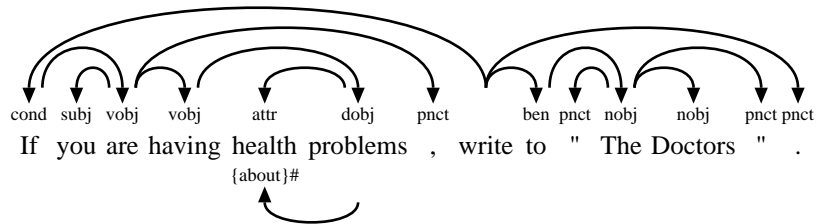
**concom** . Gerunds in Romance

isa ADVERB  
[169]

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

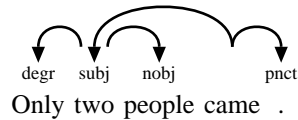


**cond** *Condition adverbial.* Describes the condition of the event/action.  
 isa ADVERB  
 [164] Related types: pcond.

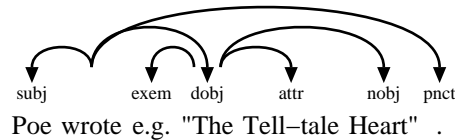


**cons** *Consequence adverbial.* Describes the consequence of the event/action.  
 isa ADVERB  
 [163] Related types: xtop.

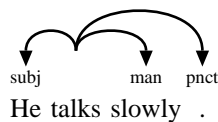
**degr** *Degree adverbial.* Modifies the object or verbal by degree  
 isa ADVERB  
 [170] Related types: focal.



**exem** *Example adverbial* (deprecated **ex**). Exemplification; subordinated the object which is added to a list.  
 isa ADVERB  
 [168]

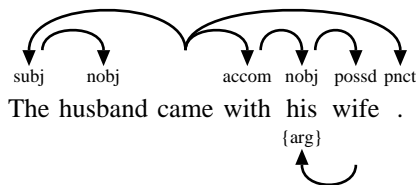


**man** *Manner adverbial.* The way things are done  
 isa ADVERB  
 [157] Subtypes: accom inst.  
 Related types: fpredo.

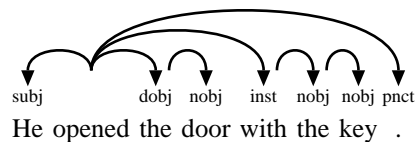




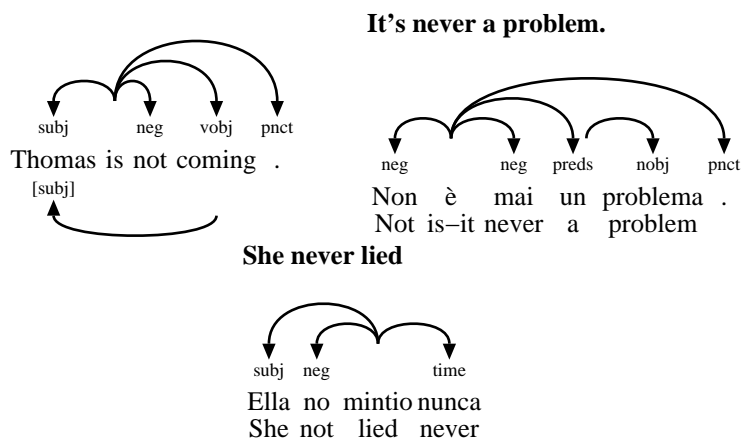
**accom** *Companionship adverbial* (deprecated **comp**). Companionship  
 isa man Related types: man.  
 [158]



**inst** *Instrument adverbial*. Instrument/means  
 isa man Related types: man.  
 [159]



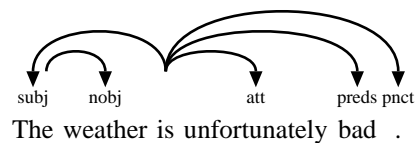
**neg** *Negation adverbial*. Negation of a verbal  
 isa ADVERB  
 [173]



**other** *Other adverbial*.  
 isa ADVERB

**prg** *Pragmatic adverbial*. Sentence level.  
 isa ADVERB Subtypes: att discmark epi eval focal pcond.  
 [135]

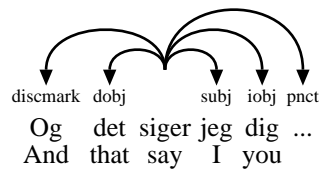
**att** *Attitude adverbial*. Regarding attitude  
 isa prg Related types: epi eval.  
 [139]



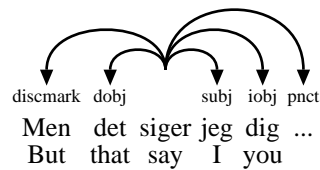
**discmark** *Sentence-initial discourse marker.* Discourse marker

isa prg  
[141]

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

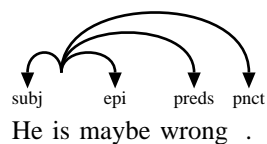


**But I'm telling you...**



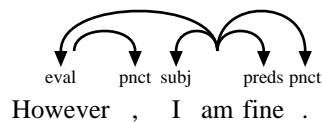
**epi** *Epistemic adverbial.* Regarding the level of truth in the expression

isa prg  
[138]



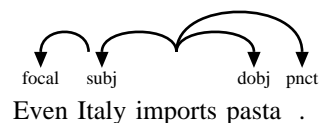
**eval** *Evaluation adverbial.* Evaluating adverbials

isa prg  
[140]



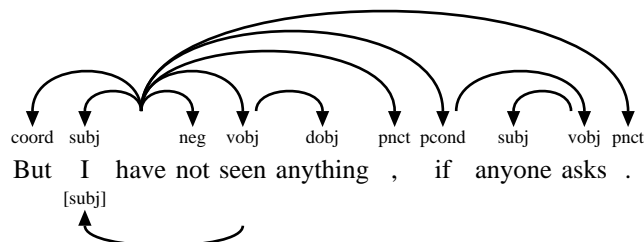
**focal** *Focalizer adverbial.* Focalization of a noun

isa prg  
[136]



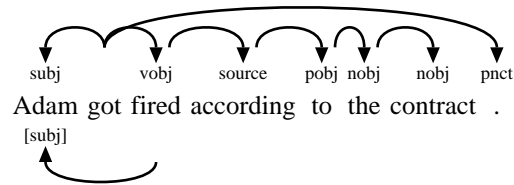
**pcond** *Pragmatic condition adverbial* (deprecated prgcond). Pragmatic condition

isa prg  
[137]



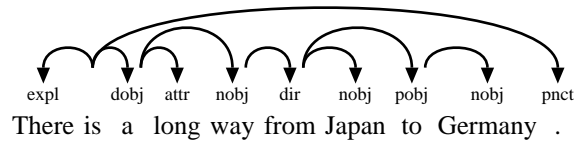
**source** *Source attribution adverbial.* Reference/source

isa ADVERB  
[167]

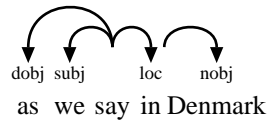


**space** *Space adverbial.* Space adverbials  
 isa ADVERB  
 [154] Subtypes: dir loc.

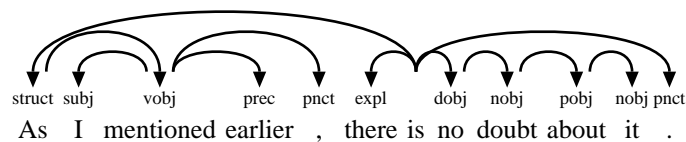
**dir** *Direction adverbial.* Movement from one place to another; direction  
 isa space  
 [156] Related types: loc.



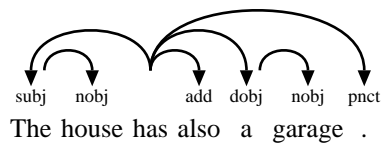
**loc** *Location adverbial.* Location  
 isa space  
 [155] Related types: dir.



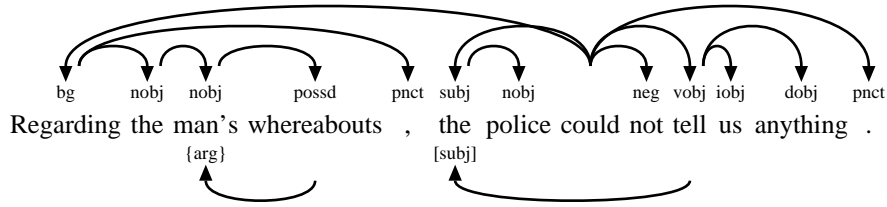
**struct** *Text-structuring or connective adverbial.* Connectives and text structuring adverbials  
 isa ADVERB  
 [142] Subtypes: add bg contr elab.  
 Related types: bg contr.



**add** *Additive adverbial.* Additive information  
 isa struct  
 [146]

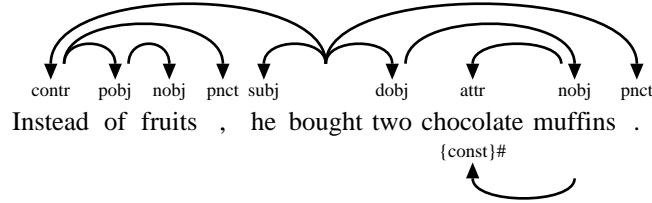


**bg** *Background adverbial.* Background information  
 isa struct  
 [143] Related types: struct.



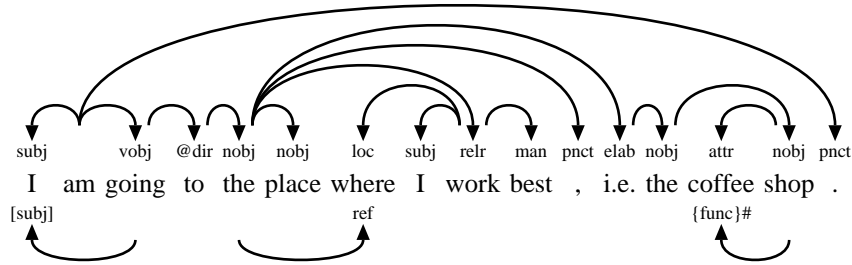
**contr** *Contrast adverbial*. Opposition

isa struct Related types: struct.  
[144]



**elab** *Elaboration adverbial*. More detailed description

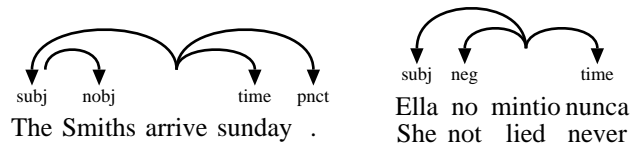
isa struct  
[145]



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

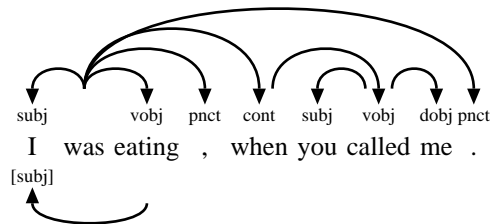
isa ADVERB Subtypes: cont dur ext hab prec succ.  
[147]

**She never lied**

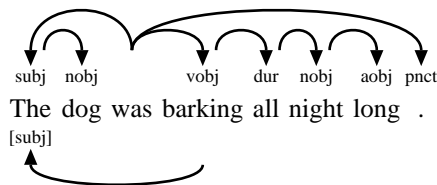


**cont** *Contemporaneity adverbial*. Contemporaneity

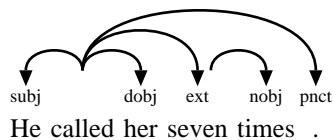
isa time Related types: time.  
[151]



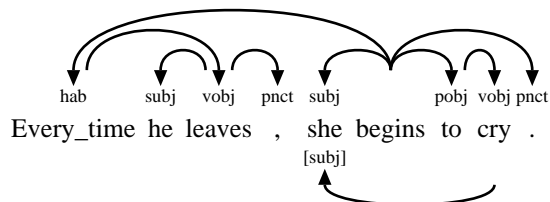
**dur** *Duration adverbial*. Duration  
 isa time Related types: ext hab.  
 [148]



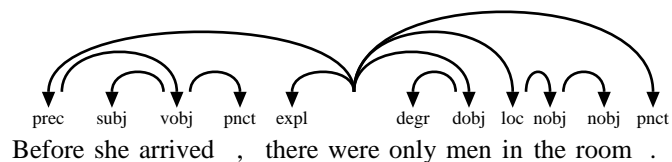
**ext** *Extent/frequency adverbial* (deprecated freq). Frequency; extention  
 isa time Related types: dur hab.  
 [153]



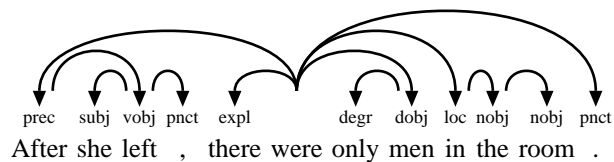
**hab** *Habituality adverb*. Habitual; repeated habit  
 isa time Related types: dur ext.  
 [152]



**prec** *Precedence adverbial*. Precedence  
 isa time  
 [149]



**succ** *Succession adverbial*. Succession  
 isa time  
 [150]



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.

