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=0ArjTKYTQS1lWcnNUWGJrX3lZTkxDc3QxYmlqWlRXQ1E&hl=en

Contents

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
isa super
[12]

The notation in the left margin indicates that we now describe the relation relation; it has immediate super type super and is defined in row 12 in the spreadsheet. When 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;
- *confusion*: lists relations that are confused with this relation with percentages (ie, the probability that other annotators will use another relation name); the numbers in "Confusion$^{N}_{A,A_U,A_L}$ list the number of times the relation name has been used for a multiply-annotated in-node, and the labeled agreement A, the unlabeled agreement A_U, and the label agreement A_L for the relation.
- *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: formal top node
- CDT1: Deprecated CDT1 relations
- DIM: dimension
  - DIM:LEVEL: dimension: linguistic level
  - DIM:TYPE: dimension: annotation type
- RULE: generative type specification rule
- TOPIC: annotation topic

Figure 2.1: The relations matching ANY-!DIM:LEVEL-!DIM:TYPE-!RULE-!TOPIC-!CDT1.

ANY [2] *Formal top node.* The formal top node in the type hierarchy. The type hierarchy contains all the annotations (features and relations) used in the Copenhagen Dependency Treebanks; it also contains all other documentation for the treebank, including hierarchically organized topics in the annotation which describe how to annotate particular linguistic constructions in the treebanks.

Subtypes: CDT1 DIM RULE TOPIC.

CDT1 isa ANY [394] *Deprecated CDT1 relations.* Deprecated relations from the CDT1+2 treebanks.

Subtypes: CDT1ADJ CDT1COMP CDT1GAP.

DIM isa ANY [3] *Dimension* (long: DIMENSION). A dimension in the type hierarchy. The dimensions include the linguistic level (eg, syntax, morphology, semantics) and the annotation type (eg, primary dependency, secondary dependency, idiomatic construction)

Subtypes: DIM:LEVEL DIM:TYPE.

DIM:LEVEL isa DIM [8] *Dimension: linguistic level.* A dimension specifying the linguistic level of the relation. The classification of relations into linguistic levels is meant to give a rough classification of the relations that corresponds to the standard terminology in linguistic theory. The classification is intended for human use. It is not an important feature in the underlying linguistic theory, and there are borderline cases where the distinction between the levels is somewhat fuzzy.

Subtypes: ALIGN ANA DISC MORPH ONTO SEM SYN.

DIM:TYPE isa DIM [17] *Dimension: annotation type.* A dimension specifying the type of the annotation. Eg, a lexical feature or a directed bilexical reiation.

Subtypes: FEAT REL.

RULE
isa ANY
[4]

Generative type specification rule. Generative type specification rules specify how type names are created generatively using rules. A rule consists of a sequence of null-separated items which are either character sequences enclosed in double quotes or type names; parts of a rule may be enclosed in parentheses and followed by an optional repetition operator: "*" (0 or more times), "+" (1 or more times), or "?" (0 or 1 times). When specifying the super types for a generated type, $1 refers to the part of the type name matched within the first pair of parentheses, $2 the part within the second pairs of parentheses, etc. Generated types may be used as super types.

For example, the rule "<"PRIM">" generates all relation names formed by enclosing any relation name from the "PRIM" hierarchy in angle brackets. "<"PRIM("."PRIM)*">" generates all relation names formed by enclosing a "."-separated sequence of "PRIM" relation names in angle brackets.

Subtypes: ""QUALIA RuleAnd RuleAttr RuleAttrD RuleAttrH RuleDisc RuleExpConn RuleGap RuleIdiom RuleImpConn RuleMorph RuleOblAdv RuleOr RulePar RuleSec.

TOPIC
isa ANY
[5]

Annotation topic. A topic in the annotation guidelines. A topic describes how a particular linguistic construction is annotated in the treebanks, as an aid for the annotators and human users of the CDT treebanks. If a linguistic relation is very closely associated to one or more topics (eg, "gobj" for genitive constructions), the topics should be added as super types for the relation, so that the relations and the topics are properly linked in the annotation manual.

Subtypes: %ALIGN %DISC %MORPH %SEM %SYN.

2.1 Linguistic level dimension: DIM:LEVEL

DIM:LEVEL: dimension: linguistic level
- ALIGN: alignment level
- ANA: anaphor level
- DISC: discourse level
- MORPH: morphology level
- ONTO: ontology level
- SEM: semantic level
- SYN: syntax level

Figure 2.2: The relations matching DIM:LEVEL-!SYNTAX-!MORPH-!DISC-!ANA-!SEM-!ALIGN-!ONTO-!RULE-!TOPIC-!CDT1.

DIM:LEVEL
isa DIM
[8]

Dimension: linguistic level. A dimension specifying the linguistic level of the relation. The classification of relations into linguistic levels is meant to give a rough classification of the relations that corresponds to the standard terminology in linguistic theory. The classification is intended for human use. It is not an important feature in the underlying linguistic theory, and there are borderline cases where the distinction between the levels is somewhat fuzzy.

Subtypes: ALIGN ANA DISC MORPH ONTO SEM SYN.

ALIGN
isa DIM:LEVEL
[15]

Alignment level (long: ALIGNMENT). The alignment level includes alignment relations as well as lexical features associated with alignments.

Subtypes: ALIGNREL.

ANA *Anaphor level* (long: ANAPHORA). The anaphor level includes relations between anaphors and their antecedents, as well as lexical features associated with anaphora.
isa DIM:LEVEL
[14]
Subtypes: ANAREL anaphor.

DISC *Discourse level* (long: DISCOURSE). The discourse level includes relations between segments in different sentences, as well as lexical features associated with discourse units.
isa DIM:LEVEL
[11]
Subtypes: DISCOTHER DISCPRAG DISCSEM RuleDisc.

MORPH *Morphology level* (long: MORPHOLOGY). The morphological level includes relations between two word segments within a single word, as well as lexical features associated with morphemes.
isa DIM:LEVEL
[9]
Subtypes: MORPHCOMP MORPHDERIV RuleMorph.

ONTO *Ontology level* (long: ONTOLOGY). The ontological level includes relations between lexical elements construed as ontological units, as well as lexical features associated with ontological units.
isa DIM:LEVEL
[13]
Subtypes: ONTOCLASS.

SEM *Semantic level* (long: SEMANTICS). The semantic level includes relations between lexical elements construed as functors, arguments, and modifiers, as well as lexical features associated with semantic units.
isa DIM:LEVEL
[12]
Subtypes: SEMREL.

SYN *Syntax level* (long: SYNTAX). The syntactic level includes relations between two segments within a sentence, but not within a single word, as well as lexical features associated with syntactic units.
isa DIM:LEVEL
[10]
Subtypes: SYNADJ SYNCOMP.

2.2 Annotation type dimension: DIM:TYPE

DIM:TYPE *Dimension: annotation type.* A dimension specifying the type of the annotation. Eg, a lexical feature or a directed bilexical reiation.
isa DIM
[17]
Subtypes: FEAT REL.

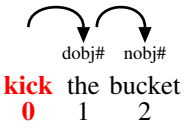
FEAT *Lexical feature* (long: FEATURE). A lexical feature. Ie, an annotation that describes a particular property of a lexical element.
isa DIM:TYPE
[18]
Subtypes: ONTOCLASS.

REL *Directed bilexical relation* (long: RELATION). A directed bilexical relation. Ie, a directed relation that goes from one lexical element (the parent, head, governor, nucleus, stem, antecedent) to a dependent lexical element (the child, dependent, satellite, affix, anaphor).
isa DIM:TYPE
[19]
Subtypes: ALIGNREL ANAREL IDIOM LAND PRIM SEC SEMREL.

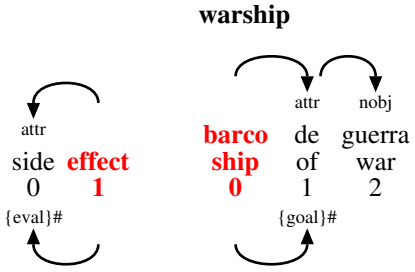
IDIOM *Idiomatic relation.* An idiomatic relation. The relation links independent lexical elements that jointly form an idiomatic lexical unit, ie, a unit where the meaning of the whole cannot be described as a semantic composition of its parts.
isa REL
[32]
Subtypes: RuleIdiom.
Related types: +.

DIM:TYPE: dimension: annotation type
- FEAT: lexical feature
- REL: directed bilexical relation
  - IDIOM: idiomatic relation
    - RuleIdiom: idiomatic relation pattern
  - LAND: landing relation
    - fill: licensed filler
    - land: landed lexical element
  - PRIM: primary dependency relation
    - +: segment concatenation
    - ADJ: adjunct relation
    - COMP: complement relation
      - RuleOblAdv: valency-bound adverbial
  - SEC: secondary dependency relation
    - RuleSec: secondary relation pattern
    - repl: replacement in gapping coordination

Figure 2.3: The relations matching DIM:TYPE-!SYNTAX-!MORPH-!DISC-!ANA-!SEM-!ALIGN-!ONTO-!TOPIC-!CDT1.



RuleIdiom isa IDIOM RULE [373]
Idiomatic relation pattern (long: (SEMREL)"#"). A semantic relation can be marked as idiomatic by putting a trailing "#" after the semantic relation name. The idiom marker is only used with semantic relations, not with syntactic relations.



LAND isa REL [25]
Landing relation (long: LANDING). A relation between a lexical element and its landing site. Landing relations are not annotated explicitly in the Copenhagen Dependency Treebanks. In Discontinuous Grammar, the word order is determined by a projective surface tree. The projective surface tree can be derived from the deep tree by defining the landing site for a node as the lowest transitive governor in the deep tree that deeply dominates all nodes between the node and the transitive governor. The resulting set of landing relations can be shown to form a projective tree. In this tree, a global word order uniquely corresponds to a local ordering of all the landed nodes at each landing site.

Subtypes: fill land.

fill isa LAND [27]
Licensed filler. A landing relation from a filler licensor to a phonetically empty filler that it licenses. The filler licensor is viewed as the landing site for the filler. Filler relations are never

annotated explicitly in the CDT treebanks, but play an important role in the underlying linguistic theory, Discontinuous Grammar. In DG, a ”filler” is a phonetically empty constituent which is licensed lexically by a ”filler licensor” lexeme, and which functions as an anaphoric element that requires a ”filler source” as its antecedent. For example, the relative verb in a relative construction acts as filler licensor for a filler that essentially provides a copy of the relativized noun; in control constructions, the controlling verb passes on a copy of the controlled complement to the subordinate verb; and in gapping coordinations, the first conjunct licenses one or more gapping fillers that function as the elided heads of the gapped conjuncts.

land
isa LAND
[26]

Landed lexical element. A landing relation for lexical elements. This relation is used when the landed node is a lexical element rather than a filler. Landing relations are not annotated explicitly in the CDT annotation, but follow implicitly from the other annotation.

Related types: LAND.

PRIM
isa REL
[20]

Primary dependency relation (long: PRIMARY). A primary dependency relation. Ie, a bilexical relation which specifies the primary head associated with each lexical element in the analysis at the level of syntax, discourse, and morphology. The primary dependencies in a well-formed analysis must form a deep tree, which may be non-projective. The deep tree provides the primary interface to the underlying compositional semantics. In particular, the deep tree defines the application order in the compositional semantics by inducing a unique functor-argument tree for each modifier scope, ie, for each ordering of the adjuncts at all nodes in the analysis.

Subtypes: + ADJ COMP.

+
isa PRIM
[33]

Segment concatenation (long: CONCATENATION). A concatenation relation. The relation is used to correct segmentation errors, and specifies that two nodes should have been analyzed as subsegments of the same lexical unit. The relation always goes from a node to its immediately following neighbour in the segmentation.

Related types: IDIOM.

ADJ
isa PRIM
[22]

Adjunct relation (long: ADJUNCT). A primary adjunct relation. The relation is licensed by the adjunct, ie, the lexical entry of the adjunct specifies the adjunct relations licensed by the adjunct, along with the associated semantic interpretation mechanisms and selectional restrictions on the licensed governors. In the compositional semantics, the adjunct acts as a modifier, ie, a functor that as its argument takes the semantic representation corresponding to the governor along with the governor's arguments and lower-scoped adjuncts.

Subtypes: DISCOTHER DISCPRAG DISCSEM SYNADJ.

COMP
isa PRIM
[21]

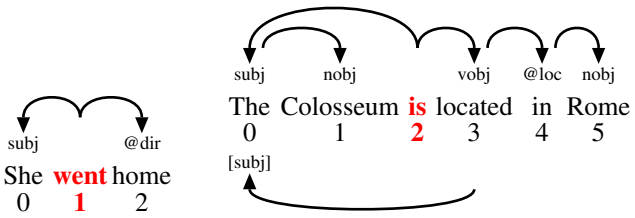
Complement relation (long: COMPLEMENT). A primary complement relation. The relation is licensed by the governor, ie, the lexical entry of the governor specifies the complement frames that it allows, along with the associated semantic interpretation mechanisms and selectional restrictions associated with each complement role. In the compositional semantics, the complements act as arguments with the governor as their functor.

Subtypes: RuleOblAdv SYNCOMP.

RuleOblAdv
isa COMP RULE
[370]

Valency-bound adverbial (long: "@"ADVERB). An adverbial relation can be marked as obligatory by putting "@" in front of the relation name.

Related types: cont dir dur ext hab loc prec succ time.



SEC
isa REL
[24]

Secondary dependency relation (long: SECONDARY). A secondary dependency relation. Intuitively, if a node functions as a dependent of more than one word (eg, in verbal chains, raising and control constructions, relatives, and elliptic coordinations), the dependency relation that determines the word order is encoded as a primary relation, and the remaining dependency relations are encoded as secondary dependency relations. In terms the underlying linguistic theory in Discontinuous Grammar, the secondary relations in the CDT annotation encode that the child node in the secondary dependency functions as the filler source for a filler that functions as a primary dependent of the parent node. Since the CDT annotation does not include filler nodes, there is no explicit annotation of the filler and its associated filler licensor and filler source, and the filler licensor must be reconstructed from the secondary dependency by means of heuristic rules.

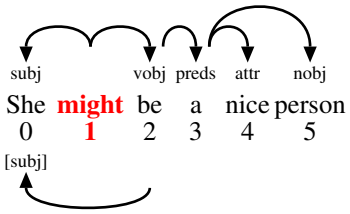
Subtypes: RuleSec ref repl.

Related types: fill fsrc.

RuleSec
isa RULE SEC
[368]

Secondary relation pattern (long: "["PRIM"]"). A secondary relation name is formed by enclosing a primary relation name in square brackets.

Related types: SEC.



repl
isa SEC
[34]

Replacement in gapping coordination. A relation that encodes a constituent in the first conjunct replaced by a gapping dependent. The relation goes from the head of the replaced constituent to the head of the gapping dependent. The extraction path for the gapping dependent is defined as the path from the replaced constituent to the head of the first conjunct.

Related types: gapd.

Chapter 3

Syntactic relations: SYNTAX

SYN: syntax level
  SYNADJ: syntactic adjunct
  SYNCOMP: syntactic complement

Figure 3.1: The relations matching SYNTAX-!SYNCOMP-!SYNADJ-!CDT1-TOPIC.

SYN
isa DIM:LEVEL
[10]

Syntax level (long: SYNTAX). The syntactic level includes relations between two segments within a sentence, but not within a single word, as well as lexical features associated with syntactic units.

Subtypes: SYNADJ SYNCOMP.

SYNADJ
isa ADJ SYN
[105]

Syntactic adjunct. An adjunct role at the syntactic level. This relation type is used to group a large class of adjunct roles that only apply at the syntactic level.

Subtypes: ADVERB CDT1ADJ app attr attrg conj coord correl fpred gapd name pnct rel voc xtop.

SYNCOMP
isa COMP SYN
[77]

Syntactic complement. A complement role at the syntactic level. This relation type is used to group a large class of complement roles that only apply at the syntactic level.

Subtypes: @space @time CDT1COMP aobj avobj dobj fobj gobj iobj nobj numa numm part pobj possd possr pred qobj robj subj vobj.

3.1 Complement relations: SYNCOMP

SYNCOMP
isa COMP SYN
[77]

Syntactic complement. A complement role at the syntactic level. This relation type is used to group a large class of complement roles that only apply at the syntactic level.

Subtypes: @space @time CDT1COMP aobj avobj dobj fobj gobj iobj nobj numa numm part pobj possd possr pred qobj robj subj vobj.

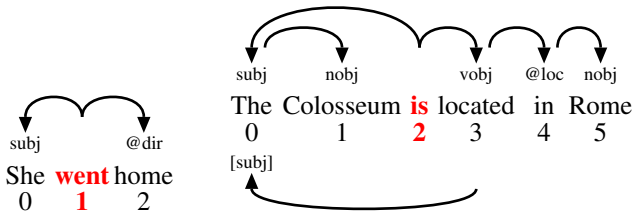
@space
isa SYNCOMP
[86]

Valency-bound location/direction adverbial (deprecated lobj). A valency bound locative expression. Formerly analyzed as locative object "lobj", but we have decided to provide a general mechanism (@) for converting adverbial relations into valency-bound relations instead.

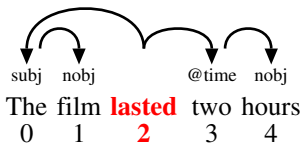
Related types: dir loc.

SYNCOMP: syntactic complement
- @space: valency-bound location/direction adverbial
- @time: valency-bound time adverbial
- 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

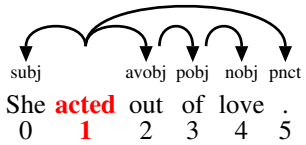
Figure 3.2: The relations matching SYNCOMP-!CDT1-TOPIC.



@time isa SYNCOMP [102]
Valency-bound time adverbial (deprecated tobj). A valency bound time expression. Formerly analyzed as temporal object "tobj", but we have decided to provide a general mechanism (@) for converting adverbial relations into valency-bound relations instead.
Related types: cont dur ext hab prec succ.



avobj isa SYNCOMP [94]
Adverbial object.
Related types: aobj part.
Confusion$^{34}_{67.6\%/97.1\%/67.6\%\%}$: avobj$_{67.6\%}$ other$_{11.8\%}$ part$_{5.9\%}$ quant$_{5.9\%}$ aobj$_{2.9\%}$ loc$_{2.9\%}$ pobj$_{2.9\%}$.

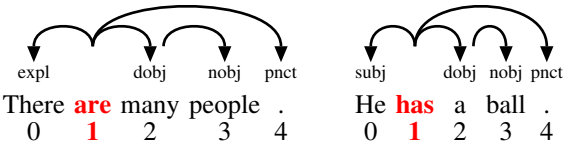


dobj isa SYNCOMP [82]

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

Related types: iobj robj.

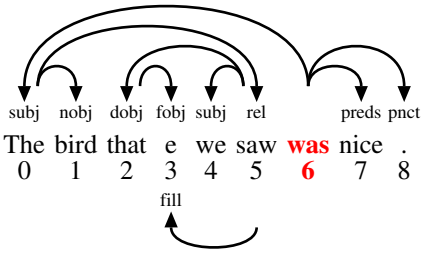
Confusion$^{726}_{93.8\%/98.3\%/94.5\%\%}$: dobj$_{94.5\%}$ nobj$_{1.7\%}$ pobj$_{1\%}$ robj$_{0.8\%}$ iobj$_{0.7\%}$ preds$_{0.3\%}$ goal$_{0.3\%}$ pnct$_{0.3\%}$ predo$_{0.1\%}$ dir$_{0.1\%}$ quant$_{0.1\%}$ vobj$_{0.1\%}$.



fobj isa SYNCOMP [95]

Filler object. Filler objects are never annotated explicitly in the CDT annotation. In Discontinuous Grammar, a "filler" is a phonetically empty constituent which is licensed lexically by a "filler licensor" lexeme (eg, the relative verb in a relative construction acts as filler licensor for a filler that essentially provides a copy of the relativized noun). A "filler object" is reserved for the special case where a particular word (eg, a relative pronoun) must consume a filler (eg, the filler created by the relative verb). That is, most of the constructions which include a "ref" relation in the CDT involve the use of a filler object in the detailed theoretical account in Discontinuous Grammar.

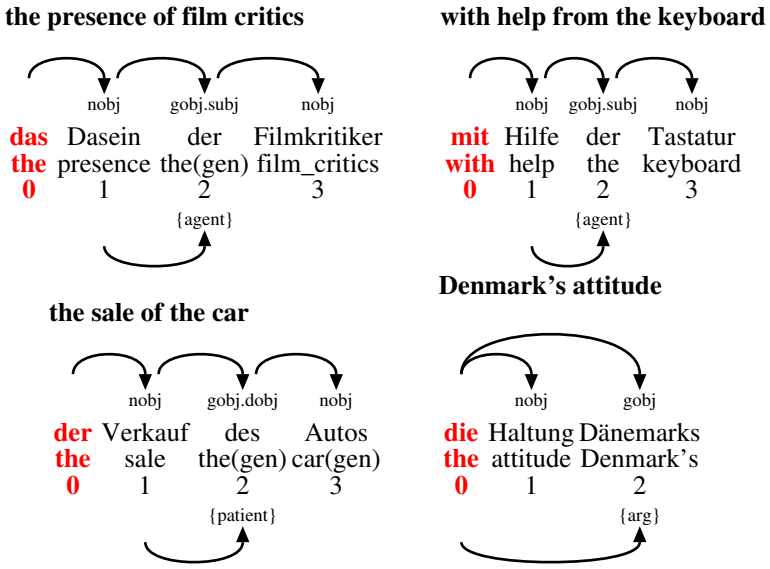
Related types: fill ref.



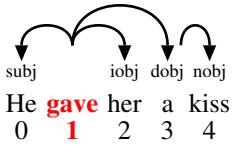
gobj isa SYNCOMP [84]

Genitive object. If the genitve object is part of a NP with a deverbal nucleus, 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, recipiencer, experient, location.

Related types: SEMROLE attrg.



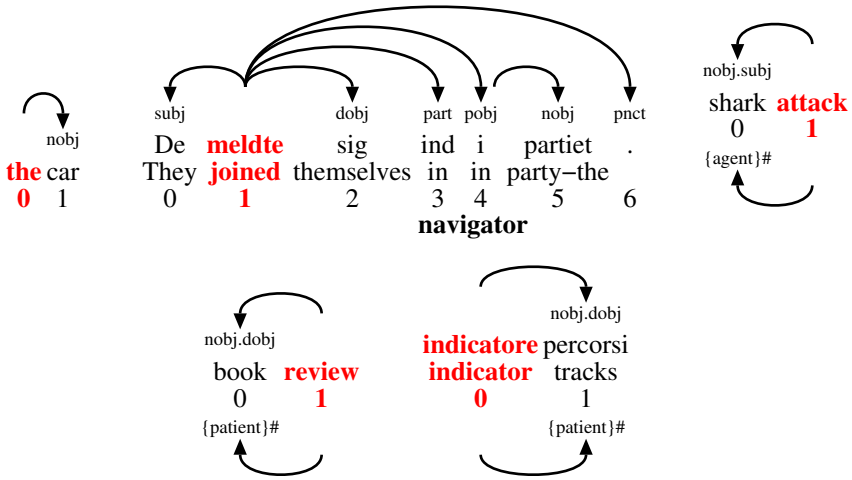
iobj *Indirect object.*
isa SYNCOMP Related types: dobj.
[85] Confusion$^{24}_{70.8\%/100\%/70.8\%\%}$: iobj$_{70.8\%}$ dobj$_{20.8\%}$ robj$_{8.3\%}$.



nobj *Nominal object.* If the nominal object is part of a NP with a deverbal nucleus, the following
isa SYNCOMP annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE} nobj.pobj{SEMROLE}
[92] nobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.

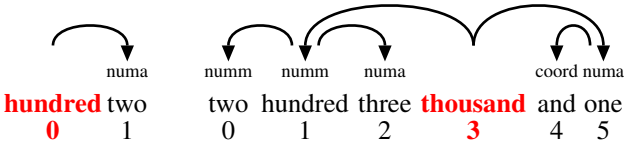
Confusion$^{2782}_{95.2\%/97.6\%/96\%\%}$: nobj$_{96\%}$ attr$_{1.3\%}$ dobj$_{0.4\%}$ aobj$_{0.3\%}$ vobj$_{0.3\%}$ preds$_{0.2\%}$ name$_{0.2\%}$ time$_{0.2\%}$ subj$_{0.2\%}$ pobj$_{0.2\%}$ conj$_{0.1\%}$ pnct$_{0.1\%}$ possd$_{0.1\%}$ other$_{0.1\%}$ title$_{0.1\%}$ loc$_{0.1\%}$ numa$_{0\%}$ quant$_{0\%}$ cond$_{0\%}$ appr$_{0\%}$.

They joined the party.



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

Related types: numm.
Confusion$^{5}_{80\%/100\%/80\%\%}$: numa$_{80\%}$ nobj$_{20\%}$.

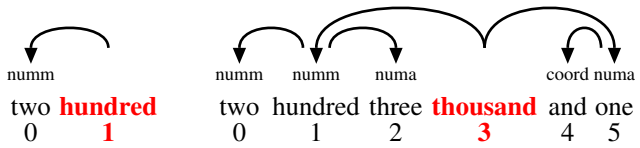


numm isa SYNCOMP [97]

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

Related types: numa.

Confusion$^{12}_{100\%/100\%/100\%\%}$: numm$_{100\%}$.

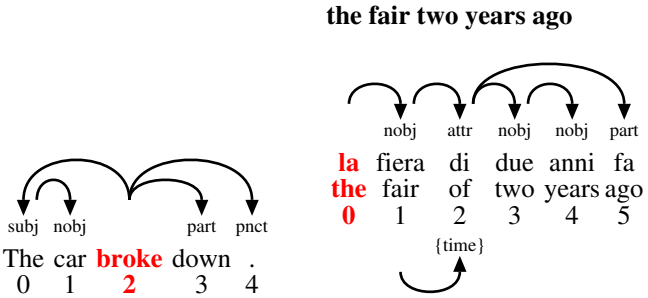


part isa SYNCOMP [98]

Verbal particle. Verbal particle.

Related types: avobj.

Confusion$^{19}_{78.9\%/100\%/78.9\%\%}$: part$_{78.9\%}$ avobj$_{10.5\%}$ other$_{5.3\%}$ dir$_{5.3\%}$.

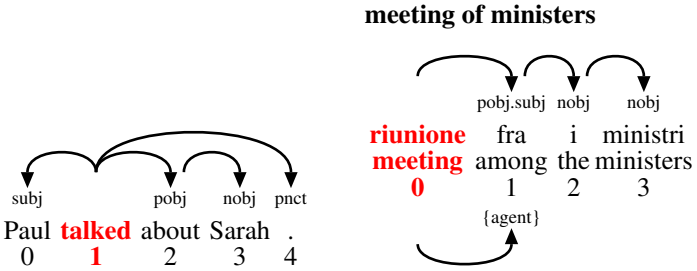


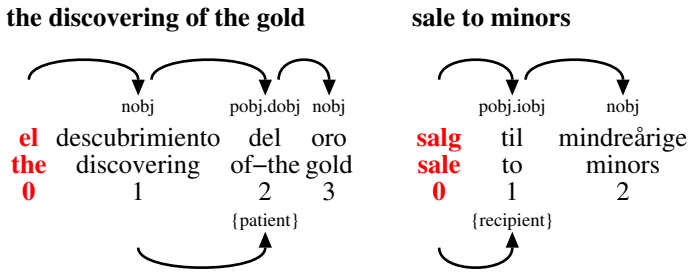
pobj isa SYNCOMP [83]

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

Related types: SEMROLE avobj.

Confusion$^{588}_{78.7\%/94.4\%/79.4\%\%}$: pobj$_{79.4\%}$ attr$_{8.3\%}$ goal$_{2.4\%}$ other$_{1.9\%}$ dir$_{1.5\%}$ agent$_{1.4\%}$ dobj$_{1.2\%}$ loc$_{1.2\%}$ nobj$_{0.9\%}$ source$_{0.5\%}$ preds$_{0.3\%}$ inst$_{0.3\%}$ avobj$_{0.2\%}$ man$_{0.2\%}$ cause$_{0.2\%}$ accom$_{0.2\%}$.



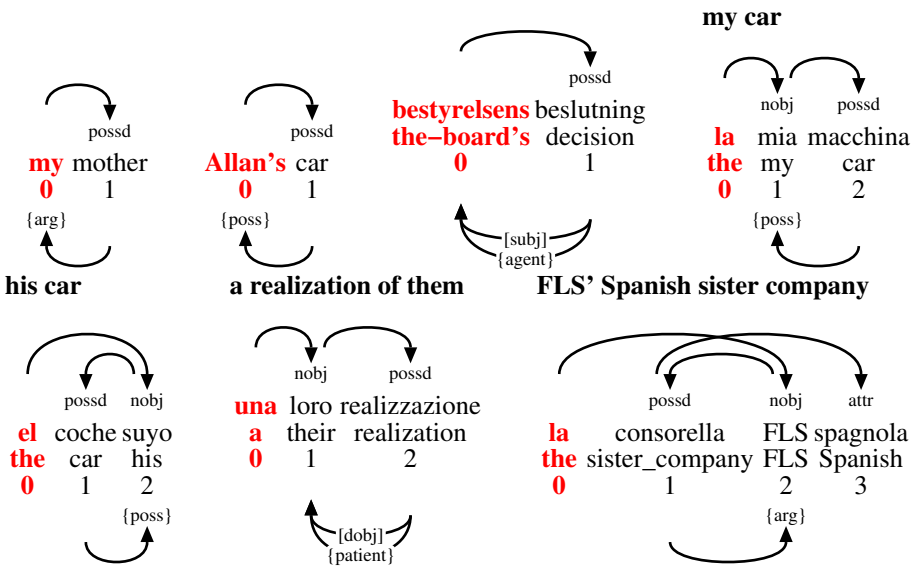


possd isa SYNCOMP [99]

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

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

Confusion$^{240}_{95.6\%/96.5\%/98.1\%\%}$: possd$_{98.1\%}$ nobj$_{1.3\%}$ attr$_{0.4\%}$ pnct$_{0.2\%}$.



possr isa SYNCOMP [100]

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.

pred isa SYNCOMP [87]

Predicative.

Subtypes: predo preds.

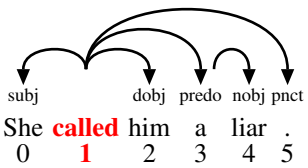
Related types: predo preds.

predo isa pred [89]

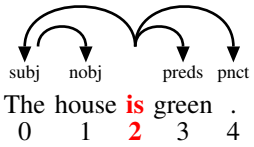
Object predicative.

Related types: preds.

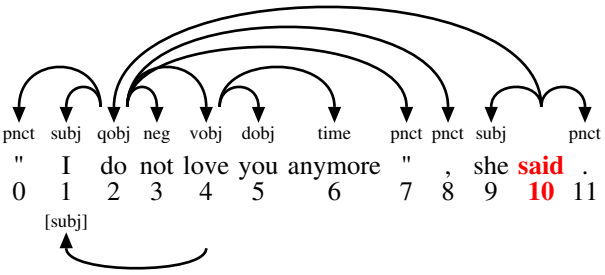
Confusion$^{21}_{9.5\%/85.7\%/9.5\%\%}$: preds$_{57.1\%}$ inst$_{9.5\%}$ predo$_{9.5\%}$ vobj$_{9.5\%}$ attr$_{4.8\%}$ fpredo$_{4.8\%}$ dobj$_{4.8\%}$.



preds *Subject predicative.*
isa pred Related types: predo.
[88] Confusion$^{430}_{78.8\%/99.3\%/78.8\%\%}$: preds$_{78.8\%}$ vobj$_{10.9\%}$ predo$_{2.8\%}$ loc$_{2.8\%}$ nobj$_{1.4\%}$ time$_{0.7\%}$ dobj$_{0.5\%}$ subj$_{0.5\%}$ aobj$_{0.5\%}$ pobj$_{0.5\%}$ fpredo$_{0.2\%}$ inst$_{0.2\%}$ resem$_{0.2\%}$.

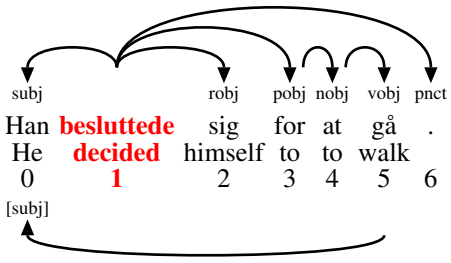


qobj *Quotational object.* A phrase or discourse segment functioning as directly quoted speech, typically by an attribution verb. Indirect speech is analyzed as ”dobj” or ”nobj”.
isa SYNCOMP
[101] Related types: xpl.
Confusion$^{70}_{76.4\%/76.4\%/76.4\%\%}$: qobj$_{76.4\%}$ conj$_{7.1\%}$ coord$_{7.1\%}$ discmark$_{2.9\%}$ CONJ:add$_{2.1\%}$ CONJ:elab$_{1.4\%}$ CONST:rest$_{1.4\%}$ AGENTIVE:reas$_{1.4\%}$.



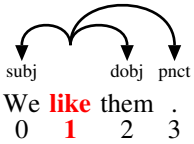
robj *Reflexive object.*
isa SYNCOMP Related types: dobj.
[91] Confusion$^{9}_{11.1\%/100\%/11.1\%\%}$: dobj$_{66.7\%}$ iobj$_{22.2\%}$ robj$_{11.1\%}$.

He decided to walk.



subj *Subject.* A subject relation. In languages with case, subjects are usually nominative-marked. Agent-roles are often encoded as subjects, but not necessarily so (eg, in passive constructions).
isa SYNCOMP
[80]

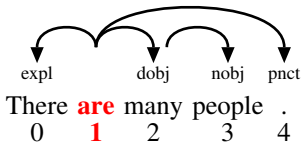
Subtypes: expl.
Related types: expl.
Confusion$^{1172}_{98.3\%/99.1\%/98.7\%\%}$: subj$_{98.7\%}$ nobj$_{0.4\%}$ expl$_{0.4\%}$ preds$_{0.2\%}$ attr$_{0.1\%}$ appr$_{0.1\%}$ correl$_{0.1\%}$ CONJ:elab$_{0\%}$.



expl isa subj [81] *Expletive subject.* An expletive subject relation. The expletive subject is typically a situational place adverbial like ”there” or time adverbial like ”now”, and is only possible for verbs that support the expletive alternation. The expletive alternation applies to all verbs that do not have a direct object (this observation, due to Richard Hudson, can be used as a test to distinguish between direct and indirect objects in verbs that take a single object). The alternation creates a new lexicalization of the verb by demoting the original subject to the vacant direct object role (with the restriction that only indefinites are allowed in this direct object role), and letting the subject role be filled by a situational place or time adverbial.

Related types: subj.

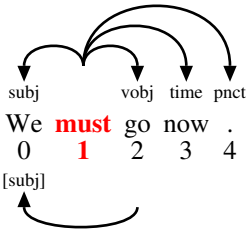
Confusion$^{60}_{91.7\%/100\%/91.7\%\%}$: expl$_{91.7\%}$ subj$_{8.3\%}$.



vobj isa SYNCOMP [90] *Verbal object.*

Related types: "["$PRIM"]".

Confusion$^{893}_{91.7\%/98.7\%/92.7\%\%}$: vobj$_{92.7\%}$ preds$_{5.3\%}$ nobj$_{0.8\%}$ pnct$_{0.3\%}$ relr$_{0.2\%}$ predo$_{0.2\%}$ rel$_{0.1\%}$ conj$_{0.1\%}$ dobj$_{0.1\%}$ fpreds$_{0.1\%}$.



3.2 Non-adverbial adjunct relations: SYNADJ

SYNADJ isa ADJ SYN [105] *Syntactic adjunct.* An adjunct role at the syntactic level. This relation type is used to group a large class of adjunct roles that only apply at the syntactic level.

Subtypes: ADVERB CDT1ADJ app attr attrg conj coord correl fpred gapd name pnct rel voc xtop.

ADVERB isa SYNADJ [141] *Adverbial.* V/N/P->adverbial

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

app isa SYNADJ [116] *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.

Subtypes: appa appr.

Related types: appa appr.

appa isa app [117] *Parenthetic apposition (comma).*

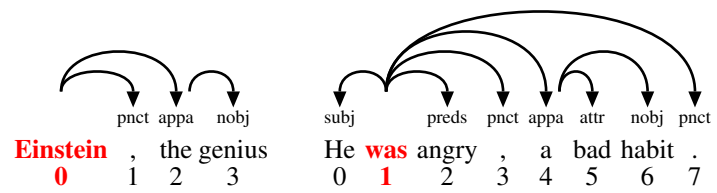
Subtypes: xpl.

Related types: appr xpl.

