

The inventory of linguistic relations used in the Copenhagen Dependency Treebanks

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Abstract

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

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

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Chapter 1

Introduction

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

relation The notation in the left margin indicates that we now describe the relation **relation**;
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 lexicalized expression.
isa DIM:TYPE [31]
Subtypes: PRIM"#".

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

ADJ *Adjunct relation* (long: ADJUNCT). A primary adjunct relation. The relation is licensed by the adjunct, ie, the lexical entry of the adjunct specifies the permissible adjunct 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.
isa PRIM [26]
Subtypes: DISCOTHER DISCPRAG DISCSEM SYNADJ.

COMP *Complement relation* (long: COMPLEMENT). A primary complement relation. The relation is licensed by the governor, ie, the lexical entry of the governor specifies the 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.
isa PRIM [25]
Subtypes: "@"adverb SYNCOMP.

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

Chapter 3

Syntactic relations: SYNTAX

SYN: syntax level

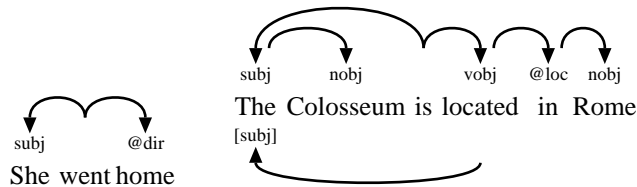
Figure 3.1: The relations matching SYNTAX-SYNCOMP-SYNADJ.

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.

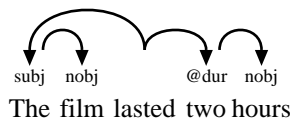
3.1 Complement relations: SYNCOMP

SYNCOMP *Syntactic complement.*
isa COMP SYN [71]
Subtypes: @space @time aobj avobj dobj fobj gobj iobj nobj numa numm part pobj possd possr pred qobj robj subj vobj.

@space *Valency-bound location/direction adverbial.*
isa SYNCOMP [80]
Related types: dir loc.



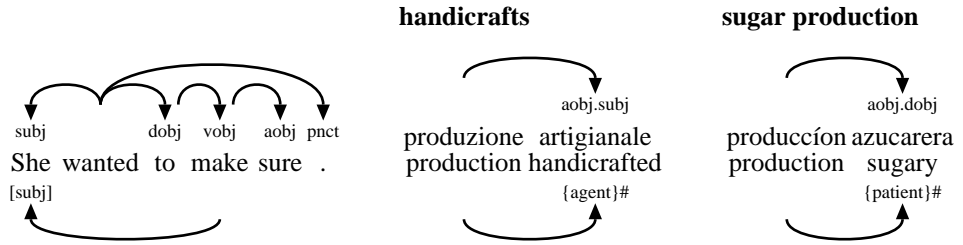
@time *Valency-bound time adverbial.* A valency bound time expression. Formerly analyzed as locative object, but we have decided to provide a general mechanism (@) for converting adverbial relations into valency-bound relations.
isa SYNCOMP [96]
Related types: cont dur ext hab prec succ.



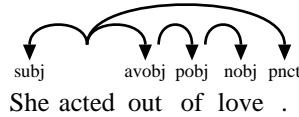
SYNCOMP: syntactic complement
 @space: valency-bound location/direction adverbial
 @time: valency-bound time adverbial
 aobj: adjectival object
 avobj: adverbial object
 dobj: direct object
 fobj: filler object
 gobj: genitive object
 iobj: indirect object
 nobj: nominal object
 numa: additive numeral 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}
 [87] 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.

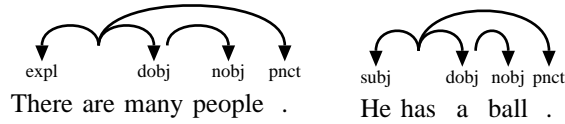


avobj *Adverbial object.*
 isa SYNCOMP Related types: aobj part.
 [88]



dobj *Direct object.*
 isa SYNCOMP
 [76]

Related types: iobj robj.
 Confusion₁: pnct_{100%} .

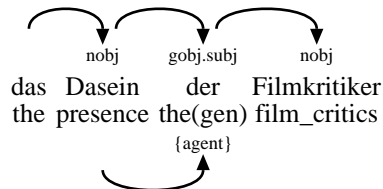


fobj *Filler object.* NO LONGER IN USE; see gapping constructions.
 isa SYNCOMP [89] Related types: GAP.

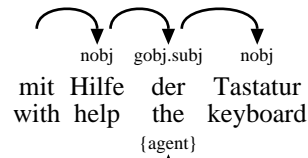
N/A

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.
 Related types: SEMROLE attrg.

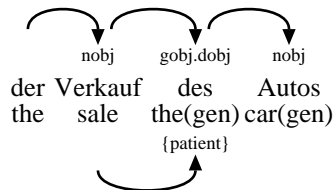
the presence of film critics



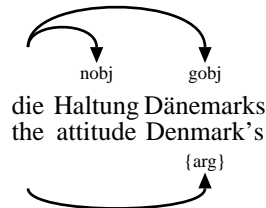
with help from the keyboard



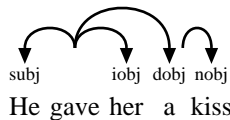
the sale of the car



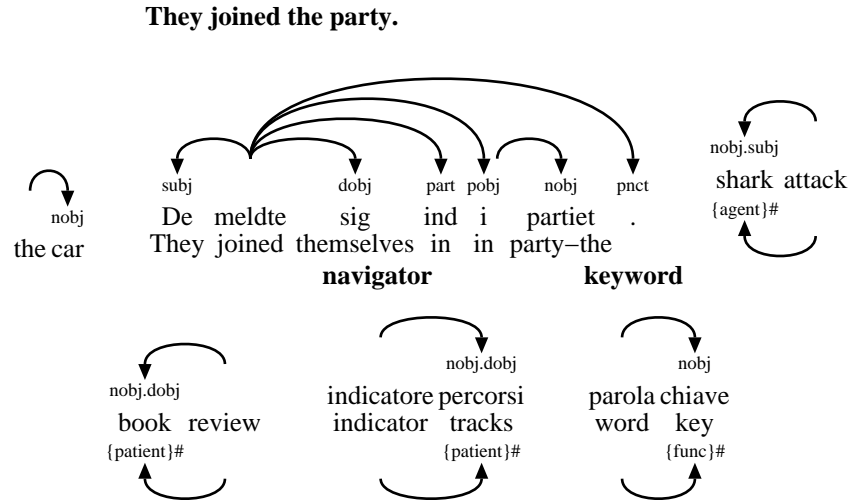
Denmark's attitude



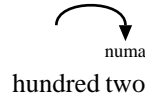
iobj *Indirect object.*
 isa SYNCOMP [79] Related types: dobj.



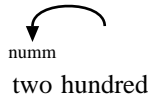
nobj *Nominal object.* If the nominal object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE} nobj.pobj{SEMROLE} nobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.
 Confusion₁: pnct_{100%} .



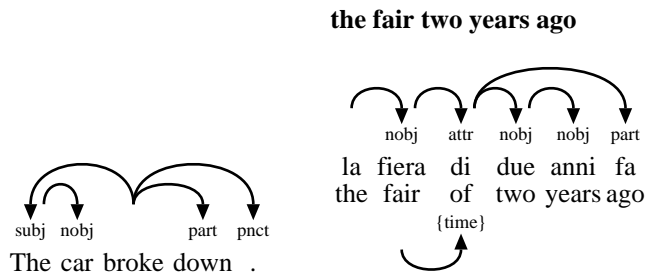
numa *Additive numeral complement.*
 isa SYNCOMP Related types: numm.
 [90]



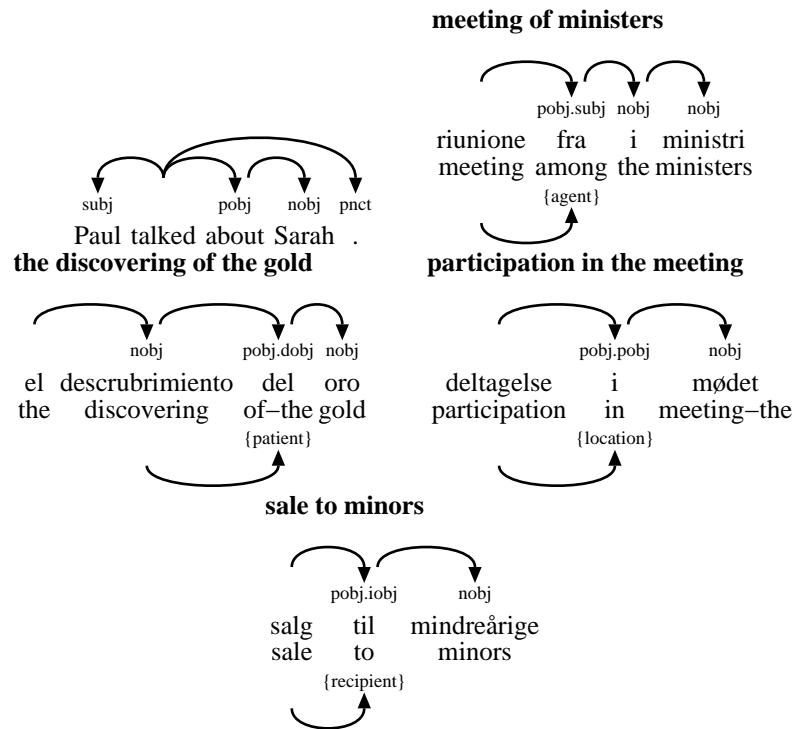
numm *Multiplicative numeral complement.*
 isa SYNCOMP Related types: numa.
 [91]



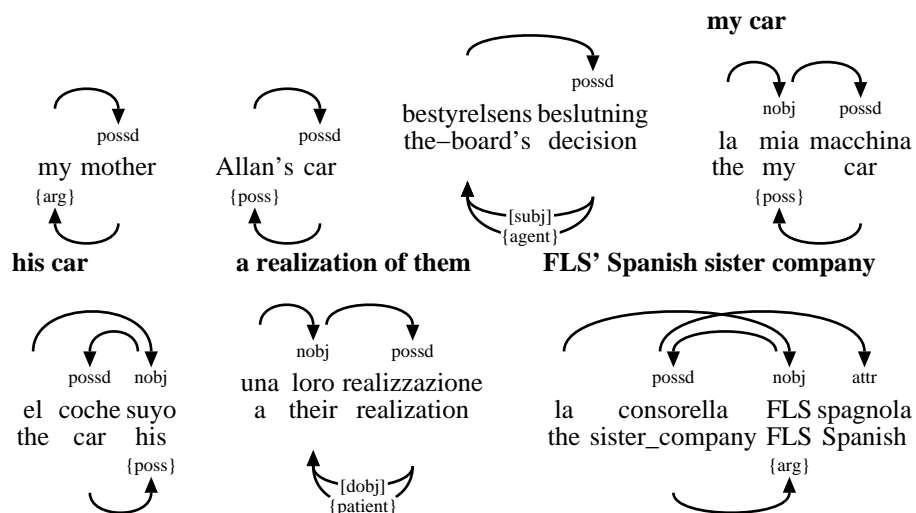
part *Verbal particle.* Verbal particle.
 isa SYNCOMP Related types: avobj.
 [92]



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.
 isa SYNCOMP [77]
 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.
 Related types: "{\$PRIM}" SEMROLE poss possr.