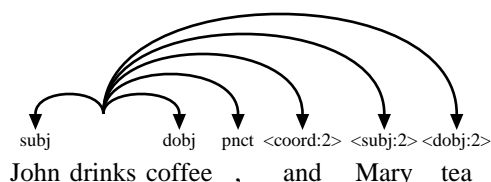
### 3.3 Other adjunct relations: SYNADJ

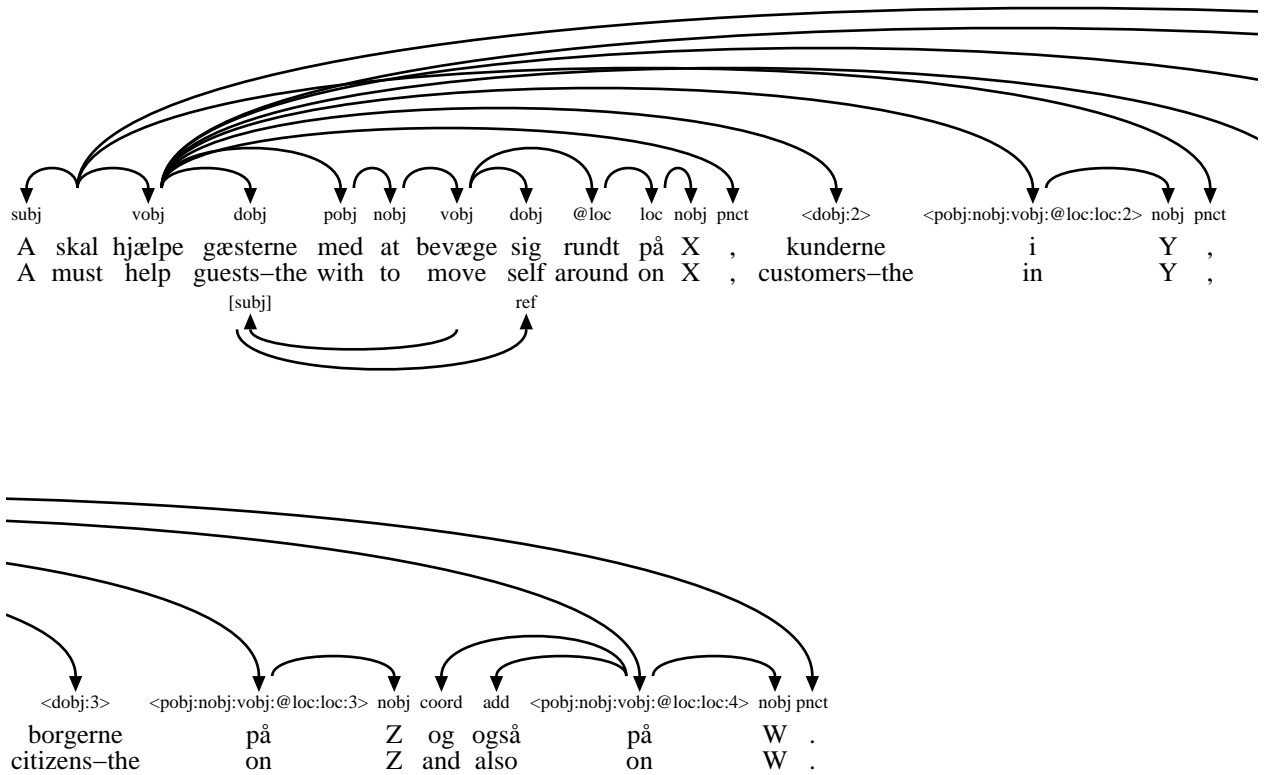
**SYNADJ** *Syntactic adjunct.*

isa ADJ SYN Subtypes: ADVERB GAP app attr attrg conj coord correl fpred mod name pnct rel voc xtop.  
[71]

**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.

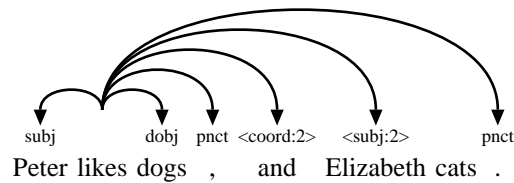
Subtypes: "<"PRIM...":INTEGER">".





PRIM...": "INTEGER" > "apposition" dependent. First conjunct->gapping dependent

isa GAP RULE  
[356]



**app** *Apposition.*

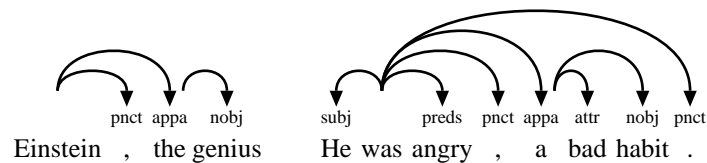
isa SYNADJ Subtypes: appa appr.

[109] Related types: appa appr.

**appa** *Parenthetic apposition (comma).*

isa app Subtypes: xpl.

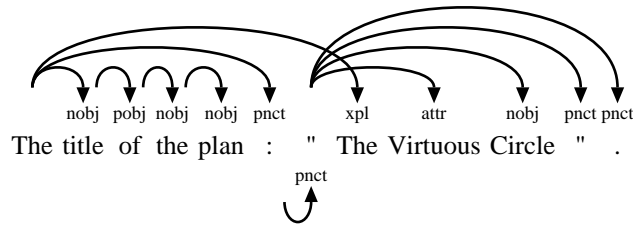
[110] Related types: appr xpl.



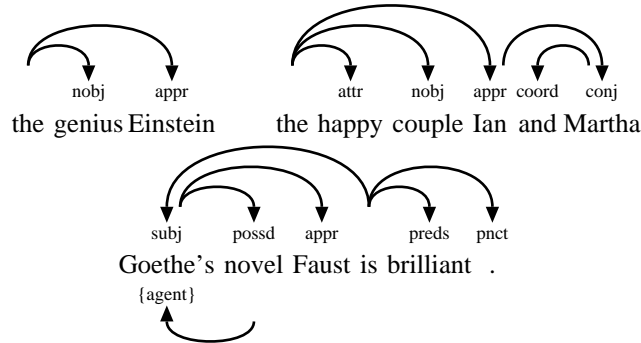
**xpl** *Explication.* Explication of an NP or VP.

isa appa Related types: qobj.

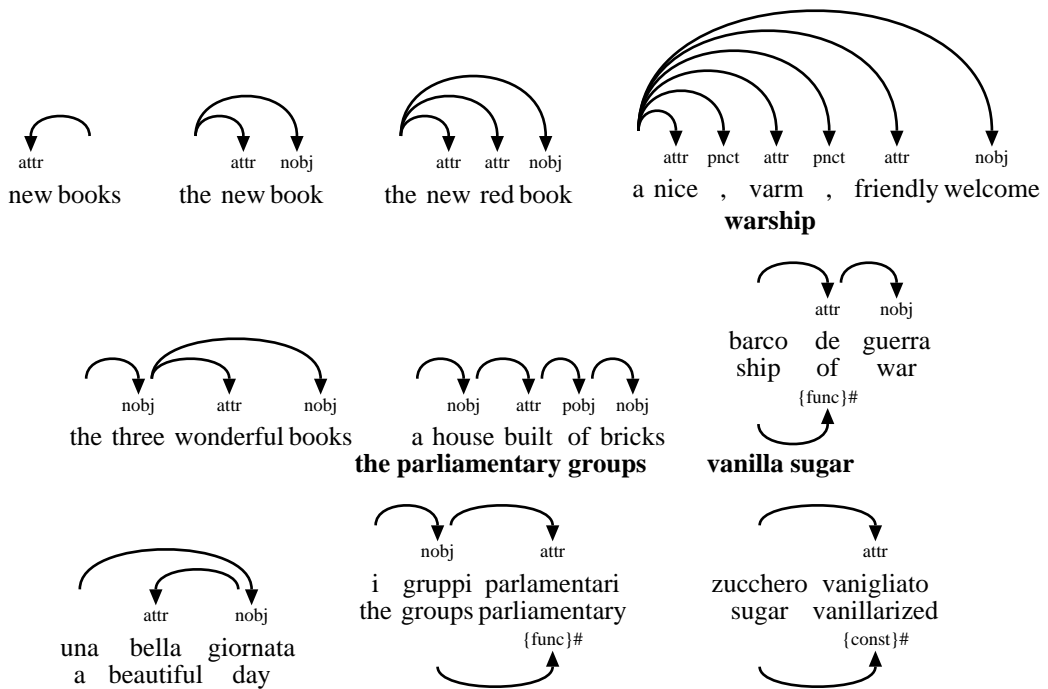
[123]



**appr** *Restrictive apposition (no comma).*  
 isa app Related types: appa.  
 [111]

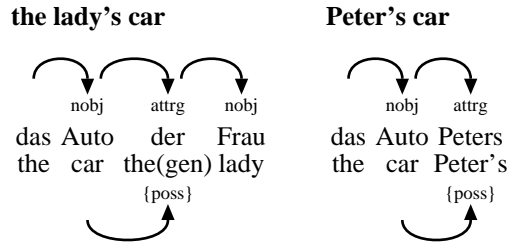


**attr** *Attributive* (deprecated attrdatrr). In Germanic languages, adjectives modify the determiner; in Romance languages, adjectives modify the noun even if there is a determiner  
 isa SYNADJ [107]  
 Related types: SEMROLE attrg pobj.

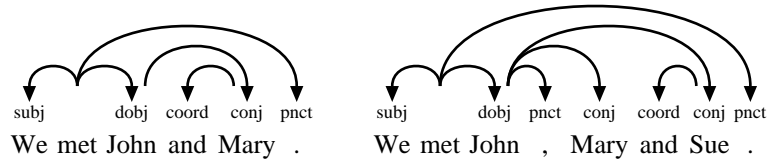


**attrg** *Genitive attributive.*  
 isa SYNADJ Related types: SEMROLE gobj.  
 [108]

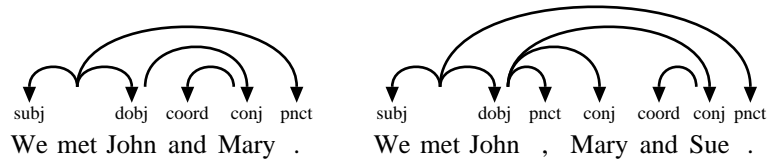




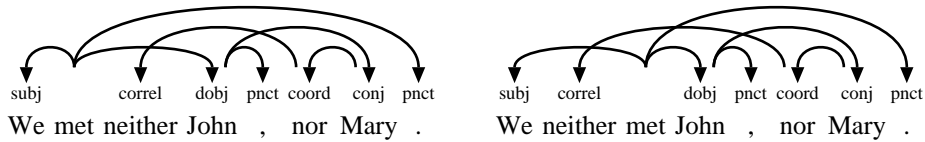
**conj** *Conjunct relation.* A dependency relation relating the conjuncts in a coordination.  
 isa SYNADJ [99] Secondary conjuncts are analyzed as "conj"-dependents of the first conjunct. Coordinators are analyzed as dependents of the secondary conjuncts.  
 Related types: coord correl.