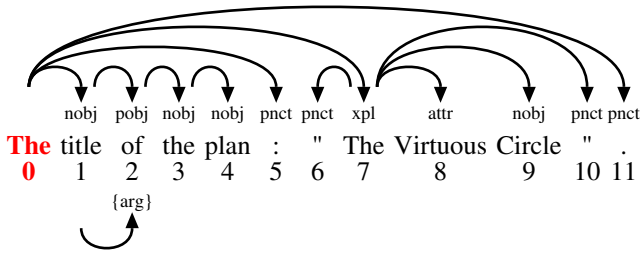
Confusion$^{27}_{88.9\%/88.9\%/100\%\%}$: appa$_{100\%}$.

SYNADJ: syntactic adjunct
- ADVERB: adverbial
- app: apposition
  - appa: parenthetic apposition (comma)
    - xpl: explication
  - appr: restrictive apposition (no comma)
- 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
- gapd: gapping dependent
  - RuleGap: gapping dependent
- name: part of name
  - namef: first name
  - namel: last name
  - title: person title
- pnct: punctuation
- rel: relative clause
  - relelab: elaborating relative clause
  - relpa: parenthetic relative clause
  - relr: restrictive relative clause
- voc: vocative
- xtop: external topic with resuming pronoun

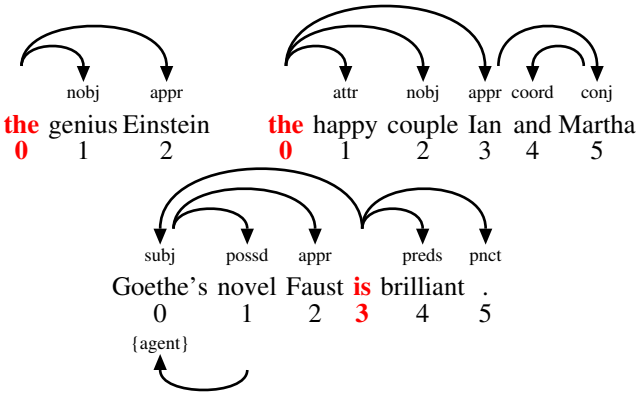
Figure 3.3: The relations matching SYNADJ-!CDT1-!ADVERB-TOPIC.



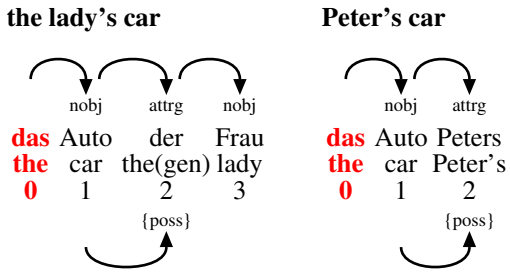
xpl *Explication.* Explication of an NP or VP.
isa appa
[130] Related types: qobj.
Confusion$^{18}_{88.9\%/100\%/88.9\%\%}$: xpl$_{88.9\%}$ conj$_{5.6\%}$ other$_{5.6\%}$.



appr *Restrictive apposition (no comma).*
isa app
[118] Related types: appa.
Confusion$^{36}_{88.9\%/94.4\%/88.9\%\%}$: appr$_{88.9\%}$ nobj$_{2.8\%}$ pnct$_{2.8\%}$ title$_{2.8\%}$ subj$_{2.8\%}$.

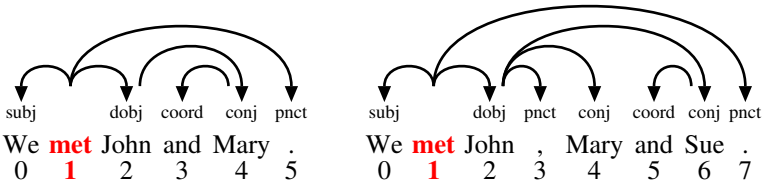


attrg *Genitive attributive.*
isa SYNADJ Related types: SEMROLE gobj.
[115]



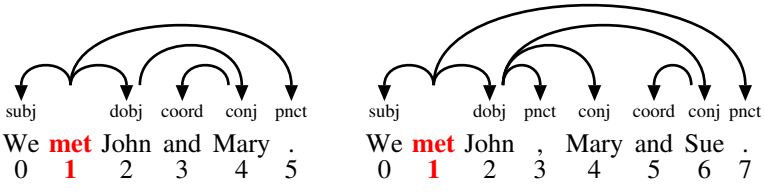
conj *Conjunct relation.* A dependency relation relating the conjuncts in a coordination. Secondary conjuncts are analyzed as "conj"-dependents of the first conjunct. Coordinators are analyzed as dependents of the secondary conjuncts.
isa SYNADJ
[106]

Related types: coord correl.
Confusion$^{552}_{92.1\%/93.2\%/94.7\%\%}$: conj$_{94.7\%}$ CONJ:add$_{1.4\%}$ qobj$_{0.9\%}$ nobj$_{0.5\%}$ attr$_{0.5\%}$ CONTR:sbj$_{0.4\%}$ CONTR:dir$_{0.4\%}$ CONST:rest$_{0.2\%}$ TELIC:cons.dir$_{0.2\%}$ coord$_{0.2\%}$ cause$_{0.2\%}$ vobj$_{0.2\%}$ xpl$_{0.2\%}$ pnct$_{0.1\%}$.

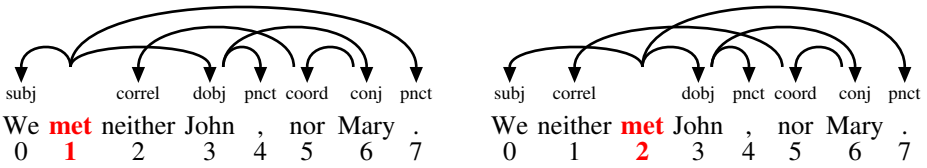


coord *Coordinator relation.* A dependency relation between a coordinating conjunction and a secondary conjunct. The coordinator is analyzed as a dependent of the secondary conjunct. Secondary conjuncts are in turn analyzed as "conj"-dependents of the first conjunct.
isa SYNADJ
[107]

Related types: conj correl discmark.
Confusion$^{400}_{92\%/97\%/93.3\%\%}$: coord$_{93.3\%}$ discmark$_{4.5\%}$ qobj$_{1.3\%}$ contr$_{0.5\%}$ conj$_{0.3\%}$ neg$_{0.3\%}$.

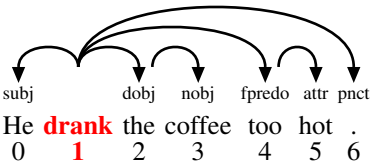


correl *Correlative coordinator relation.*
isa SYNADJ Related types: conj coord.
[108] Confusion$^{9}_{55.6\%/77.8\%/55.6\%\%}$: correl$_{55.6\%}$ add$_{11.1\%}$ other$_{11.1\%}$ focal$_{11.1\%}$ subj$_{11.1\%}$.

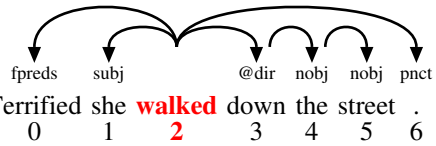


fpred *Free predicative.*
isa SYNADJ Subtypes: fpredo fpreds.
[111] Related types: fpredo fpreds.

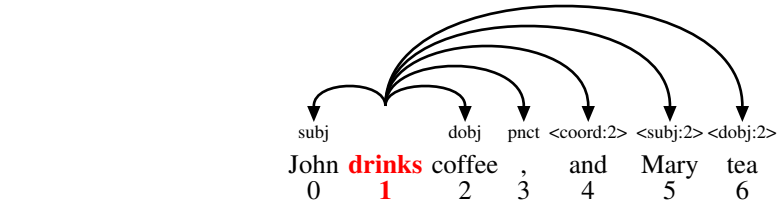
fpredo *Free direct-object predicative.*
isa fpred Related types: fpreds man.
[113] Confusion$^{6}_{0\%/66.7\%/0\%\%}$: loc$_{33.3\%}$ goal$_{16.7\%}$ man$_{16.7\%}$ preds$_{16.7\%}$ predo$_{16.7\%}$.

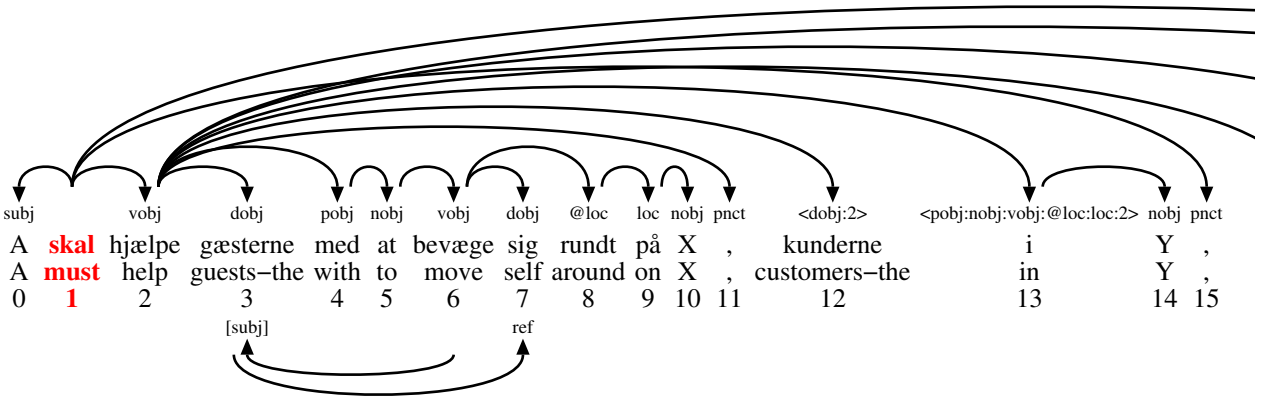


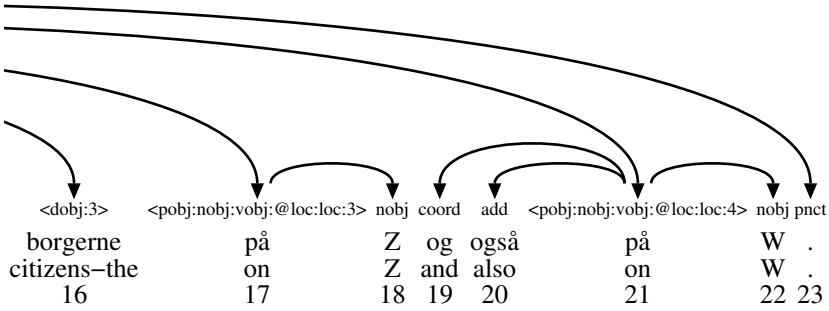
fpreds *Free subject predicative.*
isa fpred Related types: fpredo.
[112] Confusion$^{3}_{0\%/100\%/0\%\%}$: man$_{66.7\%}$ vobj$_{33.3\%}$.

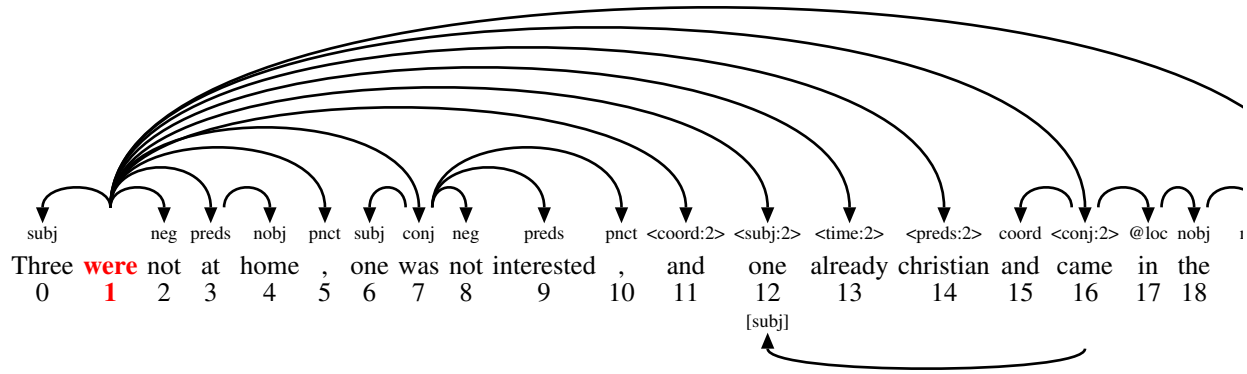


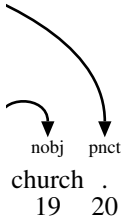
gapd *Gapping dependent* (long: GAPPING, deprecated GAP). A relation between a gapping dependent in a secondary conjunct and the head of the first conjunct. In gapping coordinations, the secondary conjuncts have an elided head, so the remaining material in the secondary conjuncts is analyzed as gapping dependents of the head of the first conjunct instead. In Discontinuous Grammar, the first conjunct is assumed to generate a gapping filler for each gapping conjunct which encodes a copy of the entire tree associated with the first conjunct, and the gapping dependent is analyzed as a primary dependent of this gapping filler; any node within the copied tree may function as the primary governor of the gapping dependent, but the gapping filler always functions as the landing site for the gapping dependent, and the gapping dependent functions as an anaphoric element that must identify a phrase within the copied tree that it replaces, encoded with a ”repl” relation.
isa SYNADJ
[23] Subtypes: CDT1GAP RuleGap.


subj dobj pnct <coord:2> <subj:2> <dobj:2>
John drinks coffee , and Mary tea
0 1 2 3 4 5 6


subj vobj dobj pobj nobj vobj dobj @loc loc nobj pnct <dobj:2> <pobj:nobj:vobj:@loc:loc:2> nobj pnct
A skal hjælpe gæsterne med at bevæge sig rundt på X , kunderne i Y ,
A must help guests−the with to move self around on X , customers−the in Y ,
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
[subj] ref

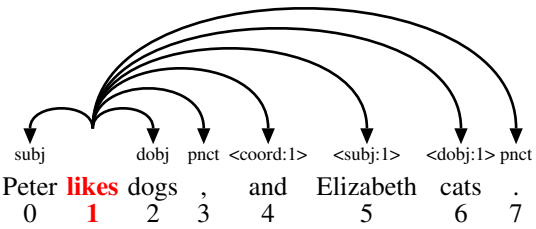

<dobj:3> <pobj:nobj:vobj:@loc:loc:3> nobj coord add <pobj:nobj:vobj:@loc:loc:4> nobj pnct
borgerne på Z og også på W .
citizens−the on Z and also on W .
16 17 18 19 20 21 22 23





RuleGap *Gapping dependent* (long: "<"PRIM(":"PRIM)*":"INTEGER">"). A gapping dependency relation is formed by using angled brackets to enclose a colon-separated list of primary relations followed by an integer that indicates the number of the gapped conjunct, starting with 1. The list of primary relations describes the path from the head of the gapped conjunct to the gapping dependent within the gapped conjunct, viewed as a copy of the tree structure within the first conjunct.

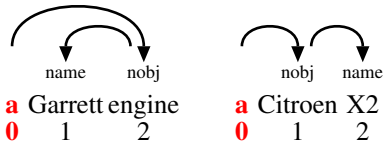
isa RULE gapd
[369]



name *Part of name.* Part of a name.

isa SYNADJ
[124]

Subtypes: namef namel title.
Confusion$^{27}_{70.4\%/77.8\%/74.1\%\%}$: name$_{74.1\%}$ nobj$_{22.2\%}$ attr$_{3.7\%}$.

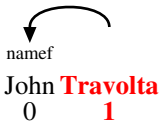


namef *First name.* A first name.

isa name

Related types: namel title.

[125] Confusion$^{146}_{97.9\%/97.9\%/100\%\%}$: namef$_{100\%}$.

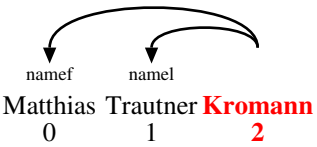


namel *Last name.* A second last name

isa name

Related types: namef title.

[126] Confusion$^{8}_{100\%/100\%/100\%\%}$: namel$_{100\%}$.



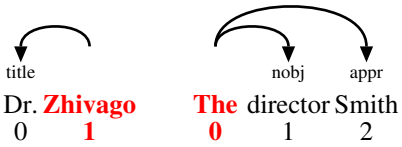
title *Person title.* A title in a name. If the title is determinated by an article, eg. the director Smith, the article is the head of the DP and the title and the name are dependents of the article, annotated as ”nobj” and ”appr”, respectively.

isa name

[127]

Related types: namef namel.

Confusion$^{30}_{86.7\%/90\%/86.7\%\%}$: title$_{86.7\%}$ nobj$_{10\%}$ appr$_{3.3\%}$.

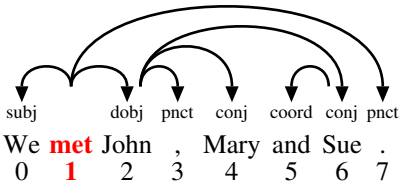


pnct *Punctuation.*

isa SYNADJ

[109]

Confusion$^{1799}_{92.6\%/92.6\%/99.3\%\%}$: pnct$_{99.3\%}$ nobj$_{0.2\%}$ vobj$_{0.2\%}$ dobj$_{0.1\%}$ conj$_{0.1\%}$ attr$_{0.1\%}$ possd$_{0.1\%}$ appr$_{0.1\%}$.



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).

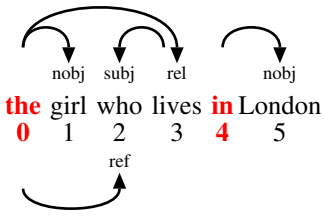
isa SYNADJ

[119]

Subtypes: relelab relpa relr.

Related types: relelab relpa relr.

Confusion$^{79}_{3.8\%/94.9\%/3.8\%\%}$: relr$_{88.6\%}$ relelab$_{5.1\%}$ rel$_{3.8\%}$ relpa$_{1.3\%}$ vobj$_{1.3\%}$.

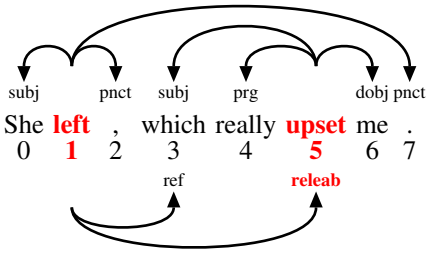


relelab *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da: hvilket, it: il che, cosa che

isa rel

[122] Related types: relpa relr.

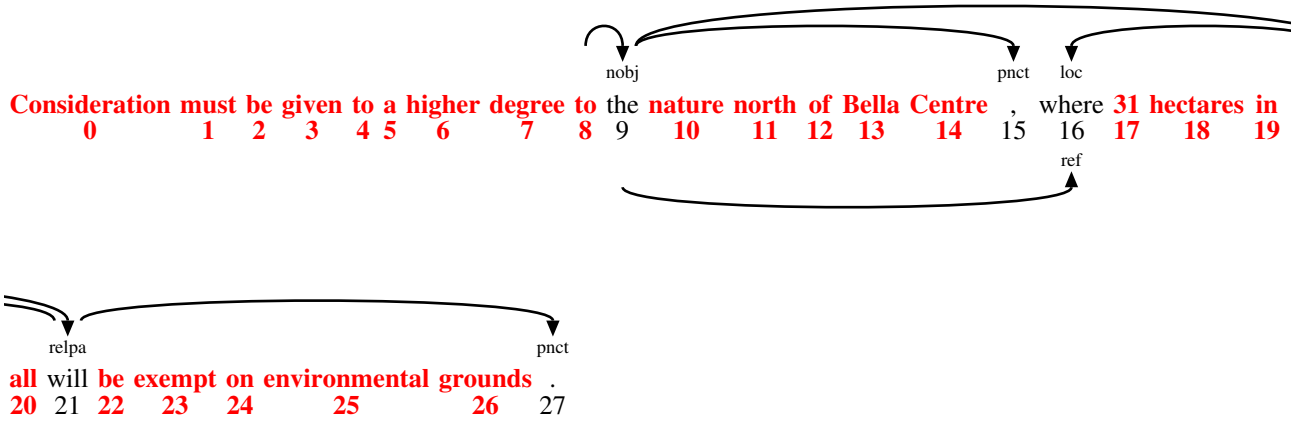
Confusion$^{6}_{0\%/100\%/0\%\%}$: rel$_{66.7\%}$ relr$_{33.3\%}$.



relpa *Parenthetic relative clause* (deprecated relp).

isa rel Related types: relelab relr.

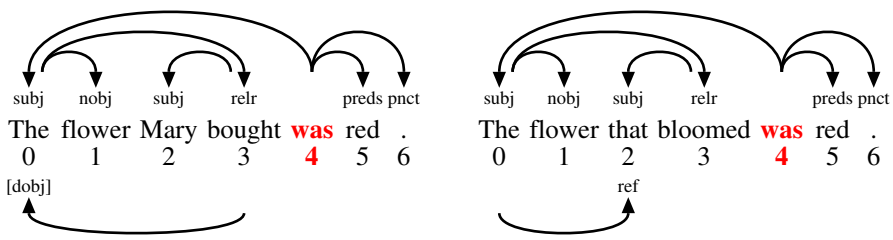
[121] Confusion$^{17}_{29.4\%/100\%/29.4\%\%}$: relr$_{64.7\%}$ relpa$_{29.4\%}$ rel$_{5.9\%}$.



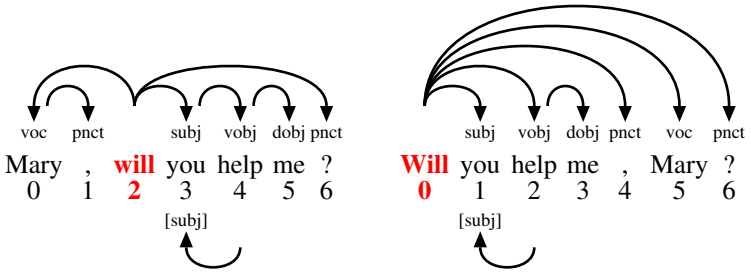
relr *Restrictive relative clause.*

isa rel Related types: relelab relpa.

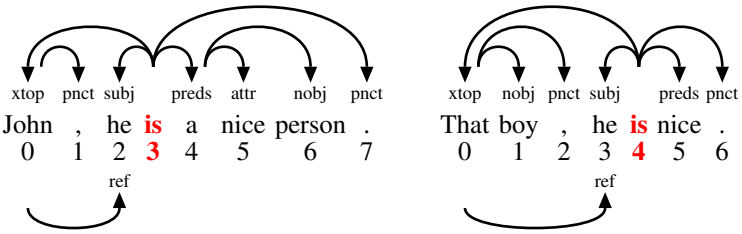
[120] Confusion$^{145}_{37.2\%/93.8\%/40.7\%\%}$: rel$_{48.3\%}$ relr$_{40.7\%}$ relpa$_{7.6\%}$ relelab$_{1.4\%}$ vobj$_{1.4\%}$ attr$_{0.7\%}$.



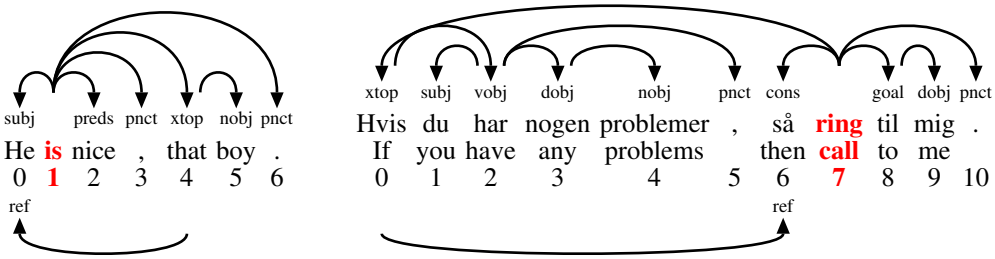
voc *Vocative.* Vocative specification. The person to whom the statement is directed.
isa SYNADJ [129]
Confusion$^{3}_{100\%/100\%/100\%\%}$: voc$_{100\%}$.



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 [123]
Related types: cons ref xtop.
Confusion$^{4}_{100\%/100\%/100\%\%}$: xtop$_{100\%}$.



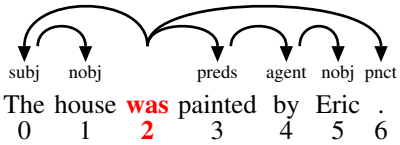
If you are having any problems, call me.



3.3 Adverbial adjunct relations: ADVERB

ADVERB *Adverbial.* V/N/P->adverbial
isa SYNADJ [141]
Subtypes: agent cause conc concom cond cons event exem man neg other prg quant resem source space time.

agent *Agent adverbial.* The passivized agent in passives.
isa ADVERB [170]
Confusion$^{8}_{0\%/100\%/0\%\%}$: –$_{37.5\%}$ AGENT:MC$_{12.5\%}$ CONST$_{12.5\%}$ ABOUT$_{12.5\%}$ AGENT$_{12.5\%}$ ARG$_{12.5\%}$.



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

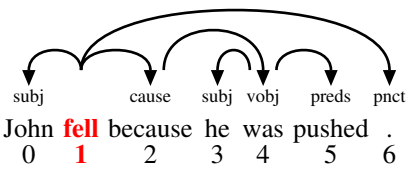
Figure 3.4: The relations matching ADVERB-!CDT1-TOPIC.

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

isa ADVERB

[160] Subtypes: goal.

Confusion$^{48}_{79.2\%/87.5\%/87.5\%\%}$: cause$_{87.5\%}$ attr$_{4.2\%}$ conj$_{2.1\%}$ time$_{2.1\%}$ cons$_{2.1\%}$ pobj$_{2.1\%}$.

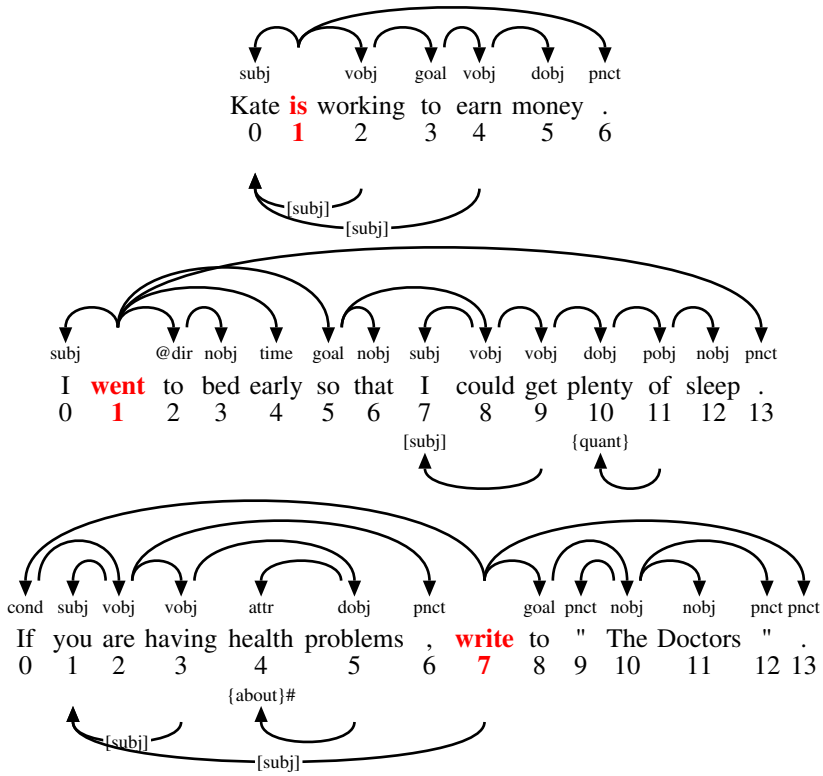


goal *Goal adverbial* (deprecated ben). Describes the intended goal of the event/action. Also used in connection with free datives.

isa cause

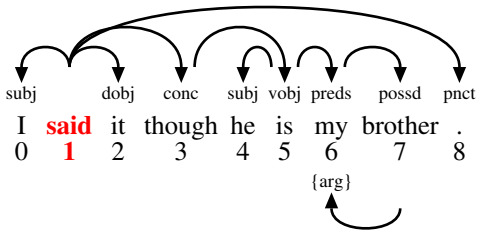
[161] Related types: reas.

Confusion$^{43}_{34.9\%/86\%/41.9\%\%}$: goal$_{41.9\%}$ pobj$_{32.6\%}$ attr$_{9.3\%}$ scene$_{4.7\%}$ dobj$_{4.7\%}$ man$_{2.3\%}$ other$_{2.3\%}$ fpredo$_{2.3\%}$.



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

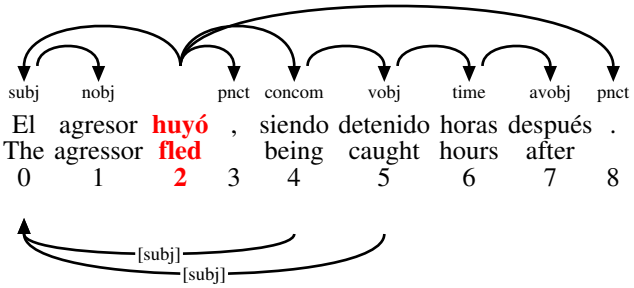
isa ADVERB [164] Confusion$^{13}_{38.5\%/92.3\%/38.5\%\%}$: conc$_{38.5\%}$ contr$_{23.1\%}$ prg$_{15.4\%}$ other$_{15.4\%}$ attr$_{7.7\%}$.



concom . Gerunds in Romance

isa ADVERB [168] Related types: vobj.
Confusion$^{4}_{25\%/100\%/25\%\%}$: source$_{25\%}$ concom$_{25\%}$ man$_{25\%}$ inst$_{25\%}$.

The agressor fled and/but got caught hours later.

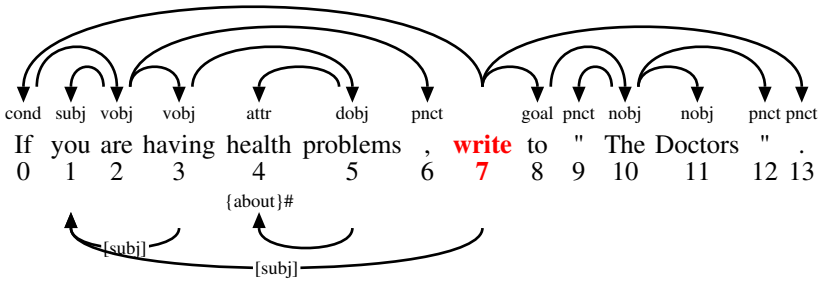


cond *Condition adverbial.* Describes the condition of the event/action.

isa ADVERB

[163] Related types: pcond.

Confusion$^{30}_{83.3\%/90\%/90\%\%}$: cond$_{90\%}$ nobj$_{3.3\%}$ man$_{3.3\%}$ time$_{3.3\%}$.



cons *Consequence adverbial.* Describes the consequence of the event/action.

isa ADVERB

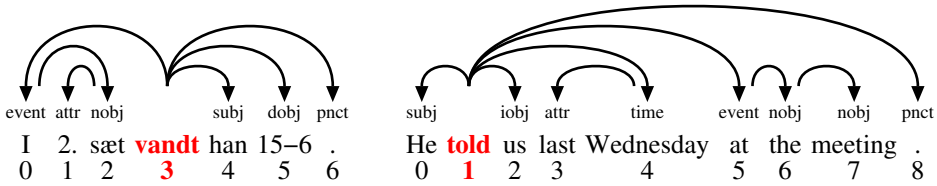
[162] Related types: xtop.

Confusion$^{14}_{50\%/85.7\%/64.3\%\%}$: cons$_{64.3\%}$ time$_{21.4\%}$ inst$_{7.1\%}$ cause$_{7.1\%}$.

event *Adverbial expressing an event.* Used when the adverbial in questions expresses an event rather that time or place.

isa ADVERB

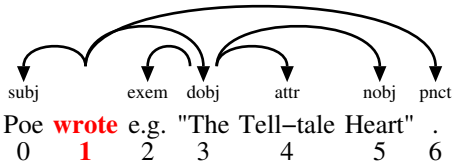
[156] Confusion$^{4}_{0\%/75\%/0\%\%}$: time$_{50\%}$ loc$_{50\%}$.



exem *Example adverbial* (long: exemplification, deprecated ex). Exemplification; subordinated the object which is added to a list.

isa ADVERB

[167] Confusion$^{14}_{71.4\%/78.6\%/92.9\%\%}$: exem$_{92.9\%}$ ex$_{7.1\%}$.



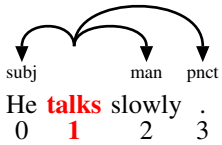
man *Manner adverbial.* The way things are done

isa ADVERB

[157] Subtypes: accom inst.

Related types: fpredo.

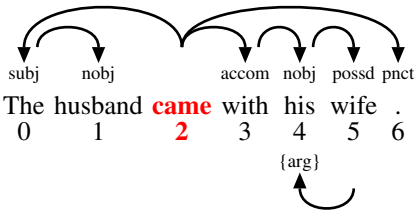
Confusion$^{106}_{55.7\%/88.7\%/61.3\%\%}$: man$_{61.3\%}$ accom$_{6.6\%}$ attr$_{3.8\%}$ quant$_{3.8\%}$ other$_{3.8\%}$ time$_{2.8\%}$ inst$_{2.8\%}$ epi$_{1.9\%}$ fpreds$_{1.9\%}$ source$_{0.9\%}$ prg$_{0.9\%}$ dir$_{0.9\%}$ aobj$_{0.9\%}$ eval$_{0.9\%}$ cond$_{0.9\%}$ concom$_{0.9\%}$ scene$_{0.9\%}$ fpredo$_{0.9\%}$ goal$_{0.9\%}$ resem$_{0.9\%}$ pobj$_{0.9\%}$.



accom *Companionship adverbial* (deprecated comp). Companionship

isa man Related types: man.

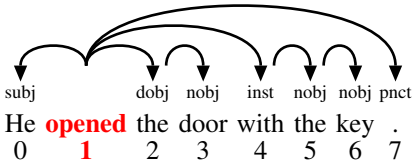
[158] Confusion$^{15}_{33.3\%/80\%/40\%\%}$: man$_{46.7\%}$ accom$_{40\%}$ other$_{6.7\%}$ pobj$_{6.7\%}$.



inst *Instrument adverbial.* Instrument/means

isa man Related types: man.

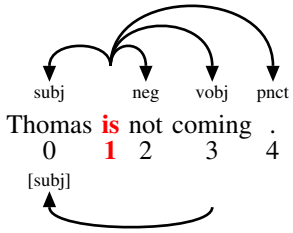
[159] Confusion$^{25}_{36\%/88\%/40\%\%}$: inst$_{40\%}$ man$_{12\%}$ loc$_{12\%}$ predo$_{8\%}$ pobj$_{8\%}$ concom$_{4\%}$ scene$_{4\%}$ preds$_{4\%}$ attr$_{4\%}$ cons$_{4\%}$.



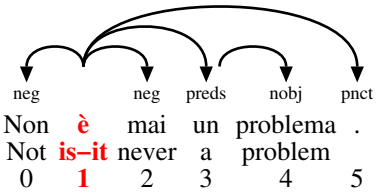
neg *Negation adverbial.* Negation of a verbal

isa ADVERB Confusion$^{105}_{94.3\%/98.1\%/96.2\%\%}$: neg$_{96.2\%}$ add$_{1\%}$ time$_{1\%}$ coord$_{1\%}$ eval$_{1\%}$.

[171]



It's never a problem.

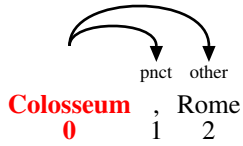


She never lied

other *Other adverbial.* Unspecified adverbial relation.

isa ADVERB Confusion$^{115}_{22.6\%/91.3\%/22.6\%\%}$: other$_{22.6\%}$ attr$_{13.9\%}$ loc$_{10.4\%}$ pobj$_{9.6\%}$ add$_{6.1\%}$ prg$_{4.3\%}$ avobj$_{3.5\%}$ quant$_{3.5\%}$ man$_{3.5\%}$ nobj$_{2.6\%}$ focal$_{2.6\%}$ epi$_{1.7\%}$ source$_{1.7\%}$ dir$_{1.7\%}$ eval$_{1.7\%}$ iter$_{1.7\%}$ conc$_{1.7\%}$ time$_{0.9\%}$ contr$_{0.9\%}$ correl$_{0.9\%}$ part$_{0.9\%}$ scene$_{0.9\%}$ goal$_{0.9\%}$ accom$_{0.9\%}$ xpl$_{0.9\%}$.

[172]



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

isa ADVERB Subtypes: discmark epi eval focal scene.