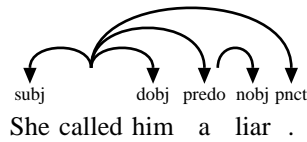
possr *Possessor complement.* NO LONGER IN USE
 The possessor complement in a possessive construction. Possession is understood in a syntactic sense as any construction with a clitic genitive marker, not necessarily as possession in a narrow semantic sense. A better name may be chosen for this relation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

N/A

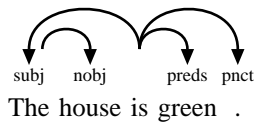
pred *Predicative.*
 isa SYNCOMP Subtypes: predo preds.
 [81] Related types: predo preds.

V->predicative, P->predicative

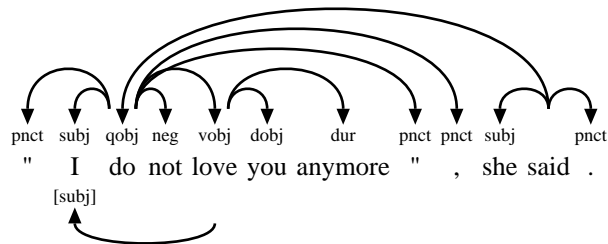
predo *Object predicative.*
 isa pred Related types: preds.
 [83]



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

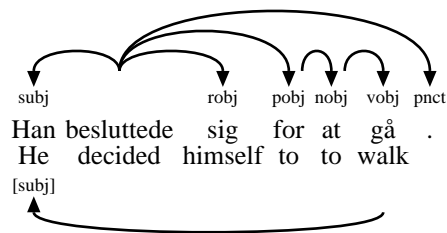


qobj *Quotational object.* A phrase or discourse segment functioning as directly quoted speech, typically by an attribution verb. Indirect speech is analyzed as "dobj" or "nobj".
 isa SYNCOMP [95]
 Related types: xpl.

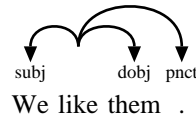


robj *Reflexive object.*
 isa SYNCOMP Related types: dobj.
 [85]

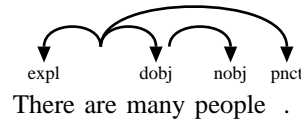
He decided to walk.



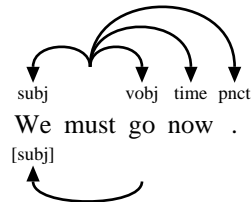
subj *Subject.* A subject relation.
 isa SYNCOMP Subtypes: expl.
 [74] Related types: expl.



expl *Expletive subject.*
 isa subj Related types: subj.
 [75]



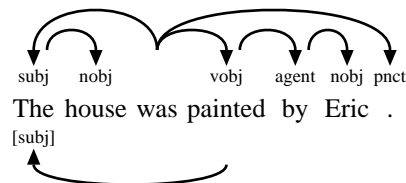
vobj *Verbal object.*
 isa SYNCOMP Related types: ["\$PRIM"].
 [84]



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
 [135] struct time.

agent *Agent adverbial.* The passivized agent in passives.
 isa ADVERB
 [173]

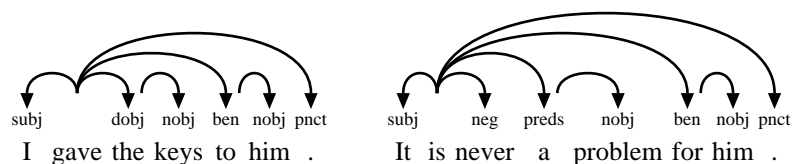


ben *Benefactive adverbial.* Free dative
 isa ADVERB Related types: pobj.
 [172]

ADVERB: adverbial

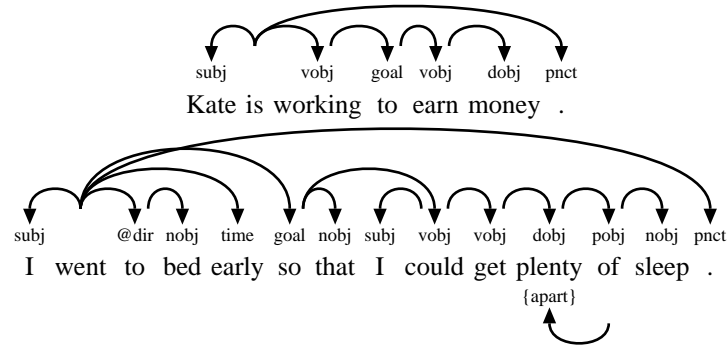
- agent: agent adverbial
- ben: benefactive adverbial
- cause: causation adverbial
 - goal: goal adverbial
 - reas: reason adverbial
- comp: comparison adverbial
- conc: concession adverbial
- concom:
- cond: condition adverbial
- cons: consequence adverbial
- degr: degree adverbial
- exem: example adverbial
- 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

Figure 3.3: The relations matching ADVERB.

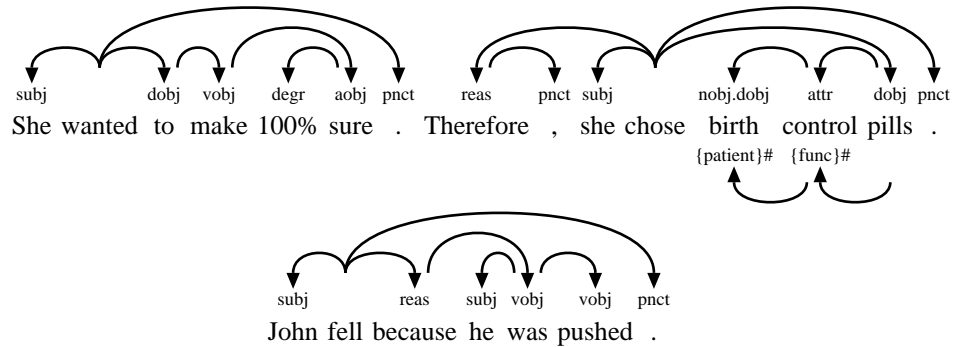


cause *Causation adverbial.* Causation adverbial. Describes why the event occurred.
 isa ADVERB Subtypes: goal reas.
 [161]

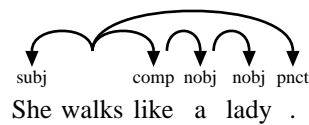
goal *Goal adverbial*. Describes the intended goal of the event/action.
 isa cause
 [162] Related types: reas.



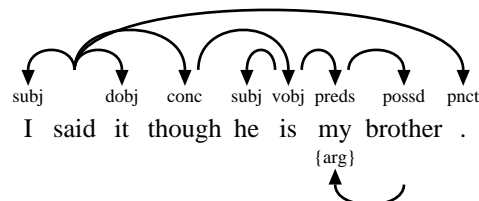
reas *Reason adverbial*. Describes the cause of the event/action.
 isa cause
 [163] Related types: goal.



comp *Comparison adverbial* (deprecated compare). Comparison
 isa ADVERB
 [167]

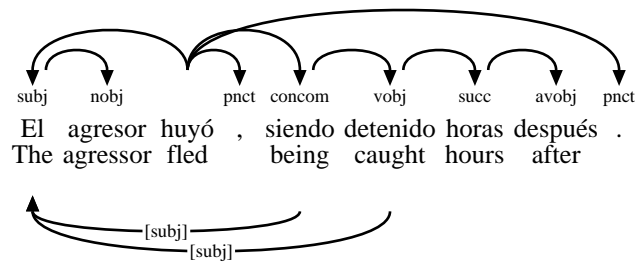


conc *Concession adverbial*. Describes the concession of the event/action.
 isa ADVERB
 [166]

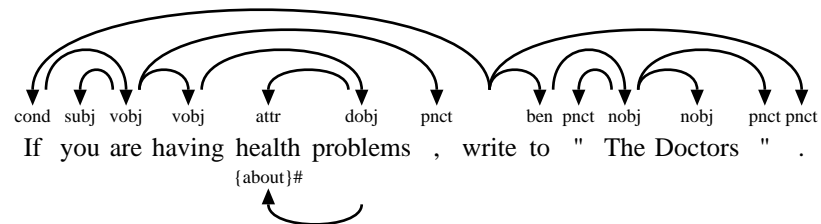


concom . Gerunds in Romance
 isa ADVERB
 [170] Related types: vobj.

The agressor fled and/but got caught hours later.

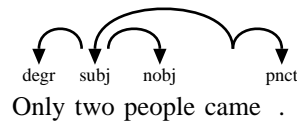


cond *Condition adverbial.* Describes the condition of the event/action.
isa ADVERB
[165] Related types: pcond.

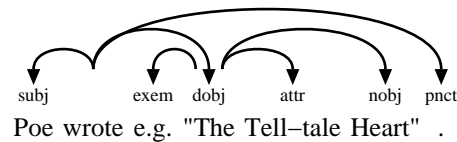


cons *Consequence adverbial.* Describes the consequence of the event/action.
isa ADVERB
[164] Related types: xtop.

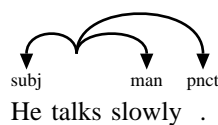
degr *Degree adverbial.* Modifies the object or verbal by degree
isa ADVERB
[171] Related types: focal.



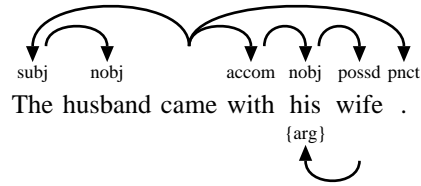
exem *Example adverbial* (deprecated ex). Exemplification; subordinated the object which is added to a list.
isa ADVERB
[169]



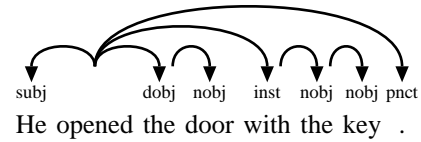
man *Manner adverbial.* The way things are done
isa ADVERB
[158] Subtypes: accom inst.
Related types: fpredo.



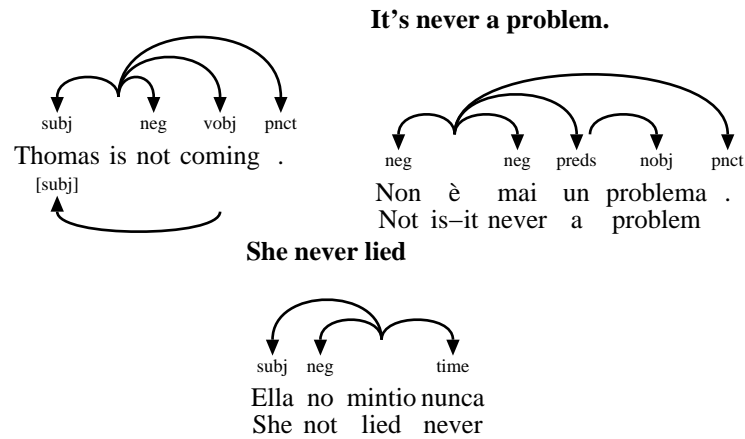
accom *Companionship adverbial* (deprecated *comp*). Companionship
 isa man Related types: man.
 [159]



inst *Instrument adverbial*. Instrument/means
 isa man Related types: man.
 [160]



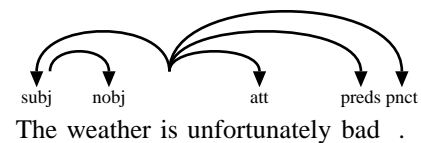
neg *Negation adverbial*. Negation of a verbal
 isa ADVERB
 [174]



other *Other adverbial*.
 isa ADVERB

prg *Pragmatic adverbial*. Sentence level.
 isa ADVERB Subtypes: att discmark epi eval focal pcond.
 [136]

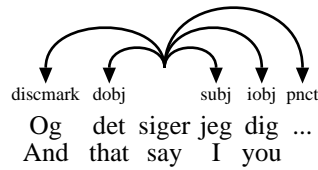
att *Attitude adverbial*. Regarding attitude
 isa prg Related types: epi eval.
 [140]



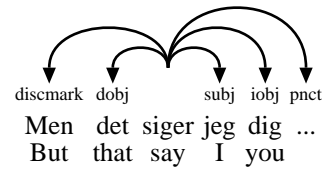
discmark *Sentence-initial discourse marker.* Discourse marker

isa prg
[142] Related types: coord.

