The inventory of linguistic relations used in the Copenhagen Dependency Treebanks

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

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

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Abstract

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

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 [395] *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 ONT 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
- ONT: ontology level
- SEM: semantic level
- SYN: syntax level

Figure 2.2: The relations matching DIM:LEVEL-!SYNTAX-!MORPHOLOGY-!DISCOURSE-!ANAPHORA-!SEMANTICS-!ALIGNMENT-!ONTOLOGY-!RULE-!TOPICS.

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 ONT 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.

ONT *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.

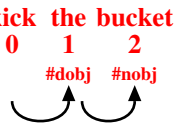
FEAT *Lexical feature* (long: FEATURE). A lexical feature. Ie, an annotation that describes a particular property of a lexical element.
isa DIM:TYPE
[18]
Subtypes: ONTOCLASS.

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.

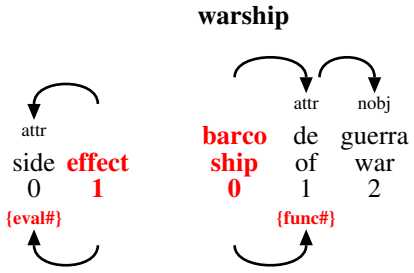
IDIOM *Idiomatic relation.* An idiomatic relation. The relation links independent lexical elements that jointly form an idiomatic lexical unit, ie, a unit where the meaning of the whole cannot be described as a semantic composition of its parts.
isa REL
[32]
Subtypes: RuleIdiom.
Related types: +.

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-!MORPHOLOGY-!DISCOURSE-!ANAPHORA-!SEMANTICS-!ALIGNMENT-!ONTOLOGY-!TOPICS.



RuleIdiom isa IDIOM RULE [374]
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]

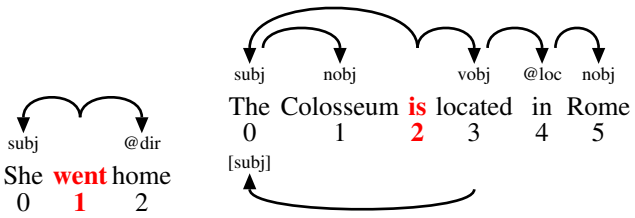
Complement relation (long: COMPLEMENT). A primary complement relation. The relation is licensed by the governor, ie, the lexical entry of the governor specifies the complement frames that it allows, along with the associated semantic interpretation mechanisms and selectional restrictions associated with 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
[371]

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.

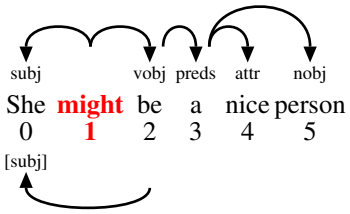
Subtypes: RuleSec ref repl.

Related types: fill fsrc.

RuleSec
isa RULE SEC
[369]

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-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.

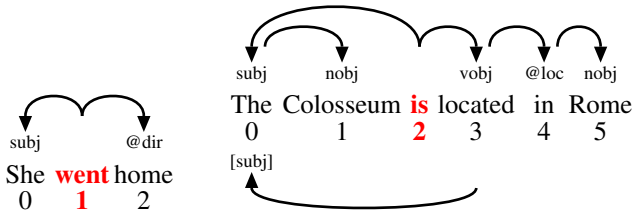
Subtypes: @space @time CDT1COMP aobj avobj dobj fobj gobj iobj nobj numa numm part pobj possd possr pred qobj robj subj vobj.

@space
isa SYNCOMP
[86]

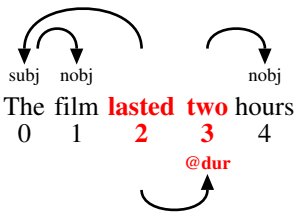
Valency-bound location/direction adverbial.
Related types: dir loc.