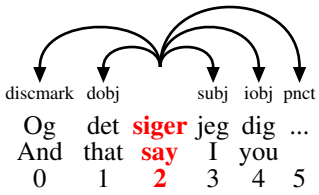
[142] Confusion$^{27}_{14.8\%/100\%/14.8\%\%}$: eval$_{25.9\%}$ other$_{18.5\%}$ prg$_{14.8\%}$ conc$_{7.4\%}$ time$_{7.4\%}$ quant$_{7.4\%}$ add$_{3.7\%}$ elab$_{3.7\%}$ attr$_{3.7\%}$ man$_{3.7\%}$ contr$_{3.7\%}$.

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

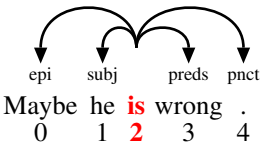
isa prg Related types: coord.

[147] Confusion$^{32}_{15.6\%/90.6\%/15.6\%\%}$: coord$_{56.3\%}$ discmark$_{15.6\%}$ contr$_{12.5\%}$ add$_{9.4\%}$ qobj$_{6.3\%}$.

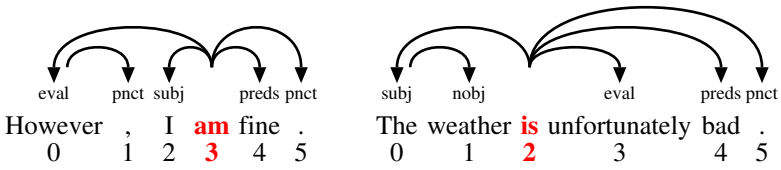
And I'm telling you...



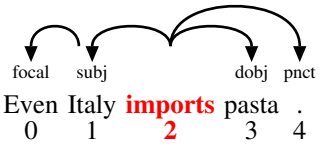
epi *Epistemic adverbial* (long: epistemic). Regarding the level of truth in the expression
isa prg Related types: eval.
[145] Confusion$^{14}_{50\%/92.9\%/57.1\%\%}$: epi$_{57.1\%}$ man$_{14.3\%}$ other$_{14.3\%}$ eval$_{14.3\%}$.



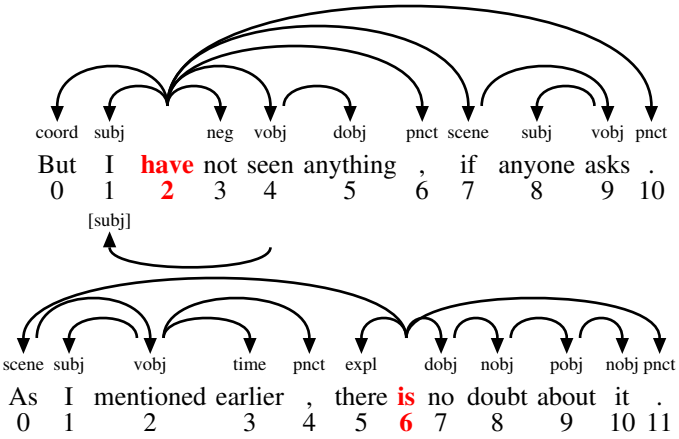
eval *Evaluation adverbial* (long: evaluation, deprecated evalatt). Evaluating and attitude adverbials
isa prg Related types: epi.
[146] Confusion$^{1}_{0\%/100\%/0\%\%}$: EVAL$_{100\%}$.



focal *Focalizer adverbial* (long: focalizator). Focalization of a noun
isa prg Related types: quant.
[143] Confusion$^{31}_{45.2\%/64.5\%/61.3\%\%}$: focal$_{61.3\%}$ attr$_{12.9\%}$ other$_{9.7\%}$ loc$_{6.5\%}$ aobj$_{3.2\%}$ correl$_{3.2\%}$ eval$_{3.2\%}$.

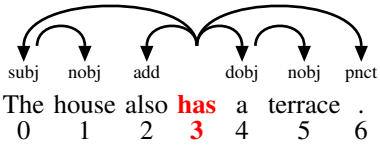


scene *Pragmatic condition and structural adverbial* (deprecated prgcondpcondbgstruct). Setting the scene
isa prg Subtypes: add contr elab.
[144] Related types: cond.
Confusion$^{31}_{54.8\%/93.5\%/58.1\%\%}$: scene$_{58.1\%}$ add$_{6.5\%}$ goal$_{6.5\%}$ contr$_{6.5\%}$ loc$_{6.5\%}$ time$_{3.2\%}$ attr$_{3.2\%}$ man$_{3.2\%}$ other$_{3.2\%}$ inst$_{3.2\%}$.



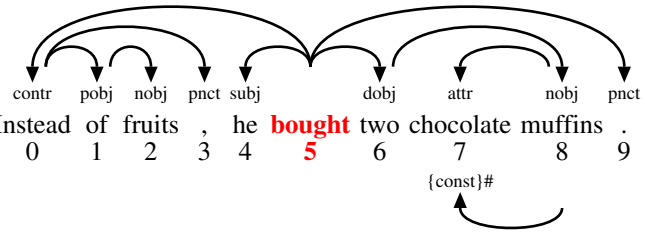
add *Additive adverbial* (long: additive). Additive information

isa scene [150] Confusion$^{59}_{74.6\%/100\%/74.6\%\%}$: add$_{74.6\%}$ other$_{11.9\%}$ discmark$_{5.1\%}$ scene$_{3.4\%}$ prg$_{1.7\%}$ correl$_{1.7\%}$ neg$_{1.7\%}$.



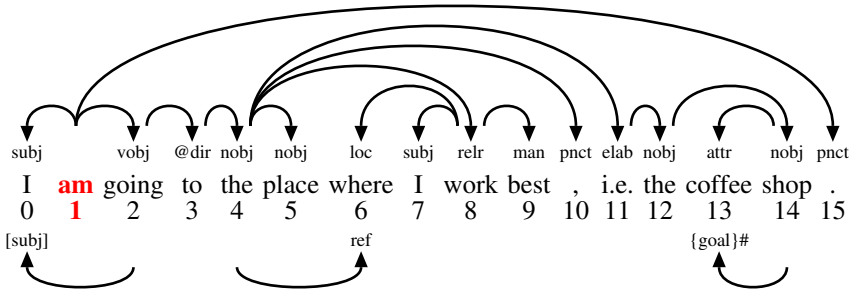
contr *Contrast adverbial* (long: contrast). Opposition

isa scene [148] Related types: struct.
Confusion$^{22}_{40.9\%/100\%/40.9\%\%}$: contr$_{40.9\%}$ discmark$_{18.2\%}$ conc$_{13.6\%}$ coord$_{9.1\%}$ scene$_{9.1\%}$ prg$_{4.5\%}$ other$_{4.5\%}$.



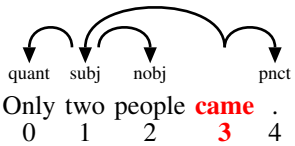
elab *Elaboration adverbial* (long: elaboration). More detailed description

isa scene [149] Confusion$^{4}_{50\%/75\%/50\%\%}$: elab$_{50\%}$ prg$_{25\%}$ quant$_{25\%}$.

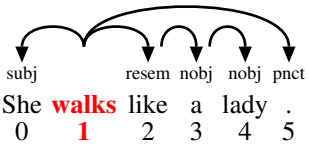


quant *Degree adverbial* (long: quantification, deprecated degr). Modifies the object or verbal by degree

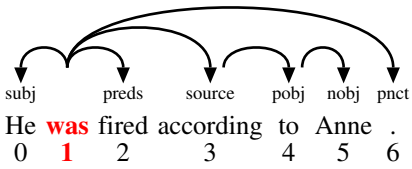
isa ADVERB [169] Related types: focal.
Confusion$^{153}_{80.4\%/93.5\%/82.4\%\%}$: quant$_{82.4\%}$ attr$_{3.3\%}$ man$_{2.6\%}$ other$_{2.6\%}$ eval$_{2\%}$ prg$_{1.3\%}$ time$_{1.3\%}$ avobj$_{1.3\%}$ degr$_{1.3\%}$ nobj$_{0.7\%}$ elab$_{0.7\%}$ dobj$_{0.7\%}$.



resem *Comparison adverbial* (deprecated comparecomp). Comparison
isa ADVERB [165] Confusion$^{6}_{33.3\%/33.3\%/66.7\%\%}$: resem$_{66.7\%}$ man$_{16.7\%}$ preds$_{16.7\%}$.

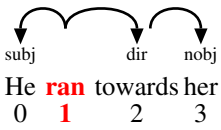


source *Source attribution adverbial.* Reference/source
isa ADVERB [166] Confusion$^{11}_{36.4\%/100\%/36.4\%\%}$: source$_{36.4\%}$ pobj$_{27.3\%}$ other$_{18.2\%}$ concom$_{9.1\%}$ man$_{9.1\%}$.



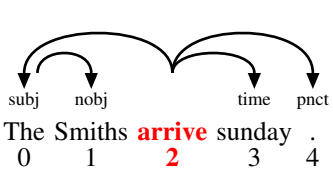
space *Space adverbial.* Space adverbials
isa ADVERB [153] Subtypes: dir loc.

dir *Direction adverbial.* Movement from one place to another; direction
isa space [155] Related types: loc.
Confusion$^{74}_{40.5\%/95.9\%/40.5\%\%}$: dir$_{40.5\%}$ loc$_{39.2\%}$ pobj$_{12.2\%}$ other$_{2.7\%}$ man$_{1.4\%}$ part$_{1.4\%}$ attr$_{1.4\%}$ dobj$_{1.4\%}$.

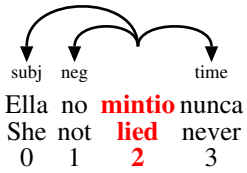


loc *Location adverbial.* Location
isa space [154] Related types: dir.
Confusion$^{3}_{0\%/100\%/0\%\%}$: LOC$_{66.7\%}$ MOD:qual$_{33.3\%}$.

time *Time adverbial.* Time relating adverbials
isa ADVERB [151] Subtypes: iter.
Confusion$^{4}_{0\%/100\%/0\%\%}$: TIME:MC$_{100\%}$.



She never lied

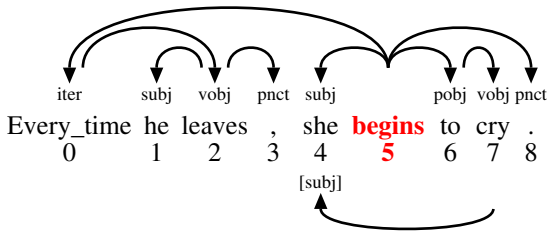


iter *Habituality adverb* (deprecated hab). Habitual; repeated habit

isa time

Related types: dur ext.

[152] Confusion$^{21}_{19\%/81\%/23.8\%\%}$: time$_{57.1\%}$ iter$_{23.8\%}$ other$_{9.5\%}$ attr$_{4.8\%}$ eval$_{4.8\%}$.



Chapter 4

Morphological relations: MORPH

MORPH: morphology level
  MORPHCOMP: compositional semantic relations
  MORPHDERIV: derivational semantic relations
  RuleMorph: syntactic morphlogy relation

Figure 4.1: The relations matching MORPH-!CDT1-!MORPHCOMP-!MORPHDERIV-TOPIC.

MORPH isa DIM:LEVEL [9] *Morphology level* (long: MORPHOLOGY). The morphological level includes relations between two word segments within a single word, as well as lexical features associated with morphemes.

Subtypes: MORPHCOMP MORPHDERIV RuleMorph.

MORPHCOMP isa MORPH [273] *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.)

Subtypes: _ABOUT _AGENT:MC _CONST _DOBJ.patient _EVAL _FUNC _GOAL _LOC _OTHER _POSS _RESEM _SOURCE _TIME:MC.

MORPHDERIV isa MORPH [272] *Derivational semantic relations.* A semantic relation is created between a base and an affix

Subtypes: PREFIX SUFFIX.

RuleMorph isa MORPH RULE [372] *Syntactic morphlogy relation* (long: "_"(PRIM)). A primary syntactic relation that has been used as a morphology relation for stilistic purposes.

4.1 Compositional relations: MORPHCOMP

MORPHCOMP isa MORPH [273] *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.)

Subtypes: _ABOUT _AGENT:MC _CONST _DOBJ.patient _EVAL _FUNC _GOAL _LOC _OTHER _POSS _RESEM _SOURCE _TIME:MC.

_ABOUT isa MORPHCOMP [359] *Noun-noun compound (about).* Non-head has an aboutness meaning wrt. head.

MORPHCOMP: compositional semantic relations
_ABOUT: noun-noun compound (about)
_AGENT:MC: noun-noun compound (agentive)
_CONST: noun-noun compound (constitutive)
_DOBJ.patient:
_EVAL: noun-noun compound (evaluative)
_FUNC: noun-noun compound (function)
_GOAL: noun-noun compound (goal)
_LOC: noun-noun compound (position)
_OTHER: noun-noun compound (other)
_POSS: noun-noun compound (possession)
_RESEM: noun-noun compound (resemblance)
_SOURCE: noun-noun compound (origin)
_TIME:MC: noun-noun compound (time)

Figure 4.2: The relations matching MORPHCOMP-!CDT1-TOPIC.

(theme: skattelov 'tax law' = lov –[skat]te/ABOUT)
0 1 2 3 4 5 6

_AGENT:MC
isa MORPHCOMP
[350]

Noun-noun compound (agentive). Non-head has an agentive meaning wrt. head.

(agent: politikontrol 'police control' = kontrol –politi/AGENT)
0 1 2 3 4 5 6

_CONST
isa MORPHCOMP
[349]

Noun-noun compound (constitutive). Non-head has a constitutive meaning wrt. head.

(constitutive: træbord 'wooden table' = bord –træ/CONST)
0 1 2 3 4 5 6

_DOBJ.patient
isa MORPHCOMP
[351]

.

_EVAL
isa MORPHCOMP
[357]

Noun-noun compound (evaluative). Non-head has an evaluative meaning wrt. head.

coche de lujo 'luksusbil'
0 1 2 3

_FUNC
isa MORPHCOMP
[352]

Noun-noun compound (function). Non-head has a functional/instrumental meaning wrt. head.

(function: vindmølle 'wind mill' =mølle –vind/FUNC)
0 1 2 3 4 5

_GOAL
isa MORPHCOMP
[353]

Noun-noun compound (goal).

(goal: krigsskib 'war ship' = skib –[krig]s/GOAL)
0 1 2 3 4 5 6

_LOC *Noun-noun compound (position).* Non-head has a locative meaning wrt. head.
isa MORPHCOMP
[355]

(position: loftlampe 'ceiling lamp' = lampe –loft/POS)
0 1 2 3 4 5 6

_OTHER *Noun-noun compound (other).* If in doubt about the meaning relation between head and non-head.
isa MORPHCOMP
[360]

_POSS *Noun-noun compound (possession).* Non-head has a possessive meaning wrt. head.
isa MORPHCOMP
[354]

(possession: politibil = bil –politi/POSS
0 1 2 3 4

_RESEM *Noun-noun compound (resemblance).* Denotations of head and non-head resemble each other.
isa MORPHCOMP
[358]

silla de tijeras 'saksestol' [klapstol], válvula de mariposa 'sommerfugleventil'
0 1 2 3 4 5 6 7 8

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

(origin: rørsukker 'cane sugar' = sukker –rør/ORIGIN)
0 1 2 3 4 5 6

_TIME:MC *Noun-noun compound (time).* Non-head has a temporal meaning wrt. head.
isa MORPHCOMP
[356]

(time: oktoberregn 'October rain' = regn –oktober/TIME)
0 1 2 3 4 5 6

4.2 Derivational relations: MORPHDERIV

MORPHDERIV: derivational semantic relations
PREFIX: semantic relations appearing with prefixes
SUFFIX: semantic relations appearing with suffixes

Figure 4.3: The relations matching MORPHDERIV-!CDT1-!PREFIX-!SUFFIX-TOPIC.

MORPHDERIV *Derivational semantic relations.* A semantic relation is created between a base and an affix
isa MORPH
[272]
Subtypes: PREFIX SUFFIX.

PREFIX *Semantic relations appearing with prefixes.* A semantic relation is created between a base and a prefix.
isa MORPHDERIV
[275]
Subtypes: _AGENT _ITER _MOD _NEG _PRE:other _SPACE _TELIC _TIME _TRANS.

SUFFIX *Semantic relations appearing with suffixes.* A semantic relation is created between a base and a suffix.
isa MORPHDERIV
[276]
Subtypes: _AUG _DENUM _DER _DERan:qual _DERna _DERnn _DERv _DIMIN _PEJ.

PREFIX: semantic relations appearing with prefixes
- _AGENT: agentive
- _ITER: iteration
- _MOD: modification
  - _MOD:eval: evaluation
  - _MOD:qual: qualification
  - _MOD:quant: quantification
- _NEG: negation
  - _NEG:contr: contrast
  - _NEG:priv: privation
  - _NEG:rev: reversion
- _PRE:other: other prefix relation
- _SPACE: space
  - _SPACE:dir: direction
  - _SPACE:loc: location
  - _SPACE:source: source
- _TELIC: telic
- _TIME: time
  - _TIME:post: temporal succession
  - _TIME:pre: temporal precedence
- _TRANS: transitivity

Figure 4.4: The relations matching PREFIX-!CDT1-TOPIC.

4.2.1 Prefix relations: PREFIX

PREFIX isa MORPHDERIV [275]
Semantic relations appearing with prefixes. A semantic relation is created between a base and a prefix.
Subtypes: _AGENT _ITER _MOD _NEG _PRE:other _SPACE _TELIC _TIME _TRANS.

_AGENT isa PREFIX [291]
Agentive (deprecated ASPEC:cause+reflex). Prefix conveys agentive action.

(causative: acallar 'silence' = callar –a/AGENT)
0 1 2 3 4 5

_ITER isa PREFIX [290]
Iteration (deprecated ASPEC:iter). Prefix conveys iteration.

(iterative: redefine = define –re/ITER)
0 1 2 3 4

_MOD isa PREFIX [294]
Modification. Prefix conveys modification in a broad sense.
Subtypes: _MOD:eval _MOD:qual _MOD:quant.

_MOD:eval isa _MOD [296]
Evaluation (deprecated MOD:man). Prefix conveys evaluation

(manner: maleducado = educado –mal/MOD:eval)
0 1 2 3 4

_MOD:qual isa _MOD [297]
Qualification (deprecated MOD:qual+MOD:rel+GRAD:qual). Prefix conveys qualification.

(qualification: paleochristian = christian –paleo/MOD:qual)
0 1 2 3 4

_MOD:quant *Quantification* (deprecated MOD:cuant+GRAD:size). Prefix conveys quantification.
isa _MOD
[295]

(quantification: multicultural = cultural –multi/MOD:quant)
0 1 2 3 4

_NEG *Negation.* Prefix conveys negation in a broad sense.
isa PREFIX
[286] Subtypes: _NEG:contr _NEG:priv _NEG:rev.

_NEG:contr *Contrast* (deprecated NEG:oppo). Prefix conveys contrast.
isa _NEG
[287]

(opposition: antihero = hero –anti/NEG:contr)
0 1 2 3 4

_NEG:priv *Privation.* Prefix conveys privation.
isa _NEG
[288]

(privation: desalt = salt –de/NEG:priv)
0 1 2 3 4

_NEG:rev *Reversion* (deprecated ASPEC:rev). Prefix conveys reversion.
isa _NEG
[289]

(reversion: deactivate = activate –de/NEG:rev)
0 1 2 3 4

_PRE:other *Other prefix relation.* If in doubt about the meaning conveyed by the prefix
isa PREFIX
[298]

_SPACE *Space* (deprecated LOC). Prefix expresses space in a broad sense.
isa PREFIX
[278] Subtypes: _SPACE:dir _SPACE:loc _SPACE:source.
Confusion$^{2}_{0\%/100\%/0\%\%}$: $\text{loc}_{100\%}$.

_SPACE:dir *Direction* (deprecated LOC:dir). Prefix expresses direction.
isa _SPACE
[280] Confusion$^{7}_{14.3\%/100\%/14.3\%\%}$: $-_{42.9\%}$ $\text{SPACE:dir}_{14.3\%}$ $\text{SPACE:source}_{14.3\%}$ $\text{TELIC}_{14.3\%}$ $\text{LOC:dir}_{14.3\%}$.

(direction/origin: deverbal = verbal –de/SPACE:dir)
0 1 2 3 4

_SPACE:loc *Location* (deprecated LOC:pos). Prefix expresses location.
isa _SPACE
[279]

(position: intramural = mural –intra/SPACE:pos)
0 1 2 3 4

_SPACE:source *Source* (deprecated LOC:proce). Prefix conveys source.
isa _SPACE
[281]

(origin: extraer: = traer –ex/SPACE:source)
0 1 2 3 4

_TELIC isa PREFIX [292] *Telic* (deprecated ASPEC:term+resul). Prefix conveys termination or result.

(terminative: oplåse 'open' = låse –op/TELIC)
0 1 2 3 4 5

_TIME isa PREFIX [283] *Time.* Prefix conveys time in a broad sense.

Subtypes: _TIME:post _TIME:pre.

_TIME:post isa _TIME [285] *Temporal succession* (deprecated TIME:succ). Prefix conveys succession.

(temporal succession: postmodernism = modernism –post/TIME:post)
0 1 2 3 4 5

_TIME:pre isa _TIME [284] *Temporal precedence* (deprecated TIME:prec). Prefix conveys precedence.

(temporal precedence: prehistorical = historical –pre/TIME:pre)
0 1 2 3 4 5

_TRANS isa PREFIX [293] *Transitivity.* Prefix conveys transitivity.

(transitivising: påsejle 'collide': sejle –på/TRANS)
0 1 2 3 4

4.2.2 Suffix relations: SUFFIX

SUFFIX isa MORPHDERIV [276] *Semantic relations appearing with suffixes.* A semantic relation is created between a base and a suffix.

Subtypes: _AUG _DENUM _DER _DERan:qual _DERna _DERnn _DERv _DIMIN _PEJ.

_AUG isa SUFFIX [299] *Augmentation.* Suffix conveys augmentation.

(augmentative: perrazo 'big dog' = perro +azo/AUG)
0 1 2 3 4 5 6

_DENUM isa SUFFIX [345] *Adjective-numeral derivation.* Suffix creates denumeral adjectives in a broad sense.

Subtypes: _DENUM:apart _DENUM:ord _DENUM:quant.

_DENUM:apart isa _DENUM [347] *Adjective-partitive derivation* (deprecated DENUM:part). Suffix creates partitive numerals.

"kardinal=doce – partitiv=doceavo" 'tolv/tolvtedel'
0 1 2 3

SUFFIX: semantic relations appearing with suffixes
- _AUG: augmentation
- _DENUM: adjective-numeral derivation
  - _DENUM:apart: adjective-partitive derivation
  - _DENUM:ord: adjective-ordinal derivation
  - _DENUM:quant: adjective-multiplicative derivation
- _DER: verb derivation
  - _DERadvv: adverb-verb derivation
  - _DERav: adjective-verb derivation
  - _DERnv: noun-verb derivation
  - _DERva: verb-adjective derivation
    - _DERva:act: verb-adjective derivation (pure)
      - _DERva:act.disp: verb-adjective derivation (disposition)
      - _DERva:act.epi: verb-adjective derivation (potentiality)
    - _DERva:pas: verb-adjective derivation (passive)
      - _DERva:pas.deon: verb-adjective derivation (passive deontic)
      - _DERva:pas.epi: verb-adjective derivation (passive potentiality)
      - _DERva:pas.part: verb-adjective derivation (passive participles)
  - _DERvn: verb-noun derivation
    - _DERvn:agent: verb-noun derivation (agent)
    - _DERvn:core: verb-noun derivation (core)
    - _DERvn:exper: verb-noun derivation (experiencer)
    - _DERvn:loc: verb-noun derivation (location)
    - _DERvn:other: verb-noun derivation (other)
    - _DERvn:patient: verb-noun derivation (patient)
    - _DERvn:recip: verb-noun derivation (recipient)
  - _DERvv: verb-verb derivation
- _DERan:qual: adjective derivation
- _DERna: noun-adjective derivation
  - _DERna:deono: noun-adjective derivation (naming)
    - _DERna:deono.loc: noun-adjective derivation (naming places)
    - _DERna:deono.pers: noun-adjective derivation (naming persons)
  - _DERna:disp: noun-adjective derivation (disposition)
  - _DERna:other: noun-adjective derivation (other)
  - _DERna:poss: noun-adjective derivation (possession)
  - _DERna:rel: noun-adjective derivation (relational)
  - _DERna:resem: noun-adjective derivation (resemblance)
  - _DERna:telic: noun-adjective derivation (effect)
- _DERnn: noun-noun derivation
  - _DERnn:agent: noun-noun derivation (agent)
  - _DERnn:assoc: noun-noun derivation (association)
  - _DERnn:capac: noun-noun derivation (capacity)
  - _DERnn:cont: noun-noun derivation (container)
  - _DERnn:loc: noun-noun derivation (location)
  - _DERnn:other: noun-noun derivation (other)
  - _DERnn:quant: noun-noun derivation (quantification)
  - _DERnn:telic: noun-noun derivation (telic)
  - _DERnn:time: noun-noun derivation (time)
- _DERv:
- _DIMIN: diminution
- _PEJ: pejoration

Figure 4.5: The relations matching SUFFIX-!CDT1-TOPIC.

_DENUM:ord *Adjective-ordinal derivation.* Suffix creates ordinals.
isa _DENUM
[346]

"kardinal=dos – ordinal=segundo" 'to/anden'
0 1 2 3

_DENUM:quant *Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.
isa _DENUM
[348]

"kardinal=cinco – multiplikativ=quíntuplo" 'fem/femdobbelte'
0 1 2 3

_DER *Verb derivation.* Suffix triggers a derivation
isa SUFFIX
[302]
Subtypes: _DERadvv _DERav _DERnv _DERva _DERvn _DERvv.

_DERadvv *Adverb-verb derivation.* Suffix triggers a derivation from an adverb to a verb
isa _DER
[306]

_DERav *Adjective-verb derivation* (deprecated §DER:av). Suffix triggers a derivation from an adjective to a verb.
isa _DER
[304]

(adjective–>verb derivation: darken = dark +en/§DERav)
0 1 2 3 4 5

_DERnv *Noun-verb derivation* (deprecated §DER:nvPRED). Suffix triggers a derivation from a noun to a verb.
isa _DER
[303]

(noun–>verb derivation: salar 'to salt' = sal +ar/§DERnv)
0 1 2 3 4 5 6 7

_DERva *Verb-adjective derivation* (deprecated §DERV). Suffix creates deverbal adjectives in a broad sense.
isa _DER
[327]
Subtypes: _DERva:act _DERva:pas.

_DERva:act *Verb-adjective derivation (pure)* (deprecated DEVERB:act.pure). Suffix creates active adjectives with the meaning aspect "pure".
isa _DERva
[328]
Subtypes: _DERva:act.disp _DERva:act.epi.

"que V" (conmovedor – "que conmueve" 'gribende/der griber')
0 1 2 3 4 5 6 7

_DERva:act.disp *Verb-adjective derivation (disposition)* (deprecated DEVERB:act.disp). Suffix creates active adjectives with the meaning aspect "disposition".
isa _DERva:act
[329]

"que suele V, que tiende a V" (adulón – "que suele adular, que tiende a adular" 'smigre/som plejer eller
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

har tendens til at være krybende
19 20 21 22 23 24

_DERva:act.epi
isa _DERva:act
[330]

Verb-adjective derivation (potentiality) (deprecated DEVERB:act.poten). Suffix creates active adjectives with the meaning aspect ”potentiality”.

"que puede V" (móvil – que puede moverse ´bevægelig/der kan bevæge sig)
0 1 2 3 4 5 6 7 8 9 10 11

_DERva:pas
isa _DERva
[331]

Verb-adjective derivation (passive) (deprecated DEVERB:pas). Suffix creates passive adjectives.

Subtypes: _DERva:pas.deon _DERva:pas.epi _DERva:pas.part.

_DERva:pas.deon
isa _DERva:pas
[334]

Verb-adjective derivation (passive deontic) (deprecated DEVERB:pas.deon). Suffix creates passive adjectives with a deontic meaning.

"Que debe {ser PP/Vse} (abominable – "que debe ser abominado/que debe abominarse" áfskyelig/som må
0 1 2 3 4 5 6 7 8 9 10 11 12 13

forkastes)
14

_DERva:pas.epi
isa _DERva:pas
[333]

Verb-adjective derivation (passive potentiality) (deprecated DEVERB:pas.poten). Suffix creates passive adjectives with the meaning aspect ”potentiality”.

"que puede {ser PP/Vse}" (transportable – "máquina que puede {ser transportada/transportarse}
0 1 2 3 4 5 6 7 8 9 10

’transportabel/maskine som kan blive transporteret/transporteres
11 12 13 14 15

_DERva:pas.part
isa _DERva:pas
[332]

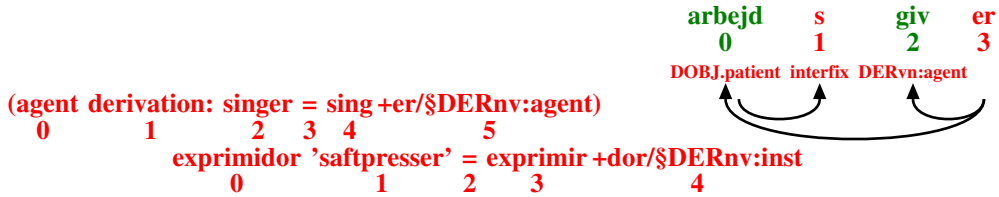
Verb-adjective derivation (passive participles) (deprecated DEVERB:pas.part). Suffix creates passive adjectives with the form of participles.

"que {ha sido/está/es} PP" (comprado – "hombre que {ha sido/está/es} comprado ’mand som er
0 1 2 3 4 5 6 7 8 9 10 11 12 13

blevet/er/bliver købt"
14 15

_DERvn *Verb-noun derivation* (deprecated PREDDEVERBN). Suffix creates deverbal nouns in a broad sense.
isa _DER
[307]
Subtypes: _DERvn:agent _DERvn:core _DERvn:exper _DERvn:loc _DERvn:other _DERvn:patient _DERvn:recip.

_DERvn:agent *Verb-noun derivation (agent)* (deprecated PRED:agentPRED:inst). Suffix creates deverbal nouns absorbing the agent role.
isa _DERvn
[308]



_DERvn:core *Verb-noun derivation (core)* (deprecated PRED:core). Suffix creates deverbal nouns expressing a nominalized version of the situation denoted by the original verb.
isa _DERvn
[310]

(core derivation: exploitation = exploit@V +ation/§DERnv:core)
0 1 2 3 4 5

_DERvn:exper *Verb-noun derivation (experiencer)* (deprecated PRED:exper). Suffix creates deverbal nouns absorbing the experiencer role.
isa _DERvn
[309]

(experiencer derivation: admirer = admire +r/§DERnv:exper
0 1 2 3 4 5

_DERvn:loc *Verb-noun derivation (location)* (deprecated PRED:loc). Suffix creates deverbal nouns expressing the location related to the meaning of the original noun.
isa _DERvn
[313]

(locative derivation: comedor 'spisestue' = comer +dor/§DERnv:loc)
0 1 2 3 4 5 6

_DERvn:other *Verb-noun derivation (other)* (deprecated PRED:other). If in doubt about the meaning conveyed by the suffix
isa _DERvn
[314]

_DERvn:patient *Verb-noun derivation (patient)* (deprecated PRED:result). Suffix creates deverbal nouns absorbing the patient role.
isa _DERvn
[311]

(result derivation: hallazgo 'fund' = hallar +azgo/§DERnv:result)
0 1 2 3 4 5 6

_DERvn:recip *Verb-noun derivation (recipient)* (deprecated PRED:recip). Suffix creates deverbal nouns absorbing the recipient role
isa _DERvn
[312]

(recipient derivation: beneficiario 'den begunstigede' = beneficiar +ario/§DERnv:recip)
0 1 2 3 4 5 6 7

_DERvv isa _DER [305] *Verb-verb derivation* (deprecated §DER:vv). Suffix triggers a derivation from a verb to another verb.

(verb–>verb derivation: adormecer 'lull to sleep' = dormir –+[a][ecer]/§DERvv)
0 1 2 3 4 5 6 7 8

_DERan:qual isa SUFFIX [315] *Adjective derivation* (deprecated QUAL). Suffix creates deadjectival nouns.

(deadjectival noun: bitterness = bitter +ness/§DERan:qual)
0 1 2 3 4 5

_DERna isa SUFFIX [335] *Noun-adjective derivation* (deprecated DENOM). Suffix creates denominal adjectives in a broad sense.
Subtypes: _DERna:deono _DERna:disp _DERna:other _DERna:poss _DERna:rel _DERna:resem _DERna:telic.

_DERna:deono isa _DERna [337] *Noun-adjective derivation (naming)* (deprecated DENOM:rel.deono). Suffix creates relational adjectives with the meaning of "naming".
Subtypes: _DERna:deono.loc _DERna:deono.pers.

_DERna:deono.loc isa _DERna:deono [339] *Noun-adjective derivation (naming places)* (deprecated DENOM:rel.deono.place). Suffix creates relational adjectives with the meaning of "naming" of places.

Madrileño 'som har at gøre med/kommer fra Madrid'
0 1 2 3 4 5 6 7

_DERna:deono.pers isa _DERna:deono [338] *Noun-adjective derivation (naming persons)* (deprecated DENOM:rel.deono.pers). Suffix creates relational adjectives with the meaning of "naming" persons.

Cervantino 'som har at gøre med Cervantes'
0 1 2 3 4 5 6

_DERna:disp isa _DERna [342] *Noun-adjective derivation (disposition)* (deprecated DENOM:disp). Suffix creates denominal adjectives that express disposition.

"que tiene afición por N" (mujeriego – "que afición por las mujeres" 'kvindeglad/som er glad for kvinder')
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

_DERna:other isa _DERna [344] *Noun-adjective derivation (other)* (deprecated DENOM:other). If in doubt about the meaning conveyed by the suffix

_DERna:poss isa _DERna [341] *Noun-adjective derivation (possession)* (deprecated DENOM:poss). Suffix creates denominal adjectives that express possession.

"que posee/tiene/lleva N" (barbudo – "que lleva barba" 'skægget/som bærer skæg')
0 1 2 3 4 5 6 7 8 9 10

_DERna:rel
isa _DERna
[336]

Noun-adjective derivation (relational) (deprecated DENOM:rel). Suffix creates denominal adjectives with a relational meaning.

(denominal adjective: presidential = president +ial/DENOM:rel.norm)
0 1 2 3 4 5

_DERna:resem
isa _DERna
[340]

Noun-adjective derivation (resemblance) (deprecated DENOM:resem). Suffix creates denominal adjectives that express resemblance.

"que se parece a N" (sanchopancesco – "que se parece a Sancho Panza" 'sanchopanzask/som ligner Sancho Panza')
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

_DERna:telic
isa _DERna
[343]

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

Confusion$^{2}_{0\%/100\%/0\%\%}$: $-_{50\%}$ DERna:rel$_{50\%}$.

"que causa simpatía" (simpático – "que causa simpatía" 'sympatisk/som vækker sympati')
0 1 2 3 4 5 6 7 8 9 10

_DERnn
isa SUFFIX
[316]

Noun-noun derivation (deprecated NOPRED). Suffix creates non-predicative nouns (from other nouns) in a broad sense.

Subtypes: _DERnn:agent _DERnn:assoc _DERnn:capac _DERnn:cont _DERnn:loc _DERnn:other _DERnn:quant _DERnn:telic _DERnn:time.

_DERnn:agent
isa _DERnn
[317]

Noun-noun derivation (agent) (deprecated NOPRED:agent). Suffix creates non-predicative nouns expressing an agent role.

(agent derivation: miller = mill +er/§DERnn:agent)
0 1 2 3 4 5

_DERnn:assoc
isa _DERnn
[324]

Noun-noun derivation (association) (deprecated NOPRED:script). Suffix creates non-predicative nouns expressing a script/notion related to the original noun.