And I'm telling you...

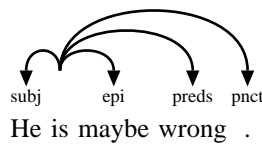


But I'm telling you...



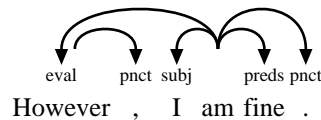
epi *Epistemic adverbial.* Regarding the level of truth in the expression

isa prg
[139] Related types: att eval.



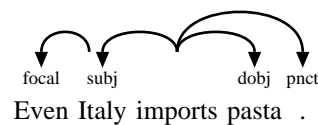
eval *Evaluation adverbial.* Evaluating adverbials

isa prg
[141] Related types: att epi.



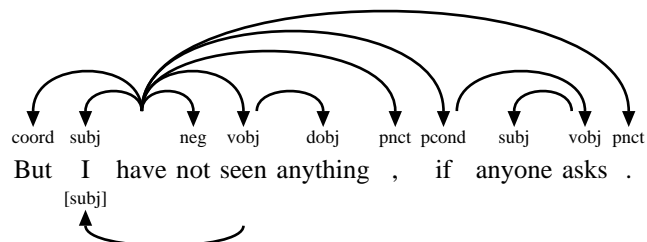
focal *Focalizer adverbial.* Focalization of a noun

isa prg
[137] Related types: degr.

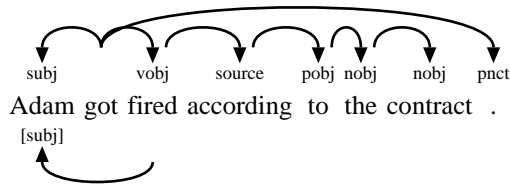


pcond *Pragmatic condition adverbial* (deprecated prgcond). Pragmatic condition

isa prg
[138] Related types: cond.

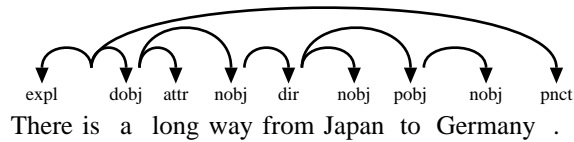


source *Source attribution adverbial.* Reference/source
isa ADVERB
[168]

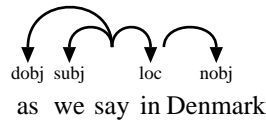


space *Space adverbial.* Space adverbials
 isa ADVERB [155] Subtypes: dir loc.

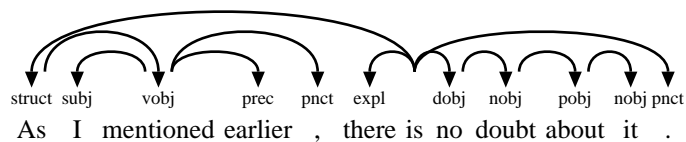
dir *Direction adverbial.* Movement from one place to another; direction
 isa space [157] Related types: loc.



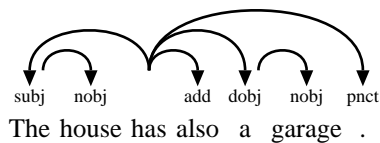
loc *Location adverbial.* Location
 isa space [156] Related types: dir.



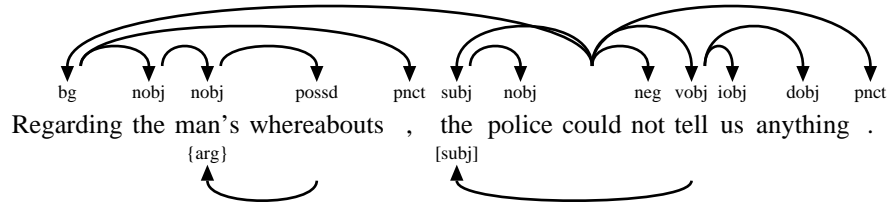
struct *Text-structuring or connective adverbial.* Connectives and text structuring adverbials
 isa ADVERB [143] Subtypes: add bg contr elab.
 Related types: bg contr.



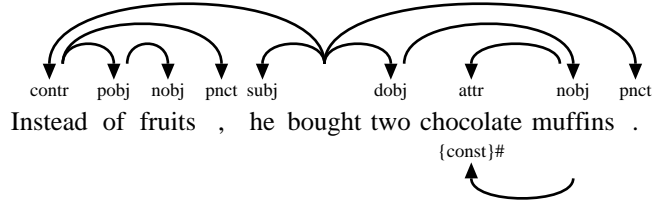
add *Additive adverbial.* Additive information
 isa struct [147]



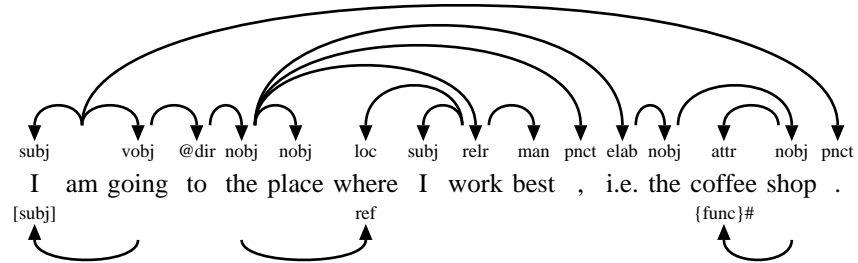
bg *Background adverbial.* Background information
 isa struct [144] Related types: struct.



contr *Contrast adverbial*. Opposition
 isa struct Related types: struct.
 [145]

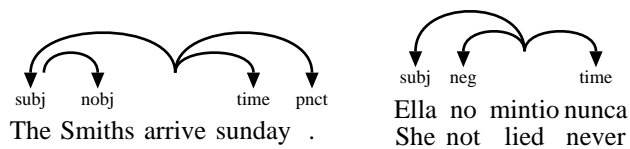


elab *Elaboration adverbial*. More detailed description
 isa struct
 [146]

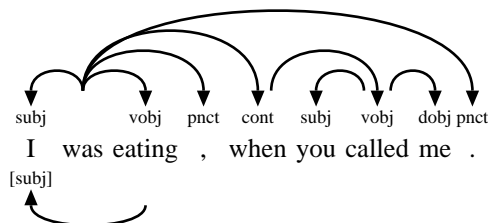


time *Time adverbial*. Time relating adverbials
 isa ADVERB Subtypes: cont dur ext hab prec succ.
 [148]

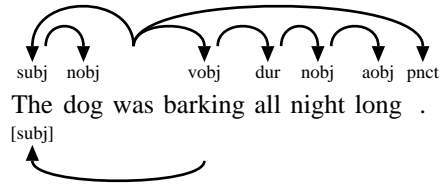
She never lied



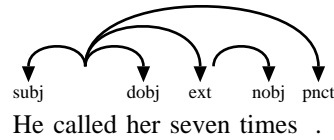
cont *Contemporaneity adverbial*. Contemporaneity
 isa time Related types: time.
 [152]



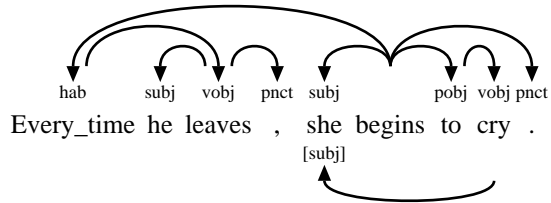
dur *Duration adverbial*. Duration
 isa time Related types: ext hab.
 [149]



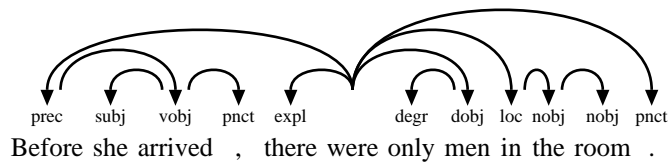
ext *Extent/frequency adverbial* (deprecated **freq**). Frequency; extention
 isa time Related types: dur hab.
 [154]



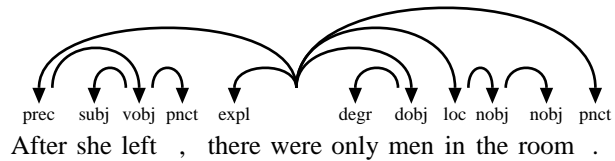
hab *Habituality adverb*. Habitual; repeated habit
 isa time Related types: dur ext.
 [153]



prec *Precedence adverbial*. Precedence
 isa time
 [150]



succ *Succession adverbial*. Succession
 isa time
 [151]



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
 reldr: restrictive relative clause
 voc: vocative
 xtop: external topic with resuming pronoun

Figure 3.4: The relations matching SYNADJ-ADVERB.

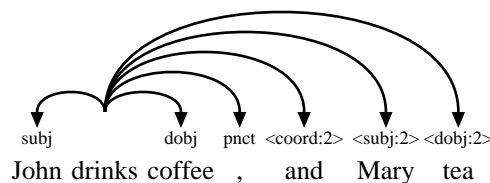
3.3 Other adjunct relations: SYNADJ

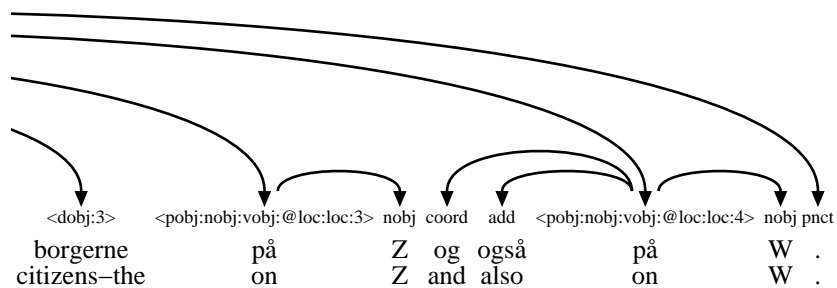
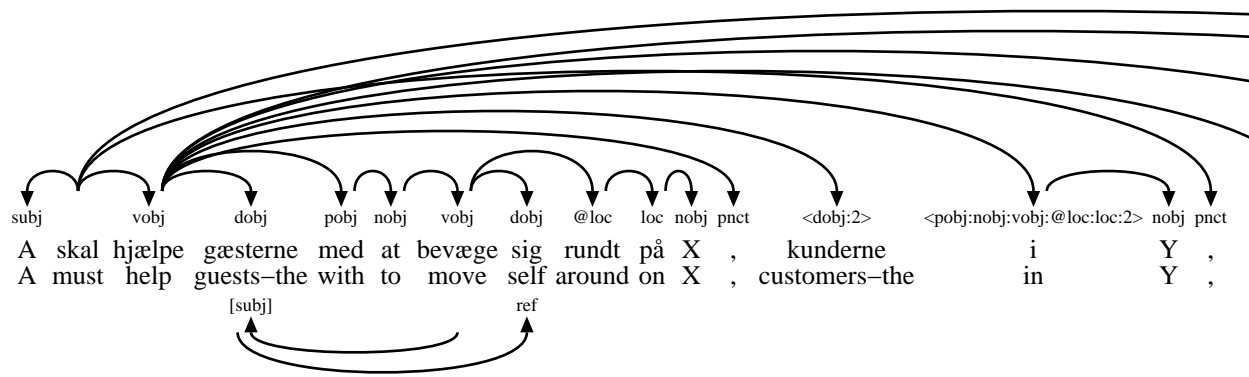
SYNADJ *Syntactic adjunct.*

isa ADJ SYN Subtypes: ADVERB GAP app attr attrg conj coord correl fpred mod name pnct rel voc xtop.
[72]

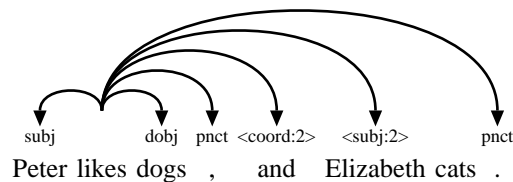
GAP *Gapping dependent* (long: GAPPING). A relation between a gapping dependent in a secondary conjunct and the head of the first conjunct. In gapping coordinations, the secondary conjuncts have an elided head, so the remaining material in the secondary conjuncts is instead analyzed as gapping dependents 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">".