**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.  
 isa SYNADJ [100] Related types: conj correl discmark.



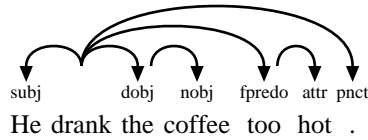
**correl** *Correlative coordinator relation.*  
 isa SYNADJ [101] Related types: conj coord.



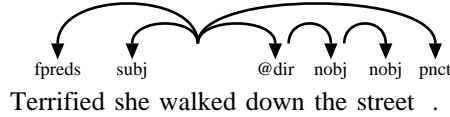
**fpred** *Free predicative.*  
 isa SYNADJ [104] Subtypes: fpredo fpreds.  
 Related types: fpredo fpreds.

V->free predicative

**fpredo** *Free direct-object predicative.*  
 isa fpred [106] Related types: fpreds man.



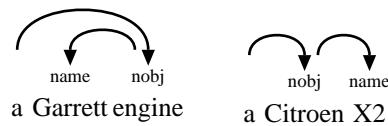
**fpreds** *Free subject predicative.*  
 isa fpred Related types: fpredo.  
 [105]



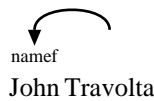
**mod** *Modifier/adverbial.* Deprecated name for adverbials  
 isa SYNADJ Subtypes: modp.  
 [129]

**modp** *Parenthetic modifier.* Deprecated name for parenthetic modifiers  
 isa mod  
 [131]

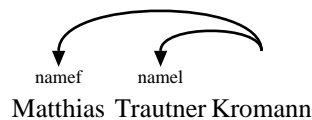
**name** *Part of name.* Part of a name.  
 isa SYNADJ Subtypes: namef name1 title.  
 [117]



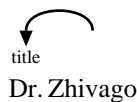
**namef** *First name.* A first name.  
 isa name Related types: name1 title.  
 [118]



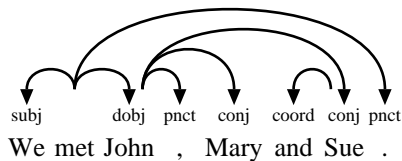
**name1** *Last name.* A second last name  
 isa name Related types: namef title.  
 [119]



**title** *Person title.* A title in a name. If the is the title is determinated by an article, eg. the director Smith, the title must be annotated as "nobj" and the name as "appr".  
 isa name Related types: namef name1.  
 [120]



**punct** *Punctuation.*  
 isa SYNADJ Confusion<sub>2</sub>: nobj<sub>50%</sub> dobj<sub>50%</sub> .  
 [102]



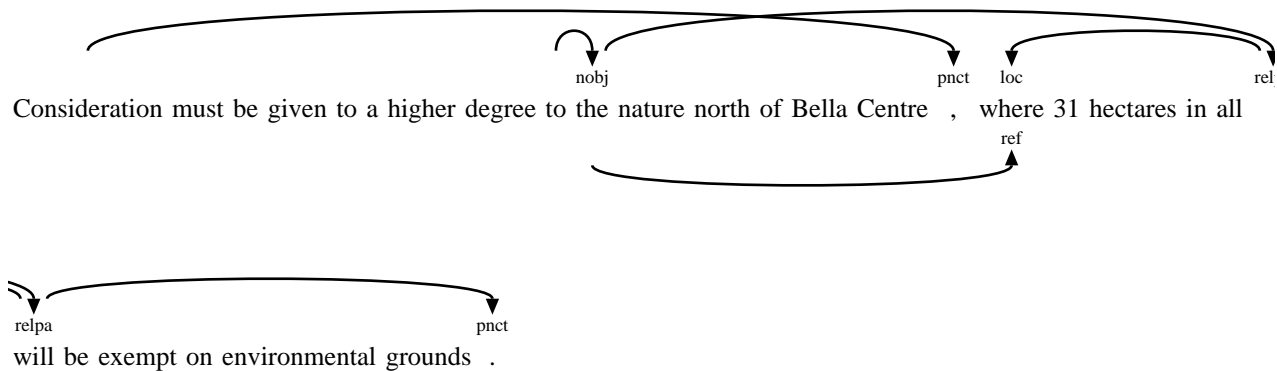
**rel** *Relative clause.*  
 isa SYNADJ Subtypes: relelab relpa relr.  
 [112] Related types: relelab relpa relr.

N->V, V->V

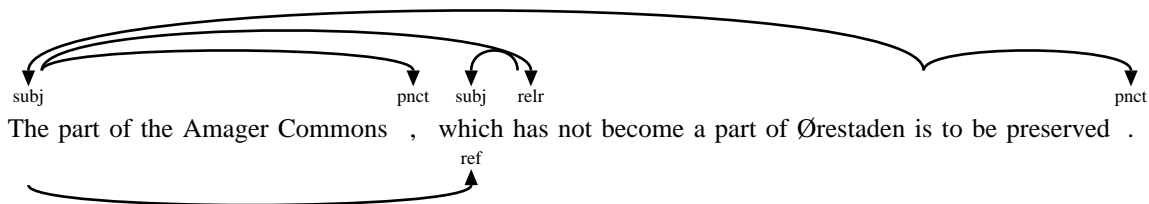
**relelab** *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da:  
 isa rel hvilket, it: il che, cosa che  
 [115] Related types: relpa relr.

V->V

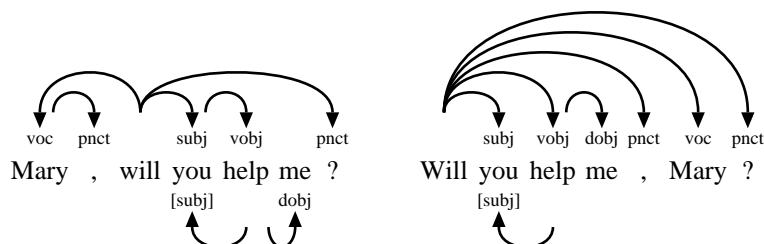
**relpa** *Parenthetical relative clause.*  
 isa rel Related types: relelab relr.  
 [114]



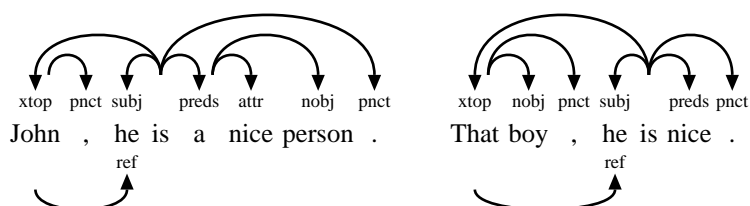
**relr** *Restrictive relative clause.*  
 isa rel Related types: relelab relpa.  
 [113]



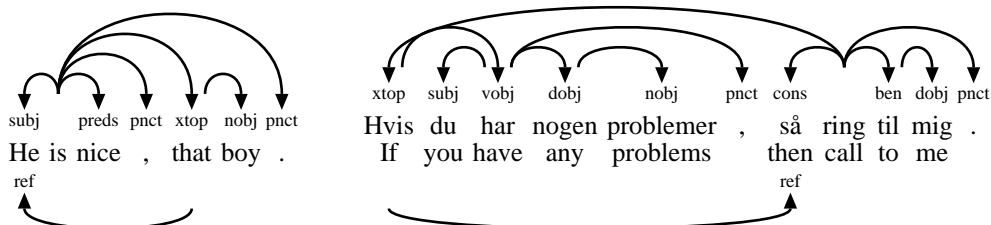
**voc** *Vocative.* Vocative specification. The person to whom the statement is directed.  
 isa SYNADJ  
 [122]



**xtop** *External topic with resuming pronoun.* An external topic is a sentence-initial NP whose only function is to provide the antecedent for a pronoun later in the sentence. [116] Eg in "John, he is a 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.

**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 [359]

### 4.1 Compositional relations: MORPHCOMP

MORPHCOMP: compositional semantic relations  
ABOUT: noun-noun compound (about)  
AGENT: noun-noun compound (agentive)  
CONST: noun-noun compound (constitutive)  
EVAL: noun-noun compound (evaluative)  
FUNC: noun-noun compound (function)  
ORIGIN: noun-noun compound (origin)  
OTHER: noun-noun compound (other)  
POS: noun-noun compound (position)  
POSS: noun-noun compound (possession)  
RESEM: noun-noun compound (resemblance)  
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 CONST EVAL FUNC ORIGIN OTHER POS POSS RESEM TIME:MC.

**ABOUT** *Noun-noun compound (about).* Non-head has an aboutness meaning wrt. head.  
 isa MORPHCOMP [346]  
 (theme: skattelov 'tax law' = lov-[skat]te/ABOUT)

**AGENT** *Noun-noun compound (agentive).* Non-head has an agentive meaning wrt. head.  
 isa MORPHCOMP [338]  
 (agent: politikontrol 'police control' = kontrol-politi/AGENT)

**CONST** *Noun-noun compound (constitutive).* Non-head has a constitutive meaning wrt. head.  
 isa MORPHCOMP [337]  
 (constitutive: træbord 'wooden table' = bord-træ/CONST)

**EVAL** *Noun-noun compound (evaluative).* Non-head has an evaluative meaning wrt. head.  
 isa MORPHCOMP [344]  
 coche de lujo 'luksusbil'

**FUNC** *Noun-noun compound (function).* Non-head has a functional meaning wrt. head.  
 isa MORPHCOMP [340]  
 (function: krigsskib 'war ship' = skib-[krig]s/FUNC)

**ORIGIN** *Noun-noun compound (origin).* Non-head has a meaning of origin wrt. head.  
 isa MORPHCOMP [339]  
 (origin: rørsukker 'cane sugar' = sukker-rør/ORIGIN)

**OTHER** *Noun-noun compound (other).* If in doubt about the meaning relation between head and non-head.  
 isa MORPHCOMP [347]

**POS** *Noun-noun compound (position).* Non-head has a locative meaning wrt. head.  
 isa MORPHCOMP [342]  
 (position: loftlampe 'ceiling lamp' = lampe-loft/POS)

**POSS** *Noun-noun compound (possession).* Non-head has a possessive meaning wrt. head.  
 isa MORPHCOMP [341]

(possession: politibil = bil –politi/POSS

**RESEM** *Noun-noun compound (resemblance).* Denotations of head and non-head resemble each other.  
isa MORPHCOMP [345]

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

**TIME:MC** *Noun-noun compound (time).* Non-head has a temporal meaning wrt. head.  
isa MORPHCOMP [343]

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

## 4.2 Derivational relations: MORPHDERIV

MORPHDERIV: derivational semantic relations

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

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

### 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: ASPEC GRAD LOC MOD NEG PRE:other TIME§ TRANS.

**ASPEC** *Aspectual dimension.* Prefix conveys an aspectual dimension in a broad sense.  
isa PREFIX [273]  
Subtypes: ASPEC:cause ASPEC:iter ASPEC:reflex ASPEC:resul ASPEC:rev ASPEC:term.