(script derivation: pontaje 'brobetaling' = puente +aje/§DERnn:assoc)
0 1 2 3 4 5 6

_DERnn:capac *Noun-noun derivation (capacity)* (deprecated NOPRED:capac). Suffix creates non-predicative nouns expressing a capacity.
isa _DERnn
[322]

(capacity derivation: cestada 'kurvfuld' = cesta +ada/§DERnn:capac)
0 1 2 3 4 5 6

_DERnn:cont *Noun-noun derivation (container)* (deprecated NOPRED:cont). Suffix creates non-predicative nouns expressing a container.
isa _DERnn
[319]

(container derivation: azucarero 'sugar bowl' = azucar +ero/§DERnn:cont)
0 1 2 3 4 5 6 7

_DERnn:loc *Noun-noun derivation (location)* (deprecated NOPRED:loc). Suffix creates non-predicative nouns expressing a location.
isa _DERnn
[323]

(locative derivation: arenal 'sandet strækning' = arena +al/§DERnn:loc)
0 1 2 3 4 5 6 7

_DERnn:other *Noun-noun derivation (other)* (deprecated NOPRED:other). If in doubt about the meaning conveyed by the suffix
isa _DERnn
[325]

_DERnn:quant *Noun-noun derivation (quantification)* (deprecated NOPRED:set). Suffix creates non-predicative nouns expressing a quantification.
isa _DERnn
[321]

(set derivation: perrada 'hundekobbel' = perro +ada/§DERnn:quant)
0 1 2 3 4 5 6

_DERnn:telic *Noun-noun derivation (telic)* (deprecated NOPRED:result). Suffix creates non-predicative nouns expressing a telic result.
isa _DERnn
[318]

(result derivation: puñalada 'knivstik' = puñal +ada/§DERnn:telic)
0 1 2 3 4 5 6

_DERnn:time *Noun-noun derivation (time)* (deprecated NOPRED:temp). Suffix creates non-predicative nouns expressing a temporal aspect.
isa _DERnn
[320]

(temporal derivation: temporada 'tidsrum/sæson' = tiempo +ada/§DERnn:time)
0 1 2 3 4 5 6

_DERv (deprecated DEVERB).
isa SUFFIX
[326]

_DIMIN *Diminution.* Suffix conveys diminution.
isa SUFFIX
[300]

(diminutive: viejecito 'little old man' = viejo +ecito/DIM)
0 1 2 3 4 5 6 7

_PEJ *Pejoration.* Suffix conveys a pejorative sense.
isa SUFFIX
[301]

(pejorative: vinacho 'bad vine' = vino +acho/PEJ)
0 1 2 3 4 5 6

Chapter 5

Discourse relations: DISC

DISC: discourse level
- DISCOTHER: other discourse relations
  - JOINT: no clear relation
  - REP: repaired
  - SCENE: scene
- DISCPRAG: pragmatic and illocutionary discourse relations
- DISCSEM: semantic discourse relations
- RuleDisc: syntactic discourse relation

Figure 5.1: The relations matching DISC-!CDT1-!DISCFUNC-!DISCSEM-TOPIC.

DISC
isa DIM:LEVEL
[11]

Discourse level (long: DISCOURSE). The discourse level includes relations between segments in different sentences, as well as lexical features associated with discourse units.

Subtypes: DISCOTHER DISCPRAG DISCSEM RuleDisc.

DISCOTHER
isa ADJ DISC
[220]

Other discourse relations. In two cases, REP and SCENE, the relations concern the formal structure of the text. In the last case, JOINT, there is no clear relation between the segments in question.

Subtypes: JOINT REP SCENE.

JOINT
isa DISCOTHER
[270]

No clear relation. No evident discourse relation between the segments. The new text segment adds a completely new content without any clear discourse relation to the preceding segment.

$\text{Confusion}^{14}_{21.4\%/42.9\%/35.7\%\%}$: CONJ:add$_{42.9\%}$ JOINT$_{35.7\%}$ SCENE$_{7.1\%}$ CONJ$_{7.1\%}$ CONST:exem$_{7.1\%}$.

REP
isa DISCOTHER
[269]

Repaired (deprecated STRUCT:rep). A repaired text segment. The dependent text segment is interrupted and unfinished and "repaired" by the following and governing text segment that completes it.

Would you... (Would you marry me, Lisa?)
0 1 2 3 4 5 6

SCENE
isa DISCOTHER
[268]

Scene (deprecated STRUCT:prepPREP). A scene or similar description. The dependent text segment describes the scene of the following and governing text.

$\text{Confusion}^{26}_{84.6\%/84.6\%/96.2\%\%}$: SCENE$_{96.2\%}$ JOINT$_{3.8\%}$.

headings, titles
0 1

DISCPRAG isa ADJ DISC [219] *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 DIREC EXPR INTACT QUEST.

DISCSEM isa ADJ DISC [218] *Semantic discourse relations.* The relations hold between the propositions of the governing and dependent text segments and are defined in semantic terms;

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

RuleDisc isa DISC RULE [371] *Syntactic discourse relation* (long: "_"(PRIM)). A primary syntactic relation that has been used as a discourse relation for stilistic purposes.

5.1 Functional relations: DISCFUNC

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

Figure 5.2: The relations matching DISCFUNC-!CDT1-TOPIC.

DISCPRAG isa ADJ DISC [219] *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 DIREC EXPR INTACT QUEST.

ANSW isa DISCPRAG [255] *Answer.* An answer relation. The dependent text segment contains an answer or solution to a question or problem contained in the governing text segment.

$\text{Confusion}^{1}_{100\%/100\%/100\%\%}$: $\text{ANSW}_{100\%}$.

CONSOL isa DISCPRAG [263] *Consolidation* (deprecated SUPPORT?). The dependent text segment consolidates or strengthens the governing segment.

Subtypes: CONSOL:inst CONSOL:motiv CONSOL:source.

Confusion$^{2}_{0\%/50\%/0\%\%}$: CONJ:elab$_{100\%}$.

CONSOL:inst
isa CONSOL
[265]

Instrumental (deprecated CONSOL:enabl). An instrumental or helpful text segment. The dependent text segment is instrumental in helping reader or recipient to carry out the action mentioned in the governing segment; frequent in directive texts.

For a free catalogue, call...
0 1 2 3 4

CONSOL:motiv
isa CONSOL
[266]

Motivation. Motivation or encouragement. The dependent text segment motivates, stimulates or encourages reader or recipient to carry out the action mentioned in the governing segment.

Prices have never been so low.
0 1 2 3 4 5

CONSOL:source
isa CONSOL
[264]

Source (deprecated JUSTCONSOL:just). A source or foundation. The dependent text segment expresses a source or foundation that justifies the governing segment wrt its content or the reason for mentioning it at this time and place, thereby strengthening it argumentatively.

Confusion$^{5}_{20\%/60\%/20\%\%}$: AGENTIVE:sbj$_{40\%}$ CONJ$_{20\%}$ CONST:exem$_{20\%}$ CONSOL:source$_{20\%}$.

Joe Johnson is an expert at teaching small children. (He says that...). The Rent Act clearly states it.
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

DIREC
isa DISCPRAG
[256]

Directive act. A directive act. The dependent text segment contains a directive act (order, command or request) somehow linked to the governing segment.

Confusion$^{3}_{0\%/66.7\%/0\%\%}$: CONJ:elab$_{66.7\%}$ CONJ:seq$_{33.3\%}$.

e.g. imperatives
0 1

EXPR
isa DISCPRAG
[257]

Expressive act. An expressive act. The dependent text segment contains an expression of the speaker's attitudes or emotions, e.g. congratulations, excuses or thanks, somehow linked to the governing segment.

[en] I'm sorry! My condolences! Thank you so much!
0 1 2 3 4 5 6 7 8

INTACT
isa DISCPRAG
[258]

Interaction signals. The dependent text segment contains an interaction signal, i.e. a signal used to start, sustain or end a conversation.

Subtypes: INTACT:attn INTACT:inter INTACT:start INTACT:stop.

INTACT:attn
isa INTACT
[260]

Attention. An attention signal. The dependent text segment contains an attention signal.

[en] Yeah?, Oh!, Really? [da] Ja; Nå; OK; [it] Sì; Beh
0 1 2 3 4 5 6 7 8 9 10

INTACT:inter *Interruption.* An interruption signal. The dependent text segment contains an interruption signal
isa INTACT
[261]

[en] But... But, Just a moment!; [da] Jamen... Men..., Må jeg lige; [it] Ma; Un momento; Scusami
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

INTACT:start *Start signal.* The dependent text segment contains a start signal.
isa INTACT
[259]

[en] Hello? All right! Well, Well you see, Excuse me; [da] Hallo? Altså, Nå men altså, Jamen, Hør lige her!
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

Undskyld! Du Peter; [it] Pronto? Ciao, Ecco, Guarda, Scusami
20 21 22 23 24 25 26 27 28

INTACT:stop *Stop.* The dependent text segment contains a conversation stop signal.
isa INTACT
[262]

[en] Goodbye; [da] Hej hej; [it] Ciao; Arrivederci
0 1 2 3 4 5 6 7

QUEST *Question* . A question relation. The dependent text segment contains a question somehow linked to the governing segment. The following co-text may and may not contain an answer to the question.
isa DISCPRAG
[254]
Related types: answer.

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;
isa ADJ DISC
[218]
Subtypes: AGENTIVE CONC COND CONJ CONST CONTR DISJ FORMAL TELIC TIME.

AGENTIVE *Cause relation (discourse).* The dependent segment expresses ”bringing about” or cause in a broad sense
isa DISCSEM
[222]
Subtypes: AGENTIVE:expl AGENTIVE:reas AGENTIVE:sbj.
$\text{Confusion}^{5}_{0\%/100\%/0\%\%}$: CONJ:elab$_{40\%}$ AGENTIVE:sbj$_{40\%}$ AGENTIVE:expl$_{20\%}$.

AGENTIVE:expl *Explanation relation in discourse.* An explanation relation. The dependent segment explains the governing segment. The relation is more general and elaborating than ”reason”.
isa AGENTIVE
[223]

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

Figure 5.3: The relations matching DISCSEM-!CDT1-TOPIC.

Typical connectives: [en] In fact, Indeed; [da] Nemlig; [it] Infatti.
Related types: reason.
Confusion$^{11}_{63.6\%/100\%/63.6\%\%}$: AGENTIVE:expl$_{63.6\%}$ CONTR$_{9.1\%}$ AGENTIVE$_{9.1\%}$ CONST:rest$_{9.1\%}$ AGENTIVE:sbj$_{9.1\%}$.

AGENTIVE:reas isa AGENTIVE [224]
Reason relation (discourse). A reason relation. The dependent segment expresses a specific and concrete reason.
Typical connectives: [en] Since, Because; [da] Fordi, Eftersom; [it] Perché, Dato che.
Confusion$^{10}_{20\%/60\%/20\%\%}$: AGENTIVE:sbj$_{40\%}$ CONJ:elab$_{20\%}$ AGENTIVE:reas$_{20\%}$ CONJ:add$_{10\%}$ TELIC:cons.dir$_{10\%}$.

AGENTIVE:sbj isa AGENTIVE [225]
Subjective cause. A subjective cause. The speaker uses the dependent segment as a subjective/personal argument to support a claim.
Typical connectives: [en] Because, In fact, Indeed; [da] Fordi, Eftersom, Nemlig; [it] Perché, Dato che, Infatti.
Confusion$^{16}_{0\%/75\%/0\%\%}$: AGENTIVE:reas$_{25\%}$ CONJ:add$_{18.8\%}$ CONJ$_{12.5\%}$ CONJ:elab$_{12.5\%}$ AGENTIVE$_{12.5\%}$ CONSOL:source$_{12.5\%}$ AGENTIVE:expl$_{6.3\%}$.

CONC *Concession.* A concession relation. The dependent segment admits or acknowledges a fact wrt N, which may however not have the expected consequence or effect.
isa DISCSEM
[237] Typical connectives: [en] Though, Although, However; [da] Skønt; Selvom; [it] Anche se; Sebbene.
Confusion$^{20}_{40\%/65\%/40\%\%}$: CONC$_{40\%}$ CONJ:add$_{25\%}$ CONTR$_{5\%}$ FORMAL:eval$_{5\%}$ subj$_{5\%}$ CONJ$_{5\%}$ CONTR:sbj$_{5\%}$ CONST:exem$_{5\%}$ conj$_{2.5\%}$ CONTR:prg$_{2.5\%}$.

COND *Condition.* A condition relation. The dependent segment expresses a condition for the realisation of the content of the gonerning segment.
isa DISCSEM
[238] Typical connectives: [en] If, On the condition; [da] Hvis; I det tilfælde at; [it] A condizione che/di; Se.
Confusion$^{1}_{0\%/100\%/0\%\%}$: CONJ:add$_{100\%}$.

CONJ *Conjunction.* The dependent text segment elaborates and expans knowledge of the content of the governing text segment or adds a new subject somehow related to it
isa DISCSEM
[243] Subtypes: CONJ:add CONJ:elab CONJ:seq.
Confusion$^{48}_{10.4\%/54.2\%/18.8\%\%}$: CONJ:elab$_{35.4\%}$ CONJ:add$_{25\%}$ CONJ$_{18.8\%}$ AGENTIVE:sbj$_{4.2\%}$ TELIC:goal$_{2.1\%}$ TELIC:cons.sbj$_{2.1\%}$ FORMAL:eval$_{2.1\%}$ JOINT$_{2.1\%}$ CONSOL:source$_{2.1\%}$ TELIC:cons.dir$_{2.1\%}$ CONST:apart$_{2.1\%}$ CONC$_{2.1\%}$.

CONJ:add *Conjunction, addition.* An addition relation. The dependent text segment adds a new subject somehow related to the governing text segment; in cases of uncertainty between add and elab we do not specify the subtype.
isa CONJ
[244] Typical connectives: [en] And, Moreover, In addition to that; [da] Endvidere, Desuden; [it] E, Oltre a ciò.
Confusion$^{133}_{37.2\%/63.5\%/47.2\%\%}$: CONJ:add$_{47.2\%}$ CONJ:elab$_{13.5\%}$ CONJ$_{9\%}$ JOINT$_{4.5\%}$ conj$_{4.4\%}$ CONC$_{3.8\%}$ TELIC:cons.sbj$_{2.3\%}$ AGENTIVE:sbj$_{2.3\%}$ CONJ:seq$_{1.5\%}$ CONST:exem$_{1.5\%}$ CONST:apart$_{1.5\%}$ CONTR$_{0.8\%}$ TIME:pre$_{0.8\%}$ CONTR:sbj$_{0.8\%}$ CONTR:prg$_{0.8\%}$ COND$_{0.8\%}$ qobj$_{0.8\%}$ TELIC$_{0.8\%}$ TELIC:cons.dir$_{0.8\%}$ DISJ:dir$_{0.8\%}$ AGENTIVE:reas$_{0.8\%}$ vobj$_{0.8\%}$ CONTR:dir$_{0.3\%}$.

CONJ:elab *Conjunction, elaboration* (deprecated ELAB:spec,ELAB:exp,CONST:elab). An elaboration relation. The dependent text segment elaborates and expans knowledge of the content of the governing text segment; in cases of uncertainty between add and elab we do not specify the subtype
isa CONJ
[245] Confusion$^{1}_{0\%/100\%/0\%\%}$: CONJ:elab$_{100\%}$.

CONJ:seq *Conjunction, sequence.* A sequence relation. The dependent text segment is part of list or sequence linked to the governing text segment as e.g. in recipes, sport results etc.
isa CONJ
[246] Confusion$^{13}_{61.5\%/92.3\%/69.2\%\%}$: CONJ:seq$_{69.2\%}$ CONJ:add$_{15.4\%}$ CONJ:elab$_{7.7\%}$ DIREC$_{7.7\%}$.

CONST *Constitutive elaboration relation.* The dependent segment adds more details regarding the constitution of the governing segments or part(s) of it.
isa DISCSEM
[230] Subtypes: CONST:apart CONST:exem CONST:rest.
Confusion$^{5}_{0\%/100\%/0\%\%}$: const$_{40\%}$ agentDERan:qual$_{20\%}$ agent$_{20\%}$ func$_{20\%}$.

CONST:apart *Part of relation.* A part-of relation. The dependent segment expresses a part of the governing segment or vice versa.
isa CONST
[232] Typical connectives: [en] Including, Herein; [da] Herunder, Heri; [it] Incluso, Tra cui.
Confusion$^{12}_{16.7\%/58.3\%/25\%\%}$: CONJ:elab$_{25\%}$ CONST:apart$_{25\%}$ CONJ:add$_{16.7\%}$ CONST:exem$_{16.7\%}$ CONJ$_{8.3\%}$ nobj$_{8.3\%}$.

CONST:exem *Exemplification.* A constitutive exemplification relation. The dependent segment gives examples of elements or phenomena regarding the governing segment.
isa CONST
[231] Typical connectives: [en] For example; [da] For eksempel; [it] Per esempio.
Confusion$^{17}_{29.4\%/70.6\%/47.1\%\%}$: CONST:exem$_{47.1\%}$ CONJ:add$_{11.8\%}$ CONST:apart$_{11.8\%}$ CONJ:elab$_{5.9\%}$ JOINT$_{5.9\%}$ CONST:rest$_{5.9\%}$ CONSOL:source$_{5.9\%}$ CONC$_{5.9\%}$.

CONST:rest *Restatement.* A restatement relation. The dependent segment states the governing segment again in a different way
isa CONST
[233]
Typical connectives: [en] In other words, Or; [da] Dvs., Sagt på en anden måde; [it] Ossia, In altre parole, Cioè.
Confusion$^{11}_{22.7\%/59.1\%/25.8\%\%}$: CONJ:elab$_{27.3\%}$ CONST:rest$_{25.8\%}$ TELIC:cons.sbj$_{9.1\%}$ TELIC:cons.dir$_{9.1\%}$ AGENTIVE:expl$_{9.1\%}$ CONST:exem$_{9.1\%}$ conj$_{6.1\%}$ qobj$_{4.5\%}$.

CONTR *Contrast.* The dependent text segment expresses a contrast wrt the governing text segment.
isa DISCSEM
[247]
Subtypes: CONTR:dir CONTR:sbj.
Confusion$^{4}_{0\%/100\%/0\%\%}$: CONJ:add$_{25\%}$ AGENTIVE:expl$_{25\%}$ CONTR:dir$_{25\%}$ CONC$_{25\%}$.

CONTR:dir *Direct contrast.* A direct contrast relation. The contrast lies between the governing and dependent text segment.
isa CONTR
[248]
Typical connectives: [en] But, However; [da] Men, Derimod; [it] Ma, Invece.
Confusion$^{14}_{16.7\%/31\%/31\%\%}$: CONTR:dir$_{31\%}$ conj$_{20.2\%}$ CONTR:prg$_{10.7\%}$ CONTR$_{7.1\%}$ CONJ:elab$_{7.1\%}$ TELIC:cons.sbj$_{7.1\%}$ TELIC:cons.dir$_{7.1\%}$ CONTR:sbj$_{7.1\%}$ CONJ:add$_{2.4\%}$.

CONTR:sbj *Subjective contrast* (deprecated CONTR:prg). A subjective contrast relation. The contrast lies between an explicit and a subjectively inferred text segment.
isa CONTR
[249]
Typical connectives: [en] But, However; [da] Men, Derimod; [it] Ma, Invece.
Confusion$^{12}_{19.4\%/48.6\%/31.9\%\%}$: CONTR:sbj$_{31.9\%}$ conj$_{13.9\%}$ CONJ:elab$_{8.3\%}$ CONJ:add$_{8.3\%}$ CONTR:prg$_{8.3\%}$ qobj$_{8.3\%}$ CONTR:dir$_{8.3\%}$ CONC$_{8.3\%}$ TELIC:cons.dir$_{4.2\%}$.

DISJ *Disjunction.* There is a disjunction relation between the governing and dependent text segment.
isa DISCSEM
[250]
Subtypes: DISJ:dir DISJ:sbj.

DISJ:dir *Direct disjunction.* A direct disjunction relation. The disjunction lies between the governing and dependent text segment.
isa DISJ
[251]
Typical connectives: [en] Or, Or else, Otherwise; [da] Eller, Ellers; [it] Oppure, Altrimenti.
Confusion$^{2}_{0\%/50\%/50\%\%}$: CONJ:add$_{50\%}$ DISJ:dir$_{50\%}$.

DISJ:sbj *Subjective disjunction* (deprecated DISJ:prg). An indirect or subjective disjunction relation. The disjunction lies between the dependent and a subjectively inferred text segment.
isa DISJ
[252]
Typical connectives: [en] Or, Or else, Otherwise; [da] Eller, Ellers; [it] Oppure, Altrimenti.

FORMAL *Formal description.* The dependent segment describes the governing segment wrt its formal quale (form, dimension, colour, etc.). The governing segment may be a first-order or second-order entity.
isa DISCSEM
[234]
Subtypes: FORMAL:descr FORMAL:eval.

FORMAL:descr *Neutral description* (deprecated DESCR:qual). An objective and neutral description relation. The dependent segment expresses an objective and/or neutral description of the governing segment.
isa FORMAL
[235]
Confusion$^{5}_{20\%/40\%/20\%\%}$: CONJ:elab$_{60\%}$ conj$_{20\%}$ FORMAL:descr$_{20\%}$.

FORMAL:eval *Positive/negative evaluation* (deprecated DESCR:eval). A personal and subjective description relation. The dependent segment expresses a personal and/or subjective description of the governing segment.
isa FORMAL
[236]
Confusion$^{10}_{20\%/40\%/30\%\%}$: CONJ:elab$_{50\%}$ FORMAL:eval$_{30\%}$ CONJ$_{10\%}$ CONC$_{10\%}$.

TELIC isa DISCSEM [226]
Consequence/result/conclusion/goal relation (discourse). The dependent segment expresses consequence, result, purpose, conclusion or goal wrt the governing segment.
Subtypes: TELIC:cons.dir TELIC:cons.sbj TELIC:goal.
Confusion$^{22}_{13.6\%/100\%/13.6\%\%}$: –$_{59.1\%}$ TELIC$_{13.6\%}$ MOD:qual$_{4.5\%}$ DERvn:coreLOC:dir$_{4.5\%}$ TRANS$_{4.5\%}$ NEG:priv$_{4.5\%}$ SPACE:dir$_{4.5\%}$ LOC:dir$_{4.5\%}$.

TELIC:cons.dir isa TELIC [228]
Direct, physical consequence, result (deprecated TELIC:dir). A consequence or result relation. The dependent segment expresses a physical and/or objectively observed consequence or result wrt the governing segment.
Typical connectives: [en] Therefore, For this reason; [da] Derfor, Af den grund; [it] Perciò, Quindi.
Confusion$^{17}_{29.4\%/58.8\%/41.2\%\%}$: TELIC:cons.dir$_{41.2\%}$ TELIC:cons.sbj$_{11.8\%}$ CONJ:elab$_{8.8\%}$ CONST:rest$_{5.9\%}$ CONJ$_{5.9\%}$ CONJ:add$_{5.9\%}$ AGENTIVE:reas$_{5.9\%}$ CONTR:dir$_{5.9\%}$ conj$_{2.9\%}$ CONTR:sbj$_{2.9\%}$ qobj$_{2.9\%}$.

TELIC:cons.sbj isa TELIC [229]
Pragmatic/personal conclusion, deduction (deprecated TELIC:sbj). A personal conclusion or deduction relation. The dependent segment expresses a subjective conclusion or deduction on behalf of the speaker.
Typical connectives: [en] Therefore, For this reason; [da] Derfor, Af den grund; [it] Perciò, Quindi.
Confusion$^{14}_{21.4\%/64.3\%/28.6\%\%}$: TELIC:cons.sbj$_{28.6\%}$ CONJ:add$_{21.4\%}$ CONJ:elab$_{14.3\%}$ TELIC:cons.dir$_{14.3\%}$ CONJ$_{7.1\%}$ CONST:rest$_{7.1\%}$ CONTR:dir$_{7.1\%}$.

TELIC:goal isa TELIC [227]
Goal relation (discourse). A goal relation. The dependent segment expresses goal, purpose, aim or the like wrt the governing segment.
Confusion$^{1}_{0\%/100\%/0\%\%}$: CONJ$_{100\%}$.

TIME isa DISCSEM [239]
Temporal relation (deprecated CIRCUM). There is a clear temporal relation between the contents of the two text segments.
Subtypes: TIME:cont TIME:post TIME:pre.

TIME:cont isa TIME [240]
Contemporaneity (deprecated nowincludesabolishedTIME:dur). A contemporaneity relation. The events of the two text segments occur simultaneously.
Typical connectives: [en] At the same time, Meanwhile; [da] Samtidig, Mens, Så længe, Da; [it] Contemporaneamente.

TIME:post isa TIME [242]
Temporal succession (deprecated TIME:succ). A succession relation. The event described in the dependent text segment succeeds the one described in the governing segment.
Typical connectives: [en] Later, Some time afterwards; [da] Senere, Nogen tid efter; [it] Dopo, Poco tempo dopo.
Confusion$^{1}_{100\%/100\%/100\%\%}$: TIME:post$_{100\%}$.

TIME:pre isa TIME [241]
Temporal precedence (deprecated TIME:prec). A precedence relation. The event described in the dependent text segment precedes the one described in the governing segment.
Typical connectives: [en] Earlier, Some days before; [da] Før det, Forinden; [it] Prima, Tre giorni prima.
Confusion$^{1}_{100\%/100\%/100\%\%}$: TIME:pre$_{100\%}$.

Chapter 6

Anaphor relations: ANA

ANA: anaphor level
  ANAREL: anaphor-antecedent relation
  anaphor:
    assoc: associative anaphor
    coref: coreference

Figure 6.1: The relations matching ANA-!CDT1-!coref-!assoc-TOPIC.

ANA isa DIM:LEVEL [14]
Anaphor level (long: ANAPHORA). The anaphor level includes relations between anaphors and their antecedents, as well as lexical features associated with anaphora.
Subtypes: ANAREL anaphor.

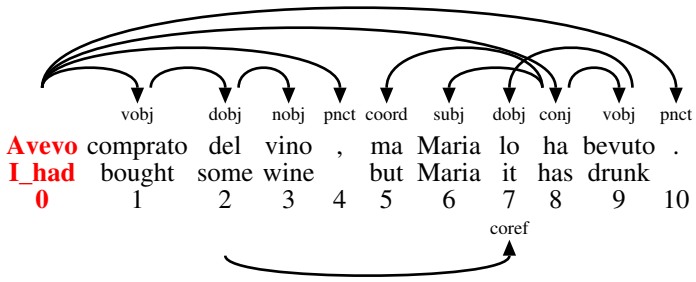
ANAREL isa ANA REL [28]
Anaphor-antecedent relation. An anaphor-antecedent relation, i.e. a relation between an anaphor (pronoun, definite description, etc.) and an antecedent. The anaphor may be either coreferential, i.e. it designates the same discourse referent as the antecedent, or associative. In the latter case, the anaphor designates a non-previously mentioned referent that is associable with the antecedent either wrt the antecedent's qualia structure or wrt some other semantic relation. The relation arrow goes from antecedent to anaphor.

anaphor isa ANA [183]
. 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 arrow 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.

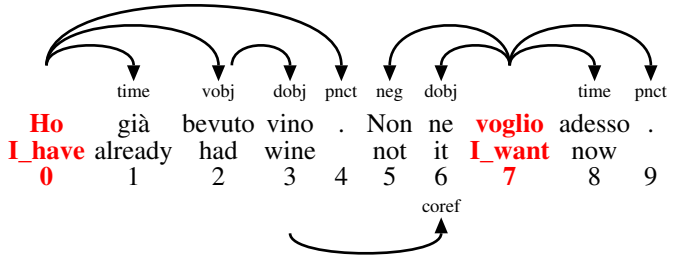
assoc isa anaphor [193]
Associative anaphor. The anaphor designates an entity which is associated with the antecedent
Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.
$\text{Confusion}^{6}_{33.3\%/83.3\%/33.3\%\%}$: $\text{assoc-const}_{66.7\%}$ $\text{assoc}_{33.3\%}$.

coref isa anaphor [186]
Coreference. The anaphor designates the same entity as the antecedent; all coreferential pronouns are labelled this way
Subtypes: coref-evol coref-iden coref-res coref-var ref.
$\text{Confusion}^{227}_{63.5\%/66.8\%/89\%\%}$: $\text{coref}_{89\%}$ $\text{coref-var}_{6.7\%}$ $\text{ref}_{1.3\%}$ $\text{coref-res}_{1.3\%}$ $\text{assoc-const}_{0.7\%}$ $\text{coref-iden}_{0.6\%}$ $\text{assoc-agentive.agent}_{0.4\%}$
.

I had bought some wine but Maria has drunk it all.



I've already had wine. I don't want anymore right now.



6.1 Coreference relations: coref

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

Figure 6.2: The relations matching coref-!CDT1-TOPIC.

coref *Coreference.* The anaphor designates the same entity as the antecedent; all coreferential pronouns are labelled this way

isa anaphor

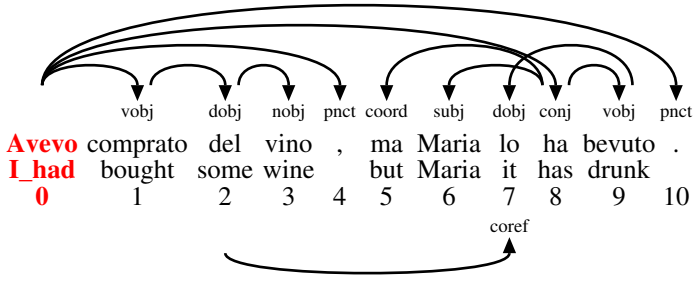
[186]

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

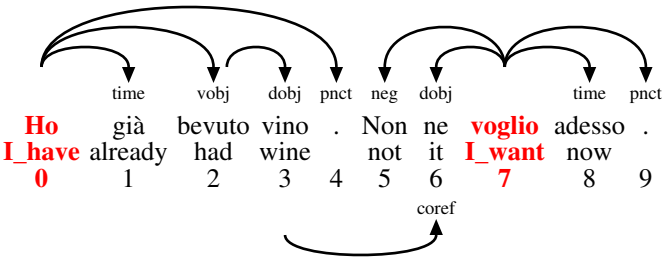
Confusion$^{227}_{63.5\%/66.8\%/89\%\%}$: coref$_{89\%}$ coref-var$_{6.7\%}$ ref$_{1.3\%}$ coref-res$_{1.3\%}$ assoc-const$_{0.7\%}$ coref-iden$_{0.6\%}$ assoc-agentive.agent$_{0.4\%}$

.

I had bought some wine but Maria has drunk it all.



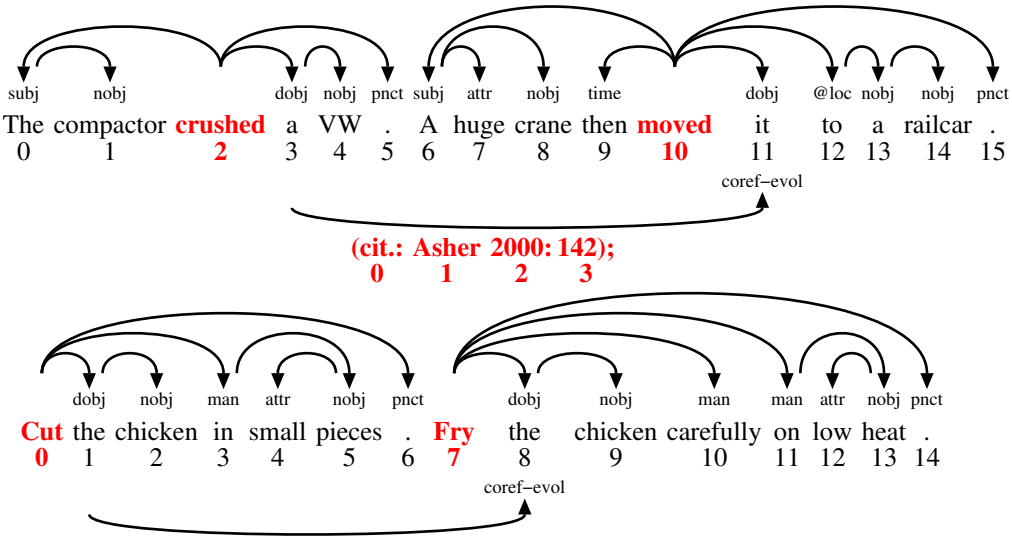
I've already had wine. I don't want anymore right now.



coref-evol isa coref [191]

Evolving anaphor. The anaphor refers to the same discourse referent as the antecedent, but after it has undergone radical changes in its ontological status

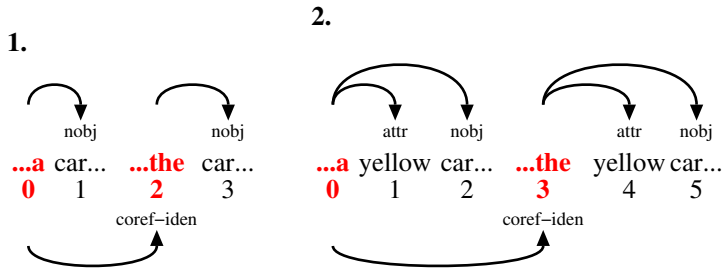
Confusion$^{1}_{0\%/100\%/0\%\%}$: coref-var$_{100\%}$.



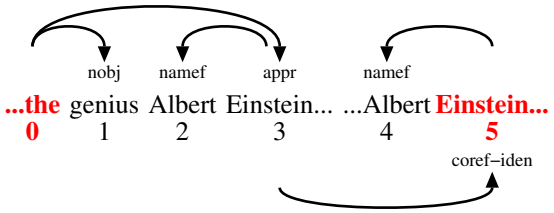
coref-iden isa coref [187]

Coreferential NP with lexical identity (deprecated coref-id). The anaphor designates the same entity as the antecedent and the lexical noun is identical to that of the antecedent; if the antecedent NP contains attributives or other modifiers, these too must be identical in the anaphor NP. In cases such as example 3., the apposition functions as antecedent:

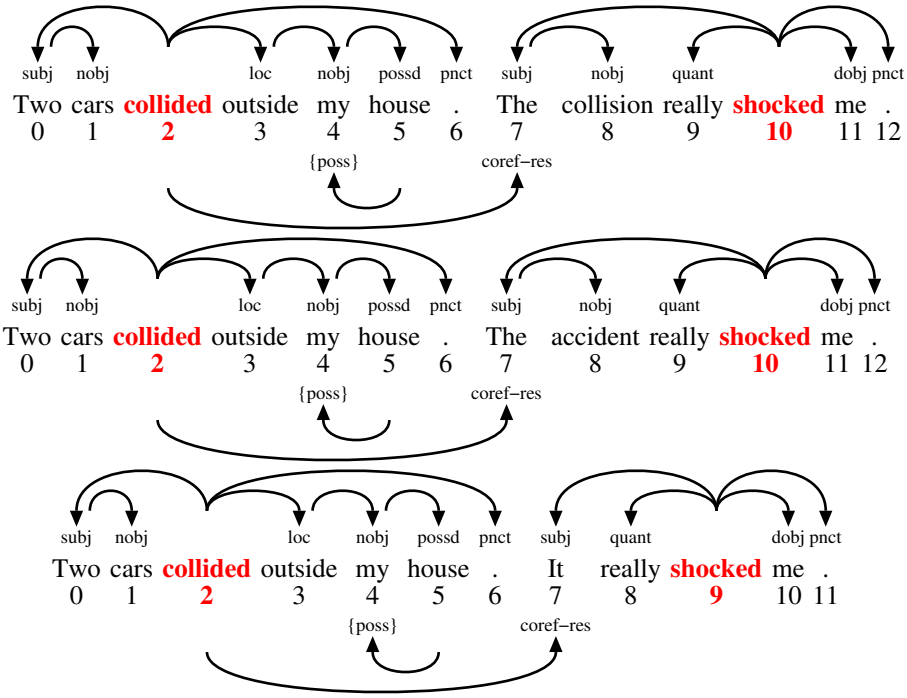
Confusion$^{62}_{72.6\%/81.2\%/77.4\%\%}$: coref-iden$_{77.4\%}$ coref-var$_{16.7\%}$ coref$_{2.7\%}$ assoc-telic$_{1.6\%}$ assoc-const$_{1.6\%}$.



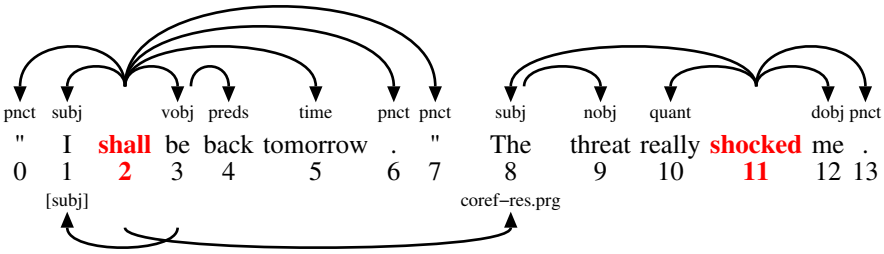
3.