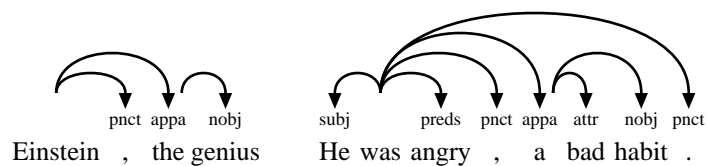


"<"PRIM...": "INTEGER">" app. First conjunct->gapping dependent
isa GAP RULE
[360]

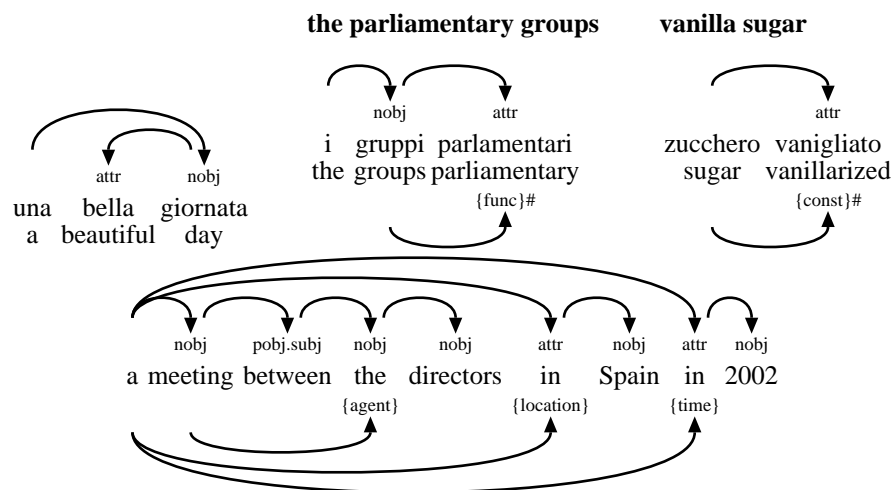


app *Apposition*. An appositional relation between two phrases, typically NPs. The head of the first NP in the apposition is always analyzed as the head of the second NP.
isa SYNADJ
[110] Subtypes: appa appr.
Related types: appa appr.

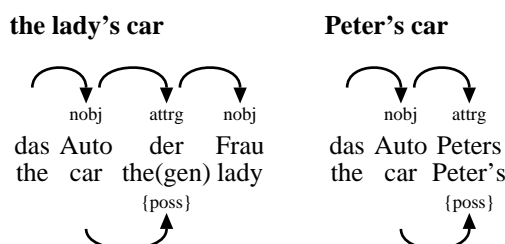
appa *Parenthetic apposition (comma)*.
isa app
[111] Subtypes: xpl.
Related types: appr xpl.



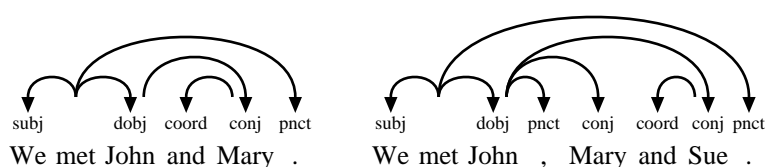
xpl *Explication*. Explication of an NP or VP.
isa appa
[124] Related types: qobj.



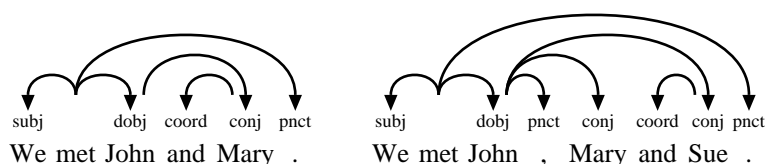
attrg *Genitive attributive.*
 isa SYNADJ Related types: SEMROLE gobj.
 [109]



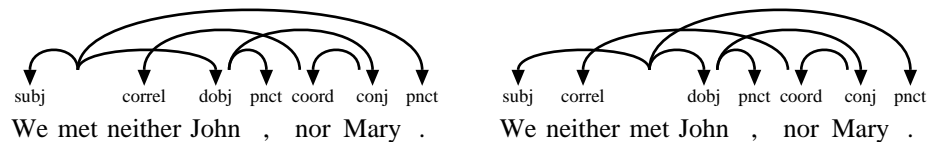
conj *Conjunct relation.* A dependency relation relating the conjuncts in a coordination.
 isa SYNADJ Secondary conjuncts are analyzed as "conj"-dependents of the first conjunct. Coordinators are analyzed as dependents of the secondary conjuncts.
 [100] Related types: coord correl.



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 [101] Related types: conj correl discmark.



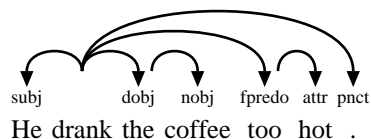
correl *Correlative coordinator relation.*
 isa SYNADJ Related types: conj coord.
 [102]



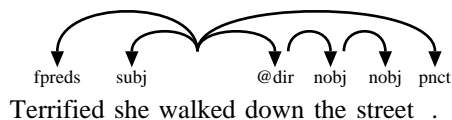
fpred *Free predicative.*
 isa SYNADJ Subtypes: fpredo fpreds.
 [105] Related types: fpredo fpreds.

V->free predicative

fpredo *Free direct-object predicative.*
 isa fpred Related types: fpreds man.
 [107]



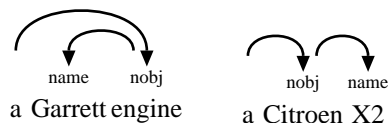
fpreeds *Free subject predicative.*
 isa fpred Related types: fpredo.
 [106]



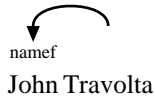
mod *Modifier/adverbial.* Deprecated name for adverbials
 isa SYNADJ Subtypes: modp.
 [130]

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

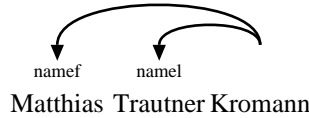
name *Part of name.* Part of a name.
 isa SYNADJ Subtypes: namef namel title.
 [118]



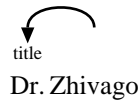
namef *First name.* A first name.
 isa name Related types: namel title.
 [119]



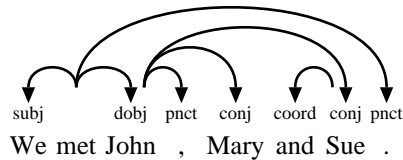
namel *Last name.* A second last name
 isa name Related types: namef title.
 [120]



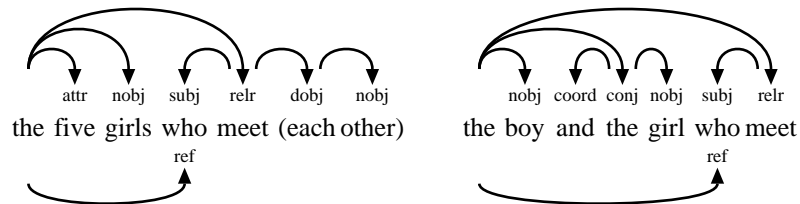
title *Person title.* A title in a name. If the is the title is determined by an article, eg. the director Smith, the title must be annotated as "nobj" and the name as "appr".
 isa name
 [121] Related types: namef namel.



punct *Punctuation.*
 isa SYNADJ Confusion2: nobj_{50%} dobj_{50%} .
 [103]



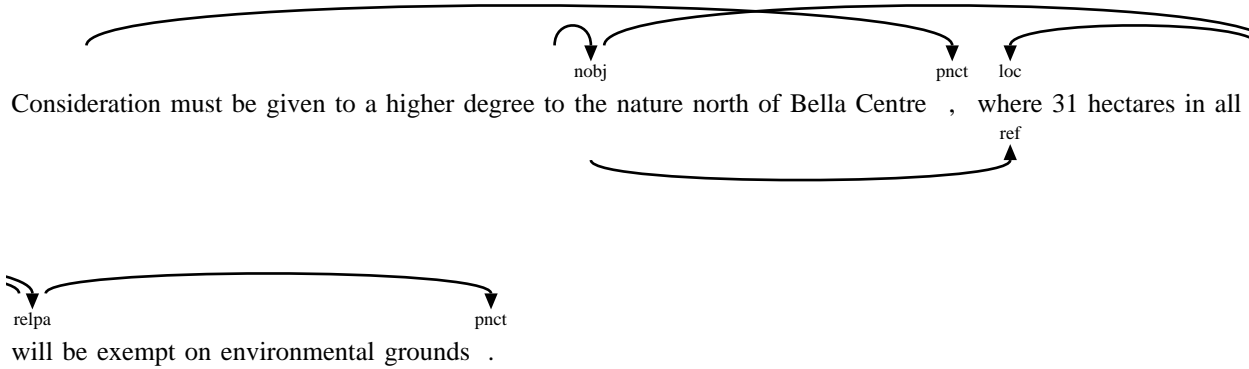
rel *Relative clause.* A relation between a relative clause and a relativized NP/VP. The finite verb in the relative clause is analyzed as a "rel" dependent of the head of the relativized NP/VP (ie, the determiner if present, otherwise the noun). If there is a relative pronoun, it receives an incoming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



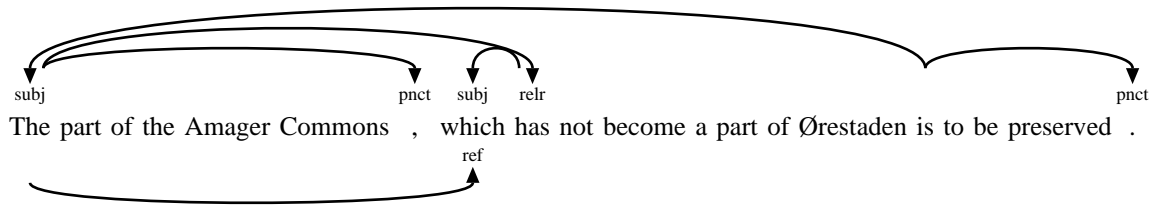
relelab *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da: hvilket, it: il che, cosa che
 isa rel
 [116] Related types: relpa relr.