**ASPEC:cause** *Causation.* Prefix conveys causation.  
isa ASPEC [276]

(causative: acallar 'silence' = callar –a/ASPEC:cause)

**ASPEC:iter** *Iteration.* Prefix conveys iteration.  
isa ASPEC [275]

(iterative: redefine = define –re/ASPEC:iter)

**ASPEC:reflex** *Reflexivity.* Prefix conveys reflexivity.  
isa ASPEC [277]

PREFIX: semantic relations appearing with prefixes  
 ASPEC: aspectual dimension  
   ASPEC:cause: causation  
   ASPEC:iter: iteration  
   ASPEC:reflex: reflexivity  
   ASPEC:resul: result  
   ASPEC:rev: reversion  
   ASPEC:term: termination  
 GRAD: graduation  
   GRAD:qual: quality  
   GRAD:size: size  
 LOC: location  
   LOC:dir: direction  
   LOC:pos: position  
   LOC:proce: origin  
 MOD: modification  
   MOD:cuant: quantification  
   MOD:man: manner  
   MOD:qual: qualification  
 NEG: negation  
   NEG:oppo: opposition  
   NEG:priv: privation  
 PRE:other: other prefix relation  
 TIME§: time  
 TRANS: transitivity

Figure 4.4: The relations matching PREFIX.

(reflexive: autopilot = pilot –auto/ASPEC:reflex)

**ASPEC:resul** *Result.* Prefix conveys result.

isa ASPEC  
 [279]

(resultative: fastnagle 'rivet' = nagle –fast/ASPEC:resul)

**ASPEC:rev** *Reversion.* Prefix conveys reversion.

isa ASPEC  
 [274]

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

**ASPEC:term** *Termination.* Prefix conveys termination.

isa ASPEC  
 [278]

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

**GRAD** *Graduation.* Prefix conveys graduation in a broad sense.

isa PREFIX  
 Subtypes: GRAD:qual GRAD:size.  
 [270]

**GRAD:qual** *Quality.* Prefix conveys quality.

isa GRAD  
 [272]



(quality: supercomputer = computer –super/GRAD:qual)

**GRAD:size** *Size.* Prefix conveys size.

isa GRAD

[271]

(size/quantity: minibar = bar –mini/GRAD:size)

**LOC** *Location.* Prefix expresses location in a broad sense.

isa PREFIX

[259]

Subtypes: LOC:dir LOC:pos LOC:proce.

**LOC:dir** *Direction.* Prefix expresses direction.

isa LOC

[261]

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

**LOC:pos** *Position.* Prefix expresses position.

isa LOC

[260]

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

**LOC:proce** *Origin.* Prefix conveys origin.

isa LOC

[262]

(origin: extraer: = traer –ex/LOC:proce)

**MOD** *Modification.* Prefix conveys modification in a broad sense.

isa PREFIX

[281]

Subtypes: MOD:cuant MOD:man MOD:qual.

**MOD:cuant** *Quantification.* Prefix conveys quantification.

isa MOD

[282]

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

**MOD:man** *Manner.* Prefix conveys manner.

isa MOD

[283]

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

**MOD:qual** *Qualification.* Prefix conveys qualification.

isa MOD

[284]

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

**NEG** *Negation.* Prefix conveys negation in a broad sense.

isa PREFIX

[267]

Subtypes: NEG:oppo NEG:priv.

**NEG:oppo** *Opposition.* Prefix conveys opposition.

isa NEG

[268]

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

**NEG:priv** *Privation.* Prefix conveys privation.

isa NEG

[269]

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

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

isa PREFIX

[285]

**TIMES** *Time.* Prefix conveys time in a broad sense.

isa PREFIX

[264]

**TRANS** *Transitivity.* Prefix conveys transitivity.

isa PREFIX

[280]

(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 and a suffix.

[257]

Subtypes: AUG DENOM DENUM DER DEV DEVN DIMIN NOPRED PEJ QUAL.

**AUG** *Augmentation.* Suffix conveys augmentation.

isa SUFFIX

[286]

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

**DENOM** *Noun-adjective derivation.* Suffix creates denominal adjectives in a broad sense.

isa SUFFIX

[322]

Subtypes: DENOM:disp DENOM:eff DENOM:other DENOM:poss DENOM:rel DENOM:resem.

**DENOM:disp** *Noun-adjective derivation (disposition).* Suffix creates denominal adjectives that express disposition.

isa DENOM

[330]

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

**DENOM:eff** *Noun-adjective derivation (effect).* Suffix creates denominal adjectives that express an effect.

isa DENOM

[331]

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

**DENOM:other** *Noun-adjective derivation (other).* If in doubt about the meaning conveyed by the suffix

isa DENOM

[332]

**DENOM:poss** *Noun-adjective derivation (possession).* Suffix creates denominal adjectives that express possession.

isa DENOM

[329]

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

**DENOM:rel** *Noun-adjective derivation (relational).* Suffix creates denominal adjectives with a relational meaning.  
isa DENOM [323]  
Subtypes: DENOM:rel.deono DENOM:rel.norm.

**DENOM:rel.deono** *Noun-adjective derivation (naming).* Suffix creates relational adjectives with the meaning of "naming".  
isa DENOM:rel [325]  
Subtypes: DENOM:rel.deono.pers DENOM:rel.deono.place.

**DENOM:rel.deono.pers** *Noun-adjective derivation (naming persons).* Suffix creates relational adjectives with the meaning of "naming" persons.  
isa DENOM:rel.deono [326]

Cervantino 'som har at gøre med Cervantes'

**DENOM:rel.deono.place** *Noun-adjective derivation (naming places).* Suffix creates relational adjectives with the meaning of "naming" of places.  
isa DENOM:rel.deono [327]

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

**DENOM:rel.norm** *Noun-adjective derivation (normal).* Suffix creates relational adjectives with a "normal" meaning aspect.  
isa DENOM:rel [324]

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

**DENOM:resem** *Noun-adjective derivation (resemblance).* Suffix creates denominal adjectives that express resemblance.  
isa DENOM [328]

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

**DENUM** *Adjective-numeral derivation.* Suffix creates denumeral adjectives in a broad sense.  
isa SUFFIX [333]  
Subtypes: DENUM:mult DENUM:ord DENUM:part.

**DENUM:mult** *Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.  
isa DENUM [336]

"kardinal=cinco – multiplikativ=quintuplo" 'fem/femdobbelte'

**DENUM:ord** *Adjective-ordinal derivation.* Suffix creates ordinals.  
isa DENUM [334]

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

**DENUM:part** *Adjective-partitive derivation.* Suffix creates partitive numerals.

isa DENUM  
[335]

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

**DER** *Verb derivation.* Suffix triggers a derivation

isa SUFFIX  
[289]

Subtypes: DER:av DER:nv DER:vv.

**DER:av** *Adjective-verb derivation.* Suffix triggers a derivation from an adjective to a verb.

isa DER  
[291]

(adjective->verb derivation: darken = dark +en/DER:av)

**DER:nv** *Noun-verb derivation.* Suffix triggers a derivation from a noun to a verb.

isa DER  
[290]

(noun->verb derivation: salar 'to salt' = sal +ar/DER:nv)

**DER:vv** *Verb-verb derivation.* Suffix triggers a derivation from a verb to another verb.

isa DER  
[292]

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

**DEV** (long: DEVERB).

isa SUFFIX  
[313]

Subtypes: DEVA.

**DEVA** *Verb-adjective derivation* (long: DEVERBA). Suffix creates deverbal adjectives in a broad sense.

isa DEV  
[314]

Subtypes: DEVA:act DEVA:pas.part.

**DEVA:act** *Verb-adjective derivation (active)* (long: DEVERB:act.pure). Suffix creates active adjectives.

isa DEVA  
[315]

Subtypes: DEVA:act.disp DEVA:act.poten DEVA:pas.

**DEVA:act.disp** *Verb-adjective derivation (pure)* (long: DEVERB:act.disp). Suffix creates active adjectives with the meaning aspect "pure".

isa DEVA:act  
[316]

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

**DEVA:act.poten** *Verb-adjective derivation (disposition)* (long: DEVERB:act.poten). Suffix creates active adjectives with the meaning aspect "disposition".

isa DEVA:act  
[317]

"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

**DEVA:pas** *Verb-adjective derivation (potentiality)* (long: DEVERB:pas). Suffix creates active ad-  
 isa DEVA:act jectives with the meaning aspect "potentiality".  
 [318] Subtypes: DEVA:pas.deon DEVA:pas.poten.

(deverbal adjective: transportable = transport+able/DEVERB:pas.poten)

**DEVA:pas.deon** *Verb-adjective derivation (passive potentiality)* (long: DEVERB:pas.deon). Suffix creates  
 isa DEVA:pas passive adjectives with the meaning aspect "potentiality".  
 [321]

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

'transportabel/maskine som kan blive transporteret/transporteres

**DEVA:pas.poten** *Verb-adjective derivation (passive participles)* (long: DEVERB:pas.poten). Suffix creates  
 isa DEVA:pas passive adjectives with the form of participles.  
 [320]

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

købt"

**DEVA:pas.part** *Verb-adjective derivation (passive)* (long: DEVERB:pas.part). Suffix creates passive ad-  
 isa DEVA jectives.  
 [319]

**DEVN** *Verb-noun derivation* (long: DEVERBN, deprecated PRED). Suffix creates deverbal nouns  
 isa SUFFIX in a broad sense.  
 [293] Subtypes: DEVN:agent DEVN:core DEVN:exper DEVN:inst DEVN:loc DEVN:other DEVN:recip  
 DEVN:result.

**DEVN:agent** *Verb-noun derivation (agent)*. Suffix creates deverbal nouns absorbing the agent  
 isa DEVN role.  
 [294]

(agent derivation: singer = sing +er/PRED:agent)

**DEVN:core** *Verb-noun derivation (core)*. Suffix creates deverbal nouns expressing a nominalized  
 isa DEVN version of the situation denoted by the original verb.  
 [296]

(core derivation: exploitation = exploit@V +ation/PRED:core)

**DEVN:exper** *Verb-noun derivation (experiencer).* Suffix creates deverbal nouns absorbing the  
isa DEVN experiencer role.  
[295]

(experiencer derivation: admirer = admire +r/PRED:exper)

**DEVN:inst** *Verb-noun derivation (instrument).* Suffix creates deverbal nouns expressing the  
isa DEVN instrument related to the meaning of the original noun.  
[300]

(instrument derivation: exprimidor 'saftpresser' = exprimir +dor/PRED:inst)

**DEVN:loc** *Verb-noun derivation (location).* Suffix creates deverbal nouns expressing the loca-  
isa DEVN tion related to the meaning of the original noun.  
[299]

(locative derivation: comedor 'spisestue' = comer +dor/PRED:loc)

**DEVN:other** *Verb-noun derivation (other).* If in doubt about the meaning conveyed by the suffix  
isa DEVN  
[301]

**DEVN:recip** *Verb-noun derivation (recipient).* Suffix creates deverbal nouns absorbing the recip-  
isa DEVN ient role  
[298]

(recipient derivation: beneficiario 'den begunstigde' = beneficiar +ario/PRED:recip)

**DEVN:result** *Verb-noun derivation (patient).* Suffix creates deverbal nouns absorbing the patient  
isa DEVN role.  
[297]

(result derivation: hallazgo 'fund' = hallar +azgo/PRED:result)

**DIMIN** *Diminution.* Suffix conveys diminution.  
isa SUFFIX  
[287]

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

**NOPRED** *Noun-noun derivation.* Suffix creates non-predicative nouns (from other nouns) in  
isa SUFFIX a broad sense.  
[303]  
Subtypes: NOPRED:agent NOPRED:capac NOPRED:cont NOPRED:loc NOPRED:other NO-  
NOPRED:result NOPRED:script NOPRED:set NOPRED:temp.