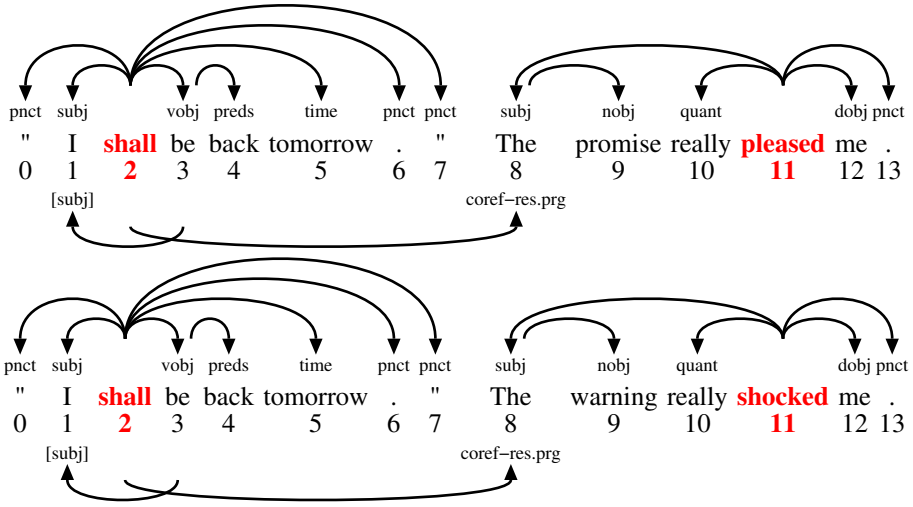


coref-res *Resumptive anaphor* (deprecated nowincludescoref-res.cause). The anaphor summarises a sentence, clause or predicate
isa coref
[189]
Subtypes: coref-res.prg.
Confusion$^{35}_{63.4\%/69.1\%/74.3\%\%}$: coref-res$_{74.3\%}$ coref-var$_{11.4\%}$ coref$_{8.6\%}$ assoc-telic$_{2.9\%}$ ref$_{2.9\%}$.



coref-res.prg *Pragmatic resumptive anaphor.* The anaphor summarises a sentence, clause or predicate and evaluates it with respect to speech act
isa coref-res
[190]

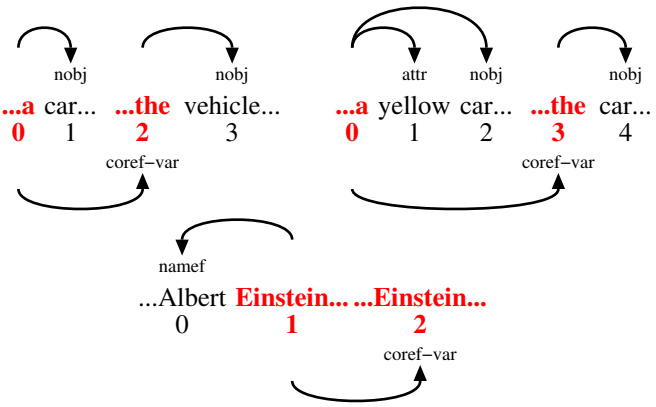




coref-var
isa coref
[188]

Coreferential NP with lexical variety. The anaphor designates the same entity as the antecedent; the lexical noun and/or attributives or other modifiers are different from those of the antecedent

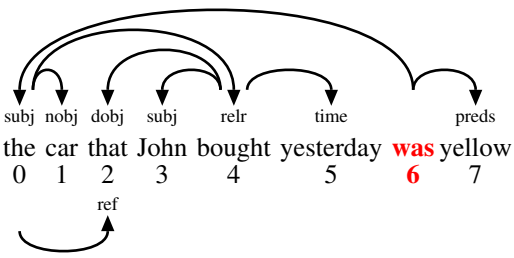
Confusion$^{144}_{59.5\%/72.5\%/73.7\%\%}$: coref-var$_{73.7\%}$ coref$_{10.8\%}$ coref-iden$_{7.2\%}$ assoc-const$_{4.2\%}$ coref-res$_{2.8\%}$ coref-evol$_{0.7\%}$ assoc-agentive$_{0.7\%}$.



ref
isa SEC coref
[184]

Syntactically determined coreference (long: _). Syntactically determined coreference (e.g. relative pronouns, external topics). In the DG theory, "ref" is a shorthand for the label "[fobj]" with reversed direction of the arc, ie, a secondary filler object. It is typically used in relative clauses with a relative pronoun, in which the relative pronoun "consumes" the filler for the relativized noun generated by the relative verb.

Confusion$^{70}_{90\%/91.4\%/94.3\%\%}$: ref$_{94.3\%}$ coref$_{4.3\%}$ coref-res$_{1.4\%}$.



6.2 Associative anaphor relations: assoc

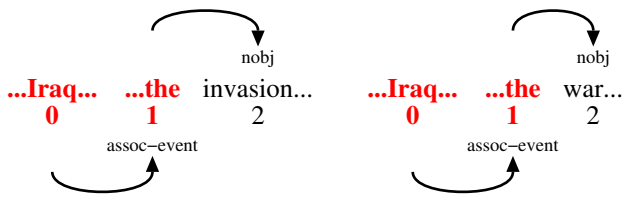
assoc: associative anaphor
- assoc-OTHER: other anaphoric relations
  - assoc-event: associative anaphor (event)
  - assoc-loc: associative anaphor (location)
  - assoc-time: associative anaphor (time)
- assoc-QUALIA: associative anaphor wrt. qualia
  - assoc-agentive: associative anaphor (agentive)
    - assoc-agentive.agent: associative anaphor (agentive-agent)
    - assoc-agentive.inst: associative anaphor (agentive-inst)
  - assoc-const: associative anaphor (constitutive)
  - assoc-formal: associative anaphor (formal)
  - assoc-telic: associative anaphor (telic)
    - assoc-telic.agent: associative anaphor (telic-agent)
    - assoc-telic.exper: associative anaphor (telic-experiencer)
    - assoc-telic.inst: associative anaphor (telic-instrument)
    - assoc-telic.patient: associative anaphor (telic-patient)
    - assoc-telic.rec: associative anaphor (telic-recipient)
- assoc-SEMROLE: associative anaphor wrt. semantic role
  - assoc-agent: associative anaphor (agent)
  - assoc-exper: associative anaphor (experiencer)
  - assoc-inst: associative anaphor (instrument)
  - assoc-patient: associative anaphor (patient)
  - assoc-rec: associative anaphor (recipient)

Figure 6.3: The relations matching assoc-!CDT1-TOPIC.

assoc *Associative anaphor.* The anaphor designates an entity which is associated with the antecedent
isa anaphor
[193]
Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.
$\text{Confusion}^{6}_{33.3\%/83.3\%/33.3\%\%}$: $\text{assoc-const}_{66.7\%}$ $\text{assoc}_{33.3\%}$.

assoc-OTHER *Other anaphoric relations.* These cases include for example locative relations (the anaphor is located in the antecedent), time relations (the anaphor expresses a point in time linked to the antecedent), and event relations (the anaphor designates an event in which the antecedent plays a part).
isa assoc
[212]
Subtypes: assoc-event assoc-loc assoc-time.

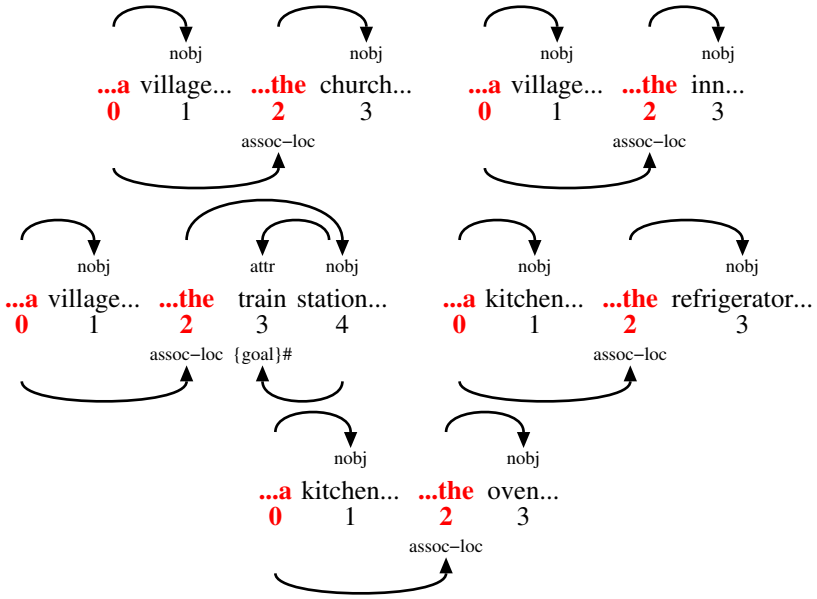
assoc-event *Associative anaphor (event).* The anaphor is a predicate noun or similar which expresses an event that can be associated with the antecedent or in which the antecedent plays a part
isa assoc-OTHER
[215]
$\text{Confusion}^{2}_{100\%/100\%/100\%\%}$: $\text{assoc-event}_{100\%}$.



assoc-loc
isa assoc-OTHER
[213]

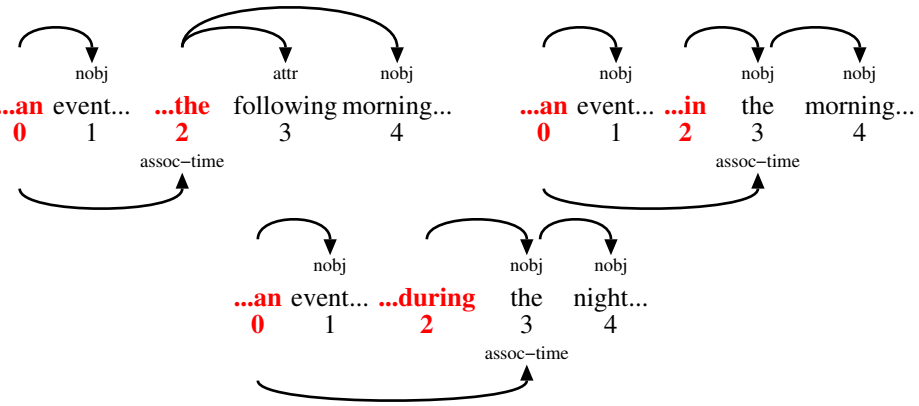
Associative anaphor (location). The anaphor is located in the antecedent

Confusion$^{2}_{0\%/100\%/0\%\%}$: assoc-const$_{100\%}$.



assoc-time
isa assoc-OTHER
[214]

Associative anaphor (time). The antecedent is a predicate or predicative noun, a time indication or a more general narrative frame, the anaphor expresses a point in time linked to it



assoc-QUALIA
isa assoc
[194]

Associative anaphor wrt. qualia. The anaphor denotes an entity which is associated with the antecedent with regard to the antecedent's qualia structure

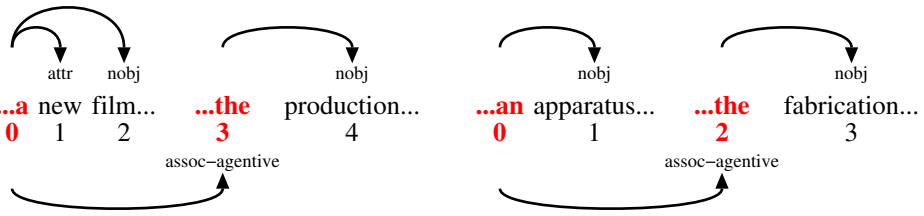
Subtypes: assoc-agentive assoc-const assoc-formal assoc-telic.

assoc-agentive
isa assoc-QUALIA
[197]

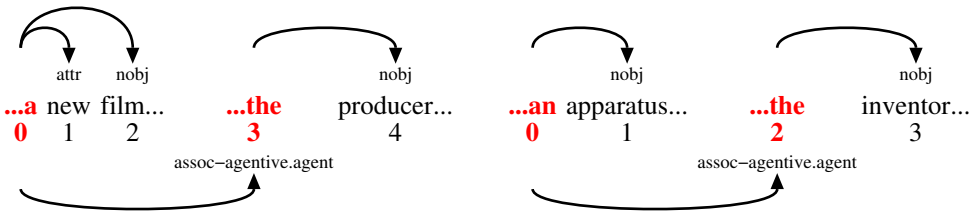
Associative anaphor (agentive) (deprecated assoc-agent?). The anaphor is associated with the antecedent wrt its agentive quale (the "bringing about" of the antecedent)

Subtypes: assoc-agentive.agent assoc-agentive.inst.

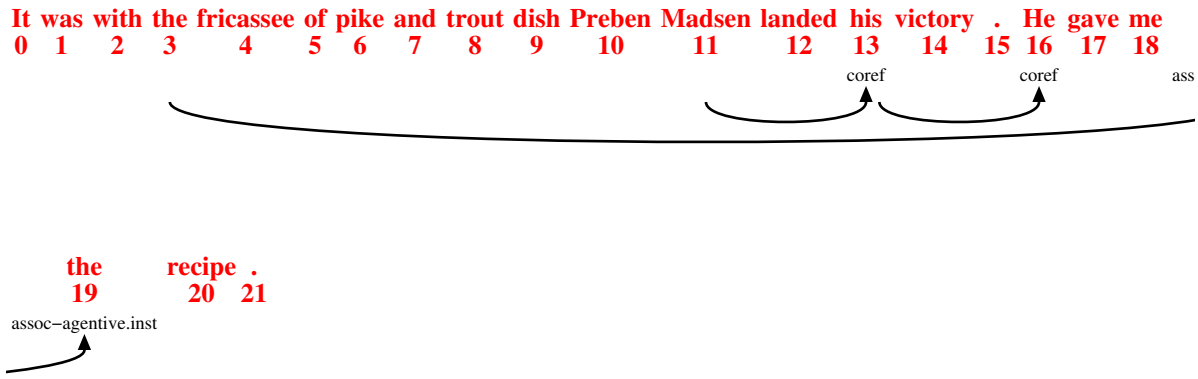
Confusion$^{2}_{50\%/100\%/50\%\%}$: coref-var$_{50\%}$ assoc-agentive$_{50\%}$.



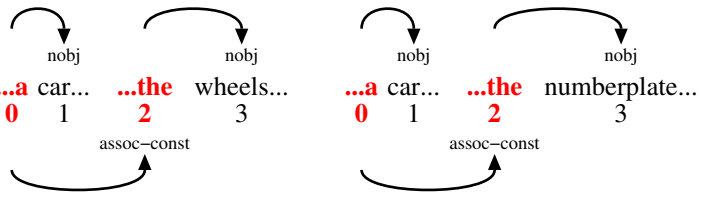
assoc-agentive.agent *Associative anaphor (agentive-agent).* The anaphor plays the semantic role of agent wrt the "bringing about" of the antecedent
isa assoc-agentive
[198] Related types: assoc-agentive.inst.
Confusion$^{3}_{0\%/66.7\%/0\%\%}$: assoc-telic$_{66.7\%}$ coref$_{33.3\%}$.

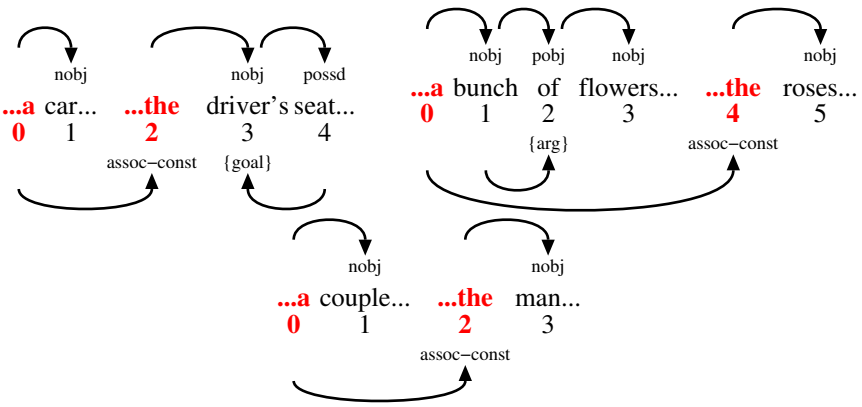


assoc-agentive.inst *Associative anaphor (agentive-inst).* The anaphor plays the semantic role of instrument wrt the "bringing about" of the antecedent
isa assoc-agentive
[199] Related types: assoc-agentive.agent.

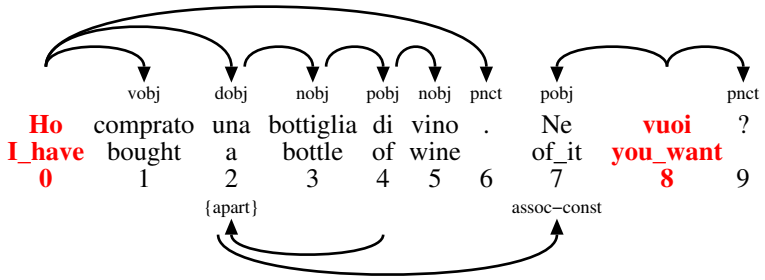


assoc-const *Associative anaphor (constitutive).* The anaphor is associated with the antecedent wrt its constitutive quale (parts, elements, material, etc.)
isa assoc-QUALIA
[195] Confusion$^{41}_{48.8\%/73.2\%/58.5\%\%}$: assoc-const$_{58.5\%}$ coref-var$_{14.6\%}$ assoc$_{9.8\%}$ assoc-telic$_{4.9\%}$ coref$_{4.9\%}$ assoc-loc$_{4.9\%}$ coref-iden$_{2.4\%}$.





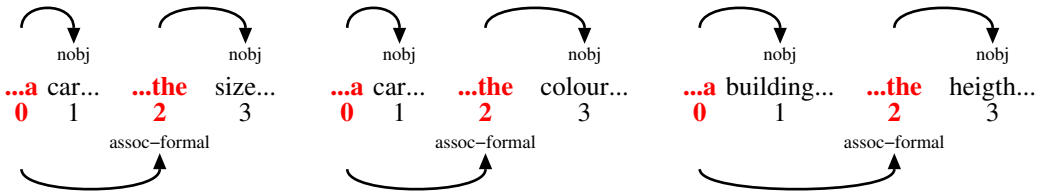
I have bought a bottle of wine. Do you want some of it?



assoc-formal isa assoc-QUALIA [196]

Associative anaphor (formal). The anaphor is associated with the antecedent wrt its formal quale (shape, dimension, colour, etc.)

Confusion$^{1}_{100\%/100\%/100\%\%}$: assoc-formal$_{100\%}$.

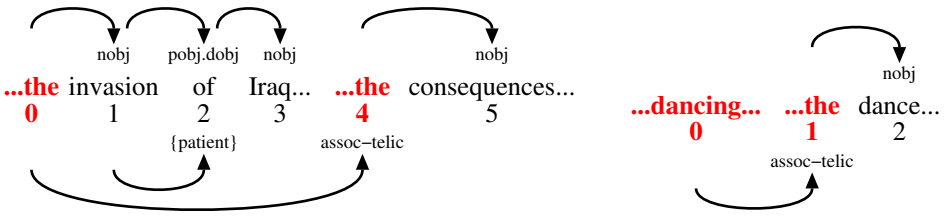


assoc-telic isa assoc-QUALIA [200]

Associative anaphor (telic) (deprecated assoc-scope?). The anaphor is associated with antecedent wrt its telic quale (purpose, function, result, consequence etc.)

Subtypes: assoc-telic.agent assoc-telic.exper assoc-telic.inst assoc-telic.patient assoc-telic.rec.

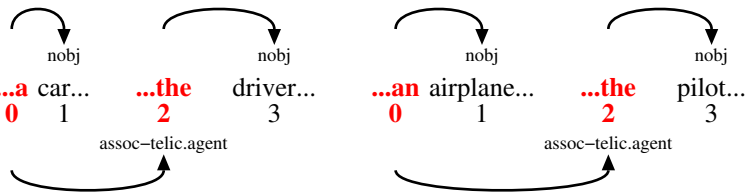
Confusion$^{25}_{40\%/76\%/56\%\%}$: assoc-telic$_{56\%}$ assoc-agentive.agent$_{8\%}$ assoc-telic.patient$_{8\%}$ assoc-const$_{8\%}$ assoc-telic.agent$_{8\%}$ coref-iden$_{4\%}$ assoc-telic.inst$_{4\%}$ coref-res$_{4\%}$.



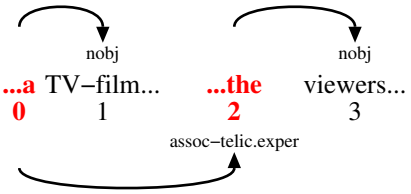
assoc-telic.agent isa assoc-telic [201]

Associative anaphor (telic-agent). The anaphor plays the semantic role of agent wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend on the inferred predicate)

Confusion$^{2}_{0\%/100\%/0\%\%}$: assoc-telic$_{100\%}$.

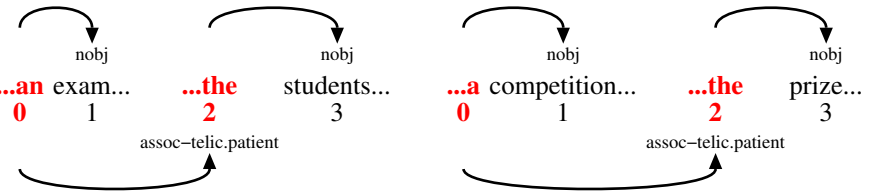


assoc-telic.exper *Associative anaphor (telic-experiencer).* The anaphor plays the semantic role of experiencer wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend on the inferred predicate)
isa assoc-telic
[204]

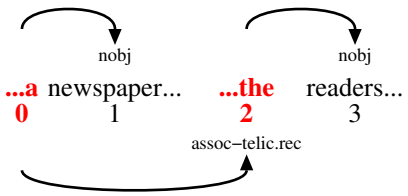


assoc-telic.inst *Associative anaphor (telic-instrument).* The anaphor plays the semantic role of instrument wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend on the inferred predicate)
isa assoc-telic
[205]
$\text{Confusion}^{1}_{0\%/100\%/0\%\%}$: $\text{assoc-telic}_{100\%}$.

assoc-telic.patient *Associative anaphor (telic-patient).* The anaphor plays the semantic role of patient wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend on the inferred predicate)
isa assoc-telic
[202]
$\text{Confusion}^{2}_{0\%/100\%/0\%\%}$: $\text{assoc-telic}_{100\%}$.



assoc-telic.rec *Associative anaphor (telic-recipient).* The anaphor plays the semantic role of recipient wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend on the inferred predicate)
isa assoc-telic
[203]



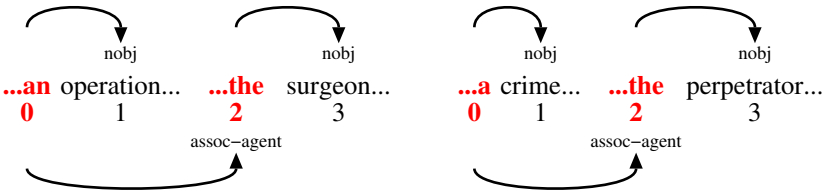
assoc-SEMROLE
isa assoc
[206]

Associative anaphor wrt. semantic role. The antecedent is a predicate or predicative noun, and the anaphor designates an entity or individual that plays a semantic role wrt the antecedent predication

Subtypes: assoc-agent assoc-exper assoc-inst assoc-patient assoc-rec.

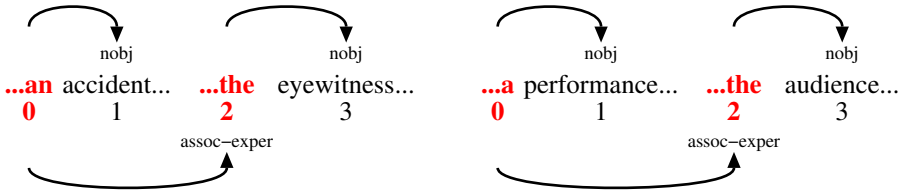
assoc-agent
isa assoc-SEMROLE
[207]

Associative anaphor (agent). The antecedent is a predicate or predicative noun, and the anaphor is the semantic agent



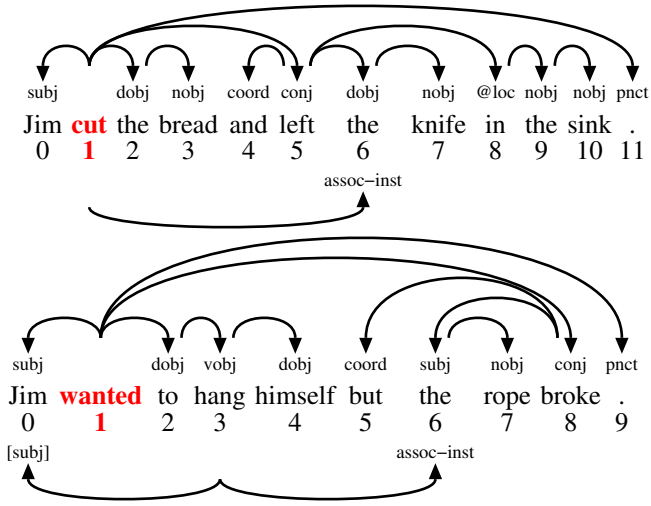
assoc-exper
isa assoc-SEMROLE
[210]

Associative anaphor (experiencer). The antecedent is a predicate or predicative noun, and the anaphor is the semantic experiencer



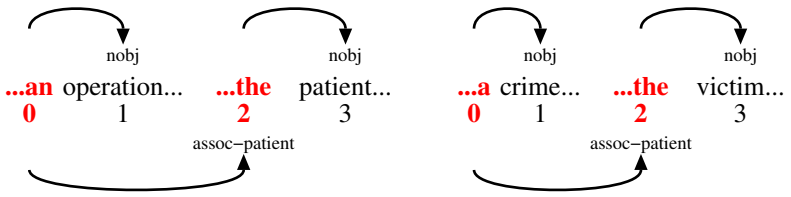
assoc-inst
isa assoc-SEMROLE
[211]

Associative anaphor (instrument). The antecedent is a predicate or predicative noun, and the anaphor is the semantic instrument.



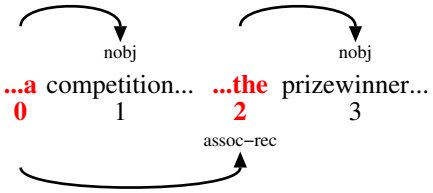
assoc-patient
isa assoc-SEMROLE
[208]

Associative anaphor (patient). The antecedent is a predicate or predicative noun, and the anaphor is the semantic patient



assoc-rec
isa assoc-SEMROLE
[209]

Associative anaphor (recipient). The antecedent is a predicate or predicative noun, and the anaphor is the semantic recipient



Chapter 7

Semantic relations: SEM

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

Figure 7.1: The relations matching SEM-!CDT1-!QUALIA-!SEMROLE-TOPIC.

SEM isa DIM:LEVEL [12]

Semantic level (long: SEMANTICS). The semantic level includes relations between lexical elements construed as functors, arguments, and modifiers, as well as lexical features associated with semantic units.

Subtypes: SEMREL.

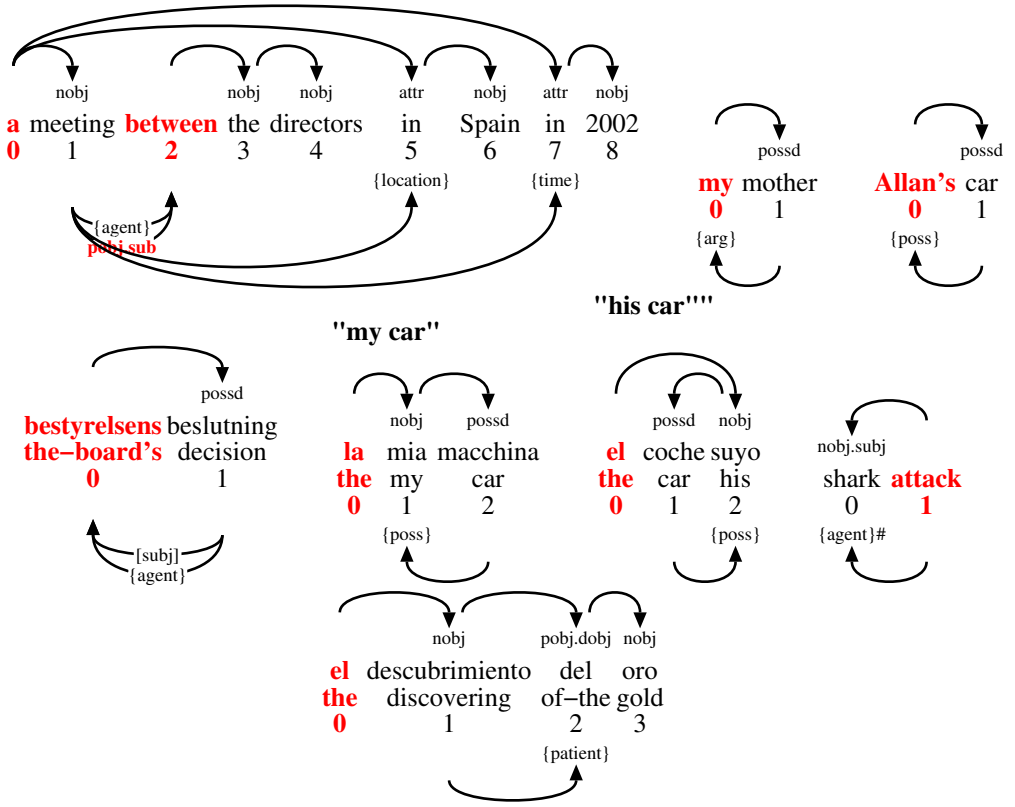
SEMREL isa REL SEM [29]

Semantic role. A semantic relation. The semantic relation specifies the argument role that

the child node fills with the parent node as its functor in the functor-argument structure, and encodes the semantic head in phrases headed by a function word without independent semantic meaning. In the DTAG visualization, semantic roles are drawn below the words. Semantic relations are always specified in parallel with a syntactic relation, whose type is determined by the word class of the involved lexical elements.

The DTAG annotation tool automatically replaces a relation with label "PRIM{SEMREL}" with two relations, one with label "PRIM" and one with label "{SEMREL}", so that relations of this form are drawn as two arrows. Relation names of this form are not strictly relation labels in their own right, merely shorthands in DTAG.

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



QUALIA isa SEMREL [30]

Qualia role. A qualia role. Ie, a semantic relation that links a lexeme to a qualia role associated with that lexeme. Eg, "music" to the act of "composing" (agentive), "listening" (telic), etc.

Subtypes: agentive const formal resemblance telic.

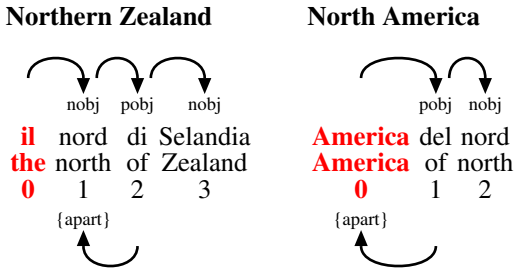
{about} isa SEMREL [62]

. Used in noun phrases where the modifier indicates the content or genre of the head, which typically denotes a semiotic artefact.

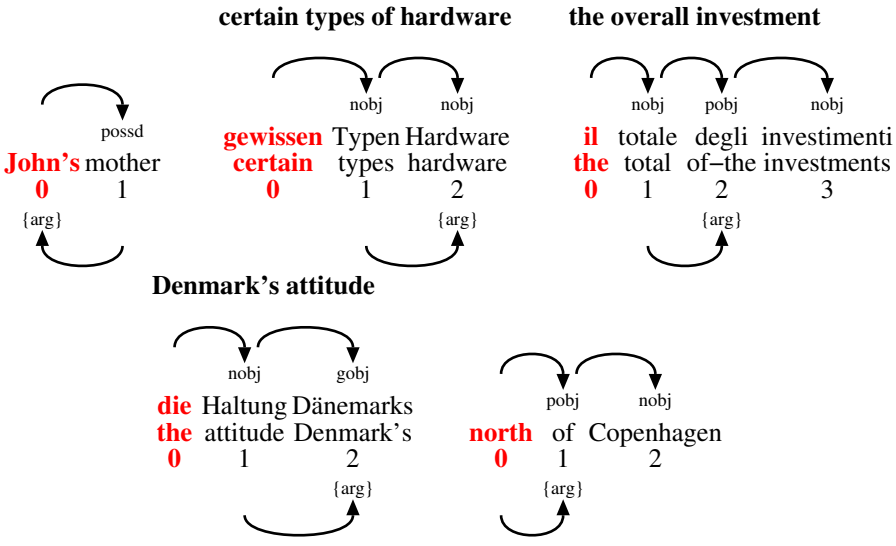
Confusion$^{30}_{43.3\%/96.7\%/43.3\%\%}$: {about}$_{43.3\%}$ {arg}$_{20\%}$ {patient}$_{20\%}$ {goal}$_{6.7\%}$ {func}$_{6.7\%}$ {loc}$_{3.3\%}$.

{agent} *An object or a person that performs an action.* Used in noun phrases where the modifier is the object or the person that performs the volitional action indicated by the head.
isa SEMREL
[50] $\text{Confusion}^{65}_{58.5\%/95.4\%/60\%\%}$: {agent}$_{60\%}$ {arg}$_{26.2\%}$ {patient}$_{4.6\%}$ {experiencer}$_{4.6\%}$ {loc}$_{1.5\%}$ {goal}$_{1.5\%}$ {source}$_{1.5\%}$.

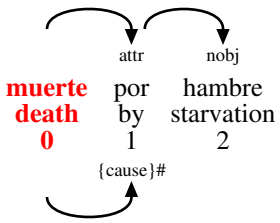
{apart} . Used in noun phrases where the modifier specifies an arbitary part of the head. Please note that the semantic relation goes from the modifier to the head in opposition to the main part of the other semantic roles.
isa SEMREL
[63] $\text{Confusion}^{19}_{42.1\%/100\%/42.1\%\%}$: {quant}$_{47.4\%}$ {apart}$_{42.1\%}$ {loc}$_{5.3\%}$ {const}$_{5.3\%}$.



{arg} . Used in noun phrases with relational nouns.
isa SEMREL
[68] $\text{Confusion}^{189}_{55\%/94.7\%/56.6\%\%}$: {arg}$_{56.6\%}$ {agent}$_{9\%}$ {patient}$_{5.3\%}$ {const}$_{4.8\%}$ {func}$_{4.2\%}$ {goal}$_{4.2\%}$ {loc}$_{3.7\%}$ {source}$_{3.7\%}$ {about}$_{3.2\%}$ {poss}$_{2.6\%}$ {other}$_{1.6\%}$ {quant}$_{0.5\%}$ {time}$_{0.5\%}$.



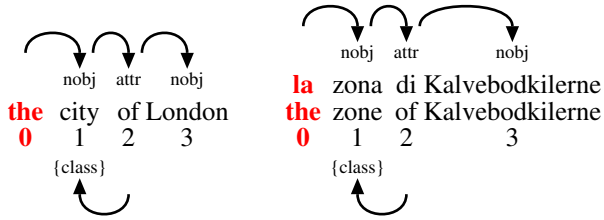
{cause} . Used in noun phrases where the modifier is the person or object that performs the non-volitional action indicated by the head.
isa SEMREL
[53] $\text{Confusion}^{1}_{0\%/100\%/0\%\%}$: {goal}$_{100\%}$.



{class} isa SEMREL [64] . Used in noun phrases where the modifier indicates the super type or classification of the head. Please note that the modifier is the semantic head of the NP in opposition to the main part of the other semantic roles.

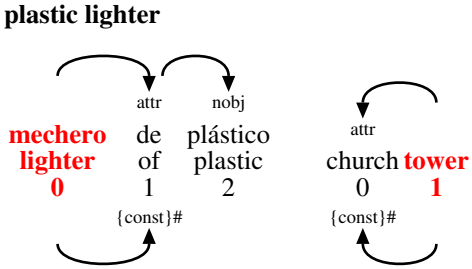
Related types: {iden}.

Confusion$^{5}_{40\%/100\%/40\%\%}$: {class}$_{40\%}$ {other}$_{40\%}$ {const}$_{20\%}$.



{const} isa SEMREL [49] . Used in noun phrases that expresses a part-whole or whole-part relation between the modifer and the head or where the modifier denotes the material of or an essential constituent of the head.

Confusion$^{49}_{55.1\%/95.9\%/57.1\%\%}$: {const}$_{57.1\%}$ {arg}$_{18.4\%}$ {source}$_{6.1\%}$ {form}$_{4.1\%}$ {poss}$_{4.1\%}$ {apart}$_{2\%}$ {loc}$_{2\%}$ {class}$_{2\%}$ {goal}$_{2\%}$ {func}$_{2\%}$.



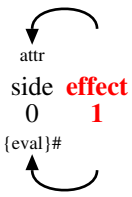
{elab} isa SEMREL [48] .

Related types: modp.

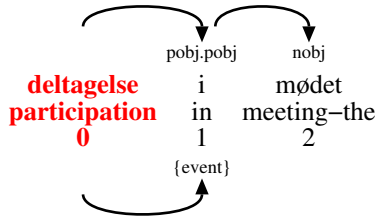
Confusion$^{7}_{71.4\%/85.7\%/85.7\%\%}$: {elab}$_{85.7\%}$ {loc}$_{14.3\%}$.

{eval} isa SEMREL [60] . Used in noun phrases where there is a descriptive or evaluative relation between the modifier and the head.

Confusion$^{1}_{100\%/100\%/100\%\%}$: {eval}$_{100\%}$.