SYNCOMP: syntactic complement
- @space: valency-bound location/direction adverbial
- @time: valency-bound time adverbial
- CDT1COMP: Deprecated CDT1 complement relations
  - lobj: Deprecated locative object.
  - tobj: Deprecated temporal object.
- avobj: adverbial object
- dobj: direct object
- fobj: filler object
- gobj: genitive object
- iobj: indirect object
- nobj: nominal object
- numa: additive numeral complement
- numm: multiplicative numeral complement
- part: verbal particle
- pobj: prepositional object
- possd: possessed complement
- possr: possessor complement
- pred: predicative
  - predo: object predicative
  - preds: subject predicative
- qobj: quotational object
- robj: reflexive object
- subj: subject
  - expl: expletive subject
- vobj: verbal object

Figure 3.2: The relations matching SYNCOMP-TOPIC.



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

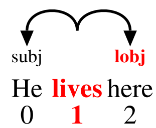


CDT1COMP isa CDT1 SYNCOMP [396]
Deprecated CDT1 complement relations. Deprecated complement relations from the CDT1+2 treebanks.

Subtypes: lobj tobj.

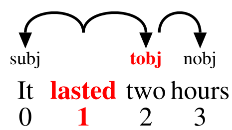
lobj isa CDT1COMP [399] *Deprecated locative object..* Deprecated locative object.

Confusion$_{11}$: .



tobj isa CDT1COMP [400] *Deprecated temporal object..* Deprecated temporal object.

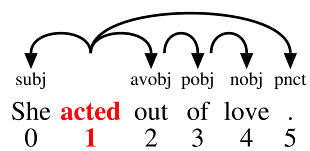
Confusion$_{2}$: time$_{100\%}$.



avobj isa SYNCOMP [94] *Adverbial object.*

Related types: aobj part.

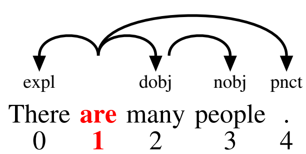
Confusion$_{38}$: pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$.

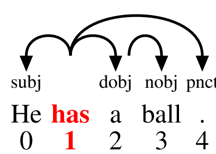


dobj isa SYNCOMP [82] *Direct object.* A direct object relation. In languages with case, the direct object is typically accusative-marked.

Related types: iobj robj.

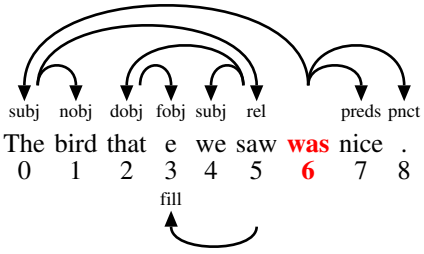
Confusion$_{904}$: pobj$_{2\%}$ add$_{0\%}$ focal$_{0\%}$ conc$_{0\%}$ iter$_{0\%}$ agent$_{0\%}$ aobj$_{0\%}$ man$_{0\%}$ contr$_{0\%}$ numa$_{0\%}$ concom$_{0\%}$ cond$_{0\%}$ part$_{0\%}$ exem$_{0\%}$ source$_{0\%}$ correl$_{0\%}$ inst$_{0\%}$.





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.

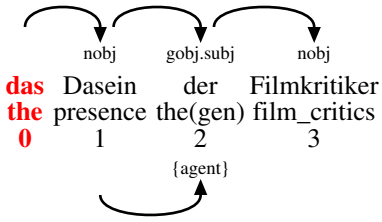
Related types: fill ref.



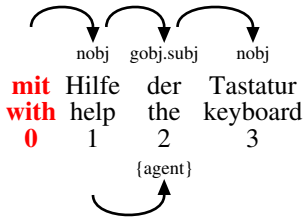
gobj isa SYNCOMP [84] *Genitive object.* If the genitve object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: gobj.subj{SEMROLE} gobj.dobj{SEMROLE} gobj.pobj{SEMROLE} gobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.

Related types: SEMROLE attrg.