**NOPRED:agent** *Noun-noun derivation (agent).* Suffix creates non-predicative nouns expressing an  
isa NOPRED agent role.  
[304]

(agent derivation: miller = mill +er/NOPRED:agent)

**NOPRED:capac** *Noun-noun derivation (capacity).* Suffix creates non-predicative nouns expressing a capacity.  
isa NOPRED  
[309]

(capacity derivation: cestada 'kurvfuld' = cesta +ada/NOPRED:capac)

**NOPRED:cont** *Noun-noun derivation (container).* Suffix creates non-predicative nouns expressing a container.  
isa NOPRED  
[306]

(container derivation: azucarero 'sugar bowl' = azucar +ero/NOPRED:cont)

**NOPRED:loc** *Noun-noun derivation (location).* Suffix creates non-predicative nouns expressing a location.  
isa NOPRED  
[310]

(locative derivation: arenal 'sandet strækning' = arena +al/NOPRED:loc)

**NOPRED:other** *Noun-noun derivation (other).* If in doubt about the meaning conveyed by the suffix  
isa NOPRED  
[312]

**NOPRED:result** *Noun-noun derivation (result).* Suffix creates non-predicative nouns expressing a result.  
isa NOPRED  
[305]

(result derivation: puñalada 'knivstik' = puñal +ada/NOPRED:result)

**NOPRED:script** *Noun-noun derivation (script).* Suffix creates non-predicative nouns expressing a script/notion related to the original noun.  
isa NOPRED  
[311]

(script derivation: pontaje 'brobetaling' = puente +aje/NOPRED:script)

**NOPRED:set** *Noun-noun derivation (set).* Suffix creates non-predicative nouns expressing a set.  
isa NOPRED  
[308]

(set derivation: perrada 'hundekobbel' = perro +ada/NOPRED:set)

**NOPRED:temp** *Noun-noun derivation (temporal).* Suffix creates non-predicative nouns expressing a temporal aspect.  
isa NOPRED  
[307]

(temporal derivation: temporada 'tidsrum/sæson' = tiempo +ada/NOPRED:temp)

**PEJ** *Pejoration.* Suffix conveys a pejorative sense.  
isa SUFFIX  
[288]

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

**QUAL** *Adjective derivation.* Suffix creates deadjectival nouns.  
isa SUFFIX  
[302]

(deadjectival noun: bitterness = bitter +ness/QUAL)

SUFFIX: semantic relations appearing with suffixes

- AUG: augmentation
- DENOM: noun-adjective derivation
  - DENOM:disp: noun-adjective derivation (disposition)
  - DENOM:eff: noun-adjective derivation (effect)
  - DENOM:other: noun-adjective derivation (other)
  - DENOM:poss: noun-adjective derivation (possession)
  - DENOM:rel: noun-adjective derivation (relational)
    - DENOM:rel.deono: noun-adjective derivation (naming)
      - DENOM:rel.deono.pers: noun-adjective derivation (naming persons)
      - DENOM:rel.deono.place: noun-adjective derivation (naming places)
    - DENOM:rel.norm: noun-adjective derivation (normal)
    - DENOM:resem: noun-adjective derivation (resemblance)
- DENUM: adjective-numeral derivation
  - DENUM:mult: adjective-multiplicative derivation
  - DENUM:ord: adjective-ordinal derivation
  - DENUM:part: adjective-partitive derivation
- DER: verb derivation
  - DER:av: adjective-verb derivation
  - DER:nv: noun-verb derivation
  - DER:vv: verb-verb derivation
- DEV:
  - DEVA: verb-adjective derivation
    - DEVA:act: verb-adjective derivation (active)
      - DEVA:act.disp: verb-adjective derivation (pure)
      - DEVA:act.poten: verb-adjective derivation (disposition)
    - DEVA:pas: verb-adjective derivation (potentiality)
      - DEVA:pas.deon: verb-adjective derivation (passive potentiality)
        - DEVA:pas.poten: verb-adjective derivation (passive participles)
          - DEVA:pas.part: verb-adjective derivation (passive)
  - DEVN: verb-noun derivation
    - DEVN:agent: verb-noun derivation (agent)
    - DEVN:core: verb-noun derivation (core)
    - DEVN:exper: verb-noun derivation (experiencer)
    - DEVN:inst: verb-noun derivation (instrument)
    - DEVN:loc: verb-noun derivation (location)
    - DEVN:other: verb-noun derivation (other)
    - DEVN:recip: verb-noun derivation (recipient)
    - DEVN:result: verb-noun derivation (patient)
- DIMIN: diminution
- NOPRED: noun-noun derivation
  - NOPRED:agent: noun-noun derivation (agent)
  - NOPRED:capac: noun-noun derivation (capacity)
  - NOPRED:cont: noun-noun derivation (container)
  - NOPRED:loc: noun-noun derivation (location)
  - NOPRED:other: noun-noun derivation (other)
  - NOPRED:result: noun-noun derivation (result)
  - NOPRED:script: noun-noun derivation (script)
  - NOPRED:set: noun-noun derivation (set)
  - NOPRED:temp: noun-noun derivation (temporal)
- PEJ: pejoration
- QUAL: adjective derivation

Figure 4.5: The relations matching SUFFIX.



## Chapter 5

# Discourse relations: DISCOURSE

DISC: discourse level  
"⌘"PRIM: discourse specification

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

**DISC** *Discourse level* (long: DISCOURSE). A relation at the discourse level. Ie, a relation  
isa DIM:LEVEL between segments in different sentences or clauses.  
[17]  
Subtypes: "⌘"PRIM DISCFUNC DISCSEM.

"⌘"PRIM *Discourse specification*. A primary syntactic relation that has been used as a dis-  
course relation for stylistic purposes.  
isa DISC RULE [358]

### 5.1 Functional relations: DISCFUNC

DISCFUNC: functional discourse relation  
ANSW: answer  
CONSOL: consolidation  
    CONSOL:enabl: enablement  
    CONSOL:just: justification  
    CONSOL:motiv: motivation  
DIREC: directive act  
EXPR: expressive act  
INTACT: interactional signals  
    INTACT:attn: attention  
    INTACT:inter: interruption  
PREP: preparation  
QUEST: question  
REP: repaired

Figure 5.2: The relations matching DISCFUNC.

**DISCFUNC** *Functional discourse relation.* The relation between governing and depending text segments is defined functionally: the depending text segment has illocutionary, structuring or enhancing function

Subtypes: ANSW CONSOL DIREC EXPR INTACT PREP QUEST REP.

**ANSW** *Answer.* Governing text segment contains question or problem, dependent text segment answer or solution

isa DISCFUNC [239]

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

**CONSOL** *Consolidation* (deprecated SUPPORT?).

isa DISCFUNC [245]

Subtypes: CONSOL:enabl CONSOL:just CONSOL:motiv.

**CONSOL:enabl** *Enablement.* S enables reader or recipient to carry out the action mentioned in N; frequent in directive texts

isa CONSOL [247]

**CONSOL:just** *Justification* (deprecated JUST). S justifies N wrt its content (reason for mentioning it or sim.) thereby strengthening it argumentatively

isa CONSOL [246]

Confusion<sub>2</sub>: ELAB:exp<sub>50%</sub> CAUSE:reas<sub>25%</sub> CAUSE:expl<sub>25%</sub> .

[da] Fordi, Eftersom

**CONSOL:motiv** *Motivation.* S motivates reader or recipient to carry out the action mentioned in N

isa CONSOL [248]

Confusion<sub>1</sub>: CAUSE:expl<sub>100%</sub> .

**DIREC** *Directive act.* Dependent text segment contains an order, command or request

isa DISCFUNC [240]

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 DISCFUNC [241]

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

**INTACT** *Interactional signals.*

isa DISCFUNC [242]

Subtypes: INTACT:attn INTACT:inter.

**INTACT:attn** *Attention.* S contains an attention signal

isa INTACT [243]

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

**INTACT:inter** *Interruption.* S contains an interruption signal

isa INTACT [244]

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

- PREP** *Preparation.* Dependent text segment "prepares" for the following and governing text, e.g. headings, titles  
isa DISCFUNC [249] Confusion<sub>4</sub>: PREP<sub>100%</sub> .
- QUEST** *Question .* The dependent text segment contains a question with or without an answer  
isa DISCFUNC [238]
- REP** *Repaired.* Dependent text segment is interrupted and unfinished and "repaired" by the following and governing text segments, which completes it  
isa DISCFUNC [250]

## 5.2 Semantic relations: DISCSEM

DISCSEM: semantic discourse relation

- CAUSE: cause relation (discourse)
  - CAUSE:expl: explanation relation (discourse)
  - CAUSE:goal: goal relation (discourse)
  - CAUSE:reas: reason relation (discourse)
- CONC: concession
- COND: condition
- CONJ: conjunction
  - CONJ:seq: sequence
- CONS: consequence/result/conclusion relation (discourse)
  - CONS:dir: direct, physical consequence, result
  - CONS:prg: pragmatic/personal conclusion, deduction
- CONTR: contrast
  - CONTR:dir: direct contrast
  - CONTR:prg: pragmatic contrast
- DESCR: description/evaluation
  - DESCR:eval: positive/negative evaluation
  - DESCR:qual: neutral description
- DISJ: disjunction
  - DISJ:dir: direct disjunction
  - DISJ:prg: pragmatic disjunction
- ELAB: elaboration
  - ELAB:exem: exemplification
  - ELAB:exp: expansion
  - ELAB:part: part of relation
  - ELAB:rest: restatement
- JOINT: no clear relation
- TIME: temporal relation
  - TIME:cont: contemporaneity
  - TIME:prec: temporal precedence
  - TIME:prec§: temporal precedence
  - TIME:succ: temporal succession
  - TIME:succ§: temporal succession

Figure 5.3: The relations matching DISCSEM.

- DISCSEM** *Semantic discourse relation.* The relation between governing and depending text segments is defined semantically  
isa ADJ DISC [205]

Subtypes: CAUSE CONC COND CONJ CONS CONTR DESCR DISJ ELAB JOINT TIME.

**CAUSE** *Cause relation (discourse).* S expresses cause in a broad sense  
isa DISCSEM [208] Subtypes: CAUSE:expl CAUSE:goal CAUSE:reas.

**CAUSE:expl** *Explanation relation (discourse).* S expresses explanation; a more general and elaborating explanation than "reason"  
isa CAUSE [209] Confusion<sub>12</sub>: ELAB:exp<sub>25%</sub> CAUSE:reas<sub>24%</sub> CAUSE:expl<sub>17%</sub> CONJ<sub>13%</sub> CONSOL:motiv<sub>8%</sub> vobj<sub>6%</sub> conj<sub>4%</sub> CONSOL:just<sub>4%</sub> .

[da] Nemlig; [it] Infatti

**CAUSE:goal** *Goal relation (discourse).* S expresses goal, purpose, aim  
isa CAUSE [210] [da] For (at)

**CAUSE:reas** *Reason relation (discourse).* S expresses a specific and concrete reason  
isa CAUSE [211] Confusion<sub>9</sub>: CAUSE:expl<sub>31%</sub> vobj<sub>19%</sub> ELAB:exp<sub>17%</sub> DESCR:eval<sub>11%</sub> CONS:dir<sub>11%</sub> conj<sub>6%</sub> CONSOL:just<sub>6%</sub> .

[da] Fordi, Eftersom

**CONC** *Concession.* S admits or acknowledges a fact wrt N, which may however not have the expected consequence or effect  
isa DISCSEM [227] Related types: conc.  
Confusion<sub>2</sub>: CONJ<sub>25%</sub> ELAB:exp<sub>25%</sub> CONC<sub>25%</sub> CONTR:dir<sub>25%</sub> .