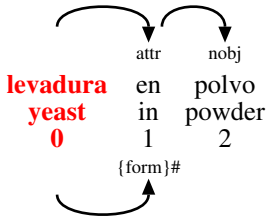
{event} isa SEMREL [59] . Used in noun phrases where the modifier denotes an event rather than a location or temporal relation. Often used in connection with predicative head nouns.
Related types: {loc} {time}.



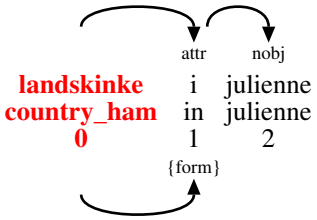
{experiencer} isa SEMREL [71] *The receiver of an emotion or a physical impact.* Used in noun phrases with a predicative head. Most often the modifier functions as the logical direct object of the predicate and semantically as the experiencer of an emotion or physical impact.
Confusion$^{7}_{42.9\%/100\%/42.9\%\%}$: {experiencer}$_{42.9\%}$ {agent}$_{42.9\%}$ {patient}$_{14.3\%}$.

{form} isa SEMREL [66] . Used in noun phrases where the satellite indicates the shape or form of the nucleus.
Confusion$^{6}_{50\%/100\%/50\%\%}$: {form}$_{50\%}$ {const}$_{33.3\%}$ {loc}$_{16.7\%}$.

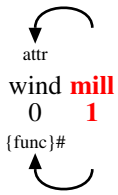
baking powder



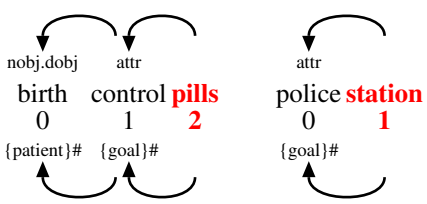
country ham in julienne strips



{func} isa SEMREL [55] . Used in noun phrases where the satellite determinates the instrumental function of the nucleus.
Confusion$^{45}_{51.1\%/100\%/51.1\%\%}$: {func}$_{51.1\%}$ {arg}$_{17.8\%}$ {goal}$_{11.1\%}$ {loc}$_{6.7\%}$ {about}$_{4.4\%}$ {const}$_{2.2\%}$ {iden}$_{2.2\%}$ {patient}$_{2.2\%}$ {other}$_{2.2\%}$.

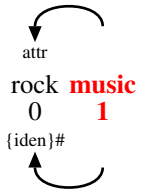


{goal} isa SEMREL [54] . Used in noun phrases where the satellite determinates the goal or the intention for which the nucleus is destinated.
Confusion$^{71}_{64.8\%/98.6\%/66.2\%\%}$: {goal}$_{66.2\%}$ {arg}$_{11.3\%}$ {func}$_{7\%}$ {loc}$_{2.8\%}$ {about}$_{2.8\%}$ {cause}$_{1.4\%}$ {const}$_{1.4\%}$ {resem}$_{1.4\%}$ {agent}$_{1.4\%}$ {recipient}$_{1.4\%}$ {patient}$_{1.4\%}$ {other}$_{1.4\%}$.



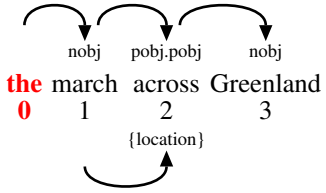
{iden} isa SEMREL [67]
. Used in noun phrases where the satellite indicates the identity of the nucleus. In this case it is also possible to equate the satellite to the nucleus i.e. that the nucleus represents the super type of the satellite.

Related types: {class}.
Confusion$^{1}_{0\%/100\%/0\%\%}$: {func}$_{100\%}$.



{location} isa SEMREL [73]
The location where something is situated or happens. Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a prepositional object

Confusion$^{2}_{50\%/100\%/50\%\%}$: {loc}$_{50\%}$ {location}$_{50\%}$.



{loc} isa SEMREL [57]
(deprecated {pos}). Used in noun phrases where the satellite indicates the location of the position or the location of nucleus.

Related types: {event}.
Confusion$^{82}_{51.2\%/86.6\%/59.8\%\%}$: {loc}$_{59.8\%}$ {arg}$_{8.5\%}$ {source}$_{8.5\%}$ {func}$_{3.7\%}$ {goal}$_{2.4\%}$ {patient}$_{2.4\%}$ {poss}$_{2.4\%}$ {other}$_{2.4\%}$ {const}$_{1.2\%}$ {agent}$_{1.2\%}$ {form}$_{1.2\%}$ {location}$_{1.2\%}$ {elab}$_{1.2\%}$ {apart}$_{1.2\%}$ {recipient}$_{1.2\%}$ {about}$_{1.2\%}$.

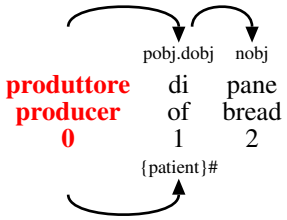
{other} isa SEMREL [74]
No specific semantic role. Used when none of the other semantic roles are suitable or when in doubt.

Confusion$^{22}_{36.4\%/95.5\%/36.4\%\%}$: {other}$_{36.4\%}$ {arg}$_{13.6\%}$ {poss}$_{13.6\%}$ {loc}$_{9.1\%}$ {class}$_{9.1\%}$ {quant}$_{4.5\%}$ {func}$_{4.5\%}$ {time}$_{4.5\%}$ {goal}$_{4.5\%}$.

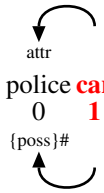
{patient} isa SEMREL [70]
An object or a person that is the subject of the action or the one who is located somewhere. Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a direct object

Confusion$^{71}_{57.7\%/88.7\%/63.4\%\%}$: {patient}$_{63.4\%}$ {arg}$_{14.1\%}$ {about}$_{8.5\%}$ {agent}$_{4.2\%}$ {loc}$_{2.8\%}$ {func}$_{1.4\%}$ {experiencer}$_{1.4\%}$ {recipient}$_{1.4\%}$ {goal}$_{1.4\%}$ {poss}$_{1.4\%}$.

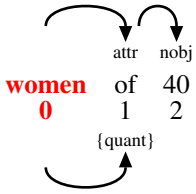
bread producer

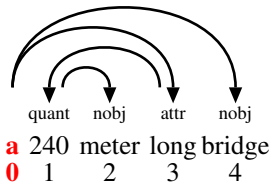


{poss} isa SEMREL [56] . Used in noun phrases where there is a possession relation between the nucleus and the satellite. Often the satelitte is the owner or possessor of the nucleus.
Confusion$^{27}_{44.4\%/88.9\%/48.1\%\%}$: {poss}$_{48.1\%}$ {arg}$_{18.5\%}$ {other}$_{11.1\%}$ {loc}$_{7.4\%}$ {const}$_{7.4\%}$ {patient}$_{3.7\%}$ {source}$_{3.7\%}$.



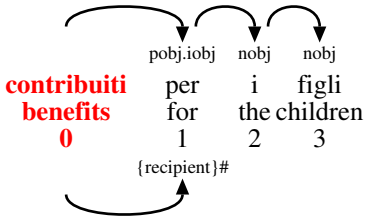
{quant} isa SEMREL [65] . Used in noun phrases where the satellite indicates the quantity in numbers or another countable unit of the nucleus.
Confusion$^{21}_{47.6\%/95.2\%/47.6\%\%}$: {quant}$_{47.6\%}$ {apart}$_{42.9\%}$ {arg}$_{4.8\%}$ {other}$_{4.8\%}$.



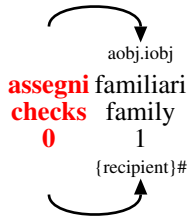


{recipient} isa SEMREL [72] *The receiver of something.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as an indirect object
Confusion$^{7}_{57.1\%/100\%/57.1\%\%}$: {recipient}$_{57.1\%}$ {loc}$_{14.3\%}$ {patient}$_{14.3\%}$ {goal}$_{14.3\%}$.

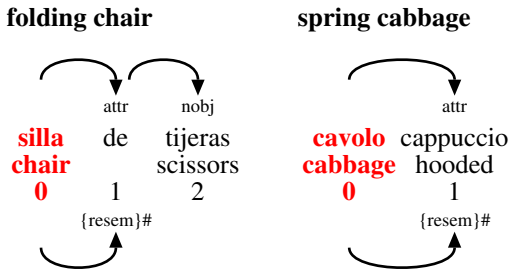
child benefits



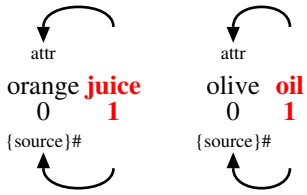
child maintenance



{resem} isa SEMREL [61] . Used in noun phrases where there is a resemblance between the nucleus and the satellite.
Confusion$^{2}_{50\%/100\%/50\%\%}$: {resem}$_{50\%}$ {goal}$_{50\%}$.



{source} (deprecated {origin}). Used in noun phrases where the satellite is the source from which the nucleus derives or is deduced.
isa SEMREL
[52] Confusion$^{44}_{47.7\%/88.6\%/50\%\%}$: {source}$_{50\%}$ {loc}$_{15.9\%}$ {arg}$_{15.9\%}$ {const}$_{6.8\%}$ {time}$_{6.8\%}$ {agent}$_{2.3\%}$ {poss}$_{2.3\%}$.



{time} . Used in noun phrases where the satellite indicates some kind of temporal aspect of the nucleus.
isa SEMREL
[58] Related types: {event}.
Confusion$^{28}_{64.3\%/78.6\%/82.1\%\%}$: {time}$_{82.1\%}$ {source}$_{10.7\%}$ {arg}$_{3.6\%}$ {other}$_{3.6\%}$.

7.1 Qualia relations: QUALIA

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

Figure 7.2: The relations matching QUALIA-!CDT1.

QUALIA *Qualia role.* A qualia role. Ie, a semantic relation that links a lexeme to a qualia role associated with that lexeme. Eg, "music" to the act of "composing" (agentive), "listening" (telic), etc.
isa SEMREL
[30]

Subtypes: agentive const formal resemblance telic.

agentive isa QUALIA [41] *Agentive qualia.* A relation which describes the origin of an object. E.g., its creator, artifact, natural kind, causal chain (cf. Pustejovsky 1995).

const isa QUALIA [38] *Constitutive qualia* (long: constitutive). A relation between an object and its constituents or proper parts. E.g., material, weight, parts and component elements (cf. Pustejovsky 1995).

$\text{Confusion}^{11}_{0\%/100\%/0\%\%}$: $\text{ABOUT}_{27.3\%}$ $-_{18.2\%}$ $\text{RESEM}_{18.2\%}$ $\text{CONST}_{18.2\%}$ $\text{MOD:qual}_{9.1\%}$ $\text{GOAL}_{9.1\%}$.

formal isa QUALIA [39] *Formal qualia.* A property that distinguishes the object within a larger domain. E.g., its orientation, magnitude, shape, dimensionality, color, position (cf. Pustejovsky 1995).

Subtypes: location.

location isa formal [42] *Location qualia.* A qualia role that relates a lexeme to its location qualia.

resemblance isa QUALIA [44] *Resemblance wrt. qualia role.* Resemblance wrt. some qualia role

Subtypes: ""QUALIA.

""QUALIA isa RULE resemblance [45] *Resemblance wrt. $qualia relation.*

telic isa QUALIA [40] *Telic qualia.* A relation which describes the purpose and function of the object. E.g., the purpose of performing an act, the intended use of an artifact (cf. Pustejovsky 1995).

Subtypes: about.

about isa telic [43] *About qualia.* Relates to hyponym (subtype)

$\text{Confusion}^{8}_{12.5\%/100\%/12.5\%\%}$: $\text{ABOUT}_{37.5\%}$ $\text{DOBJ.patient}_{25\%}$ $\text{AGENT:MCMOD:qual}_{25\%}$ $\text{about}_{12.5\%}$.

7.2 Thematic role relations: SEMROLE

Figure 7.3: The relations matching SEMROLE-!CDT1.

Chapter 8

Word alignment relations: ALIGN

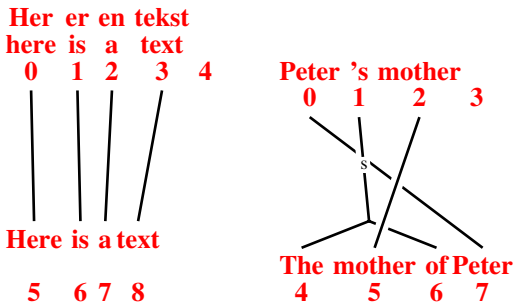
ALIGN: alignment level
  ALIGNREL: alignment relation
    "": unlabeled word alignment
    f: fuzzy word alignment

Figure 8.1: The relations matching ALIGN-!CDT1-TOPIC.

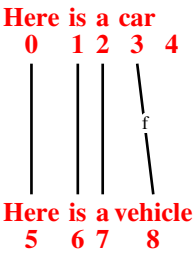
ALIGN *Alignment level* (long: ALIGNMENT). The alignment level includes alignment relations as well as lexical features associated with alignments.
isa DIM:LEVEL
[15]
Subtypes: ALIGNREL.

ALIGNREL *Alignment relation.* An alignment relation. An alignment relation encodes a translational equivalence between two sets of words (and their associated phrases), either in terms of form or meaning. Null alignments - ie, a set of words in one text which does not correspond to any set of words in the other text - are encoded as a set of words that is aligned to itself.
isa ALIGN REL
[31]
Subtypes: "" f.

"" *Unlabeled word alignment* (long: align). An unlabeled word alignment is represented as a word alignment where the label is an empty string. It is used to represent the default word alignment, where there is full translational equivalence between the two sets of words.
isa ALIGNREL
[389]



f *Fuzzy word alignment* (long: fuzzy). A semantically fuzzy word alignment.
isa ALIGNREL
[390]


Here is a car
0 1 2 3 4
f
Here is a vehicle
5 6 7 8

Chapter 9

Rule schemata for complex relations: RULE

RULE: generative type specification rule
- ""QUALIA: resemblance wrt. $qualia relation
- RuleAnd: conjunctive both-and type
- RuleAttr: attribution
- RuleAttrD: down-dependent in attribution
- RuleAttrH: down-head in attribution
- RuleDisc: syntactic discourse relation
- RuleExpConn: explicit connector
- RuleGap: gapping dependent
- RuleIdiom: idiomatic relation pattern
- RuleImpConn: implicit connector
- RuleMorph: syntactic morphlogy relation
- RuleOblAdv: valency-bound adverbial
- RuleOr: disjunctive either-or type
- RulePar: disambiguated type
- RuleSec: secondary relation pattern

Figure 9.1: The relations matching RULE-!CDT1-TOPIC.

RULE isa ANY [4] *Generative type specification rule.* Generative type specification rules specify how type names are created generatively using rules. A rule consists of a sequence of null-separated items which are either character sequences enclosed in double quotes or type names; parts of a rule may be enclosed in parentheses and followed by an optional repetition operator: "*" (0 or more times), "+" (1 or more times), or "?" (0 or 1 times). When specifying the super types for a generated type, $1 refers to the part of the type name matched within the first pair of parentheses, $2 the part within the second pairs of parentheses, etc. Generated types may be used as super types.

For example, the rule "<"PRIM">" generates all relation names formed by enclosing any relation name from the "PRIM" hierarchy in angle brackets. "<"PRIM("."PRIM)*">" generates all relation names formed by enclosing a "."-separated sequence of "PRIM" relation names in angle brackets.

Subtypes: ""QUALIA RuleAnd RuleAttr RuleAttrD RuleAttrH RuleDisc RuleExpConn RuleGap RuleIdiom RuleImpConn RuleMorph RuleOblAdv RuleOr RulePar RuleSec.

""QUALIA isa RULE resemblance [45] *Resemblance wrt. $qualia relation.*

RuleAnd isa RULE [364] *Conjunctive both-and type* (long: (REL)"&"(REL)). Conjunctive both-and relation types can be formed as "&"-separated lists of relation types. Conjunctive relation types are used by the annotators when two or more relation types seem to hold simultaneously. They may be removed from later versions of the CDT treebanks.

RuleAttr isa RULE [376] *Attribution* (long: (PRIM)"/ATTR"INTEGER). Specifies the person to whom the utterance is attributed (ATTR or ATTR1, ATTR2, ... when there is more than one person)

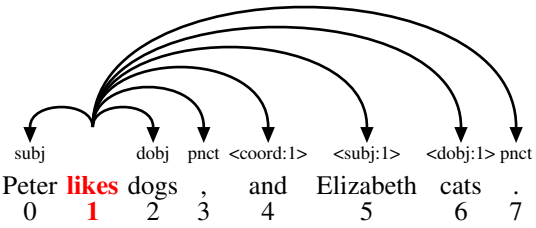
RuleAttrD isa RULE [378] *Down-dependent in attribution* (long: DISC"*"). The dependent in the relation is one step further down in the attribution chain

RuleAttrH isa RULE [377] *Down-head in attribution* (long: "*"DISC). The head in the relation is one step further down in the attribution chain

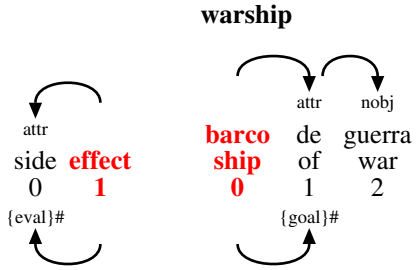
RuleDisc isa DISC RULE [371] *Syntactic discourse relation* (long: "_"(PRIM)). A primary syntactic relation that has been used as a discourse relation for stilistic purposes.

RuleExpConn isa RULE [379] *Explicit connector* (long: PRIM"/"CONNECTOR). The discourse relation has explicit connector $CONNECTOR

RuleGap isa RULE gapd [369] *Gapping dependent* (long: "<"PRIM(":"PRIM)*":"INTEGER">"). A gapping dependency relation is formed by using angled brackets to enclose a colon-separated list of primary relations followed by an integer that indicates the number of the gapped conjunct, starting with 1. The list of primary relations describes the path from the head of the gapped conjunct to the gapping dependent within the gapped conjunct, viewed as a copy of the tree structure within the first conjunct.



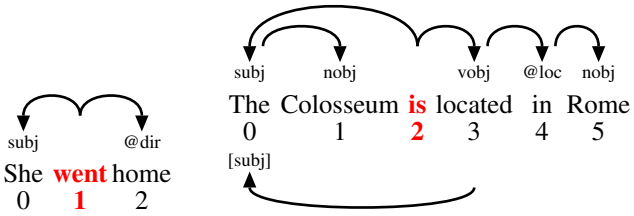
RuleIdiom isa IDIOM RULE [373] *Idiomatic relation pattern* (long: (SEMREL)"#"). A semantic relation can be marked as idiomatic by putting a trailing "#" after the semantic relation name. The idiom marker is only used with semantic relations, not with syntactic relations.



RuleImpConn *Implicit connector* (long: PRIM"/("CONNECTOR")"). The discourse relation has implicit connector $CONNECTOR
isa RULE
[380]

RuleMorph *Syntactic morphlogy relation* (long: "_"(PRIM)). A primary syntactic relation that has been used as a morphology relation for stilistic purposes.
isa MORPH RULE
[372]

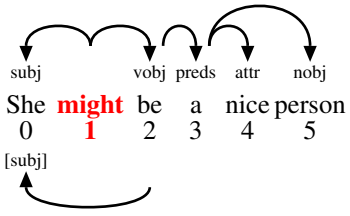
RuleOblAdv *Valency-bound adverbial* (long: "@"ADVERB). An adverbial relation can be marked as obligatory by putting "@" in front of the relation name.
isa COMP RULE
[370]
Related types: cont dir dur ext hab loc prec succ time.



RuleOr *Disjunctive either-or type* (long: (REL)"|"(REL)). Disjunctive either-or relation types can be formed as "|"-separated lists of relation types. Disjunctive relations types are used by the annotators when one of the relation types in the disjunction seems to provide the right label for the relation, but it is difficult to decide which one of them is most appropriate. They may be removed from later versions of the CDT treebanks.
isa RULE
[365]

RulePar *Disambiguated type* (long: "("(REL)")"). Relation types can be disambiguated by enclosing them in parentheses. The need for disambiguation normally only arises when specifying conjunctive or disjunctive types.
isa RULE
[366]

RuleSec *Secondary relation pattern* (long: "["PRIM"]"). A secondary relation name is formed by enclosing a primary relation name in square brackets.
isa RULE SEC
[368]
Related types: SEC.



Chapter 10

Ontological relations: ONTO

ONTO: ontology level
  ONTOCLASS: ontological class
    _top: ontological entity
      _abstract: abstract entity
      _concrete: concrete entity

Figure 10.1: The relations matching ONTO-!CDT1-TOPIC.

ONTO
isa DIM:LEVEL
[13]
Ontology level (long: ONTOLOGY). The ontological level includes relations between lexical elements construed as ontological units, as well as lexical features associated with ontological units.

Subtypes: ONTOCLASS.

ONTOCLASS
isa FEAT ONTO
[459]
Ontological class. A class in the ontology. The ontology encodes a classification of all lexical elements with respect to their natural kind.

Subtypes: _top.

_top
isa ONTOCLASS
[460]
Ontological entity.

Subtypes: _abstract _concrete.

_abstract
isa _top
[461]
Abstract entity.

_concrete
isa _top
[462]
Concrete entity.

Chapter 11

Deprecated relations from DDT: CDT1

CDT1: Deprecated CDT1 relations
- CDT1ADJ: Deprecated CDT1 adjunct relations
  - err: Deprecated error relation.
  - list: Deprecated list element.
  - mod: modifier/adverbial
    - modo: object-oriented modifier
    - modp: parenthetic modifier
    - modr: restrictive modifier
  - mods:
  - obl:
  - rep:
- CDT1COMP: Deprecated CDT1 complement relations
  - lobj: Deprecated locative object.
  - tobj: Deprecated temporal object.
- CDT1GAP: Deprecated CDT1 gap relations
  - <avobj>:
  - <dobj>:
  - <lobj>:
  - <mod>:
  - <nobj>:
  - <pobj:nobj>:
  - <pobj>:
  - <possd>:
  - <pred>:
  - <qobj>:
  - <subj:pobj>:
  - <subj>:
  - <vobj>:
  - <xpl>:

Figure 11.1: The relations matching CDT1.

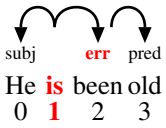
CDT1 *Deprecated CDT1 relations.* Deprecated relations from the CDT1+2 treebanks.
isa ANY
[394]
Subtypes: CDT1ADJ CDT1COMP CDT1GAP.

CDT1ADJ *Deprecated CDT1 adjunct relations.* Deprecated adjunct relations from the CDT1+2 tree-
isa CDT1 SYNADJ
[396]

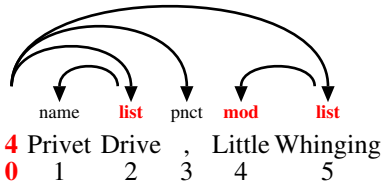
banks.

Subtypes: err list mod mods obl rep.

err isa CDT1ADJ [401] *Deprecated error relation.*. Deprecated error relation. Used when connecting two phrases that do not fit together, often because of errors in the text.



list isa CDT1ADJ [400] *Deprecated list element.*. Deprecated list element. Used when two or more phrases form a unit, but the internal structure is hard to analyze with the existing set of relations (eg, addresses, phone numbers, etc). The secondary elements are analyzed as list adjuncts of the first element.



mod isa CDT1ADJ [420] *Modifier/adverbial.* Deprecated name for adverbials

Subtypes: modo modp modr.

modo isa mod [423] *Object-oriented modifier.* Deprecated name for object-oriented modifiers

modp isa mod [422] *Parenthetic modifier.* Deprecated name for parenthetic modifiers

Related types: {elab}.

modr isa mod [421] *Restrictive modifier.* Deprecated name for restrictive modifiers

mods isa CDT1ADJ [403] .

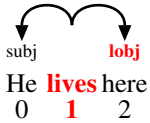
obl isa CDT1ADJ [402] .

rep isa CDT1ADJ [404] .

CDT1COMP isa CDT1 SYNCOMP [395] *Deprecated CDT1 complement relations.* Deprecated complement relations from the CDT1+2 treebanks.

Subtypes: lobj tobj.

lobj isa CDT1COMP [398] *Deprecated locative object.*. Deprecated locative object.



tobj *Deprecated temporal object.*. Deprecated temporal object.
isa CDT1COMP
[399]

CDT1GAP *Deprecated CDT1 gap relations.* Deprecated gapping relations from the CDT1+2 treebanks.
isa CDT1 gapd
[397]

Subtypes: <avobj> <dobj> <lobj> <mod> <nobj> <pobj:nobj> <pobj> <possd> <pred> <qobj> <subj:pobj> <subj> <vobj> <xpl>.

<avobj> .
isa CDT1GAP
[418]

<dobj> .
isa CDT1GAP
[407]

<lobj> .
isa CDT1GAP
[411]

<mod> .
isa CDT1GAP
[405]

<nobj> .
isa CDT1GAP
[409]

<pobj:nobj> .
isa CDT1GAP
[417]

<pobj> .
isa CDT1GAP
[410]

<possd> .
isa CDT1GAP
[412]

<pred> .
isa CDT1GAP
[406]

<qobj> .
isa CDT1GAP
[413]

<subj:pobj> .
isa CDT1GAP
[415]

<subj> .
isa CDT1GAP
[408]

<vobj> .
isa CDT1GAP
[414]

<xpl> .
isa CDT1GAP
[415]

Chapter 12

Relations misplaced outside the ANY hierarchy

MISPLACED: misplaced relation
_interfix:

Figure 12.1: The relations matching -ANY.

MISPLACED [6] *Misplaced relation.* A misplaced relation. A relation is misplaced if it fails to have ”ANY” as a transitive super type. This should never happen, and the problem must be corrected if a misplaced relation shows up in the misplaced relations table.

_interfix [277] .

Chapter 13

Annotation topics:: TOPIC

TOPIC: annotation topic
- %ALIGN: Alignment constructions
- %DISC: Discourse constructions
  - %DISC:ANAPHORA:
- %MORPH: Morphological constructions
- %SEM: Semantic constructions
- %SYN: Syntactic constructions
  - %SYN:FPRED: Free Predicatives
  - %SYN:NP: Complex NP constructions
    - %SYN:NP:CP: Compounds
    - %SYN:NP:GEN: Genitive NP constructions
    - %SYN:NP:MOD: NP-modifiers
      - %SYN:NP:MOD:ADJ: Adjectives modifying a NP construction
      - %SYN:NP:MOD:ADV: Adverbial modifying a NP construction
    - %SYN:NP:RELN: NP constructions with relational nouns
    - %SYN:NP:VRN: NP constructions with verb-related nouns
  - %SYN:PP: PP constructions
  - %SYN:VP: VP constructions
    - %SYN:VP:PREDS: VP constructions with subject predicative
    - %SYN:VP:VOBJ: VP constructions with a verbal object

Figure 13.1: The relations matching TOPIC-DIM.

TOPIC isa ANY [5] *Annotation topic.* A topic in the annotation guidelines. A topic describes how a particular linguistic construction is annotated in the treebanks, as an aid for the annotators and human users of the CDT treebanks. If a linguistic relation is very closely associated to one or more topics (eg, "gobj" for genitive constructions), the topics should be added as super types for the relation, so that the relations and the topics are properly linked in the annotation manual.

Subtypes: %ALIGN %DISC %MORPH %SEM %SYN.

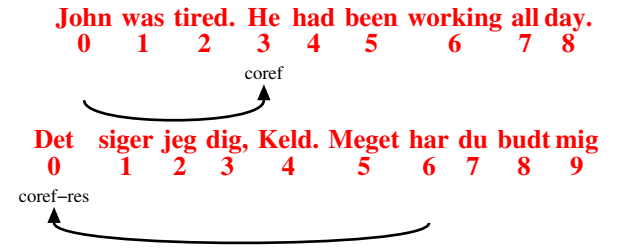
%ALIGN isa TOPIC [456] *Alignment constructions* (long: %alignment).

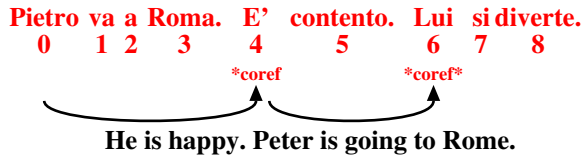
%DISC isa TOPIC [434] *Discourse constructions* (long: %discourse).

Subtypes: %DISC:ANAPHORA.

%DISC:ANAPHORA isa %DISC [456] (long: %anaphora). In the annotation of anaphors, the anaphor is dependent on the antecedent (see example). In the annotation of cataphors, the cataphor is dependent on the postcedent (see example). Cataphors are annotated with the same relations as anaphors.

In the Romance languages it is common to have finite verbs without any subjects. Secondary subject relations are added a "*" in front of the "[subj]" relation. The implicit subject in the finite verb is annotated as "*coref" when the subject is the antecedent, "*coref*" when the subject is the anaphor, and "coref*" when the subject is a cataphor. "$*coref" is used when no subject is explicited neither before nor after, i.e. when the finite verb refers to the reader/writer (Volvemos al debate sobre...)





%MORPH
isa TOPIC
[433]

Morphological constructions (long: %morphology). Some of the results of the meeting held on 17.06.10. These are the new principles of how to annotate complex compounds and words containing interfixes or another nuclearity change

sommerhuskøbsaftale|cottage deed

aftal +e/DERvn:patient –[køb@V /DERvn:core [hus –sommer/TIME]/DOBJ.patient]s/ABOUT
0 1 2 3 4 5
aftaler disappeared

aftal +e/DERvn:core ~r
0 1 2
drab|kill

aftal +e/DERvn:core ~n
0 1 2

appear –dis/NEG:rev ~ed
0 1 2
blegne|fade

dræb !!ab/DERvn:core
0 1

foreslå !!!!slag/DERvn:core ~et
0 1 2
compra|purchase

bleg +ne/DERav
0 1

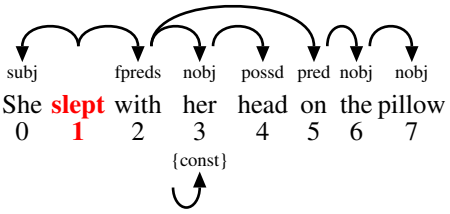
comprar !! +a/DERvn:core
0 1 2

salud ^a +ble/DERna:epi –title=saludable // iraq ^u +í/DERna:deono.loc
healthy
0 1 2 3 4 5 6 7
X (!*)(interfix)?(suffix)?
0 1

%SEM *Semantic constructions* (long: %semantics).
isa TOPIC
[435]

%SYN *Syntactic constructions* (long: %syntax).
isa TOPIC
[432]
Subtypes: %SYN:FPRED %SYN:NP %SYN:PP %SYN:VP.

%SYN:FPRED *Free Predicatives* (long: %freepredicatives).
isa %SYN
[452]



%SYN:NP *Complex NP constructions* (long: %np). A detailed description of how different complex NP constructions are annotated. En general, all complex NP constructions have a syntactic as well a semantic annotation.
isa %SYN
[437]
Subtypes: %SYN:NP:CP %SYN:NP:GEN %SYN:NP:MOD %SYN:NP:RELN %SYN:NP:VRN.

example1 example2
0 0

%SYN:NP:CP *Compounds* (long: %np_compounds).
isa %SYN:NP
[443]

%SYN:NP:GEN *Genitive NP constructions* (long: %genitives). In genitive constructions (X's Y) the dependent (Y) is always annotated as "possd" in the syntactic annotation. In the semantic annotation X is analysed as the dependent and the semantic relation annotated depends on the type of noun or entity represented by Y. The "s" functions as a determiner, thus attributives are annotated as dependents to the X, with the exception of compounds of the type [Adj. ø N]# (Lotte's green card) Genitive constructions with verb-related nouns: Genitive constructions with relational nouns: Other genitive constructions:
isa %SYN:NP
[444]

%SYN:NP:MOD *NP-modifiers* (long: %np_modifiers).
isa %SYN:NP
[438]
Subtypes: %SYN:NP:MOD:ADJ %SYN:NP:MOD:ADV aobj attr.

%SYN:NP:MOD:ADJ *Adjectives modifying a NP construction* (long: %np_adjectives). Adjectives modifying a NP construction are annotated using the syntactic label "attr" when the adjective functions as a syntactic adjunct, or "aobj" when the adjective modifies a verb-related or relational noun. In the analysis of Germanic languages, the adjective is analysed as a dependent of the pronoun where it is present, and as a dependent of the noun otherwise, whereas in the analysis of Romanic languages the adjective is always analysed as a dependent of the noun. However, when forming part of a compound of the type [Adj. ø N#] (e.g. "high school") the adjective is always analysed as dependent on the noun. In the case of relational adjectives, the semantic
isa %SYN:NP:MOD
[439]

relation between the noun and adjective is also annotated. In the semantic annotation, the adjective is always analysed as a dependent of the noun.

%SYN:NP:MOD:ADV *Adverbial modifying a NP construction* (long: %np_adverbials).
isa %SYN:NP:MOD

%SYN:NP:RELN [444] *NP constructions with relational nouns* (long: %np_relational).
isa %SYN:NP

%SYN:NP:VRN [443] *NP constructions with verb-related nouns* (long: %np_deverbal).
isa %SYN:NP

%SYN:PP [449] *PP constructions* (long: %pp). When the complement in a PP consists of a noun or a pronoun
isa %SYN the complement is annotated as "nobj". In the Romance languages, when an infinit verb
[450] functions as the complement of a preposition, the infinite is annotated as "vobj". In English, where the preposition can take an "ing-form" of the verb as it's complement, the verb is annotated as "nobj". In Danish, a preposition can take an infinitive with an infinitive marker as is complement. In these constructions the infinitive marker "at" is annotated as "nobj" (complement) to the preposition and the infinitive as "vobj" to the infinitive marker.

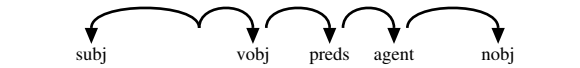
%SYN:VP *VP constructions* (long: %vp).
isa %SYN Subtypes: %SYN:VP:PREDS %SYN:VP:VOBJ.
[447]

%SYN:VP:PREDS *VP constructions with subject predicative* (long: %subjectpredicatives). Passive sentences The
isa %SYN:VP participle in passive sentences (e.g. The book is printed in Copenhagen) is always annotated
[448] as "preds". In Danish passive sentences with compound tense (er/var blevet) "blevet" is annotated as vobj to the finite verb and the participle as preds to "blevet" (example 2). Note that the Danish verb "være" can also be used in passive sentences with transitive verbs, probably as a variant of "være +blevet" (example 3: Bogen er (blevet) trykt i København). In this case the participle is annotated as preds according to the annotation of participles in passive sentences with the verb "blive". In italian passive sentences with compound tense, "stata/stato" is annotated as vobj to the finite verb in spite of it's concord inflection, whereas the participle following "stata/stato" is annotated as preds (example 4) This annotation of the passive sentences allows direct and indirect complements as well as adjuncts (e.g. "agent"-adverbs) to be analysed as dependent on the subject predicative.

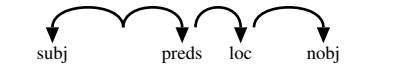
Special constructions with free predicatives (example) (Hun skjulte med en rødmen i kinderne ansigtet i sin hænder; Han arbejdede med hænderne i lommen)
Related types: %SYN:VP:VOBJ.

1. The Government was beaten by the Opposition

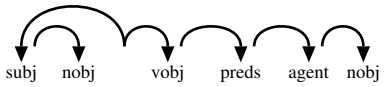
2. The Government has been beaten by the Opposition

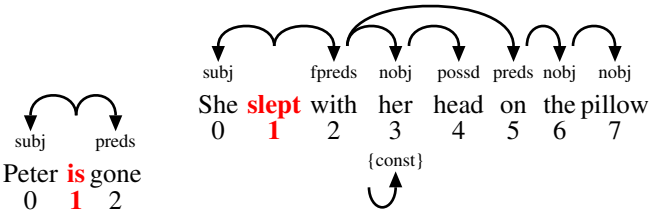


3. The book is printed in Copenhagen



4. The door has been opened by Luisa





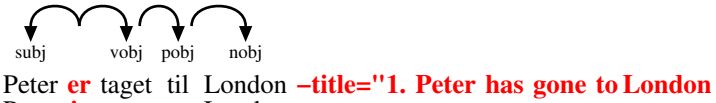
%SYN:VP:VOBJ isa %SYN:VP [449]

VP constructions with a verbal object (long: %verbalobjects). In compound tenses the infinite verb(s) are annotated as vobj.Note that in Danish, both the verb "have" and "være" are used as an auxiliary verb in the compound tenses. The verb "være" is used as an auxiliary verb in constructions with intransitive verbs of movement.Normally the verb "være" takes a subject complement or predicative, but when used as an auxiliary verb, the participle is annotated as vobj and not preds (example 1). In italian passive sentences with compound tense, "stata/stato" is annotated as vobj to the finite verb in spite of it's concord inflection, whereas the participle following "stata/stato" is annotated as preds (example 2) (see also %SYN:VP:PREDS)

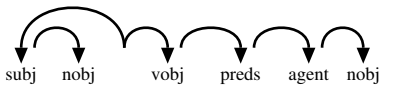
In verbal periphrases with copula verbs (e.g. English: be +x-ing; Spanish: estar +gerund) the infinite verb is annotated as vobj to the finite verb.