V->V

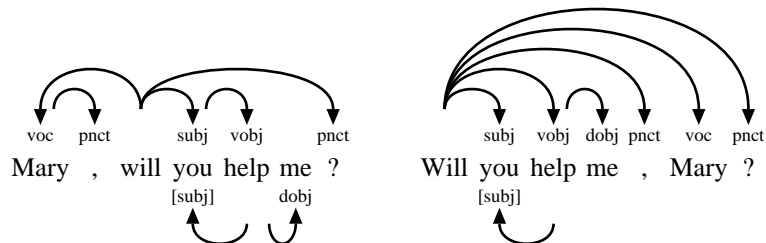
relpa *Parenthetical relative clause.*
isa rel Related types: relelab relr.
[115]



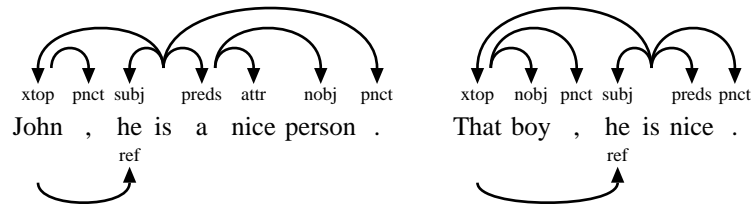
relr *Restrictive relative clause.*
isa rel Related types: relelab relpa.
[114]



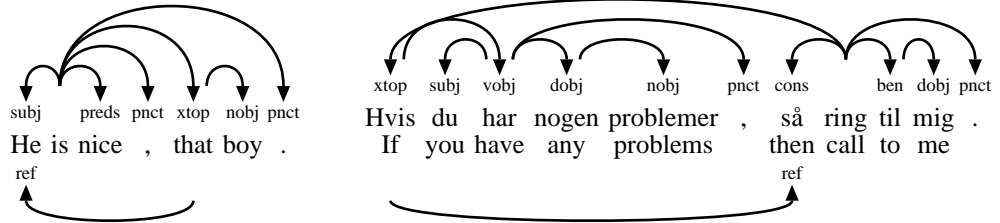
voc *Vocative.* Vocative specification. The person to whom the statement is directed.
isa SYNADJ
[123]



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. Eg in "John, he is a nice person". Here "John" is the "xtop" of "is", and "he" is the subject of "is".
isa SYNADJ
[117]
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 [363]

4.1 Compositional relations: 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 [258]
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 [350]

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

AGENT *Noun-noun compound (agentive).* Non-head has an agentive meaning wrt. head.
isa MORPHCOMP [342]

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

MORPHCOMP: compositional semantic relations
 ABOUT: noun-noun compound (about)
 AGENT: noun-noun compound (agentive)
 CONST: noun-noun compound (constitutive)
 CONST:apart: part of relation
 CONST:elab: elaboration
 CONST:exem: exemplification
 CONST:rest: restatement
 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.

CONST *Noun-noun compound (constitutive).* Non-head has a constitutive meaning wrt. head.
 isa MORPHCOMP
 [341] Subtypes: CONST:apart CONST:elab CONST:exem CONST:rest.

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

CONST:apart *Part of relation.* S is a concrete part of N
 isa CONST
 [222] [da] Herunder, Heri

CONST:elab *Elaboration* (deprecated ELAB:spec,ELAB:exp). S elaborates and expands knowledge of N;
 isa CONST may be difficult to distinguish from CONJ
 [221] Related types: CONJ.
 [it] Cioè

CONST:exem *Exemplification.* S gives examples of elements or phenomena mentioned in N
 isa CONST
 [220] [en] For example

CONST:rest *Restatement.* S states N again in a different way
 isa CONST
 [223] [da] Dvs.; [it] Ossia, In altre parole, Cioè; [en] In other words, Or

EVAL *Noun-noun compound (evaluative).* Non-head has an evaluative meaning wrt. head.
 isa MORPHCOMP
 [348]

coche de lujo 'luksusbil'

FUNC *Noun-noun compound (function).* Non-head has a functional meaning wrt. head.
isa MORPHCOMP [344]
(function: krigsskib 'war ship' = skib-[krig]s/FUNC)

ORIGIN *Noun-noun compound (origin).* Non-head has a meaning of origin wrt. head.
isa MORPHCOMP [343]
(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 [351]

POS *Noun-noun compound (position).* Non-head has a locative meaning wrt. head.
isa MORPHCOMP [346]
(position: loftlampe 'ceiling lamp' = lampe-loft/POS)

POSS *Noun-noun compound (possession).* Non-head has a possessive meaning wrt. head.
isa MORPHCOMP [345]
(possession: politibil = bil-politi/POSS)

RESEM *Noun-noun compound (resemblance).* Denotations of head and non-head resemble each other.
isa MORPHCOMP [349]
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 [347]
(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 [257]
Subtypes: 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

Figure 4.4: The relations matching PREFIX.

4.2.1 Prefix relations: PREFIX

PREFIX *Semantic relations appearing with prefixes.* A semantic relation is created between
 isa MORPHDERIV a base and a prefix.
 [260] Subtypes: ASPEC GRAD LOC MOD NEG PRE:other TIME§ TRANS.

ASPEC *Aspectual dimension.* Prefix conveys an aspectual dimension in a broad sense.
 isa PREFIX Subtypes: ASPEC:cause ASPEC:iter ASPEC:reflex ASPEC:resul ASPEC:rev ASPEC:term.
 [277]

ASPEC:cause *Causation.* Prefix conveys causation.
 isa ASPEC
 [280] (causative: acallar 'silence' = callar –a/ASPEC:cause)

ASPEC:iter *Iteration.* Prefix conveys iteration.
 isa ASPEC
 [279] (iterative: redefine = define –re/ASPEC:iter)

ASPEC:reflex *Reflexivity.* Prefix conveys reflexivity.
 isa ASPEC
 [281] (reflexive: autopilot = pilot –auto/ASPEC:reflex)

ASPEC:resul *Result.* Prefix conveys result.
 isa ASPEC
 [283] (resultative: fastnagle 'rivet' = nagle –fast/ASPEC:resul)

ASPEC:rev *Reversion.* Prefix conveys reversion.
 isa ASPEC
 [278] (reversion: deactivate = activate –de/ASPEC:rev)

ASPEC:term *Termination.* Prefix conveys termination.
 isa ASPEC
 [282] (terminative: oplåse 'open' = låse –op/ASPEC:term)

GRAD *Graduation.* Prefix conveys graduation in a broad sense.
 isa PREFIX
 [274] Subtypes: GRAD:qual GRAD:size.

GRAD:qual *Quality.* Prefix conveys quality.
 isa GRAD
 [276] (quality: supercomputer = computer –super/GRAD:qual)

GRAD:size *Size.* Prefix conveys size.
 isa GRAD
 [275] (size/quantity: minibar = bar –mini/GRAD:size)

LOC *Location.* Prefix expresses location in a broad sense.
 isa PREFIX
 [263] Subtypes: LOC:dir LOC:pos LOC:proce.

LOC:dir *Direction.* Prefix expresses direction.
 isa LOC
 [265] (direction/origin: deverbale = verbal –de/LOC:dir)

LOC:pos *Position.* Prefix expresses position.
 isa LOC
 [264] (position: intramural = mural –intra/LOC:pos)

LOC:proce *Origin.* Prefix conveys origin.
 isa LOC
 [266] (origin: extraer = traer –ex/LOC:proce)

MOD *Modification.* Prefix conveys modification in a broad sense.
 isa PREFIX
 [285] Subtypes: MOD:cuant MOD:man MOD:qual.

MOD:cuant *Quantification.* Prefix conveys quantification.
 isa MOD
 [286]

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

MOD:man *Manner.* Prefix conveys manner.

isa MOD
[287]

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

MOD:qual *Qualification.* Prefix conveys qualification.

isa MOD
[288]

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

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

isa PREFIX
[271]

Subtypes: NEG:oppo NEG:priv.

NEG:oppo *Opposition.* Prefix conveys opposition.

isa NEG
[272]

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

NEG:priv *Privation.* Prefix conveys privation.

isa NEG
[273]

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

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

isa PREFIX
[289]

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

isa PREFIX
[268]

TRANS *Transitivity.* Prefix conveys transitivity.

isa PREFIX
[284]

(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.

isa MORPHDERIV
[261]

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

AUG *Augmentation.* Suffix conveys augmentation.

isa SUFFIX
[290]

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

DENOM *Noun-adjective derivation*. Suffix creates denominal adjectives in a broad sense.
 isa SUFFIX [326] 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 [334]

"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 [335]

"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 [336]

DENOM:poss *Noun-adjective derivation (possession)*. Suffix creates denominal adjectives that express possession.
 isa DENOM [333]

"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 [327] 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 [329] 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 [330]

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 [331]

Madrileño '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 [328]

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

DENOM:resem *Noun-adjective derivation (resemblance).* Suffix creates denominal adjectives that
isa DENOM express resemblance.
[332]

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

DENUM *Adjective-numeral derivation.* Suffix creates denumeral adjectives in a broad sense.
isa SUFFIX Subtypes: DENUM:mult DENUM:ord DENUM:part.
[337]

DENUM:mult *Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.
isa DENUM
[340]

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

DENUM:ord *Adjective-ordinal derivation.* Suffix creates ordinals.
isa DENUM
[338]

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

DENUM:part *Adjective-partitive derivation.* Suffix creates partitive numerals.
isa DENUM
[339]

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

DER *Verb derivation.* Suffix triggers a derivation
isa SUFFIX Subtypes: DER:av DER:nv DER:vv.
[293]

DER:av *Adjective-verb derivation.* Suffix triggers a derivation from an adjective to a verb.
isa DER
[295]

(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
[294]

(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
[296]

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

DEV (long: DEVERB).
isa SUFFIX Subtypes: DEVA.
[317]

DEVA *Verb-adjective derivation* (long: DEVERBA). Suffix creates deverbal adjectives in a broad sense.
isa DEV
[318] Subtypes: DEVA:act DEVA:pas.part.

DEVA:act *Verb-adjective derivation (active)* (long: DEVERB:act.pure). Suffix creates active adjectives.
isa DEVA
[319] 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
[320]

"que V" (conmover – "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
[321]

"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 adjectives with the meaning aspect "potentiality".
isa DEVA:act
[322] 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 passive adjectives with the meaning aspect "potentiality".
isa DEVA:pas
[325]

"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 passive adjectives with the form of participles.
 isa DEVA:pas [324]

"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 adjectives.
 isa DEVA [323]

DEVN *Verb-noun derivation* (long: DEVERBN, deprecated PRED). Suffix creates deverbal nouns in a broad sense.
 isa SUFFIX [297]
 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 role.
 isa DEVN [298]

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

DEVN:core *Verb-noun derivation (core)*. Suffix creates deverbal nouns expressing a nominalized version of the situation denoted by the original verb.
 isa DEVN [300]

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

DEVN:exper *Verb-noun derivation (experiencer)*. Suffix creates deverbal nouns absorbing the experiencer role.
 isa DEVN [299]

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

DEVN:inst *Verb-noun derivation (instrument)*. Suffix creates deverbal nouns expressing the instrument related to the meaning of the original noun.
 isa DEVN [304]

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

DEVN:loc *Verb-noun derivation (location)*. Suffix creates deverbal nouns expressing the location related to the meaning of the original noun.
 isa DEVN [303]

(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
[305]

DEVN:recip *Verb-noun derivation (recipient)*. Suffix creates deverbal nouns absorbing the recipient role
isa DEVN
[302]

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

DEVN:result *Verb-noun derivation (patient)*. Suffix creates deverbal nouns absorbing the patient role.
isa DEVN
[301]

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

DIMIN *Diminution*. Suffix conveys diminution.
isa SUFFIX
[291]

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

NOPRED *Noun-noun derivation*. Suffix creates non-predicative nouns (from other nouns) in a broad sense.
isa SUFFIX
[307]

Subtypes: NOPRED:agent NOPRED:capac NOPRED:cont NOPRED:loc NOPRED:other NOPRED:result NOPRED:script NOPRED:set NOPRED:temp.