[da] Dog, Skønt

**COND** *Condition.*  
isa DISCSEM [228] Related types: cond.

[da] På betingelse af, Hvis

**CONJ** *Conjunction.* Dependent text segment adds a new subject somehow related to governing text segment; may be difficult to distinguish from ELAB:exp  
isa DISCSEM [229] Subtypes: CONJ:seq.  
Related types: conj.  
Confusion<sub>41</sub>: CONJ<sub>39%</sub> ELAB:exp<sub>30%</sub> CAUSE:expl<sub>4%</sub> JOINT<sub>4%</sub> CONTR:prg<sub>4%</sub> CONS:dir<sub>4%</sub> conj<sub>3%</sub> rel<sub>2%</sub> cont<sub>2%</sub> qobj<sub>2%</sub> DESCR:eval<sub>1%</sub> CONS:prg<sub>1%</sub> ELAB:exem<sub>1%</sub> CONTR:dir<sub>1%</sub> CONC<sub>1%</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 [230]

**CONS** *Consequence/result/conclusion relation (discourse).* S expresses consequence, result or conclusion wrt N  
isa DISCSEM [212] Subtypes: CONS:dir CONS:prg.

**CONS:dir** *Direct, physical consequence, result.* Physical, objectively observed consequence or result  
isa CONS [213] Confusion<sub>6</sub>: CONS:dir<sub>29%</sub> CONJ<sub>25%</sub> ELAB:rest<sub>17%</sub> vobj<sub>13%</sub> CAUSE:reas<sub>8%</sub> CONS:prg<sub>8%</sub> .

[da] Derfor, Af den grund

**CONS:prg** *Pragmatic/personal conclusion, deduction.* Personal, subjective conclusion or deduction  
isa CONS  
[214] Confusion<sub>4</sub>: CONS:prg<sub>63%</sub> CONJ<sub>13%</sub> CONS:dir<sub>13%</sub> ELAB:exp<sub>13%</sub> .

[da] Derfor, Af den grund

**CONTR** *Contrast.*  
isa DISCSEM Subtypes: CONTR:dir CONTR:prg.  
[231] Confusion<sub>1</sub>: CONTR:prg<sub>33%</sub> conj<sub>33%</sub> CONTR:dir<sub>33%</sub> .

**CONTR:dir** *Direct contrast.* The contrast lies between the governing and dependent text segment  
isa CONTR  
[232] Confusion<sub>6</sub>: CONTR:prg<sub>33%</sub> expl<sub>17%</sub> CONC<sub>17%</sub> conj<sub>11%</sub> CONJ<sub>8%</sub> CONTR:dir<sub>8%</sub> CONTR<sub>6%</sub> .

[da] Men, Derimod

**CONTR:prg** *Pragmatic contrast.* The contrast lies between the dependent and an inferred text segment  
isa CONTR  
[233] Confusion<sub>11</sub>: conj<sub>30%</sub> CONTR:prg<sub>24%</sub> CONTR:dir<sub>20%</sub> CONJ<sub>14%</sub> coord<sub>9%</sub> CONTR<sub>3%</sub> .

[da] Men

**DESCR** *Description/evaluation.* S expresses description or evaluation of N  
isa DISCSEM Subtypes: DESCR:eval DESCR:qual.  
[215]

**DESCR:eval** *Positive/negative evaluation.* S expresses a personal and/or subjective positive or negative description of N  
isa DESCR  
[216] Confusion<sub>2</sub>: CONJ<sub>50%</sub> CAUSE:reas<sub>50%</sub> .

**DESCR:qual** *Neutral description.* S expresses an objective and/or neutral description of N  
isa DESCR  
[217] Confusion<sub>1</sub>: ELAB:exp<sub>100%</sub> .

[da] Sådan

**DISJ** *Disjunction.*  
isa DISCSEM Subtypes: DISJ:dir DISJ:prg.  
[234]

[da] Eller

- DISJ:dir** *Direct disjunction.* The disjunction lies between the governing and dependent text  
 isa DISJ segment  
 [235]
- DISJ:prg** *Pragmatic disjunction.* The disjunction lies between the dependent and an inferred  
 isa DISJ text segment  
 [236]
- ELAB** *Elaboration.* S adds more information or detail on N  
 isa DISCSEM Subtypes: ELAB:exem ELAB:exp ELAB:part ELAB:rest.  
 [218]
- ELAB:exem** *Exemplification.* S gives examples of elements or phenomena mentioned in N  
 isa ELAB Confusion<sub>1</sub>: CONJ<sub>50%</sub> ELAB:exp<sub>50%</sub> .  
 [219]

[en] For example

- ELAB:exp** *Expansion* (deprecated ELAB:spec). S develops and expands knowledge of N; may be  
 isa ELAB difficult to distinguish from CONJ  
 [220] Confusion<sub>34</sub>: ELAB:exp<sub>35%</sub> CONJ<sub>35%</sub> CAUSE:expl<sub>9%</sub> CONS:prg<sub>3%</sub> CAUSE:reas<sub>3%</sub> DESCR:qual<sub>3%</sub>  
 CONSOL:just<sub>3%</sub> ELAB:rest<sub>2%</sub> qobj<sub>2%</sub> xpl<sub>2%</sub> ELAB:exem<sub>1%</sub> CONC<sub>1%</sub> .

[it] Cioè

- ELAB:part** *Part of relation.* S is a concrete part of N  
 isa ELAB  
 [221]

[da] Herunder, Heri

- ELAB:rest** *Restatement.* S states N again in a different way  
 isa ELAB Confusion<sub>4</sub>: ELAB:rest<sub>38%</sub> ELAB:exp<sub>33%</sub> xpl<sub>17%</sub> CONS:dir<sub>13%</sub> .  
 [222]

[da] Dvs.; [it] Ossia, In altre parole, Cioè; [en] In other words, Or

- JOINT** *No clear relation.* The dependent text segment adds a completely new content  
 isa DISCSEM without any clear discourse relation to the governing segment  
 [237] Confusion<sub>4</sub>: CONJ<sub>50%</sub> JOINT<sub>50%</sub> .

- TIME** *Temporal relation* (deprecated CIRCUM). There is a clear temporal relation between N  
 isa DISCSEM and S  
 [223] Subtypes: TIME:cont TIME:prec TIME:prec§ TIME:succ TIME:succ§.

- TIME:cont** *Contemporaneity.* S is contemporary with N (now includes abolished TIME:dur)  
 isa TIME  
 [224]

[da] Samtidig, Mens, Så længe, Da

- TIME:prec** *Temporal precedence.* S precedes N  
 isa TIME  
 [225]

[en] Earlier, Some days before

- TIME:prec§** *Temporal precedence.* Prefix conveys precedence.  
 isa TIME  
 [265]  
 (temporal precedence: prehistorical = historical –pre/TIME:prec)
- TIME:succ** *Temporal succession.* S succeeds N  
 isa TIME  
 [226]  
 [en] Later, Some time afterwards
- TIME:succ§** *Temporal succession.* Prefix conveys succession.  
 isa TIME  
 [266]  
 (temporal succession: postmodernism = modernism –post/TIME:succ)

## Chapter 6

# Anaphor relations: ANAPHORA

ANA: anaphoric level  
anaphor:

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

**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.  
isa DIM:LEVEL [20]  
Subtypes: anaphor.

**anaphor** .  
isa ANA [186] Subtypes: assoc coref.

## 6.1 Coreference relations: coref

coref: coreference  
coref-id: lexical identity coreference  
coref-part: partial coreference  
coref-prg: pragmatic coreference  
coref-res: resumptive anaphor  
coref-var: lexical variation coreference  
ref: syntactically determined coreference

Figure 6.2: The relations matching coref.

**coref** *Coreference*. Anaphor denotes same entity as antecedent  
isa anaphor [187] Subtypes: coref-id coref-part coref-prg coref-res coref-var ref.

**coref-id** *Lexical identity coreference*. A car -> the car // a yellow car -> the yellow car  
isa coref [189]



**coref-part** *Partial coreference.* Coreferential with a part of the antecedent  
 isa coref  
**coref-prg** *Pragmatic coreference.* Takes up a statement and evaluates it with respect to speech  
 isa coref [193]  
 act; I will be there tomorrow -> the threat / promise / warning / statement  
 [191]  
**coref-res** *Resumptive anaphor.*  
 isa coref  
**coref-var** *Lexical variation coreference.* A car -> the vehicle // a yellow car -> the car  
 isa coref [192]  
**ref** *Syntactically determined coreference.* Syntactically determined coreference (eg, relative pronouns, external topics)  
 isa coref [190]  
 [188]

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-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.  
 [194]  
**"assoc-"QUALIA** *Associative anaphor wrt. qualia.* Anaphor denotes entity which is associated with  
 isa RULE assoc antecedent  
 [195]  
**assoc-agentive** *Associative anaphor (agentive)* (deprecated **assoc-agent?**).  
 isa assoc  
**assoc-const** *Associative anaphor (constitutive)* (deprecated **assoc-loc?**).  
 isa assoc [197]  
**assoc-formal** *Associative anaphor (formal)* (deprecated **assoc-form?**).  
 isa assoc [196]  
**assoc-telic** *Associative anaphor (telic)* (deprecated **assoc-scope?**).  
 isa assoc [198]  
 [199]

# Chapter 7

## Semantic relations: SEMANTICS



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

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

### 7.1 Qualia relations: QUALIA

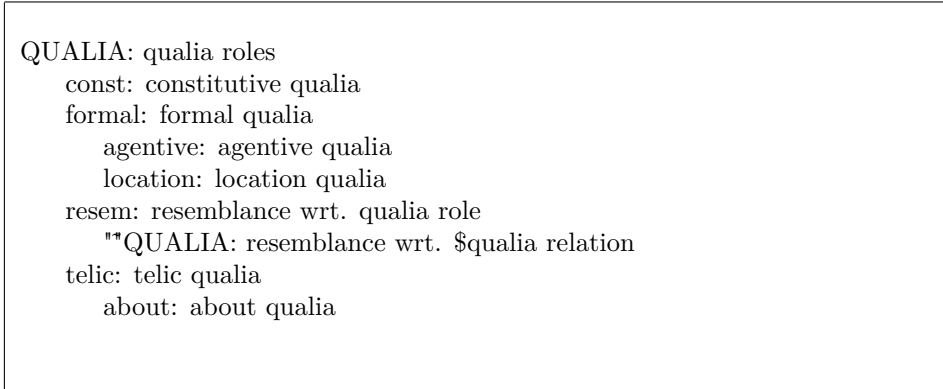


Figure 7.2: The relations matching QUALIA.

**QUALIA** *Qualia roles.*  
isa SEM Subtypes: const formal resem telic.  
[32]  
**const** *Constitutive qualia.* Relates to material or part-whole qualia  
isa QUALIA  
[39]  
N->P.material/part

**formal** *Formal qualia.* Relates to hyperonym (super type) wrt. form, dimension, quality, shape, size.  
 isa QUALIA [36]  
 Subtypes: agentive location.

**agentive** *Agentive qualia.* Relates to agentive qualia  
 isa formal [37]  
 N->P.agent

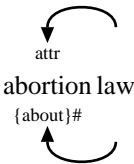
**location** *Location qualia.*  
 isa formal  
**resem** *Resemblance wrt. qualia role.* Resemblance wrt. some qualia role  
 isa QUALIA [38]  
 Subtypes: ""QUALIA.  
 [42]  
 N->P.resem

**""QUALIA** *Resemblance wrt. \$qualia relation.*  
 isa RULE resem  
**telic** *Telic qualia.* Relates to purpose qualia  
 isa QUALIA [39]  
 Subtypes: about.  
 [40]  
**about** *About qualia.* Relates to hyponym (subtype)  
 isa telic [41]  
 [41]

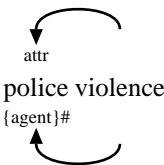
## 7.2 Thematic role relations: SEMROLE

**SEMROLE** . All the relations of the semantic roles run under the text line. The syntactic relation that runs over the text line is determined by the word class of the lemma in question.  
 isa SEM [46]  
 Subtypes: {about} {agent} {apart} {arg} {class} {const} {elab} {eval} {experient} {form} {func} {iden} {location} {origin} {patient} {poss} {pos} {quant} {recipient} {resem} {time}.