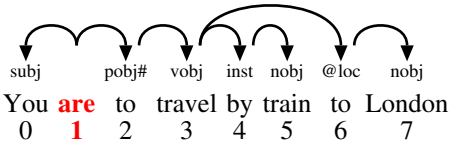
Special constructions (see examples) English: obligation/future: "you are to..." (see example) "#" marks the periphrastic nature of the verbal. (0152: Now muscles were to be used)

Related types: %SYN:VP:PREDS.



2. The door has been opened by Luisa





Appendix A

Overview tables

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

ANY: formal top node
- CDT1: Deprecated CDT1 relations
- DIM: dimension
  - DIM:LEVEL: dimension: linguistic level
  - DIM:TYPE: dimension: annotation type
- RULE: generative type specification rule
- TOPIC: annotation topic

The relations matching ANY-!DIM:LEVEL-!DIM:TYPE-!RULE-!TOPIC-!CDT1.

DIM:LEVEL: dimension: linguistic level
- ALIGN: alignment level
- ANA: anaphor level
- DISC: discourse level
- MORPH: morphology level
- ONTO: ontology level
- SEM: semantic level
- SYN: syntax level

The relations matching
DIM:LEVEL-!SYNTAX-!MORPH-!DISC-!ANA-!SEM-!ALIGN-!ONTO-!RULE-!TOPIC-!CDT1.

DIM:TYPE: dimension: annotation type
    FEAT: lexical feature
    REL: directed bilexical relation
        IDIOM: idiomatic relation
            RuleIdiom: idiomatic relation pattern
        LAND: landing relation
            fill: licensed filler
            land: landed lexical element
        PRIM: primary dependency relation
            +: segment concatenation
            ADJ: adjunct relation
            COMP: complement relation
                RuleOblAdv: valency-bound adverbial
        SEC: secondary dependency relation
            RuleSec: secondary relation pattern
            repl: replacement in gapping coordination

The relations matching
DIM:TYPE-!SYNTAX-!MORPH-!DISC-!ANA-!SEM-!ALIGN-!ONTO-!TOPIC-!CDT1.

SYN: syntax level
    SYNADJ: syntactic adjunct
    SYNCOMP: syntactic complement

The relations matching SYNTAX-!SYNCOMP-!SYNADJ-!CDT1-TOPIC.

SYNCOMP: syntactic complement
- @space: valency-bound location/direction adverbial
- @time: valency-bound time adverbial
- 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-!CDT1-TOPIC.

SYNADJ: syntactic adjunct
- ADVERB: adverbial
- app: apposition
  - appa: parenthetic apposition (comma)
    - xpl: explication
  - appr: restrictive apposition (no comma)
- 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
- gapd: gapping dependent
  - RuleGap: gapping dependent
- 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-!CDT1-!ADVERB-TOPIC.

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

The relations matching ADVERB-!CDT1-TOPIC.

MORPH: morphology level
- MORPHCOMP: compositional semantic relations
- MORPHDERIV: derivational semantic relations
- RuleMorph: syntactic morphlogy relation

The relations matching MORPH-!CDT1-!MORPHCOMP-!MORPHDERIV-TOPIC.

MORPHCOMP: compositional semantic relations
- _ABOUT: noun-noun compound (about)
- _AGENT:MC: noun-noun compound (agentive)
- _CONST: noun-noun compound (constitutive)
- _DOBJ.patient:
- _EVAL: noun-noun compound (evaluative)
- _FUNC: noun-noun compound (function)
- _GOAL: noun-noun compound (goal)
- _LOC: noun-noun compound (position)
- _OTHER: noun-noun compound (other)
- _POSS: noun-noun compound (possession)
- _RESEM: noun-noun compound (resemblance)
- _SOURCE: noun-noun compound (origin)
- _TIME:MC: noun-noun compound (time)

The relations matching MORPHCOMP-!CDT1-TOPIC.

MORPHDERIV: derivational semantic relations
- PREFIX: semantic relations appearing with prefixes
- SUFFIX: semantic relations appearing with suffixes

The relations matching MORPHDERIV-!CDT1-!PREFIX-!SUFFIX-TOPIC.

PREFIX: semantic relations appearing with prefixes
- _AGENT: agentive
- _ITER: iteration
- _MOD: modification
  - _MOD:eval: evaluation
  - _MOD:qual: qualification
  - _MOD:quant: quantification
- _NEG: negation
  - _NEG:contr: contrast
  - _NEG:priv: privation
  - _NEG:rev: reversion
- _PRE:other: other prefix relation
- _SPACE: space
  - _SPACE:dir: direction
  - _SPACE:loc: location
  - _SPACE:source: source
- _TELIC: telic
- _TIME: time
  - _TIME:post: temporal succession
  - _TIME:pre: temporal precedence
- _TRANS: transitivity

The relations matching PREFIX-!CDT1-TOPIC.

SUFFIX: semantic relations appearing with suffixes
- _AUG: augmentation
- _DENUM: adjective-numeral derivation
  - _DENUM:apart: adjective-partitive derivation
  - _DENUM:ord: adjective-ordinal derivation
  - _DENUM:quant: adjective-multiplicative derivation
- _DER: verb derivation
  - _DERadvv: adverb-verb derivation
  - _DERav: adjective-verb derivation
  - _DERnv: noun-verb derivation
  - _DERva: verb-adjective derivation
    - _DERva:act: verb-adjective derivation (pure)
      - _DERva:act.disp: verb-adjective derivation (disposition)
      - _DERva:act.epi: verb-adjective derivation (potentiality)
    - _DERva:pas: verb-adjective derivation (passive)
      - _DERva:pas.deon: verb-adjective derivation (passive deontic)
      - _DERva:pas.epi: verb-adjective derivation (passive potentiality)
      - _DERva:pas.part: verb-adjective derivation (passive participles)
  - _DERvn: verb-noun derivation
    - _DERvn:agent: verb-noun derivation (agent)
    - _DERvn:core: verb-noun derivation (core)
    - _DERvn:exper: verb-noun derivation (experiencer)
    - _DERvn:loc: verb-noun derivation (location)
    - _DERvn:other: verb-noun derivation (other)
    - _DERvn:patient: verb-noun derivation (patient)
    - _DERvn:recip: verb-noun derivation (recipient)
  - _DERvv: verb-verb derivation
- _DERan:qual: adjective derivation
- _DERna: noun-adjective derivation
  - _DERna:deono: noun-adjective derivation (naming)
    - _DERna:deono.loc: noun-adjective derivation (naming places)
    - _DERna:deono.pers: noun-adjective derivation (naming persons)
  - _DERna:disp: noun-adjective derivation (disposition)
  - _DERna:other: noun-adjective derivation (other)
  - _DERna:poss: noun-adjective derivation (possession)
  - _DERna:rel: noun-adjective derivation (relational)
  - _DERna:resem: noun-adjective derivation (resemblance)
  - _DERna:telic: noun-adjective derivation (effect)
- _DERnn: noun-noun derivation
  - _DERnn:agent: noun-noun derivation (agent)
  - _DERnn:assoc: noun-noun derivation (association)
  - _DERnn:capac: noun-noun derivation (capacity)
  - _DERnn:cont: noun-noun derivation (container)
  - _DERnn:loc: noun-noun derivation (location)
  - _DERnn:other: noun-noun derivation (other)
  - _DERnn:quant: noun-noun derivation (quantification)
  - _DERnn:telic: noun-noun derivation (telic)
  - _DERnn:time: noun-noun derivation (time)
- _DERv:
- _DIMIN: diminution
- _PEJ: pejoration

The relations matching SUFFIX-!CDT1-TOPIC.

DISC: discourse level
- DISCOTHER: other discourse relations
  - JOINT: no clear relation
  - REP: repaired
  - SCENE: scene
- DISCPRAG: pragmatic and illocutionary discourse relations
- DISCSEM: semantic discourse relations
- RuleDisc: syntactic discourse relation

The relations matching DISC-!CDT1-!DISCFUNC-!DISCSEM-TOPIC.

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

The relations matching DISCFUNC-!CDT1-TOPIC.

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

The relations matching DISCSEM-!CDT1-TOPIC.

ANA: anaphor level
- ANAREL: anaphor-antecedent relation
- anaphor:
  - assoc: associative anaphor
  - coref: coreference

The relations matching ANA-!CDT1-!coref-!assoc-TOPIC.

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

The relations matching coref-!CDT1-TOPIC.

assoc: associative anaphor
- assoc-OTHER: other anaphoric relations
  - assoc-event: associative anaphor (event)
  - assoc-loc: associative anaphor (location)
  - assoc-time: associative anaphor (time)
- assoc-QUALIA: associative anaphor wrt. qualia
  - assoc-agentive: associative anaphor (agentive)
    - assoc-agentive.agent: associative anaphor (agentive-agent)
    - assoc-agentive.inst: associative anaphor (agentive-inst)
  - assoc-const: associative anaphor (constitutive)
  - assoc-formal: associative anaphor (formal)
  - assoc-telic: associative anaphor (telic)
    - assoc-telic.agent: associative anaphor (telic-agent)
    - assoc-telic.exper: associative anaphor (telic-experiencer)
    - assoc-telic.inst: associative anaphor (telic-instrument)
    - assoc-telic.patient: associative anaphor (telic-patient)
    - assoc-telic.rec: associative anaphor (telic-recipient)
- assoc-SEMROLE: associative anaphor wrt. semantic role
  - assoc-agent: associative anaphor (agent)
  - assoc-exper: associative anaphor (experiencer)
  - assoc-inst: associative anaphor (instrument)
  - assoc-patient: associative anaphor (patient)
  - assoc-rec: associative anaphor (recipient)

The relations matching assoc-!CDT1-TOPIC.

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

The relations matching SEM-!CDT1-!QUALIA-!SEMROLE-TOPIC.

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

The relations matching QUALIA-!CDT1.

The relations matching SEMROLE-!CDT1.

ALIGN: alignment level
    ALIGNREL: alignment relation
        "": unlabeled word alignment
        f: fuzzy word alignment

The relations matching ALIGN-!CDT1-TOPIC.

RULE: generative type specification rule
    ""QUALIA: resemblance wrt. $qualia relation
    RuleAnd: conjunctive both-and type
    RuleAttr: attribution
    RuleAttrD: down-dependent in attribution
    RuleAttrH: down-head in attribution
    RuleDisc: syntactic discourse relation
    RuleExpConn: explicit connector
    RuleGap: gapping dependent
    RuleIdiom: idiomatic relation pattern
    RuleImpConn: implicit connector
    RuleMorph: syntactic morphlogy relation
    RuleOblAdv: valency-bound adverbial
    RuleOr: disjunctive either-or type
    RulePar: disambiguated type
    RuleSec: secondary relation pattern

The relations matching RULE-!CDT1-TOPIC.

ONTO: ontology level
    ONTOCLASS: ontological class
        _top: ontological entity
            _abstract: abstract entity
            _concrete: concrete entity

The relations matching ONTO-!CDT1-TOPIC.

```
CDT1: Deprecated CDT1 relations
    CDT1ADJ: Deprecated CDT1 adjunct relations
        err: Deprecated error relation.
        list: Deprecated list element.
        mod: modifier/adverbial
            modo: object-oriented modifier
            modp: parenthetic modifier
            modr: restrictive modifier
        mods:
        obl:
        rep:
    CDT1COMP: Deprecated CDT1 complement relations
        lobj: Deprecated locative object.
        tobj: Deprecated temporal object.
    CDT1GAP: Deprecated CDT1 gap relations
        <avobj>:
        <dobj>:
        <lobj>:
        <mod>:
        <nobj>:
        <pobj:nobj>:
        <pobj>:
        <possd>:
        <pred>:
        <qobj>:
        <subj:pobj>:
        <subj>:
        <vobj>:
        <xpl>:
```

The relations matching CDT1.

```
MISPLACED: misplaced relation
_interfix:
```

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.
- *Full labeled agreement A:* the probability that another annotator assigns the same label and out-node to the relation.
- *Unlabeled agreement A_U:* the probability that another annotator assigns the same out-node (but not necessarily label) to the relation.
- *Label agreement A_L:* the probability that another annotator assigns the same label (but not necessarily out-node) to the relation.
- *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.

Agreement is computed differently for morphology than for the other linguistic levels (by comparing label sequences), and the scores for morphology are therefore used differently: in particular, $A = A_L$ always denotes the probability that the other annotator selects the same label in the sequence of labels (but no claim about outnode), and $A_U = 100\%$ always because out-nodes cannot be compared.

B.1 Confusion table: syntax

R	N	A/A_U/A_L	Confusion list
att	1	100/100/100%	$\text{att}_{100\%}$
namel	8	100/100/100%	$\text{namel}_{100\%}$
numm	12	100/100/100%	$\text{numm}_{100\%}$
voc	3	100/100/100%	$\text{voc}_{100\%}$
xtop	4	100/100/100%	$\text{xtop}_{100\%}$
subj	1172	98/99/99%	$\text{subj}_{99\%}$ $\text{nobj}_{0\%}$ $\text{expl}_{0\%}$ $\text{preds}_{0\%}$ $\text{attr}_{0\%}$ $\text{appr}_{0\%}$ $\text{correl}_{0\%}$ $\text{CONJ:elab}_{0\%}$
namef	146	98/98/100%	$\text{namef}_{100\%}$
possd	240	96/97/98%	$\text{possd}_{98\%}$ $\text{nobj}_{1\%}$ $\text{attr}_{0\%}$ $\text{pnct}_{0\%}$

nobj	2782	95/98/96%	nobj$_{96\%}$ attr$_{1\%}$ dobj$_{0\%}$ aobj$_{0\%}$ vobj$_{0\%}$ preds$_{0\%}$ name$_{0\%}$ time$_{0\%}$ subj$_{0\%}$ pobj$_{0\%}$ conj$_{0\%}$ pnct$_{0\%}$ possd$_{0\%}$ other$_{0\%}$ title$_{0\%}$ loc$_{0\%}$ numa$_{0\%}$ quant$_{0\%}$ cond$_{0\%}$ appr$_{0\%}$
neg	105	94/98/96%	neg$_{96\%}$ add$_{1\%}$ time$_{1\%}$ coord$_{1\%}$ eval$_{1\%}$
dobj	726	94/98/95%	dobj$_{95\%}$ nobj$_{2\%}$ pobj$_{1\%}$ robj$_{1\%}$ iobj$_{1\%}$ preds$_{0\%}$ goal$_{0\%}$ pnct$_{0\%}$ predo$_{0\%}$ dir$_{0\%}$ quant$_{0\%}$ vobj$_{0\%}$
pnct	1799	93/93/99%	pnct$_{99\%}$ nobj$_{0\%}$ vobj$_{0\%}$ dobj$_{0\%}$ conj$_{0\%}$ attr$_{0\%}$ possd$_{0\%}$ appr$_{0\%}$
conj	552	92/93/95%	conj$_{95\%}$ CONJ:add$_{1\%}$ qobj$_{1\%}$ nobj$_{1\%}$ attr$_{1\%}$ CONTR:sbj$_{0\%}$ CONTR:dir$_{0\%}$ CONST:rest$_{0\%}$ TELIC:cons.dir$_{0\%}$ coord$_{0\%}$ cause$_{0\%}$ vobj$_{0\%}$ xpl$_{0\%}$ pnct$_{0\%}$
coord	400	92/97/93%	coord$_{93\%}$ discmark$_{5\%}$ qobj$_{1\%}$ contr$_{1\%}$ conj$_{0\%}$ neg$_{0\%}$
expl	60	92/100/92%	expl$_{92\%}$ subj$_{8\%}$
vobj	893	92/99/93%	vobj$_{93\%}$ preds$_{5\%}$ nobj$_{1\%}$ pnct$_{0\%}$ relr$_{0\%}$ predo$_{0\%}$ rel$_{0\%}$ conj$_{0\%}$ dobj$_{0\%}$ fpreds$_{0\%}$
appa	27	89/89/100%	appa$_{100\%}$
appr	36	89/94/89%	appr$_{89\%}$ nobj$_{3\%}$ pnct$_{3\%}$ title$_{3\%}$ subj$_{3\%}$
xpl	18	89/100/89%	xpl$_{89\%}$ conj$_{6\%}$ other$_{6\%}$
title	30	87/90/87%	title$_{87\%}$ nobj$_{10\%}$ appr$_{3\%}$
cond	30	83/90/90%	cond$_{90\%}$ nobj$_{3\%}$ man$_{3\%}$ time$_{3\%}$
quant	153	80/94/82%	quant$_{82\%}$ attr$_{3\%}$ man$_{3\%}$ other$_{3\%}$ eval$_{2\%}$ prg$_{1\%}$ time$_{1\%}$ avobj$_{1\%}$ degr$_{1\%}$ nobj$_{1\%}$ elab$_{1\%}$ dobj$_{1\%}$
numa	5	80/100/80%	numa$_{80\%}$ nobj$_{20\%}$
cause	48	79/88/88%	cause$_{88\%}$ attr$_{4\%}$ conj$_{2\%}$ time$_{2\%}$ cons$_{2\%}$ pobj$_{2\%}$
part	19	79/100/79%	part$_{79\%}$ avobj$_{11\%}$ other$_{5\%}$ dir$_{5\%}$
preds	430	79/99/79%	preds$_{79\%}$ vobj$_{11\%}$ predo$_{3\%}$ loc$_{3\%}$ nobj$_{1\%}$ time$_{1\%}$ dobj$_{1\%}$ subj$_{1\%}$ aobj$_{1\%}$ pobj$_{1\%}$ fpredo$_{0\%}$ inst$_{0\%}$ resem$_{0\%}$
pobj	588	79/94/79%	pobj$_{79\%}$ attr$_{8\%}$ goal$_{2\%}$ other$_{2\%}$ dir$_{2\%}$ agent$_{1\%}$ dobj$_{1\%}$ loc$_{1\%}$ nobj$_{1\%}$ source$_{1\%}$ preds$_{0\%}$ inst$_{0\%}$ avobj$_{0\%}$ man$_{0\%}$ cause$_{0\%}$ accom$_{0\%}$
attr	987	78/90/82%	attr$_{82\%}$ pobj$_{5\%}$ nobj$_{4\%}$ loc$_{2\%}$ other$_{2\%}$ time$_{1\%}$ aobj$_{1\%}$ quant$_{1\%}$ focal$_{0\%}$ goal$_{0\%}$ man$_{0\%}$ conj$_{0\%}$ cause$_{0\%}$ prg$_{0\%}$ relr$_{0\%}$ predo$_{0\%}$ dir$_{0\%}$ pnct$_{0\%}$ iter$_{0\%}$ conc$_{0\%}$ name$_{0\%}$ scene$_{0\%}$ subj$_{0\%}$ possd$_{0\%}$ inst$_{0\%}$ agent$_{0\%}$
qobj	70	76/76/76%	qobj$_{76\%}$ conj$_{7\%}$ coord$_{7\%}$ discmark$_{3\%}$ CONJ:add$_{2\%}$ CONJ:elab$_{1\%}$ CONST:rest$_{1\%}$ AGENTIVE:reas$_{1\%}$
add	59	75/100/75%	add$_{75\%}$ other$_{12\%}$ discmark$_{5\%}$ scene$_{3\%}$ prg$_{2\%}$ correl$_{2\%}$ neg$_{2\%}$
time	245	74/90/79%	time$_{79\%}$ attr$_{5\%}$ iter$_{5\%}$ nobj$_{2\%}$ preds$_{1\%}$ cons$_{1\%}$ man$_{1\%}$ prg$_{1\%}$ quant$_{1\%}$ event$_{1\%}$ cause$_{0\%}$ neg$_{0\%}$ eval$_{0\%}$ cond$_{0\%}$ scene$_{0\%}$ loc$_{0\%}$ other$_{0\%}$
exem	14	71/79/93%	exem$_{93\%}$ ex$_{7\%}$
iobj	24	71/100/71%	iobj$_{71\%}$ dobj$_{21\%}$ robj$_{8\%}$
name	27	70/78/74%	name$_{74\%}$ nobj$_{22\%}$ attr$_{4\%}$
avobj	34	68/97/68%	avobj$_{68\%}$ other$_{12\%}$ part$_{6\%}$ quant$_{6\%}$ aobj$_{3\%}$ loc$_{3\%}$ pobj$_{3\%}$
eval	47	57/94/60%	eval$_{60\%}$ prg$_{15\%}$ quant$_{6\%}$ epi$_{4\%}$ other$_{4\%}$ iter$_{2\%}$ time$_{2\%}$ focal$_{2\%}$ man$_{2\%}$ neg$_{2\%}$
man	106	56/89/61%	man$_{61\%}$ accom$_{7\%}$ attr$_{4\%}$ quant$_{4\%}$ other$_{4\%}$ time$_{3\%}$ inst$_{3\%}$ epi$_{2\%}$ fpreds$_{2\%}$ source$_{1\%}$ prg$_{1\%}$ dir$_{1\%}$ aobj$_{1\%}$ eval$_{1\%}$ cond$_{1\%}$ concom$_{1\%}$ scene$_{1\%}$ fpredo$_{1\%}$ goal$_{1\%}$ resem$_{1\%}$ pobj$_{1\%}$

correl	9	56/78/56%	correl$_{56\%}$ add$_{11\%}$ other$_{11\%}$ focal$_{11\%}$ subj$_{11\%}$
scene	31	55/94/58%	scene$_{58\%}$ add$_{7\%}$ goal$_{7\%}$ contr$_{7\%}$ loc$_{7\%}$ time$_{3\%}$ attr$_{3\%}$ man$_{3\%}$ other$_{3\%}$ inst$_{3\%}$
loc	218	54/93/56%	loc$_{56\%}$ dir$_{13\%}$ attr$_{9\%}$ preds$_{6\%}$ other$_{6\%}$ pobj$_{3\%}$ inst$_{1\%}$ nobj$_{1\%}$ scene$_{1\%}$ focal$_{1\%}$ event$_{1\%}$ fpredo$_{1\%}$ time$_{1\%}$ avobj$_{1\%}$
cons	14	50/86/64%	cons$_{64\%}$ time$_{21\%}$ inst$_{7\%}$ cause$_{7\%}$
elab	4	50/75/50%	elab$_{50\%}$ prg$_{25\%}$ quant$_{25\%}$
epi	14	50/93/57%	epi$_{57\%}$ man$_{14\%}$ other$_{14\%}$ eval$_{14\%}$
focal	31	45/65/61%	focal$_{61\%}$ attr$_{13\%}$ other$_{10\%}$ loc$_{7\%}$ aobj$_{3\%}$ correl$_{3\%}$ eval$_{3\%}$
contr	22	41/100/41%	contr$_{41\%}$ discmark$_{18\%}$ conc$_{14\%}$ coord$_{9\%}$ scene$_{9\%}$ prg$_{5\%}$ other$_{5\%}$
dir	74	41/96/41%	dir$_{41\%}$ loc$_{39\%}$ pobj$_{12\%}$ other$_{3\%}$ man$_{1\%}$ part$_{1\%}$ attr$_{1\%}$ dobj$_{1\%}$
agent	15	40/100/40%	pobj$_{53\%}$ agent$_{40\%}$ attr$_{7\%}$
aobj	31	39/71/39%	aobj$_{39\%}$ nobj$_{23\%}$ attr$_{23\%}$ preds$_{7\%}$ man$_{3\%}$ avobj$_{3\%}$ focal$_{3\%}$
conc	13	39/92/39%	conc$_{39\%}$ contr$_{23\%}$ prg$_{15\%}$ other$_{15\%}$ attr$_{8\%}$
relr	145	37/94/41%	rel$_{48\%}$ relr$_{41\%}$ relpa$_{8\%}$ relelab$_{1\%}$ vobj$_{1\%}$ attr$_{1\%}$
source	11	36/100/36%	source$_{36\%}$ pobj$_{27\%}$ other$_{18\%}$ concom$_{9\%}$ man$_{9\%}$
inst	25	36/88/40%	inst$_{40\%}$ man$_{12\%}$ loc$_{12\%}$ predo$_{8\%}$ pobj$_{8\%}$ concom$_{4\%}$ scene$_{4\%}$ preds$_{4\%}$ attr$_{4\%}$ cons$_{4\%}$
goal	43	35/86/42%	goal$_{42\%}$ pobj$_{33\%}$ attr$_{9\%}$ scene$_{5\%}$ dobj$_{5\%}$ man$_{2\%}$ other$_{2\%}$ fpredo$_{2\%}$
accom	15	33/80/40%	man$_{47\%}$ accom$_{40\%}$ other$_{7\%}$ pobj$_{7\%}$
resem	6	33/33/67%	resem$_{67\%}$ man$_{17\%}$ preds$_{17\%}$
relpa	17	29/100/29%	relr$_{65\%}$ relpa$_{29\%}$ rel$_{6\%}$
concom	4	25/100/25%	source$_{25\%}$ concom$_{25\%}$ man$_{25\%}$ inst$_{25\%}$
other	115	23/91/23%	other$_{23\%}$ attr$_{14\%}$ loc$_{10\%}$ pobj$_{10\%}$ add$_{6\%}$ prg$_{4\%}$ avobj$_{4\%}$ quant$_{4\%}$ man$_{4\%}$ nobj$_{3\%}$ focal$_{3\%}$ epi$_{2\%}$ source$_{2\%}$ dir$_{2\%}$ eval$_{2\%}$ iter$_{2\%}$ conc$_{2\%}$ time$_{1\%}$ contr$_{1\%}$ correl$_{1\%}$ part$_{1\%}$ scene$_{1\%}$ goal$_{1\%}$ accom$_{1\%}$ xpl$_{1\%}$
iter	21	19/81/24%	time$_{57\%}$ iter$_{24\%}$ other$_{10\%}$ attr$_{5\%}$ eval$_{5\%}$
discmark	32	16/91/16%	coord$_{56\%}$ discmark$_{16\%}$ contr$_{13\%}$ add$_{9\%}$ qobj$_{6\%}$
prg	27	15/100/15%	eval$_{26\%}$ other$_{19\%}$ prg$_{15\%}$ conc$_{7\%}$ time$_{7\%}$ quant$_{7\%}$ add$_{4\%}$ elab$_{4\%}$ attr$_{4\%}$ man$_{4\%}$ contr$_{4\%}$
robj	9	11/100/11%	dobj$_{67\%}$ iobj$_{22\%}$ robj$_{11\%}$
predo	21	10/86/10%	preds$_{57\%}$ inst$_{10\%}$ predo$_{10\%}$ vobj$_{10\%}$ attr$_{5\%}$ fpredo$_{5\%}$ dobj$_{5\%}$
rel	79	4/95/4%	relr$_{89\%}$ relelab$_{5\%}$ rel$_{4\%}$ relpa$_{1\%}$ vobj$_{1\%}$
degr	2	0/50/0%	quant$_{100\%}$
event	4	0/75/0%	time$_{50\%}$ loc$_{50\%}$
ex	1	0/100/0%	exem$_{100\%}$
fpredo	6	0/67/0%	loc$_{33\%}$ goal$_{17\%}$ man$_{17\%}$ preds$_{17\%}$ predo$_{17\%}$
fpreds	3	0/100/0%	man$_{67\%}$ vobj$_{33\%}$
relelab	6	0/100/0%	rel$_{67\%}$ relr$_{33\%}$
TOTAL	12968	85/95/88%	

B.2 Confusion table: semantics

R	N	A/A_U/A_L	Confusion list
eval	1	100/100/100%	eval$_{100\%}$
elab	7	71/86/86%	elab$_{86\%}$ loc$_{14\%}$
goal	71	65/99/66%	goal$_{66\%}$ arg$_{11\%}$ func$_{7\%}$ loc$_{3\%}$ about$_{3\%}$ cause$_{1\%}$ const$_{1\%}$ resem$_{1\%}$ agent$_{1\%}$ recipient$_{1\%}$ patient$_{1\%}$ other$_{1\%}$
time	28	64/79/82%	time$_{82\%}$ source$_{11\%}$ arg$_{4\%}$ other$_{4\%}$
agent	65	59/95/60%	agent$_{60\%}$ arg$_{26\%}$ patient$_{5\%}$ experiencer$_{5\%}$ loc$_{2\%}$ goal$_{2\%}$ source$_{2\%}$
patient	71	58/89/63%	patient$_{63\%}$ arg$_{14\%}$ about$_{9\%}$ agent$_{4\%}$ loc$_{3\%}$ func$_{1\%}$ experiencer$_{1\%}$ recipient$_{1\%}$ goal$_{1\%}$ poss$_{1\%}$
recipient	7	57/100/57%	recipient$_{57\%}$ loc$_{14\%}$ patient$_{14\%}$ goal$_{14\%}$
const	49	55/96/57%	const$_{57\%}$ arg$_{18\%}$ source$_{6\%}$ form$_{4\%}$ poss$_{4\%}$ apart$_{2\%}$ loc$_{2\%}$ class$_{2\%}$ goal$_{2\%}$ func$_{2\%}$
arg	189	55/95/57%	arg$_{57\%}$ agent$_{9\%}$ patient$_{5\%}$ const$_{5\%}$ func$_{4\%}$ goal$_{4\%}$ loc$_{4\%}$ source$_{4\%}$ about$_{3\%}$ poss$_{3\%}$ other$_{2\%}$ quant$_{1\%}$ time$_{1\%}$
loc	82	51/87/60%	loc$_{60\%}$ arg$_{9\%}$ source$_{9\%}$ func$_{4\%}$ goal$_{2\%}$ patient$_{2\%}$ poss$_{2\%}$ other$_{2\%}$ const$_{1\%}$ agent$_{1\%}$ form$_{1\%}$ location$_{1\%}$ elab$_{1\%}$ apart$_{1\%}$ recipient$_{1\%}$ about$_{1\%}$
func	45	51/100/51%	func$_{51\%}$ arg$_{18\%}$ goal$_{11\%}$ loc$_{7\%}$ about$_{4\%}$ const$_{2\%}$ iden$_{2\%}$ patient$_{2\%}$ other$_{2\%}$
form	6	50/100/50%	form$_{50\%}$ const$_{33\%}$ loc$_{17\%}$
location	2	50/100/50%	loc$_{50\%}$ location$_{50\%}$
resem	2	50/100/50%	resem$_{50\%}$ goal$_{50\%}$
source	44	48/89/50%	source$_{50\%}$ loc$_{16\%}$ arg$_{16\%}$ const$_{7\%}$ time$_{7\%}$ agent$_{2\%}$ poss$_{2\%}$
quant	21	48/95/48%	quant$_{48\%}$ apart$_{43\%}$ arg$_{5\%}$ other$_{5\%}$
poss	27	44/89/48%	poss$_{48\%}$ arg$_{19\%}$ other$_{11\%}$ loc$_{7\%}$ const$_{7\%}$ patient$_{4\%}$ source$_{4\%}$
about	30	43/97/43%	about$_{43\%}$ arg$_{20\%}$ patient$_{20\%}$ goal$_{7\%}$ func$_{7\%}$ loc$_{3\%}$
experiencer	7	43/100/43%	experiencer$_{43\%}$ agent$_{43\%}$ patient$_{14\%}$
apart	19	42/100/42%	quant$_{47\%}$ apart$_{42\%}$ loc$_{5\%}$ const$_{5\%}$
class	5	40/100/40%	class$_{40\%}$ other$_{40\%}$ const$_{20\%}$
other	22	36/96/36%	other$_{36\%}$ arg$_{14\%}$ poss$_{14\%}$ loc$_{9\%}$ class$_{9\%}$ quant$_{5\%}$ func$_{5\%}$ time$_{5\%}$ goal$_{5\%}$
cause	1	0/100/0%	goal$_{100\%}$
iden	1	0/100/0%	func$_{100\%}$
TOTAL	802	54/93/57%	

B.3 Confusion table: discourse

R	N	A/A_U/A_L	Confusion list
ANSW	1	100/100/100%	ANSW$_{100\%}$
SCENE	26	85/85/96%	SCENE$_{96\%}$ JOINT$_{4\%}$
AGENTIVE:expl	11	64/100/64%	AGENTIVE:expl$_{64\%}$ CONTR$_{9\%}$ AGENTIVE$_{9\%}$ CONST:rest$_{9\%}$ AGENTIVE:sbj$_{9\%}$
CONJ:seq	13	62/92/69%	CONJ:seq$_{69\%}$ CONJ:add$_{15\%}$ CONJ:elab$_{8\%}$ DIREC$_{8\%}$
CONC	20	40/65/40%	CONC$_{40\%}$ CONJ:add$_{25\%}$ CONTR$_{5\%}$ FORMAL:eval$_{5\%}$ subj$_{5\%}$ CONJ$_{5\%}$ CONTR:sbj$_{5\%}$ CONST:exem$_{5\%}$ conj$_{3\%}$ CONTR:prg$_{3\%}$

CONJ:add	133	37/64/47%	CONJ:add$_{47\%}$ CONJ:elab$_{14\%}$ CONJ$_{9\%}$ JOINT$_{5\%}$ conj$_{4\%}$ CONC$_{4\%}$ TELIC:cons.sbj$_{2\%}$ AGENTIVE:sbj$_{2\%}$ CONJ:seq$_{2\%}$ CONST:exem$_{2\%}$ CONST:apart$_{2\%}$ CONTR$_{1\%}$ TIME:pre$_{1\%}$ CONTR:sbj$_{1\%}$ CONTR:prg$_{1\%}$ COND$_{1\%}$ qobj$_{1\%}$ TELIC$_{1\%}$ TELIC:cons.dir$_{1\%}$ DISJ:dir$_{1\%}$ AGENTIVE:reas$_{1\%}$ vobj$_{1\%}$ CONTR:dir$_{0\%}$
CONST:exem	17	29/71/47%	CONST:exem$_{47\%}$ CONJ:add$_{12\%}$ CONST:apart$_{12\%}$ CONJ:elab$_{6\%}$ JOINT$_{6\%}$ CONST:rest$_{6\%}$ CONSOL:source$_{6\%}$ CONC$_{6\%}$
TELIC:cons.dir	17	29/59/41%	TELIC:cons.dir$_{41\%}$ TELIC:cons.sbj$_{12\%}$ CONJ:elab$_{9\%}$ CONST:rest$_{6\%}$ CONJ$_{6\%}$ CONJ:add$_{6\%}$ AGENTIVE:reas$_{6\%}$ CONTR:dir$_{6\%}$ conj$_{3\%}$ CONTR:sbj$_{3\%}$ qobj$_{3\%}$
CONJ:elab	110	23/53/34%	CONJ:elab$_{34\%}$ CONJ:add$_{16\%}$ CONJ$_{16\%}$ FORMAL:eval$_{5\%}$ FORMAL:descr$_{3\%}$ CONST:rest$_{3\%}$ CONST:apart$_{3\%}$ qobj$_{2\%}$ TELIC:cons.sbj$_{2\%}$ AGENTIVE$_{2\%}$ subj$_{2\%}$ AGENTIVE:sbj$_{2\%}$ AGENTIVE:reas$_{2\%}$ DIREC$_{2\%}$ CONSOL$_{2\%}$ TELIC:cons.dir$_{1\%}$ CONJ:seq$_{1\%}$ CONTR:sbj$_{1\%}$ CONTR:prg$_{1\%}$ CONST:exem$_{1\%}$ CONTR:dir$_{1\%}$ CONST:elab$_{1\%}$
CONST:rest	11	23/59/26%	CONJ:elab$_{27\%}$ CONST:rest$_{26\%}$ TELIC:cons.sbj$_{9\%}$ TELIC:cons.dir$_{9\%}$ AGENTIVE:expl$_{9\%}$ CONST:exem$_{9\%}$ conj$_{6\%}$ qobj$_{5\%}$
JOINT	14	21/43/36%	CONJ:add$_{43\%}$ JOINT$_{36\%}$ SCENE$_{7\%}$ CONJ$_{7\%}$ CONST:exem$_{7\%}$
TELIC:cons.sbj	14	21/64/29%	TELIC:cons.sbj$_{29\%}$ CONJ:add$_{21\%}$ CONJ:elab$_{14\%}$ TELIC:cons.dir$_{14\%}$ CONJ$_{7\%}$ CONST:rest$_{7\%}$ CONTR:dir$_{7\%}$
AGENTIVE:reas	10	20/60/20%	AGENTIVE:sbj$_{40\%}$ CONJ:elab$_{20\%}$ AGENTIVE:reas$_{20\%}$ CONJ:add$_{10\%}$ TELIC:cons.dir$_{10\%}$
CONSOL:source	5	20/60/20%	AGENTIVE:sbj$_{40\%}$ CONJ$_{20\%}$ CONST:exem$_{20\%}$ CONSOL:source$_{20\%}$
FORMAL:descr	5	20/40/20%	CONJ:elab$_{60\%}$ conj$_{20\%}$ FORMAL:descr$_{20\%}$
FORMAL:eval	10	20/40/30%	CONJ:elab$_{50\%}$ FORMAL:eval$_{30\%}$ CONJ$_{10\%}$ CONC$_{10\%}$
CONTR:sbj	12	19/49/32%	CONTR:sbj$_{32\%}$ conj$_{14\%}$ CONJ:elab$_{8\%}$ CONJ:add$_{8\%}$ CONTR:prg$_{8\%}$ qobj$_{8\%}$ CONTR:dir$_{8\%}$ CONC$_{8\%}$ TELIC:cons.dir$_{4\%}$
CONST:apart	12	17/58/25%	CONJ:elab$_{25\%}$ CONST:apart$_{25\%}$ CONJ:add$_{17\%}$ CONST:exem$_{17\%}$ CONJ$_{8\%}$ nobj$_{8\%}$
CONTR:dir	14	17/31/31%	CONTR:dir$_{31\%}$ conj$_{20\%}$ CONTR:prg$_{11\%}$ CONTR$_{7\%}$ CONJ:elab$_{7\%}$ TELIC:cons.sbj$_{7\%}$ TELIC:cons.dir$_{7\%}$ CONTR:sbj$_{7\%}$ CONJ:add$_{2\%}$
CONJ	48	10/54/19%	CONJ:elab$_{35\%}$ CONJ:add$_{25\%}$ CONJ$_{19\%}$ AGENTIVE:sbj$_{4\%}$ TELIC:goal$_{2\%}$ TELIC:cons.sbj$_{2\%}$ FORMAL:eval$_{2\%}$ JOINT$_{2\%}$ CONSOL:source$_{2\%}$ TELIC:cons.dir$_{2\%}$ CONST:apart$_{2\%}$ CONC$_{2\%}$
AGENTIVE	5	0/100/0%	CONJ:elab$_{40\%}$ AGENTIVE:sbj$_{40\%}$ AGENTIVE:expl$_{20\%}$
AGENTIVE:sbj	16	0/75/0%	AGENTIVE:reas$_{25\%}$ CONJ:add$_{19\%}$ CONJ$_{13\%}$ CONJ:elab$_{13\%}$ AGENTIVE$_{13\%}$ CONSOL:source$_{13\%}$ AGENTIVE:expl$_{6\%}$
COND	1	0/100/0%	CONJ:add$_{100\%}$
CONSOL	2	0/50/0%	CONJ:elab$_{100\%}$
CONST:elab	1	0/100/0%	CONJ:elab$_{100\%}$