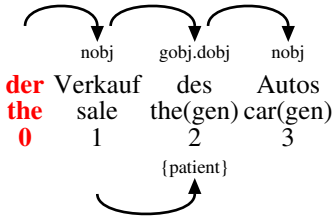
the presence of film critics



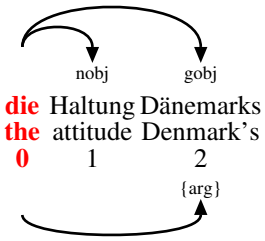
with help from the keyboard



the sale of the car



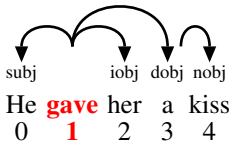
Denmark's attitude



iobj isa SYNCOMP [85] *Indirect object.*

Related types: dobj.

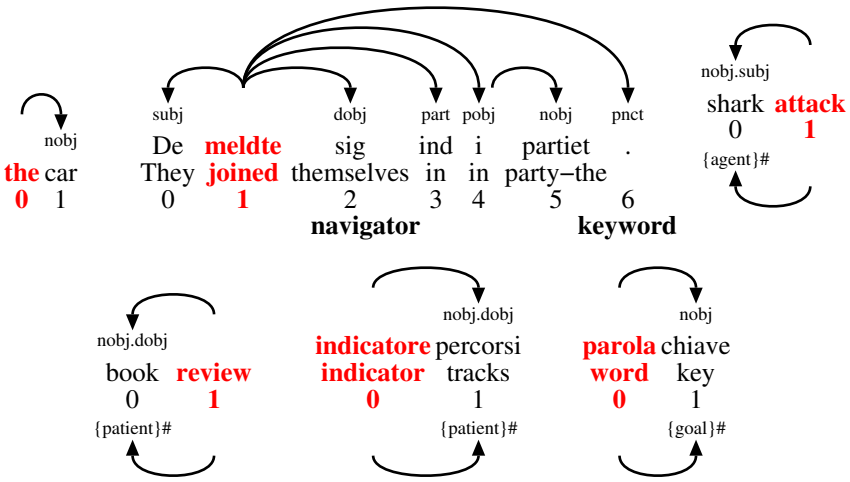
Confusion$_{25}$: iobj$_{64\%}$ dobj$_{20\%}$ robj$_{12\%}$ robj$_{12\%}$ robj$_{12\%}$ robj$_{12\%}$ robj$_{12\%}$ robj$_{12\%}$ robj$_{12\%}$.



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

Confusion$_{3409}$: contr$_{0\%}$ numa$_{0\%}$ prg$_{0\%}$ fpreds$_{0\%}$ conc$_{0\%}$ part$_{0\%}$ predo$_{0\%}$ focal$_{0\%}$ fpredo$_{0\%}$ qobj$_{0\%}$ resem$_{0\%}$ inst$_{0\%}$ add$_{0\%}$ iter$_{0\%}$ correl$_{0\%}$ event$_{0\%}$ cause$_{0\%}$ comp$_{0\%}$ xpl$_{0\%}$ exem$_{0\%}$ iobj$_{0\%}$ avobj$_{0\%}$ source$_{0\%}$.

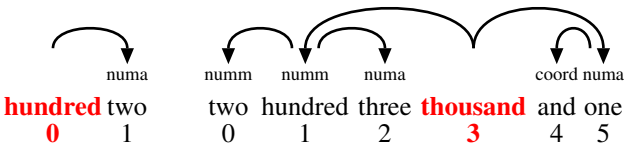
They joined the party.



numa
isa SYNCOMP
[96]

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

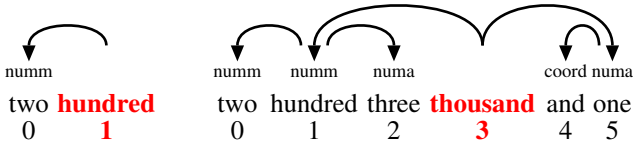
Related types: numm.
Confusion$_{6}$: .