**{about}** .  
 isa SEMROLE [57]



**{agent}** *An object or a person that performs an action.* Often generated by subject relation  
 isa SEMROLE [64]

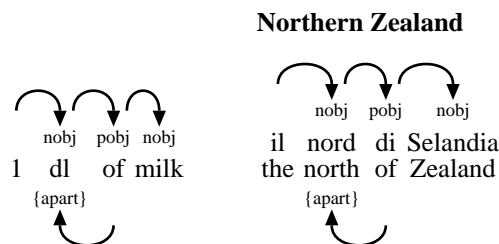


SEMROLE:

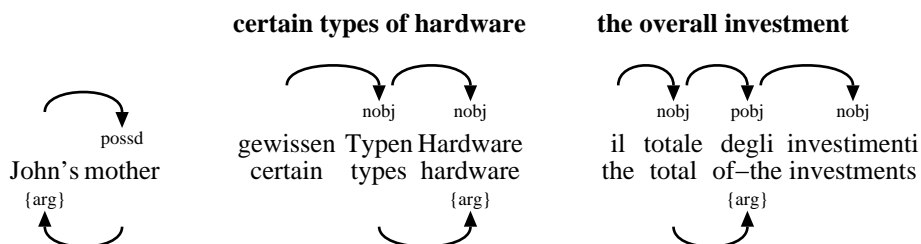
- {about}:
- {agent}: An object or a person that performs an action
- {apart}:
- {arg}:
- {class}:
- {const}:
- {elab}:
- {eval}:
- {experient}: The receiver of an emotion or a physical impact
- {form}:
- {func}:
- {iden}:
- {location}: The location where something is situated or happens
- {origin}:
- {patient}: An object or a person that is the subject of the action or the one who is located somewhere
- {poss}:
- {pos}:
- {quant}:
- {recipient}: The receiver of something
- {resem}:
- {time}:

Figure 7.3: The relations matching SEMROLE.

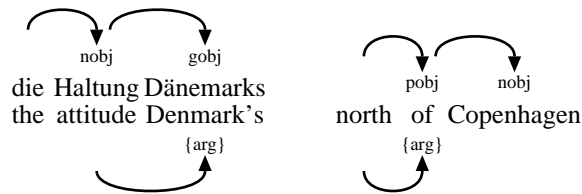
**{apart}** (long: arbitrarypart). Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.  
 isa SEMROLE [58]



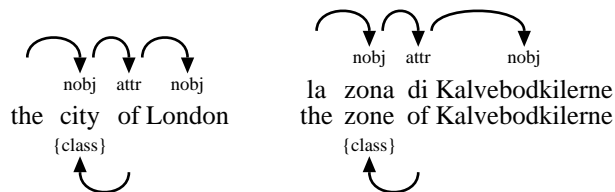
**{arg}** (long: argument).  
 isa SEMROLE [63]



### Denmark's attitude

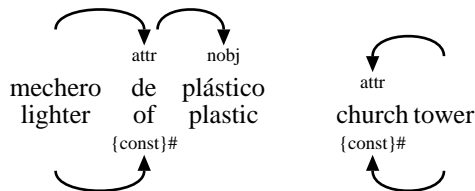


**{class}** . Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.  
 isa SEMROLE [59]



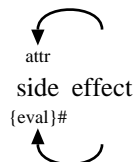
**{const}** (long: constituent).  
 isa SEMROLE [48]

### plastic lighter



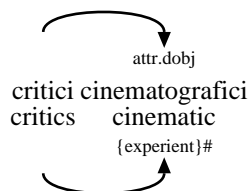
**{elab}** (long: elaboration). Often used together with parenthetic modifiers  
 isa SEMROLE [47] Related types: modp.

**{eval}** (long: evaluation).  
 isa SEMROLE [55]

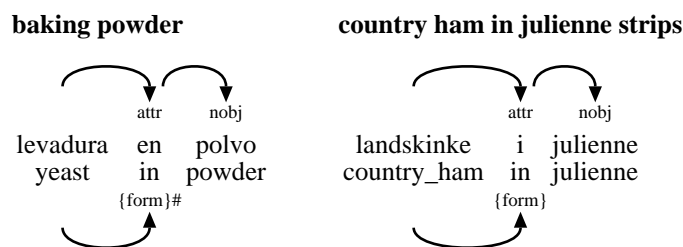


**{experient}** *The receiver of an emotion or a physical impact.* Often generated by direct object  
 isa SEMROLE [66]

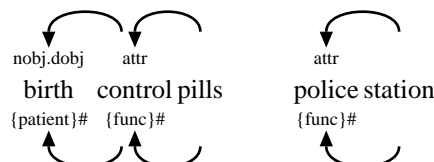
### film critics



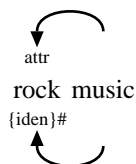
**{form}** .  
isa SEMROLE  
[61]



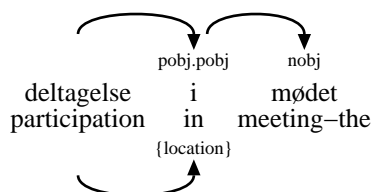
**{func}** (long: function).  
isa SEMROLE  
[51]



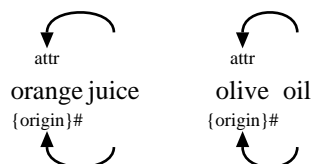
**{iden}** (long: identity).  
isa SEMROLE  
[62]



**{location}** *The location where something is situated or happens.* Often generated by prepositional object  
isa SEMROLE  
[68]

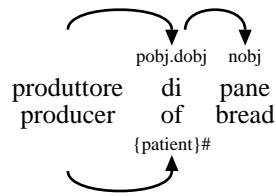


**{origin}** .  
isa SEMROLE  
[50]

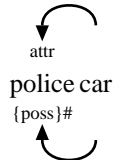


**{patient}** *An object or a person that is the subject of the action or the one who is located somewhere.* Often generated by direct object  
isa SEMROLE  
[65]

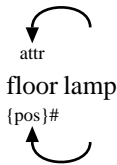
## bread producer



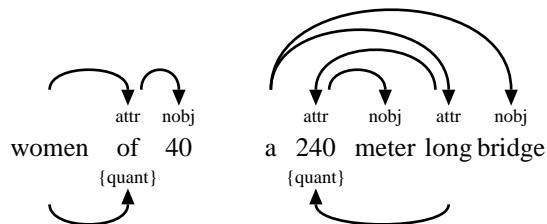
**{poss}** (long: possession).  
isa SEMROLE  
[52]



**{pos}** (long: position).  
isa SEMROLE  
[53]

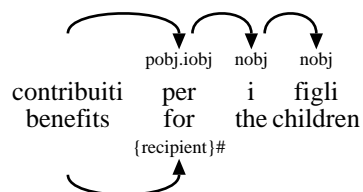


**{quant}** (long: quantity).  
isa SEMROLE  
[60]

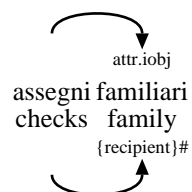


**{recipient}** *The receiver of something. Often generated by indirect object*  
isa SEMROLE  
[67]

## child benefits

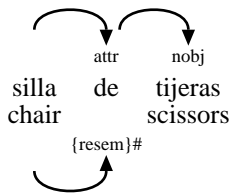


## child maintenance

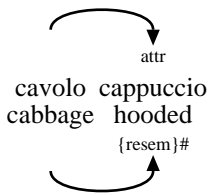


**{resem}** (long: resemblance).  
isa SEMROLE  
[56]

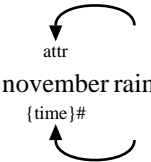
**folding chair**



**spring cabbage**



**{time}** .  
isa SEMROLE  
[54]





## Chapter 8

# Word alignment relations: **ALIGN**

ALIGN: alignment level

Figure 8.1: The relations matching ALIGN.

**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 associated 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.

isa DIM:LEVEL [19]