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

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

NOPRED:capac *Noun-noun derivation (capacity)*. Suffix creates non-predicative nouns expressing a capacity.
isa NOPRED
[313]

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

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

(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
[314]

(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
[316]

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

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

NOPRED:script *Noun-noun derivation (script)*. Suffix creates non-predicative nouns expressing a
isa NOPRED script/notion related to the original noun.
[315]

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

NOPRED:set *Noun-noun derivation (set)*. Suffix creates non-predicative nouns expressing a set.
isa NOPRED
[312]

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

NOPRED:temp *Noun-noun derivation (temporal)*. Suffix creates non-predicative nouns expressing a
isa NOPRED temporal aspect.
[311]

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

PEJ *Pejoration*. Suffix conveys a pejorative sense.
isa SUFFIX
[292]

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

QUAL *Adjective derivation*. Suffix creates deadjectival nouns.
isa SUFFIX
[306]

(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
DISCOTHER:
 JOINT: no clear relation
 REP: repaired
 SCENE: scene

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 DISCOTHER DISCPRAG DISCSEM.

"⌘"PRIM *Discourse specification*. A primary syntactic relation that has been used as a dis-
isa DISC RULE course relation for stylistic purposes.
[362]

DISCOTHER .
isa ADJ DISC Subtypes: JOINT REP SCENE.
[207]

JOINT *No clear relation*. The dependent text segment adds a completely new content
isa DISCOTHER without any clear discourse relation to the governing segment
[255] Confusion₄: CONJ_{50%} JOINT_{50%} .

REP *Repaired* (deprecated STRUCT:rep). Dependent text segment is interrupted and unfin-
isa DISCOTHER ished and "repaired" by the following and governing text segments, which completes
[254] it

SCENE *Scene* (deprecated STRUCT:prepPREP). Dependent text segment expresses the scene of
isa DISCOTHER the following and governing text, e.g. headings, titles
[253] Confusion₄: SCENE_{100%} .

DISCPRAG: pragmatic and illocutionary discourse relations
 ANSW: answer
 CONSOL: consolidation
 CONSOL:inst: instrumental
 CONSOL:motiv: motivation
 CONSOL:source: justification
 DESCR: description/evaluation
 DESCR:eval: positive/negative evaluation
 DESCR:qual: neutral description
 DIREC: directive act
 EXPR: expressive act
 INTACT: interactional signals
 INTACT:attn: attention
 INTACT:inter: interruption
 QUEST: question

Figure 5.2: The relations matching DISCFUNC.

5.1 Functional relations: DISCFUNC

DISCPRAG *Pragmatic and illocutionary discourse relations* (deprecated DISCFUNC). The dependent text segment expresses a change in speech act or pragmatic function (speaker's intention) wrt the governing segment; the label indicates the speech act or function of the dependent segment; regarding speaker's intentions and speech acts we consider the narrating asserting speech act as our default value.

Subtypes: ANSW CONSOL DESCR DIREC EXPR INTACT QUEST.

ANSW *Answer.* Governing text segment contains question or problem, dependent text segment answer or solution
 isa DISCPRAG [239]
 Confusion₁: ANSW_{100%} .

CONSOL *Consolidation* (deprecated SUPPORT?).
 isa DISCPRAG [248]
 Subtypes: CONSOL:inst CONSOL:motiv CONSOL:source.

CONSOL:inst *Instrumental* (deprecated CONSOL:enabl). S is instrumental in helping reader or recipient to carry out the action mentioned in N; frequent in directive texts
 isa CONSOL [250]

CONSOL:motiv *Motivation.* S motivates reader or recipient to carry out the action mentioned in N
 isa CONSOL [251]
 Confusion₁: AGENTIVE:expl_{100%} .

CONSOL:source *Justification* (deprecated JUSTCONSOL:just). S expresses a source that justifies N wrt its content (reason for mentioning it or sim.) thereby strengthening it argumentatively
 isa CONSOL [249]

Confusion₁: AGENTIVE:reas_{50%} AGENTIVE:expl_{50%} .

[da] Fordi, Eftersom

DESCR *Description/evaluation.* S expresses description or evaluation of N
 isa DISCPRAG Subtypes: DESCR:eval DESCR:qual.
 [245]

DESCR:eval *Positive/negative evaluation.* S expresses a personal and/or subjective positive or negative description of N
 isa DESCR
 [246] Confusion₂: CONJ_{50%} AGENTIVE:reas_{50%} .

DESCR:qual *Neutral description.* S expresses an objective and/or neutral description of N
 isa DESCR

DIRC *Directive act.* Dependent text segment contains an order, command or request
 isa DISCPRAG
 [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 DISCPRAG
 [241]

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

INTACT *Interactional signals.*
 isa DISCPRAG Subtypes: INTACT:attn INTACT:inter.
 [242]

INTACT:attn *Attention.* S contains an attention signal
 isa INTACT
 [243]

[da] Ja; Nâ; 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

QUEST *Question .* The dependent text segment contains a question with or without an answer
 isa DISCPRAG
 [238]

5.2 Semantic relations: DISCSEM

DISCSEM *Semantic discourse relations.* The relations hold between the propositions of the governing and dependent text segments and are defined in semantic terms; relations are mono- or multinuclear; the four “prg”-subtypes express changes of speech act like the DISCPRAG, however the semantic relations are so dominant that they should determine the main type of the relation
 isa ADJ DISC
 [205] Subtypes: AGENTIVE CONC COND CONJ CONTR DISJ TELIC TIME.

AGENTIVE *Cause relation (discourse).* S expresses "bringing about" or cause in a broad sense
 isa DISCSEM Subtypes: AGENTIVE:expl AGENTIVE:reas AGENTIVE:subj.
 [209]

AGENTIVE:expl *Explanation relation (discourse).* S expresses explanation; a more general and elaborating explanation than "reason"
 isa AGENTIVE
 [210] Confusion₁₁: AGENTIVE:reas_{30%} CONJ_{27%} AGENTIVE:expl_{18%} CONSOL:motiv_{9%} vobj_{6%} conj_{5%} CONSOL:source_{5%} .

DISCSEM: semantic discourse relations
 AGENTIVE: cause relation (discourse)
 AGENTIVE:expl: explanation relation (discourse)
 AGENTIVE:reas: reason relation (discourse)
 AGENTIVE:subj: subjective cause
 CONC: concession
 COND: condition
 CONJ: conjunction
 CONJ:seq: sequence
 CONTR: contrast
 CONTR:dir: direct contrast
 CONTR:subj: subjective contrast
 DISJ: disjunction
 DISJ:dir: direct disjunction
 DISJ:subj: subjective disjunction
 TELIC: consequence/result/conclusion relation (discourse)
 TELIC:dir: direct, physical consequence, result
 TELIC:goal: goal relation (discourse)
 TELIC:subj: pragmatic/personal conclusion, deduction
 TIME: temporal relation
 TIME:cont: contemporaneity
 TIME:post: temporal succession
 TIME:pre: temporal precedence
 TIME:prec§: temporal precedence
 TIME:succ§: temporal succession

Figure 5.3: The relations matching DISCSEM.

[da] Nemlig; [it] Infatti; [en] In fact, Indeed

AGENTIVE:reas *Reason relation (discourse).* S expresses a specific and concrete reason
 isa AGENTIVE Confusion₈: AGENTIVE:expl_{42%} vobj_{21%} DESCR:eval_{13%} TELIC:dir_{13%} conj_{6%} CONSOL:source_{6%}
 [211] .

[da] Fordi, Eftersom; [en] Since, Because

AGENTIVE:subj *Subjective cause.* The speaker uses the cause as a subjective/personal argument to
 isa AGENTIVE support a claim
 [212]

Because, In fact, Indeed

CONC *Concession.* S admits or acknowledges a fact wrt N, which may however not have
 isa DISCSEM the expected consequence or effect
 [213] Confusion₂: CONJ_{50%} CONC_{25%} CONTR:dir_{25%} .

Even though

COND *Condition.*
isa DISCSEM
[214]

On the condition that, If

CONJ *Conjunction.* Dependent text segment adds a new subject somehow related to governing text segment; may be difficult to distinguish from CONST:exp, but is relatively more independent from the governing segment than CONST and would function better without the governing segment than CONST
isa DISCSEM
[229]
Subtypes: CONJ:seq.
Related types: CONST:elab.
Confusion₃₁: CONJ_{54%} AGENTIVE:expl_{10%} TELIC:dir_{5%} JOINT_{5%} CONTR:subj_{5%} conj_{4%} rel_{3%} cont_{3%} qobj_{3%} CONC_{3%} DESCR:eval_{2%} TELIC:subj_{2%} CONTR:dir_{2%} .

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]

CONTR *Contrast.*
isa DISCSEM
[231] Subtypes: CONTR:dir CONTR:subj.
Confusion₁: CONTR:subj_{33%} conj_{33%} CONTR:dir_{33%} .

CONTR:dir *Direct contrast.* The contrast lies between the governing and dependent text segment
isa CONTR
[232] Confusion₆: CONTR:subj_{33%} expl_{17%} CONC_{17%} conj_{11%} CONJ_{8%} CONTR:dir_{8%} CONTR_{6%} .

[da] Men, Derimod

CONTR:subj *Subjective contrast* (deprecated CONTR:prg). The contrast lies between an explicit and a subjectively inferred text segment
isa CONTR
[233] Confusion₁₁: conj_{30%} CONTR:subj_{24%} CONTR:dir_{20%} CONJ_{14%} coord_{9%} CONTR_{3%} .

[da] Men

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

[da] Eller

DISJ:dir *Direct disjunction.* The disjunction lies between the governing and dependent text segment
isa DISJ
[235]

DISJ:subj *Subjective disjunction* (deprecated DISJ:prg). The disjunction lies between the dependent and a subjectively inferred text segment
isa DISJ
[236]

TELIC *Consequence/result/conclusion relation (discourse).* S expresses purpose, function or consequence wrt N
isa DISCSEM
[215] Subtypes: TELIC:dir TELIC:goal TELIC:subj.

TELIC:dir *Direct, physical consequence, result.* Physical, objectively observed consequence or result
isa TELIC
[217] Confusion₅: TELIC:dir_{35%} CONJ_{30%} vobj_{15%} AGENTIVE:reas_{10%} TELIC:subj_{10%} .

[da] Derfor, Af den grund

TELIC:goal *Goal relation (discourse).* S expresses goal, purpose, aim
isa TELIC
[216]

[da] For (at)

TELIC:subj *Pragmatic/personal conclusion, deduction.* Subjective conclusion or deduction on behalf of the speaker
isa TELIC
[218] Confusion₄: TELIC:subj_{75%} CONJ_{13%} TELIC:dir_{13%} .

[da] Derfor, Af den grund

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

TIME:cont *Contemporaneity.* S is contemporary with N (now includes abolished TIME:dur)
isa TIME
[225]

[da] Samtidig, Mens, Så længe, Da

TIME:post *Temporal succession* (deprecated TIME:succ). S succeeds N
isa TIME
[227]

[en] Later, Some time afterwards

TIME:pre *Temporal precedence* (deprecated TIME:prec). S precedes N
isa TIME
[226]

[en] Earlier, Some days before

TIME:prec§ *Temporal precedence.* Prefix conveys precedence.
isa TIME
[269]

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

TIME:succ§ *Temporal succession.* Prefix conveys succession.
isa TIME
[270]

(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.