CONTR	4	0/100/0%	CONJ:add$_{25\%}$ AGENTIVE:expl$_{25\%}$ CONTR:dir$_{25\%}$ CONC$_{25\%}$
CONTR:prg	7	0/14/0%	conj$_{29\%}$ CONTR:dir$_{21\%}$ CONTR:sbj$_{14\%}$ CONJ:add$_{14\%}$ CONJ:elab$_{14\%}$ CONC$_{7\%}$
DIREC	3	0/67/0%	CONJ:elab$_{67\%}$ CONJ:seq$_{33\%}$
DISJ:dir	2	0/50/50%	CONJ:add$_{50\%}$ DISJ:dir$_{50\%}$
TELIC	1	0/100/0%	CONJ:add$_{100\%}$
TELIC:goal	1	0/100/0%	CONJ$_{100\%}$
TIME:pre	1	0/100/0%	CONJ:add$_{100\%}$
TOTAL	547	29/61/37%	

B.4 Confusion table: anaphora

R	N	A/A$_U$/A$_L$	Confusion list
assoc-event	2	100/100/100%	assoc-event$_{100\%}$
assoc-formal	1	100/100/100%	assoc-formal$_{100\%}$
ref	70	90/91/94%	ref$_{94\%}$ coref$_{4\%}$ coref-res$_{1\%}$
coref-iden	62	73/81/77%	coref-iden$_{77\%}$ coref-var$_{17\%}$ coref$_{3\%}$ assoc-telic$_{2\%}$ assoc-const$_{2\%}$
coref	227	64/67/89%	coref$_{89\%}$ coref-var$_{7\%}$ ref$_{1\%}$ coref-res$_{1\%}$ assoc-const$_{1\%}$ coref-iden$_{1\%}$ assoc-agentive.agent$_{0\%}$
coref-res	35	63/69/74%	coref-res$_{74\%}$ coref-var$_{11\%}$ coref$_{9\%}$ assoc-telic$_{3\%}$ ref$_{3\%}$
coref-var	144	60/73/74%	coref-var$_{74\%}$ coref$_{11\%}$ coref-iden$_{7\%}$ assoc-const$_{4\%}$ coref-res$_{3\%}$ coref-evol$_{1\%}$ assoc-agentive$_{1\%}$
assoc-agentive	2	50/100/50%	coref-var$_{50\%}$ assoc-agentive$_{50\%}$
assoc-const	41	49/73/59%	assoc-const$_{59\%}$ coref-var$_{15\%}$ assoc$_{10\%}$ assoc-telic$_{5\%}$ coref$_{5\%}$ assoc-loc$_{5\%}$ coref-iden$_{2\%}$
assoc-telic	25	40/76/56%	assoc-telic$_{56\%}$ assoc-agentive.agent$_{8\%}$ assoc-telic.patient$_{8\%}$ assoc-const$_{8\%}$ assoc-telic.agent$_{8\%}$ coref-iden$_{4\%}$ assoc-telic.inst$_{4\%}$ coref-res$_{4\%}$
assoc	6	33/83/33%	assoc-const$_{67\%}$ assoc$_{33\%}$
assoc-agentive.agent	3	0/67/0%	assoc-telic$_{67\%}$ coref$_{33\%}$
assoc-loc	2	0/100/0%	assoc-const$_{100\%}$
assoc-telic.agent	2	0/100/0%	assoc-telic$_{100\%}$
assoc-telic.inst	1	0/100/0%	assoc-telic$_{100\%}$
assoc-telic.patient	2	0/100/0%	assoc-telic$_{100\%}$
coref-evol	1	0/100/0%	coref-var$_{100\%}$
TOTAL	626	63/74/79%	

B.5 Confusion table: morphology

R	N	A/A$_U$/A$_L$	Confusion list
TIME:post	1	100/100/100%	TIME:post$_{100\%}$
TIME:pre	1	100/100/100%	TIME:pre$_{100\%}$
DERan:qual	15	73/100/73%	DERan:qual$_{73\%}$ –$_{13\%}$ DERnn:loc$_{7\%}$ DERna:rel.deono.loc$_{7\%}$

NEG:contr	6	67/100/67%	NEG:contr$_{67\%}$ NEG:priv$_{17\%}$ MOD:eval$_{17\%}$
DERvn:agent	20	60/100/60%	DERvn:agent$_{60\%}$ –$_{40\%}$
DERvn:core	75	55/100/55%	DERvn:core$_{55\%}$ –$_{27\%}$ DERvn:patient$_{13\%}$ DERnv$_{3\%}$ DERvn:other$_{1\%}$ TELIC DERvn:patient$_{1\%}$
DERnn:agent	11	55/100/55%	DERnn:agent$_{55\%}$ –$_{36\%}$ DERna:rel.deono.loc$_{9\%}$
DER:aa	2	50/100/50%	–$_{50\%}$ DER:aa$_{50\%}$
DERav	6	50/100/50%	DERav$_{50\%}$ –$_{33\%}$ NEG:rev$_{17\%}$
MOD:qual	16	38/100/38%	MOD:qual$_{38\%}$ –$_{31\%}$ const$_{6\%}$ loc$_{6\%}$ func$_{6\%}$ MOD:quant$_{6\%}$ TELIC$_{6\%}$
DERva:act	14	36/100/36%	–$_{43\%}$ DERva:act$_{36\%}$ DERva:pas.part$_{14\%}$ DE-VERB:rel.norm$_{7\%}$
DERnv	20	35/100/35%	–$_{50\%}$ DERnv$_{35\%}$ DERvn:core$_{10\%}$ DERva:pas.part$_{5\%}$
MOD:eval	3	33/100/33%	NEG:contr$_{33\%}$ DERvn:core eval$_{33\%}$ MOD:eval$_{33\%}$
MOD:quant	12	33/100/33%	–$_{50\%}$ MOD:quant$_{33\%}$ MOD:qual$_{8\%}$ QUANT$_{8\%}$
DERva:pas.part	13	31/100/31%	–$_{46\%}$ DERva:pas.part$_{31\%}$ DERva:act$_{15\%}$ DERnv$_{8\%}$
DERna:disp	4	25/100/25%	DERna:rel$_{50\%}$ DERva:pas.pat$_{25\%}$ DERna:disp$_{25\%}$
LOC:dir	7	14/100/14%	–$_{43\%}$ SPACE:dir$_{14\%}$ SPACE:source$_{14\%}$ TELIC$_{14\%}$ LOC:dir$_{14\%}$
TELIC	22	14/100/14%	–$_{59\%}$ TELIC$_{14\%}$ MOD:qual$_{5\%}$ DERvn:core LOC:dir$_{5\%}$ TRANS$_{5\%}$ NEG:priv$_{5\%}$ SPACE:dir$_{5\%}$ LOC:dir$_{5\%}$
about	8	13/100/13%	ABOUT$_{38\%}$ DOBJ.patient$_{25\%}$ AGENT:MC MOD:qual$_{25\%}$ about$_{13\%}$
DERvn:patient	14	7/100/7%	DERvn:core$_{71\%}$ –$_{21\%}$ DERvn:patient$_{7\%}$
TRANS	15	7/100/7%	–$_{80\%}$ TRANS$_{7\%}$ SPACE:loc$_{7\%}$ TELIC$_{7\%}$
func	37	5/100/5%	GOAL$_{51\%}$ ABOUT$_{14\%}$ OTHER$_{11\%}$ ARG$_{5\%}$ –$_{5\%}$ func$_{5\%}$ MOD:qual$_{3\%}$ CONST$_{3\%}$ QUANT$_{3\%}$
–	184	0/100/0%	DERvn:core$_{11\%}$ DERna:rel.deono.loc$_{10\%}$ TELIC$_{7\%}$ TRANS$_{7\%}$ DERnv$_{5\%}$ DERvn:agent$_{4\%}$ DERna:rel.norm$_{4\%}$ MOD:quant$_{3\%}$ DERva:act$_{3\%}$ DERva:pas.part$_{3\%}$ DERna:rel$_{3\%}$ MOD:qual$_{3\%}$ DERnn:agent$_{2\%}$ DERvn:patient$_{2\%}$ DERvn:core func$_{2\%}$ LOC:dir$_{2\%}$ DERvn:core LOC:dir$_{2\%}$ SPACE:loc$_{2\%}$ agent$_{2\%}$ TRANS DERva:act$_{1\%}$ const$_{1\%}$ DERav$_{1\%}$ func DERvn:core$_{1\%}$ ABOUT$_{1\%}$ AGENT:MC$_{1\%}$ DE-Ran:qual$_{1\%}$ DERnn:loc$_{1\%}$ DERnn:assoc$_{1\%}$ func$_{1\%}$ DERvn:core LOC:loc$_{1\%}$ DERvn:agent LOC:loc$_{1\%}$ DERaa$_{1\%}$ iden$_{1\%}$ NOPRED:core$_{1\%}$ DERvn:core MOD:quant$_{1\%}$ OTHER$_{1\%}$ DERva:act.epi$_{1\%}$ NEG:priv$_{1\%}$ SPACE:dir$_{1\%}$ SOURCE$_{1\%}$ DERna:resem$_{1\%}$ DERnv TELIC DERvn:core$_{1\%}$ DENUM:ord$_{1\%}$ func func$_{1\%}$ DENOM:eff$_{1\%}$ DERva:pas.epi$_{1\%}$ tei.2>$_{1\%}$ DER:aa$_{1\%}$ DERvn:other$_{1\%}$ DERnv DERvn:core$_{1\%}$ DERvn:patient func DERvn:agent$_{1\%}$ ARG$_{1\%}$ DERan:qual ARG$_{1\%}$
ABOUT	19	0/100/0%	func$_{26\%}$ const$_{16\%}$ about$_{16\%}$ –$_{11\%}$ arg$_{11\%}$ DERvn:agent dobj.patient$_{5\%}$ NEG:priv$_{5\%}$ agent$_{5\%}$ func arg DERvn:patient$_{5\%}$
AGENT	2	0/100/0%	DERvn:core LOC:dir subj.agent func$_{50\%}$ agent$_{50\%}$
AGENT:MC	3	0/100/0%	–$_{67\%}$ agent$_{33\%}$
AGENT:MC MOD:qual	2	0/100/0%	about$_{100\%}$
AGENT:MC MOD:qual DERna:rel	1	0/100/0%	DERna:rel.norm about$_{100\%}$

ARG	17	0/100/0%	$arg_{53\%}$ agent DERan:qual$_{18\%}$ $func_{12\%}$ $-_{6\%}$ $agent_{6\%}$ const LOC:$dir_{6\%}$
CONST	5	0/100/0%	$const_{40\%}$ agent DERan:qual$_{20\%}$ $agent_{20\%}$ $func_{20\%}$
DENOM:eff	2	0/100/0%	$-_{50\%}$ DERna:$rel_{50\%}$
DENUM:ord	1	0/100/0%	$-_{100\%}$
DERaa	1	0/100/0%	$-_{100\%}$
DERan:qual ARG	1	0/100/0%	$-_{100\%}$
DERan:rel DERav DERvn:core	1	0/100/0%	DERna:rel.$norm_{100\%}$
DERna:deono.loc	1	0/100/0%	DERna:rel.deono.$loc_{100\%}$
DERna:deono.pers AGENT:MC DERna:rel MOD:qual	1	0/100/0%	DERna:rel.deono.pers DERna:rel.norm $about_{100\%}$
DERna:deono.pers MOD:qual	1	0/100/0%	DERna:rel.deono.pers $about_{100\%}$
DERna:rel	15	0/100/0%	DERna:rel.$norm_{47\%}$ $-_{33\%}$ DERna:$disp_{13\%}$ DENOM:$eff_{7\%}$
DERna:rel DERan:qual	1	0/100/0%	DERna:rel.norm DER:$aa_{100\%}$
DERna:rel.deono.loc	21	0/100/0%	$-_{86\%}$ DERan:$qual_{5\%}$ DERna:deono.$loc_{5\%}$ DERnn:$agent_{5\%}$
DERna:rel.deono.pers DERna:rel.norm about	1	0/100/0%	DERna:deono.pers AGENT:MC DERna:rel MOD:$qual_{100\%}$
DERna:rel.deono.pers about	1	0/100/0%	DERna:deono.pers MOD:$qual_{100\%}$
DERna:rel.norm	17	0/100/0%	$-_{47\%}$ DERna:$rel_{41\%}$ DERan:rel DERav DERvn:$core_{6\%}$ DERva:$rel_{6\%}$
DERna:rel.norm DENOM:rel.place	1	0/100/0%	DERnn:assoc DERna:$rel_{100\%}$
DERna:rel.norm DER:aa	1	0/100/0%	DERna:rel DERan:$qual_{100\%}$
DERna:rel.norm about	1	0/100/0%	AGENT:MC MOD:qual DERna:$rel_{100\%}$
DERna:resem	1	0/100/0%	$-_{100\%}$
DERnn:agent func	1	0/100/0%	$GOAL_{100\%}$
DERnn:assoc	2	0/100/0%	$-_{100\%}$
DERnn:assoc DERna:rel	1	0/100/0%	DERna:rel.norm DENOM:rel.$place_{100\%}$
DERnn:loc	3	0/100/0%	$-_{67\%}$ DERan:$qual_{33\%}$
DERnn:other	1	0/100/0%	DERnv DERvn:$core_{100\%}$
DERnv DERvn:core	2	0/100/0%	$-_{50\%}$ DERnn:$other_{50\%}$
DERnv TELIC DERvn:core	1	0/100/0%	$-_{100\%}$
DERva:act.epi	1	0/100/0%	$-_{100\%}$
DERva:pas.epi	1	0/100/0%	$-_{100\%}$
DERva:pas.pat	1	0/100/0%	DERna:$disp_{100\%}$
DERva:rel	1	0/100/0%	DERna:rel.$norm_{100\%}$

DERvn:agent DERvn:core ARG	1	0/100/0%	func about$_{100\%}$
DERvn:agent LOC:loc	1	0/100/0%	–$_{100\%}$
DERvn:agent dobj.patient	1	0/100/0%	ABOUT$_{100\%}$
DERvn:core LOC:dir	4	0/100/0%	–$_{75\%}$ TELIC$_{25\%}$
DERvn:core LOC:dir subj.agent func	1	0/100/0%	AGENT$_{100\%}$
DERvn:core LOC:loc	2	0/100/0%	–$_{100\%}$
DERvn:core MOD:quant	1	0/100/0%	–$_{100\%}$
DERvn:core agent	1	0/100/0%	GOAL$_{100\%}$
DERvn:core arg	1	0/100/0%	GOAL$_{100\%}$
DERvn:core dobj.patient	2	0/100/0%	DERvn:other GOAL$_{100\%}$
DERvn:core eval	1	0/100/0%	MOD:eval$_{100\%}$
DERvn:core func	3	0/100/0%	–$_{100\%}$
DERvn:core iobj.recipient	7	0/100/0%	DERvn:patient GOAL$_{100\%}$
DERvn:core subj.agent	1	0/100/0%	DERvn:other ABOUT$_{100\%}$
DERvn:other	2	0/100/0%	–$_{50\%}$ DERvn:core$_{50\%}$
DERvn:other ABOUT	1	0/100/0%	DERvn:core subj.agent$_{100\%}$
DERvn:other GOAL	2	0/100/0%	DERvn:core dobj.patient$_{100\%}$
DERvn:patient GOAL	7	0/100/0%	DERvn:core iobj.recipient$_{100\%}$
DERvn:patient func DERvn:agent	1	0/100/0%	–$_{100\%}$
DEVERB:rel.norm	1	0/100/0%	DERva:act$_{100\%}$
DOBJ.patient	3	0/100/0%	about$_{67\%}$ dobj.patient$_{33\%}$
DOBj.patient	1	0/100/0%	dobj.patient$_{100\%}$
EVAL	1	0/100/0%	eval$_{100\%}$
FUNC	1	0/100/0%	iden$_{100\%}$
GOAL	26	0/100/0%	func$_{73\%}$ iden$_{8\%}$ DERvn:core agent$_{4\%}$ DERnn:agent func$_{4\%}$ const$_{4\%}$ DERvn:core arg$_{4\%}$ loc MOD:qual$_{4\%}$
GOAL SOURCE	1	0/100/0%	MOD:qual arg$_{100\%}$
LOC	2	0/100/0%	loc$_{100\%}$
LOC:loc	2	0/100/0%	SPACE:loc$_{100\%}$
MOD:qual arg	1	0/100/0%	GOAL SOURCE$_{100\%}$
NEG:priv	4	0/100/0%	NEG:contr$_{25\%}$ –$_{25\%}$ TELIC$_{25\%}$ ABOUT$_{25\%}$
NEG:rev	1	0/100/0%	DERav$_{100\%}$
NOPRED:core	1	0/100/0%	–$_{100\%}$
OTHER	11	0/100/0%	iden$_{36\%}$ func$_{36\%}$ –$_{9\%}$ poss$_{9\%}$ apart$_{9\%}$
QUANT	2	0/100/0%	func$_{50\%}$ MOD:quant$_{50\%}$

RESEM	2	0/100/0%	const$_{100\%}$
SOURCE	1	0/100/0%	–$_{100\%}$
SPACE:dir	3	0/100/0%	–$_{33\%}$ TELIC$_{33\%}$ LOC:dir$_{33\%}$
SPACE:loc	6	0/100/0%	–$_{50\%}$ LOC:loc$_{33\%}$ TRANS$_{17\%}$
SPACE:loc DERna:rel	1	0/100/0%	const DERna:rel.norm$_{100\%}$
SPACE:source	1	0/100/0%	LOC:dir$_{100\%}$
SUBJ.agent	5	0/100/0%	subj.agent$_{100\%}$
TELIC DERvn:patient	1	0/100/0%	DERvn:core$_{100\%}$
TIME:MC	4	0/100/0%	time$_{100\%}$
TRANS DERva:act	2	0/100/0%	–$_{100\%}$
agent	8	0/100/0%	–$_{38\%}$ AGENT:MC$_{13\%}$ CONST$_{13\%}$ ABOUT$_{13\%}$ AGENT$_{13\%}$ ARG$_{13\%}$
agent DERan:qual	4	0/100/0%	ARG$_{75\%}$ CONST$_{25\%}$
apart	1	0/100/0%	OTHER$_{100\%}$
arg	11	0/100/0%	ARG$_{82\%}$ ABOUT$_{18\%}$
const	11	0/100/0%	ABOUT$_{27\%}$ –$_{18\%}$ RESEM$_{18\%}$ CONST$_{18\%}$ MOD:qual$_{9\%}$ GOAL$_{9\%}$
const DERna:rel.norm	1	0/100/0%	SPACE:loc DERna:rel$_{100\%}$
const LOC:dir	1	0/100/0%	ARG$_{100\%}$
dobj.patient	2	0/100/0%	DOBj.patient$_{50\%}$ DOBJ.patient$_{50\%}$
eval	1	0/100/0%	EVAL$_{100\%}$
func DERvn:core	2	0/100/0%	–$_{100\%}$
func about	1	0/100/0%	DERvn:agent DERvn:core ARG$_{100\%}$
func arg DERvn:patient	1	0/100/0%	ABOUT$_{100\%}$
func func	1	0/100/0%	–$_{100\%}$
iden	8	0/100/0%	OTHER$_{50\%}$ GOAL$_{25\%}$ –$_{13\%}$ FUNC$_{13\%}$
loc	3	0/100/0%	LOC$_{67\%}$ MOD:qual$_{33\%}$
loc MOD:qual	1	0/100/0%	GOAL$_{100\%}$
poss	1	0/100/0%	OTHER$_{100\%}$
subj.agent	5	0/100/0%	SUBJ.agent$_{100\%}$
tei.2>	1	0/100/0%	–$_{100\%}$
time	4	0/100/0%	TIME:MC$_{100\%}$
TOTAL	831	14/100/14%	

B.6 Confusion table: morphology-no-null

R	N	A/A$_U$/A$_L$	Confusion list
DER:aa	1	100/100/100%	DER:aa$_{100\%}$
DERvn:agent	12	100/100/100%	DERvn:agent$_{100\%}$
TIME:post	1	100/100/100%	TIME:post$_{100\%}$
TIME:pre	1	100/100/100%	TIME:pre$_{100\%}$
DERnn:agent	7	86/100/86%	DERnn:agent$_{86\%}$ DERna:rel.deono.loc$_{14\%}$
DERan:qual	13	85/100/85%	DERan:qual$_{85\%}$ DERnn:loc$_{8\%}$ DERna:rel.deono.loc$_{8\%}$
DERav	4	75/100/75%	DERav$_{75\%}$ NEG:rev$_{25\%}$

DERvn:core	55	75/100/75%	DERvn:core$_{75\%}$ DERvn:patient$_{18\%}$ DERnv$_{4\%}$ DERvn:other$_{2\%}$ TELIC DERvn:patient$_{2\%}$
DERnv	10	70/100/70%	DERnv$_{70\%}$ DERvn:core$_{20\%}$ DERva:pas.part$_{10\%}$
MOD:quant	6	67/100/67%	MOD:quant$_{67\%}$ MOD:qual$_{17\%}$ QUANT$_{17\%}$
NEG:contr	6	67/100/67%	NEG:contr$_{67\%}$ NEG:priv$_{17\%}$ MOD:eval$_{17\%}$
DERva:act	8	63/100/63%	DERva:act$_{63\%}$ DERva:pas.part$_{25\%}$ DE-VERB:rel.norm$_{13\%}$
DERva:pas.part	7	57/100/57%	DERva:pas.part$_{57\%}$ DERva:act$_{29\%}$ DERnv$_{14\%}$
MOD:qual	11	55/100/55%	MOD:qual$_{55\%}$ const$_{9\%}$ loc$_{9\%}$ func$_{9\%}$ MOD:quant$_{9\%}$ TELIC$_{9\%}$
MOD:eval	3	33/100/33%	NEG:contr$_{33\%}$ DERvn:core eval$_{33\%}$ MOD:eval$_{33\%}$
TELIC	9	33/100/33%	TELIC$_{33\%}$ TRANS$_{11\%}$ MOD:qual$_{11\%}$ SPACE:dir$_{11\%}$ DERvn:core LOC:dir$_{11\%}$ NEG:priv$_{11\%}$ LOC:dir$_{11\%}$
TRANS	3	33/100/33%	TRANS$_{33\%}$ SPACE:loc$_{33\%}$ TELIC$_{33\%}$
DERna:disp	4	25/100/25%	DERna:rel$_{50\%}$ DERva:pas.pat$_{25\%}$ DERna:disp$_{25\%}$
LOC:dir	4	25/100/25%	SPACE:dir$_{25\%}$ SPACE:source$_{25\%}$ TELIC$_{25\%}$ LOC:dir$_{25\%}$
about	8	13/100/13%	ABOUT$_{38\%}$ DOBJ.patient$_{25\%}$ AGENT:MC MOD:qual$_{25\%}$ about$_{13\%}$
DERvn:patient	11	9/100/9%	DERvn:core$_{91\%}$ DERvn:patient$_{9\%}$
func	35	6/100/6%	GOAL$_{54\%}$ ABOUT$_{14\%}$ OTHER$_{11\%}$ ARG$_{6\%}$ func$_{6\%}$ MOD:qual$_{3\%}$ CONST$_{3\%}$ QUANT$_{3\%}$
ABOUT	17	0/100/0%	func$_{29\%}$ const$_{18\%}$ about$_{18\%}$ arg$_{12\%}$ DERvn:agent dobj.patient$_{6\%}$ NEG:priv$_{6\%}$ agent$_{6\%}$ func arg DERvn:patient$_{6\%}$
AGENT	2	0/100/0%	DERvn:core LOC:dir subj.agent func$_{50\%}$ agent$_{50\%}$
AGENT:MC	1	0/100/0%	agent$_{100\%}$
AGENT:MC MOD:qual	2	0/100/0%	about$_{100\%}$
AGENT:MC MOD:qual DERna:rel	1	0/100/0%	DERna:rel.norm about$_{100\%}$
ARG	16	0/100/0%	arg$_{56\%}$ agent DERan:qual$_{19\%}$ func$_{13\%}$ agent$_{6\%}$ const LOC:dir$_{6\%}$
CONST	5	0/100/0%	const$_{40\%}$ agent DERan:qual$_{20\%}$ agent$_{20\%}$ func$_{20\%}$
DENOM:eff	1	0/100/0%	DERna:rel$_{100\%}$
DERan:rel DERav DERvn:core	1	0/100/0%	DERna:rel.norm$_{100\%}$
DERna:deono.loc	1	0/100/0%	DERna:rel.deono.loc$_{100\%}$
DERna:deono.pers	1	0/100/0%	DERna:rel.deono.pers DERna:rel.norm about$_{100\%}$
AGENT:MC DERna:rel MOD:qual			
DERna:deono.pers MOD:qual	1	0/100/0%	DERna:rel.deono.pers about$_{100\%}$
DERna:rel	10	0/100/0%	DERna:rel.norm$_{70\%}$ DERna:disp$_{20\%}$ DENOM:eff$_{10\%}$
DERna:rel DE-Ran:qual	1	0/100/0%	DERna:rel.norm DER:aa$_{100\%}$
DERna:rel.deono.loc	3	0/100/0%	DERan:qual$_{33\%}$ DERna:deono.loc$_{33\%}$ DERnn:agent$_{33\%}$

DERna:rel.deono.pers DERna:rel.norm about	1	0/100/0%	DERna:deono.pers AGENT:MC DERna:rel MOD:qual$_{100\%}$
DERna:rel.deono.pers about	1	0/100/0%	DERna:deono.pers MOD:qual$_{100\%}$
DERna:rel.norm	9	0/100/0%	DERna:rel$_{78\%}$ DERan:rel DERav DERvn:core$_{11\%}$ DERva:rel$_{11\%}$
DERna:rel.norm DENOM:rel.place	1	0/100/0%	DERnn:assoc DERna:rel$_{100\%}$
DERna:rel.norm DER:aa	1	0/100/0%	DERna:rel DERan:qual$_{100\%}$
DERna:rel.norm about	1	0/100/0%	AGENT:MC MOD:qual DERna:rel$_{100\%}$
DERnn:agent func	1	0/100/0%	GOAL$_{100\%}$
DERnn:assoc DERna:rel	1	0/100/0%	DERna:rel.norm DENOM:rel.place$_{100\%}$
DERnn:loc	1	0/100/0%	DERan:qual$_{100\%}$
DERnn:other	1	0/100/0%	DERnv DERvn:core$_{100\%}$
DERnv DERvn:core	1	0/100/0%	DERnn:other$_{100\%}$
DERva:pas.pat	1	0/100/0%	DERna:disp$_{100\%}$
DERva:rel	1	0/100/0%	DERna:rel.norm$_{100\%}$
DERvn:agent DERvn:core ARG	1	0/100/0%	func about$_{100\%}$
DERvn:agent dobj.patient	1	0/100/0%	ABOUT$_{100\%}$
DERvn:core LOC:dir	1	0/100/0%	TELIC$_{100\%}$
DERvn:core LOC:dir subj.agent func	1	0/100/0%	AGENT$_{100\%}$
DERvn:core agent	1	0/100/0%	GOAL$_{100\%}$
DERvn:core arg	1	0/100/0%	GOAL$_{100\%}$
DERvn:core dobj.patient	2	0/100/0%	DERvn:other GOAL$_{100\%}$
DERvn:core eval	1	0/100/0%	MOD:eval$_{100\%}$
DERvn:core iobj.recipient	7	0/100/0%	DERvn:patient GOAL$_{100\%}$
DERvn:core subj.agent	1	0/100/0%	DERvn:other ABOUT$_{100\%}$
DERvn:other	1	0/100/0%	DERvn:core$_{100\%}$
DERvn:other ABOUT	1	0/100/0%	DERvn:core subj.agent$_{100\%}$
DERvn:other GOAL	2	0/100/0%	DERvn:core dobj.patient$_{100\%}$
DERvn:patient GOAL	7	0/100/0%	DERvn:core iobj.recipient$_{100\%}$
DEVERB:rel.norm	1	0/100/0%	DERva:act$_{100\%}$
DOBJ.patient	3	0/100/0%	about$_{67\%}$ dobj.patient$_{33\%}$
DOBj.patient	1	0/100/0%	dobj.patient$_{100\%}$

EVAL	1	0/100/0%	$\text{eval}_{100\%}$
FUNC	1	0/100/0%	$\text{iden}_{100\%}$
GOAL	26	0/100/0%	$\text{func}_{73\%}$ $\text{iden}_{8\%}$ DERvn:core $\text{agent}_{4\%}$ DERnn:agent $\text{func}_{4\%}$ $\text{const}_{4\%}$ DERvn:core $\text{arg}_{4\%}$ loc MOD:qual$_{4\%}$
GOAL SOURCE	1	0/100/0%	MOD:qual $\text{arg}_{100\%}$
LOC	2	0/100/0%	$\text{loc}_{100\%}$
LOC:loc	2	0/100/0%	SPACE:$\text{loc}_{100\%}$
MOD:qual arg	1	0/100/0%	GOAL SOURCE$_{100\%}$
NEG:priv	3	0/100/0%	NEG:$\text{contr}_{33\%}$ $\text{TELIC}_{33\%}$ $\text{ABOUT}_{33\%}$
NEG:rev	1	0/100/0%	$\text{DERav}_{100\%}$
OTHER	10	0/100/0%	$\text{iden}_{40\%}$ $\text{func}_{40\%}$ $\text{poss}_{10\%}$ $\text{apart}_{10\%}$
QUANT	2	0/100/0%	$\text{func}_{50\%}$ MOD:$\text{quant}_{50\%}$
RESEM	2	0/100/0%	$\text{const}_{100\%}$
SPACE:dir	2	0/100/0%	$\text{TELIC}_{50\%}$ LOC:$\text{dir}_{50\%}$
SPACE:loc	3	0/100/0%	LOC:$\text{loc}_{67\%}$ $\text{TRANS}_{33\%}$
SPACE:loc DERna:rel	1	0/100/0%	const DERna:rel.norm$_{100\%}$
SPACE:source	1	0/100/0%	LOC:$\text{dir}_{100\%}$
SUBJ.agent	5	0/100/0%	subj.$\text{agent}_{100\%}$
TELIC DERvn:patient	1	0/100/0%	$\text{DERvn:core}_{100\%}$
TIME:MC	4	0/100/0%	$\text{time}_{100\%}$
agent	5	0/100/0%	AGENT:$\text{MC}_{20\%}$ $\text{CONST}_{20\%}$ $\text{ABOUT}_{20\%}$ $\text{AGENT}_{20\%}$ $\text{ARG}_{20\%}$
agent DERan:qual	4	0/100/0%	$\text{ARG}_{75\%}$ $\text{CONST}_{25\%}$
apart	1	0/100/0%	$\text{OTHER}_{100\%}$
arg	11	0/100/0%	$\text{ARG}_{82\%}$ $\text{ABOUT}_{18\%}$
const	9	0/100/0%	$\text{ABOUT}_{33\%}$ $\text{RESEM}_{22\%}$ $\text{CONST}_{22\%}$ MOD:$\text{qual}_{11\%}$ $\text{GOAL}_{11\%}$
const DERna:rel.norm	1	0/100/0%	SPACE:loc DERna:$\text{rel}_{100\%}$
const LOC:dir	1	0/100/0%	$\text{ARG}_{100\%}$
dobj.patient	2	0/100/0%	DOBj.$\text{patient}_{50\%}$ DOBJ.$\text{patient}_{50\%}$
eval	1	0/100/0%	$\text{EVAL}_{100\%}$
func about	1	0/100/0%	DERvn:agent DERvn:core $\text{ARG}_{100\%}$
func arg DERvn:patient	1	0/100/0%	$\text{ABOUT}_{100\%}$
iden	7	0/100/0%	$\text{OTHER}_{57\%}$ $\text{GOAL}_{29\%}$ $\text{FUNC}_{14\%}$
loc	3	0/100/0%	$\text{LOC}_{67\%}$ MOD:$\text{qual}_{33\%}$
loc MOD:qual	1	0/100/0%	$\text{GOAL}_{100\%}$
poss	1	0/100/0%	$\text{OTHER}_{100\%}$
subj.agent	5	0/100/0%	SUBJ.$\text{agent}_{100\%}$
time	4	0/100/0%	TIME:$\text{MC}_{100\%}$
TOTAL	463	25/100/25%	

B.7 Confusion table: alignment

R	N	$A/A_U/A_L$	Confusion list

TOTAL	0	0/0/0%

Appendix C

Annotation status

C.1 All texts

	alignment	discourse	morphology	postag	status	syntax
none	950	1838	2157			911
auto				1774		65
outdated-final	536					372
first	45	45	102	1	1	131
discussed	132	86	1			89
final	112	352	60	536		755

C.2 da texts

	discourse	morphology	postag	syntax
none	331	462		
auto				
outdated-final				1
first	9	56	1	7
discussed	12	1		3
final	185	17	535	525

C.3 de texts

	discourse	morphology	postag	syntax
none	405	412		326
auto			413	
outdated-final				
first	9	1		56
discussed				8
final				23

C.4 en texts

	discourse	morphology	postag	syntax
none	445	535		
auto			536	65
outdated-final				371

first	22			30
discussed				1
final	72	1		69

C.5 es texts

	discourse	morphology	postag	syntax
none	341	337		341
auto			413	
outdated-final				
first	2	34		
discussed				
final	72	42		72

C.6 it texts

	discourse	morphology	postag	syntax
none	316	411		244
auto			412	
outdated-final				
first		5		38
discussed	74			77
final	23		1	57

C.7 da-de texts

	alignment	morphology	syntax	
none	368			
auto				
outdated-final				
first	45	2		
discussed				
final			4	

C.8 da-en texts

	alignment	discourse	morphology	syntax
none				
auto				
outdated-final	536			
first		1	1	
discussed				
final				1

C.9 da-es texts

	alignment	discourse	morphology	syntax
none	331			

auto					
outdated-final					
first			1	2	
discussed		39			
final		43			2

C.10 da-it texts

alignment	discourse	morphology	status	syntax
none	251			
auto				
outdated-final				
first		1	1	1
discussed	93			
final	69			2

Appendix D

Index