## 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"/ATTR"INTEGER: attribution
  PRIM{"THEM"}: pattern for primary dependency relation with the-
matic role

```

Figure 9.1: The relations matching RULE.

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

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

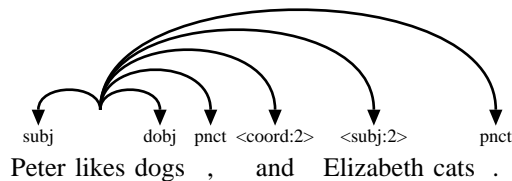
("ANY)" *Disambiguation.*

isa RULE

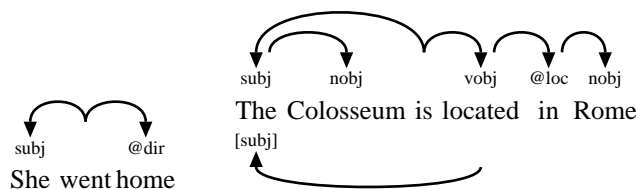
"\*"DISC *Down-head in attribution.* The head in the relation is one step further down in the attribution chain

isa RULE [368]

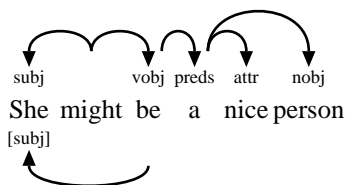
**PRIM...": "INTEGER" > "gapping dependent.** First conjunct->gapping dependent  
 isa GAP RULE [356]



**"@adverb** *Valency-bound adverbial.* A complement relation which can be interpreted as an obligatory, valency-bound adverbial relation.  
 isa COMP RULE [370] Related types: cont dir dur ext hab loc prec succ time.

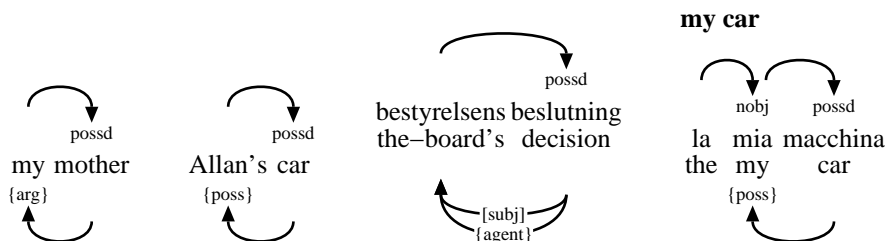


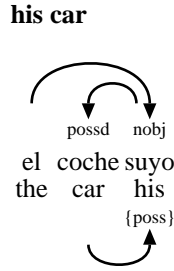
**"["PRIM"]"** *Pattern for secondary syntactic dependency relation formed from primary syntactic dependency relation.* Governor->secondary syntactic dependent; \$PRIM must be non-secondary  
 isa RULE SEC [354] Related types: "{"\$PRIM"}".



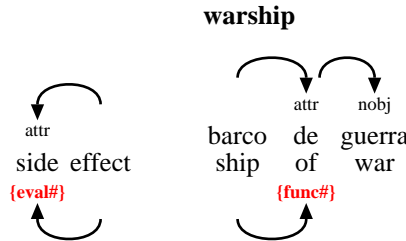
**"assoc-"QUALIA** *Associative anaphor wrt. qualia.* Anaphor denotes entity which is associated with antecedent  
 isa RULE assoc [195]

**"{"SEM"}"** *Pattern for secondary semantic dependency reation formed from primary semantic dependency relation.* Governor->secondary semantic dependent; \$PRIM must be non-secondary  
 isa RULE SEC [355] Related types: "["\$PRIM"]".

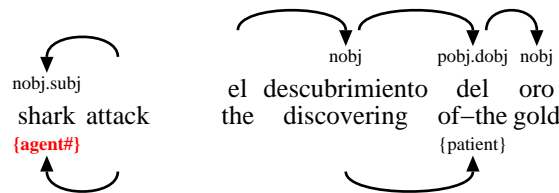




- "QUALIA** *Resemblance wrt. \$qualia relation.*  
 isa RULE resem [358]
- "PRIM** *Discourse specification. A primary syntactic relation that has been used as a discourse relation for stylistic purposes.*  
 isa DISC RULE [358]
- "§PRIM** *Morphology specification.*  
 isa MORPH RULE
- "&"PRIM** *Both-and relation. Both relations hold*  
 isa RULE
- "|"PRIM** *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 [369]
- "PRIM"#** *Pattern for idiomatic primary dependency. Head->dependent within idiom*  
 isa IDIOM RULE [352]

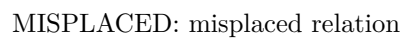


- "CONNECTOR** *Explicit connector. The discourse relation has explicit connector \$CONNECTOR*  
 isa RULE [360]
- "("CONNECTOR")"** *Implicit connector. The discourse relation has implicit connector \$CONNECTOR*  
 isa RULE [360]
- "ATTR"INTEGER** *Attribution. Specifies the person to whom the utterance is attributed (ATTR or ATTR1, ATTR2, ... when there is more than one person)*  
 isa RULE [357]
- "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 [353]



## 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  
[9] super type. This should never happen, and the problem must be corrected if a  
misplaced relation shows up here.

## 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

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

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

The relations matching SYNTAX-SYNCOMP-SYNADJ.

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  
   ben: benefactive adverbial  
   cause: causation adverbial  
     goal: goal adverbial  
     reas: reason adverbial  
   comp: comparison adverbial  
   conc: concession adverbial  
   concom:  
   cond: condition adverbial  
   cons: consequence adverbial  
   degr: degree adverbial  
   exem: example adverbial  
   man: manner adverbial  
     accom: companionship adverbial  
     inst: instrument adverbial  
   neg: negation adverbial  
   other: other adverbial  
   prg: pragmatic adverbial  
     att: attitude adverbial  
     discmark: sentence-initial discourse marker  
     epi: epistemic adverbial  
     eval: evaluation adverbial  
     focal: focalizer adverbial  
     pcond: pragmatic condition adverbial  
   source: source attribution adverbial  
   space: space adverbial  
     dir: direction adverbial  
     loc: location adverbial  
   struct: text-structuring or connective adverbial  
     add: additive adverbial  
     bg: background adverbial  
     contr: contrast adverbial  
     elab: elaboration adverbial  
   time: time adverbial  
     cont: contemporaneity adverbial  
     dur: duration adverbial  
     ext: extent/frequency adverbial  
     hab: habituality adverbial  
     prec: precedence adverbial  
     succ: succession adverbial

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.

MORPHCOMP: compositional semantic relations

ABOUT: noun-noun compound (about)  
AGENT: noun-noun compound (agentive)  
CONST: noun-noun compound (constitutive)  
EVAL: noun-noun compound (evaluative)  
FUNC: noun-noun compound (function)  
ORIGIN: noun-noun compound (origin)  
OTHER: noun-noun compound (other)  
POS: noun-noun compound (position)  
POSS: noun-noun compound (possession)  
RESEM: noun-noun compound (resemblance)  
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

ASPEC: aspectual dimension  
ASPEC:cause: causation  
ASPEC:iter: iteration  
ASPEC:reflex: reflexivity  
ASPEC:resul: result  
ASPEC:rev: reversion  
ASPEC:term: termination  
GRAD: graduation  
GRAD:qual: quality  
GRAD:size: size  
LOC: location  
LOC:dir: direction  
LOC:pos: position  
LOC:proce: origin  
MOD: modification  
MOD:cuant: quantification  
MOD:man: manner  
MOD:qual: qualification  
NEG: negation  
NEG:oppo: opposition  
NEG:priv: privation  
PRE:other: other prefix relation  
TIME§: time  
TRANS: transitivity

The relations matching PREFIX.

SUFFIX: semantic relations appearing with suffixes

- AUG: augmentation
- DENOM: noun-adjective derivation
  - DENOM:disp: noun-adjective derivation (disposition)
  - DENOM:eff: noun-adjective derivation (effect)
  - DENOM:other: noun-adjective derivation (other)
  - DENOM:poss: noun-adjective derivation (possession)
  - DENOM:rel: noun-adjective derivation (relational)
    - DENOM:rel.deono: noun-adjective derivation (naming)
      - DENOM:rel.deono.pers: noun-adjective derivation (naming persons)
      - DENOM:rel.deono.place: noun-adjective derivation (naming places)
    - DENOM:rel.norm: noun-adjective derivation (normal)
    - DENOM:resem: noun-adjective derivation (resemblance)
- DENUM: adjective-numeral derivation
  - DENUM:mult: adjective-multiplicative derivation
  - DENUM:ord: adjective-ordinal derivation
  - DENUM:part: adjective-partitive derivation
- DER: verb derivation
  - DER:av: adjective-verb derivation
  - DER:nv: noun-verb derivation
  - DER:vv: verb-verb derivation
- DEV:
  - DEVA: verb-adjective derivation
    - DEVA:act: verb-adjective derivation (active)
      - DEVA:act.disp: verb-adjective derivation (pure)
      - DEVA:act.poten: verb-adjective derivation (disposition)
    - DEVA:pas: verb-adjective derivation (potentiality)
      - DEVA:pas.deon: verb-adjective derivation (passive potentiality)
        - DEVA:pas.poten: verb-adjective derivation (passive participles)
          - DEVA:pas.part: verb-adjective derivation (passive)
  - DEVN: verb-noun derivation
    - DEVN:agent: verb-noun derivation (agent)
    - DEVN:core: verb-noun derivation (core)
    - DEVN:exper: verb-noun derivation (experiencer)
    - DEVN:inst: verb-noun derivation (instrument)
    - DEVN:loc: verb-noun derivation (location)
    - DEVN:other: verb-noun derivation (other)
    - DEVN:recip: verb-noun derivation (recipient)
    - DEVN:result: verb-noun derivation (patient)
- DIMIN: diminution
- NOPRED: noun-noun derivation
  - NOPRED:agent: noun-noun derivation (agent)
  - NOPRED:capac: noun-noun derivation (capacity)
  - NOPRED:cont: noun-noun derivation (container)
  - NOPRED:loc: noun-noun derivation (location)
  - NOPRED:other: noun-noun derivation (other)
  - NOPRED:result: noun-noun derivation (result)
  - NOPRED:script: noun-noun derivation (script)
  - NOPRED:set: noun-noun derivation (set)
  - NOPRED:temp: noun-noun derivation (temporal)
- PEJ: pejoration
- QUAL: adjective derivation

DISC: discourse level  
"α"PRIM: discourse specification

The relations matching DISCOURSE-DISCFUNC-DISCSEM.

DISCFUNC: functional discourse relation  
ANSW: answer  
CONSOL: consolidation  
    CONSOL:enabl: enablement  
    CONSOL:just: justification  
    CONSOL:motiv: motivation  
DIREC: directive act  
EXPR: expressive act  
INTACT: interactional signals  
    INTACT:attn: attention  
    INTACT:inter: interruption  
PREP: preparation  
QUEST: question  
REP: repaired

The relations matching DISCFUNC.

DISCSEM: semantic discourse relation  
   CAUSE: cause relation (discourse)  
     CAUSE:expl: explanation relation (discourse)  
     CAUSE:goal: goal relation (discourse)  
     CAUSE:reas: reason relation (discourse)  
   CONC: concession  
   COND: condition  
   CONJ: conjunction  
     CONJ:seq: sequence  
   CONS: consequence/result/conclusion relation (discourse)  
     CONS:dir: direct, physical consequence, result  
     CONS:prg: pragmatic/personal conclusion, deduction  
   CONTR: contrast  
     CONTR:dir: direct contrast  
     CONTR:prg: pragmatic contrast  
   DESCR: description/evaluation  
     DESCR:eval: positive/negative evaluation  
     DESCR:qual: neutral description  
   DISJ: disjunction  
     DISJ:dir: direct disjunction  
     DISJ:prg: pragmatic disjunction  
   ELAB: elaboration  
     ELAB:exem: exemplification  
     ELAB:exp: expansion  
     ELAB:part: part of relation  
     ELAB:rest: restatement  
   JOINT: no clear relation  
   TIME: temporal relation  
     TIME:cont: contemporaneity  
     TIME:prec: temporal precedence  
     TIME:prec§: temporal precedence  
     TIME:succ: temporal succession  
     TIME:succ§: temporal succession

The relations matching DISCSEM.

ANA: anaphoric level  
   anaphor:

The relations matching ANAPHORA-coref-assoc.

coref: coreference  
coref-id: lexical identity coreference  
coref-part: partial coreference  
coref-prg: pragmatic coreference  
coref-res: resumptive anaphor  
coref-var: lexical variation coreference  
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-telic: associative anaphor (telic)

The relations matching assoc.

SEM: semantic level

The relations matching SEMANTICS-QUALIA-SEMROLE.

QUALIA: qualia roles  
const: constitutive qualia  
formal: formal qualia  
agentive: agentive qualia  
location: location qualia  
resem: 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}:  
{class}:  
{const}:  
{elab}:  
{eval}:  
{experient}: The receiver of an emotion or a physical impact  
{form}:  
{func}:  
{iden}:  
{location}: The location where something is situated or happens  
{origin}:  
{patient}: An object or a person that is the subject of the action or the one who is located somewhere  
{poss}:  
{pos}:  
{quant}:  
{recipient}: The receiver of something  
{resem}:  
{time}:

The relations matching SEMROLE.

ALIGN: alignment level

The relations matching ALIGN.

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"/ATTR"INTEGER: attribution  
 PRIM{"THEM"}: pattern for primary dependency relation with thematic role

The relations matching RULE.

MISPLACED: misplaced relation

The relations matching -ANY.



## Appendix B

### Index

- [\$PRIM]|hyperpage,  
11, 57
- { \$PRIM }|hyperpage,  
9, 57
- ADJUNCT, 4
- ALIGNMENT, 55
- ANAPHORA, 46
- arbitrarypart, 50
- argument, 50
- assoc-agent?, 47
- assoc-form?, 47
- assoc-loc?, 47
- assoc-scope?, 47
- attrdatrr, 22
- CIRCUM, 44
- comp, 15
- compare, 13
- COMPLEMENT, 4
- CONCATENATION,  
3
- constituent, 51
- DEVERB, 34
- DEVERB:act.disp, 34
- DEVERB:act.poten,  
34
- DEVERB:act.pure, 34
- DEVERB:pas, 35
- DEVERB:pas.deon, 35
- DEVERB:pas.part, 35
- DEVERB:pas.poten,  
35
- DEVERBA, 34
- DEVERBN, 35
- DIMENSION, 3
- DISCOURSE, 39
- ELAB:spec, 44
- elaboration, 51
- evaluation, 51
- ex, 14
- freq, 19
- function, 52
- GAPPING, 20
- identity, 52
- JUST, 40
- MORPHOLOGY, 27
- other, 11
- position, 53
- poss, 9
- possession, 53
- PRED, 35
- prgcond, 16
- PRIMARY, 4
- quantity, 53
- relation, 2
- resemblance, 53
- SECONDARY, 4
- SEMANTICS, 48
- super, 2
- SUPPORT?, 40
- SYNTAX, 5