Subtypes: anaphor.

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

Subtypes: assoc coref.

6.1 Coreference relations: coref

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

Figure 6.2: The relations matching coref.

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

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

Confusion₁: coref_{100%} .

coref-iden *Coreferential NP with lexical identity* (deprecated coref-id). A car -> the car // a yellow car -> the yellow car
isa coref
[190]

coref-res *Resumptive anaphor* (deprecated nowincludescoref-res.cause).
isa coref Subtypes: coref-res.prg.
[192] Confusion₁: coref-res_{100%} .

coref-res.prg *Pragmatic coreference*. Takes up a statement and evaluates it with respect to speech act; I will be there tomorrow -> the threat / promise / warning / statement
isa coref-res
[193]

coref-var *Coreferential NP with lexical variety*. A car -> the vehicle // a yellow car -> the car
isa coref
[191]

ref *Syntactically determined coreference*. Syntactically determined coreference (eg, relative pronouns, external topics)
isa coref
[189] Confusion₃₈: ref_{100%} .

antecedent->anaphor

6.2 Associative anaphor relations: assoc

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

Figure 6.3: The relations matching assoc.

assoc *Associative anaphor*. Anaphor denotes entity which is associated with antecedent
isa anaphor Subtypes: "assoc-"QUALIA assoc-agentive assoc-const assoc-formal assoc-telic.
[195]

"assoc-"QUALIA *Associative anaphor wrt. qualia*. Anaphor denotes entity which is associated with antecedent
isa RULE assoc
[196]

assoc-agentive *Associative anaphor (agentive)* (deprecated assoc-agent?). Anaphor is associated with antecedent wrt its agentive qualia (creator, factory, producer, author, etc.), ex. a car -> the factory; a piece of music -> the composer
isa assoc
[198]

assoc-const *Associative anaphor (constitutive)* (deprecated assoc-loc?). Anaphor is associated with antecedent wrt its constitutive qualia (parts, material, etc.), ex. a car -> the wheels,
isa assoc
[197]

the numberplate, the driver's seat; a hotel -> the kitchen; a bunch of flowers -> the roses; a couple -> the man; the Italian partitive "ne", ex. some wine -> ne vuoi (un po')?

assoc-formal *Associative anaphor (formal)*. Anaphor is associated with antecedent wrt its formal qualia (shape, dimension, colour, etc.), ex. a car -> the size, the colour; a building
 isa assoc [199] -> the height
 Subtypes: assoc-formal.loc.

assoc-formal.loc *Associative locative anaphor*. The anaphor is located in the antecedent, ex. a village
 isa assoc-formal [200] -> the church, the inn, the train station

assoc-telic *Associative anaphor (telic)* (deprecated **assoc-scope?**). Anaphor is associated with antecedent wrt its telic qualia (purpose, function, etc.), ex. a car -> the driver, the
 isa assoc [201] passengers; a hotel -> the guests, the receptionist

Chapter 7

Semantic relations: SEMANTICS

SEM: semantic level

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

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

7.1 Qualia relations: QUALIA

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

Figure 7.2: The relations matching QUALIA.

QUALIA *Qualia roles.*

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.

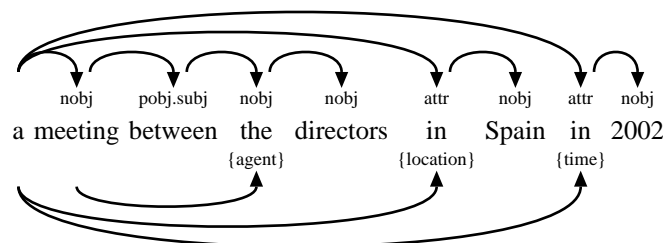
agentive *Agentive qualia.* Relates to agentive qualia
 isa formal [37]
 N->P.agent

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

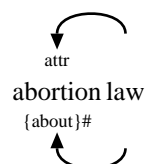
****QUALIA** *Resemblance wrt. \$qualia relation.*
 isa RULE resem [39]
telic *Telic qualia.* Relates to purpose qualia
 isa QUALIA [40]
 Subtypes: about.
about *About qualia.* Relates to hyponym (subtype)
 isa telic [41]

7.2 Thematic role relations: SEMROLE

SEMROLE . A semantic relation. All the relations of the semantic roles run under the text line.
 isa SEM [46]
 The syntactic relation that runs over the text line is determined by the word class of the lemma in question. In NP constructions, the syntactic head of an adjunct is assumed to also act as the semantic head of the adjunct, ie, the semantic relation mirrors the syntactic relation in this respect.
 Subtypes: {about} {agent} {apart} {arg} {class} {const} {elab} {eval} {experiencer} {form} {func} {iden} {location} {origin} {other} {patient} {poss} {pos} {quant} {recipient} {resem} {time}.



{about} .
 isa SEMROLE [57]



SEMROLE:

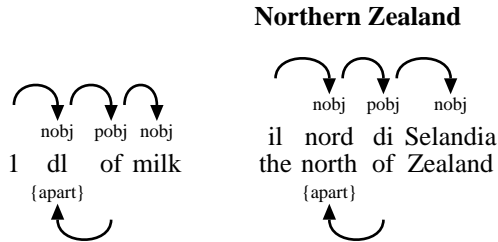
- {about}:
- {agent}: An object or a person that performs an action
- {apart}:
- {arg}:
- {class}:
- {const}:
- {elab}:
- {eval}:
- {experiencer}: The receiver of an emotion or a physical impact
- {form}:
- {func}:
- {iden}:
- {location}: The location where something is situated or happens
- {origin}: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

Figure 7.3: The relations matching SEMROLE.

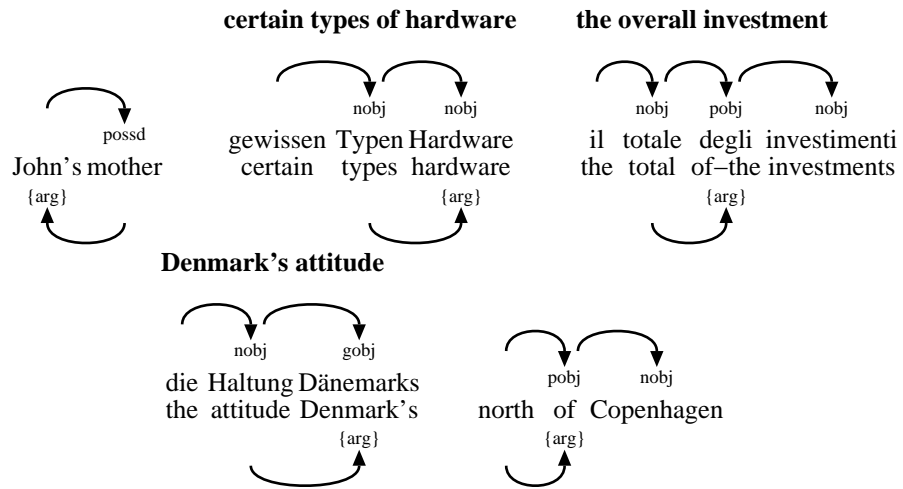
{agent} *An object or a person that performs an action.* Often generated by subject relation
 isa SEMROLE Confusion₁: {arg}_{100%} .
 [64]



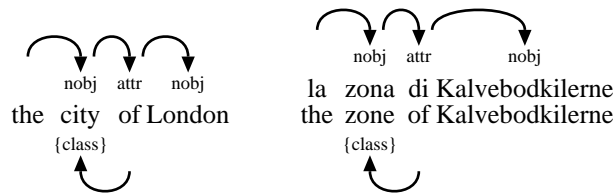
{apart} (long: arbitrarypart). Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.
 isa SEMROLE
 [58]



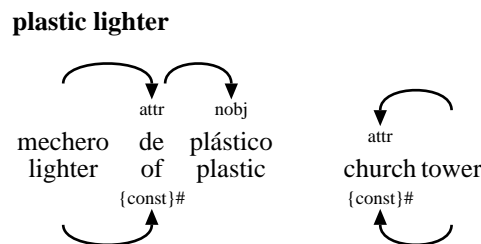
{arg} (long: argument).
 isa SEMROLE Confusion₂: {arg}_{50%} {agent}_{50%} .
 [63]



{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]

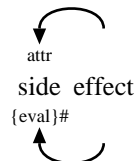


{const} (long: constituent).
 isa SEMROLE [48]



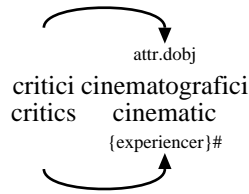
{elab} (long: elaboration). Often used together with parenthetic modifiers
 isa SEMROLE Related types: modp. [47]

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



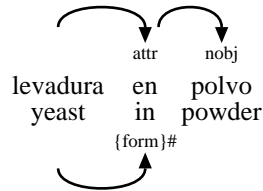
{experiencer} *The receiver of an emotion or a physical impact.* Often generated by direct object
 isa SEMROLE [66]

film critics

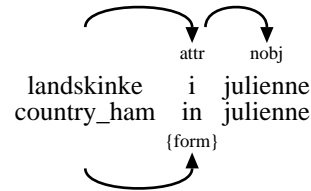


{form} .
isa SEMROLE
[61]

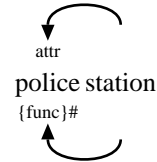
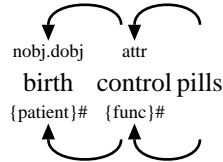
baking powder



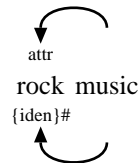
country ham in julienne strips



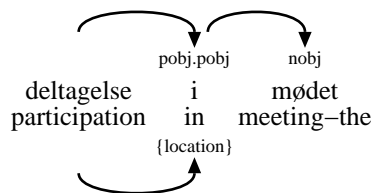
{func} (long: function).
isa SEMROLE
[51]



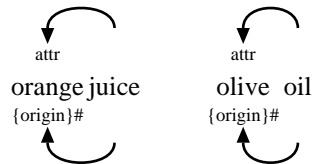
{iden} (long: identity).
isa SEMROLE
[62]



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



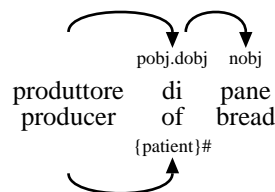
{origin} .
isa SEMROLE
[50]



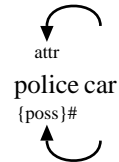
{other} *No specific semantic role. Used when none of the other semantic roles are suitable or when in doubt.*
isa SEMROLE [69]

{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]

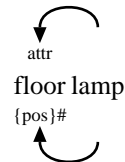
bread producer



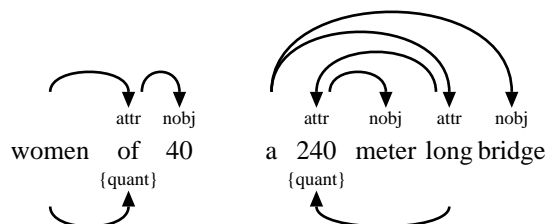
{poss} (long: possession).
isa SEMROLE [52]



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

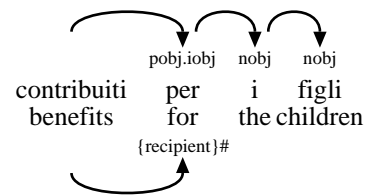


{quant} (long: quantity).
isa SEMROLE [60]

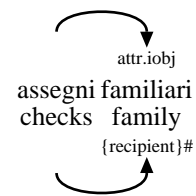


{recipient} *The receiver of something. Often generated by indirect object*
isa SEMROLE [67]

child benefits



child maintenance



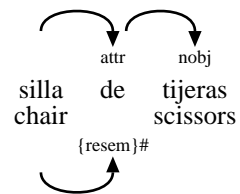
{resem}

(long: resemblance).

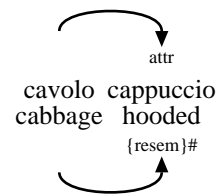
isa SEMROLE

[56]

folding chair



spring cabbage

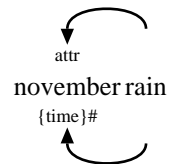


{time}

.

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 iated phrases), either in terms of form or meaning. Null alignments - ie, a set of words in one text which does not correspond to any set of words in the other text - are encoded as a set of words that is aligned to itself.

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

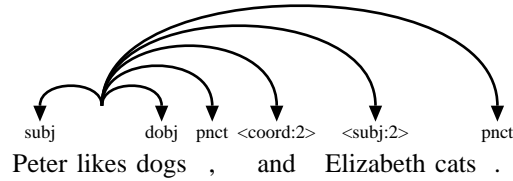
("ANY)" *Disambiguation.*

isa RULE

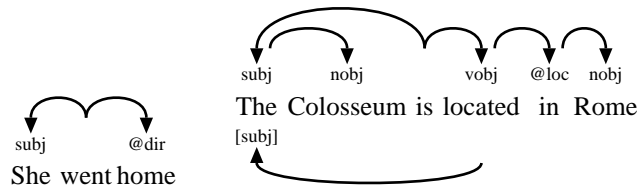
"*"DISC *Down-head in attribution.* The head in the relation is one step further down in the
isa RULE attribution chain

[372]

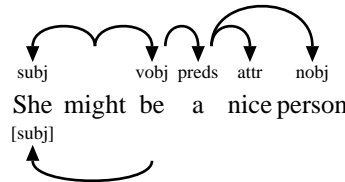
"<"PRIM...":>"INTEGER" *gapping dependent*. First conjunct->gapping dependent
 isa GAP RULE
 [360]



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

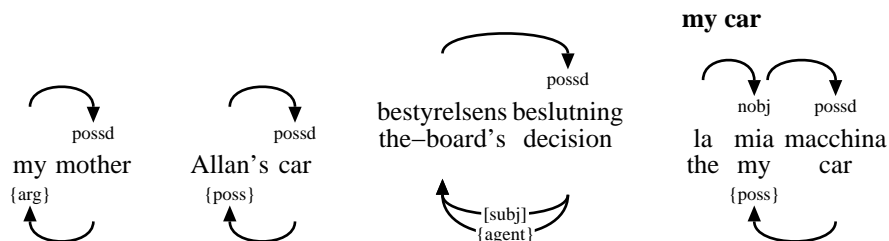


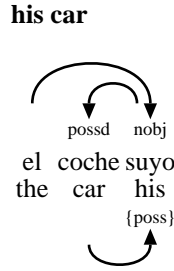
"["PRIM"]" *Pattern for secondary syntactic dependency relation formed from primary syntactic
 isa RULE SEC dependency relation*. Governor->secondary syntactic dependent; \$PRIM must be
 [358] non-secondary
 Related types: "{"\$PRIM"}".



"assoc-"QUALIA *Associative anaphor wrt. qualia*. Anaphor denotes entity which is associated with
 isa RULE assoc antecedent
 [196]

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





"QUALIA *Resemblance wrt. \$qualia relation.*

isa RULE resem

"PRIM

isa DISC RULE

[362]

"\$PRIM *Morphology specification.*

isa MORPH RULE

ANY"&"ANY

isa RULE

ANY"|"ANY

isa RULE

DISC

isa RULE

[373]

PRIM"#

isa IDIOM RULE

[356]

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

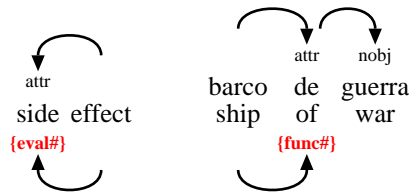
Both-and relation. Both relations hold

Either-or relation. One of the relations holds

Down-dependent in attribution. The dependent in the relation is one step further down in the attribution chain

Pattern for idiomatic primary dependency. Head->dependent within idiom

warship



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

isa RULE

PRIM"/("CONNECTOR" *Implicit connector.* The discourse relation has implicit connector \$CONNECTOR

isa RULE

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

isa RULE

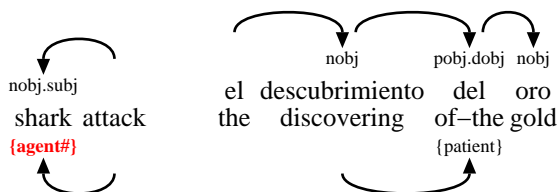
[361]

PRIM"{"THEM"}

isa RULE

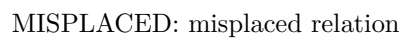
[357]

Pattern for primary dependency relation with thematic role. \$PRIM must be non-thematic; the thematic roles can be agent, patient, recipient, experient, location.



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 adverb
 - 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)
CONST:apart: part of relation
CONST:elab: elaboration
CONST:exem: exemplification
CONST:rest: restatement
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

TIMES: 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
"⌘"PRIM: discourse specification
DISCOTHER:
JOINT: no clear relation
REP: repaired
SCENE: scene

The relations matching DISCOURSE-DISCFUNC-DISCSEM.

DISCPRAG: pragmatic and illocutionary discourse relations
ANSW: answer
CONSOL: consolidation
CONSOL:inst: instrumental
CONSOL:motiv: motivation
CONSOL:source: justification
DESCR: description/evaluation
DESCR:eval: positive/negative evaluation
DESCR:qual: neutral description
DIREC: directive act
EXPR: expressive act
INTACT: interactional signals
INTACT:attn: attention
INTACT:inter: interruption
QUEST: question

The relations matching DISCFUNC.

DISCSEM: semantic discourse relations
 AGENTIVE: cause relation (discourse)
 AGENTIVE:expl: explanation relation (discourse)
 AGENTIVE:reas: reason relation (discourse)
 AGENTIVE:subj: subjective cause
 CONC: concession
 COND: condition
 CONJ: conjunction
 CONJ:seq: sequence
 CONTR: contrast
 CONTR:dir: direct contrast
 CONTR:subj: subjective contrast
 DISJ: disjunction
 DISJ:dir: direct disjunction
 DISJ:subj: subjective disjunction
 TELIC: consequence/result/conclusion relation (discourse)
 TELIC:dir: direct, physical consequence, result
 TELIC:goal: goal relation (discourse)
 TELIC:subj: pragmatic/personal conclusion, deduction
 TIME: temporal relation
 TIME:cont: contemporaneity
 TIME:post: temporal succession
 TIME:pre: temporal precedence
 TIME:prec§: temporal precedence
 TIME:succ§: temporal succession

The relations matching DISCSEM.

ANA: anaphoric level
 anaphor:

The relations matching ANAPHORA-coref-assoc.

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

The relations matching coref.

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

The relations matching assoc.

SEM: semantic level

The relations matching SEMANTICS-QUALIA-SEMROLE.

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}:
- {experiencer}: The receiver of an emotion or a physical impact
- {form}:
- {func}:
- {iden}:
- {location}: The location where something is situated or happens
- {origin}:
- {other}: No specific semantic role
- {patient}: An object or a person that is the subject of the action or the one who is located somewhere
- {poss}:
- {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

Agreement and confusion tables

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

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

B.1 Confusion table: syntax

R	A	N	Confusion list
pnct	0%	2	nobj _{50%} dobj _{50%}
nobj	0%	1	pnct _{100%}
dobj	0%	1	pnct _{100%}

B.2 Confusion table: semantics

R	A	N	Confusion list
arg	50%	2	arg _{50%} agent _{50%}
agent	0%	1	arg _{100%}

B.3 Confusion table: discourse

R	A	N	Confusion list
SCENE	100%	4	SCENE _{100%}
ANSW	100%	1	ANSW _{100%}
TELIC:subj	75%	4	TELIC:subj _{75%} CONJ _{13%} TELIC:dir _{13%}
CONJ	54%	31	CONJ _{54%} AGENTIVE:expl _{10%} TELIC:dir _{5%} JOINT _{5%} CONTR:subj _{5%} conj _{4%} rel _{3%} cont _{3%} qobj _{3%} CONC _{3%} DESCR:eval _{2%} TELIC:subj _{2%} CONTR:dir _{2%}
JOINT	50%	4	CONJ _{50%} JOINT _{50%}
TELIC:dir	35%	5	TELIC:dir _{35%} CONJ _{30%} vobj _{15%} AGENTIVE:reas _{10%} TELIC:subj _{10%}
CONTR	33%	1	CONTR:subj _{33%} conj _{33%} CONTR:dir _{33%}
CONC	25%	2	CONJ _{50%} CONC _{25%} CONTR:dir _{25%}
CONTR:subj	24%	11	conj _{30%} CONTR:subj _{24%} CONTR:dir _{20%} CONJ _{14%} coord _{9%} CONTR _{3%}
AGENTIVE:expl	18%	11	AGENTIVE:reas _{30%} CONJ _{27%} AGENTIVE:expl _{18%} CONSOL:motiv _{9%} vobj _{6%} conj _{5%} CONSOL:source _{5%}
CONTR:dir	8%	6	CONTR:subj _{33%} expl _{17%} CONC _{17%} conj _{11%} CONJ _{8%} CONTR:dir _{8%} CONTR _{6%}
DESCR:eval	0%	2	CONJ _{50%} AGENTIVE:reas _{50%}
CONSOL:source	0%	1	AGENTIVE:reas _{50%} AGENTIVE:expl _{50%}
CONSOL:motiv	0%	1	AGENTIVE:expl _{100%}
AGENTIVE:reas	0%	8	AGENTIVE:expl _{42%} vobj _{21%} DESCR:eval _{13%} TELIC:dir _{13%} conj _{6%} CONSOL:source _{6%}

B.4 Confusion table: anaphora

R	A	N	Confusion list
ref	100%	38	ref _{100%}
coref-res	100%	1	coref-res _{100%}
coref	100%	1	coref _{100%}

B.5 Confusion table: morphology

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

B.6 Confusion table: alignment

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

Appendix C

Annotation status

C.1 All texts

	alignment	discourse	morphology	postag	syntax
none	1016	2098	2227		972
auto				1775	75
outdated-final	536				943
first	45	20	83		62
discussed	178	193	1		176
final				536	83

C.2 da texts

	discourse	morphology	postag	syntax
none	439	474		
auto				
outdated-final				502
first	12	61		24
discussed	85	1		3
final			536	7

C.3 de texts

	discourse	morphology	postag	syntax
none	405	413		347
auto			413	
outdated-final				
first	8			37
discussed				6
final				23

C.4 en texts

	discourse	morphology	postag	syntax
none	536	536		
auto			536	75
outdated-final				441

first		
discussed		4
final		16

C.5 es texts

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

C.6 it texts

	discourse	morphology	postag	syntax
none	330	411		282
auto			413	
outdated-final				
first		2		
discussed	83			98
final				33

C.7 da-de texts

	alignment
none	368
auto	
outdated-final	
first	45
discussed	
final	

C.8 da-en texts

	alignment
none	
auto	
outdated-final	536
first	
discussed	
final	

C.9 da-es texts

	alignment
none	332

auto	
outdated-final	
first	
discussed	81
final	

C.10 da-it texts

	alignment	
none	316	
auto		
outdated-final		
first		
discussed	97	
final		

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