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$_{59}$: pobj$_{3\%}$ pobj$_{3\%}$ pobj$_{3\%}$ pobj$_{3\%}$ pobj$_{3\%}$ time$_{1\%}$ namef$_{1\%}$.

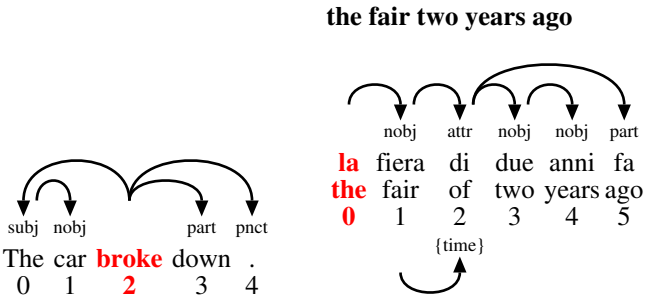


part *Verbal particle.* Verbal particle.

isa SYNCOMP

Related types: avobj.

[98] Confusion$_{33}$: pnct$_{4\%}$ pnct$_{4\%}$ pnct$_{4\%}$ pnct$_{4\%}$ dir$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$ scene$_{3\%}$.



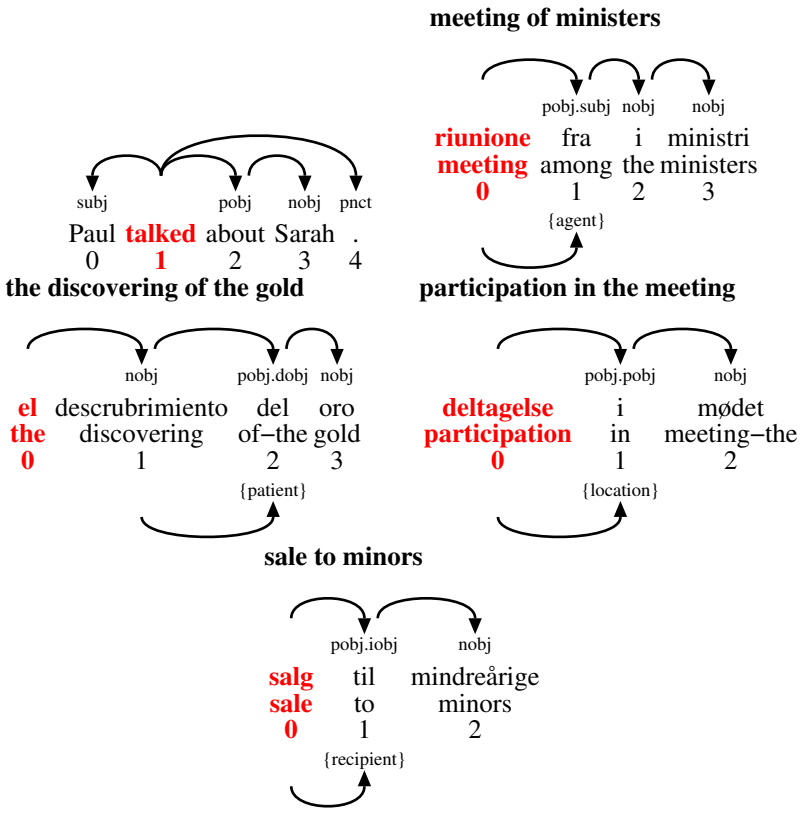
pobj *Prepositional object.* A prepositional object relation. The governor may be a verb, noun, adjective, adverbial, or another preposition. The preposition is analyzed as the head of the prepositional object itself. If the prepositional object is part of a deverbal NP (ie, an NP where the nucleus is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

isa SYNCOMP

[83]

Related types: SEMROLE avobj.

Confusion$_{777}$: scene$_{0\%}$ eval$_{0\%}$ expl$_{0\%}$ epi$_{0\%}$ fpredo$_{0\%}$ qobj$_{0\%}$ exem$_{0\%}$ iter$_{0\%}$ concom$_{0\%}$ predo$_{0\%}$ title$_{0\%}$ correl$_{0\%}$.



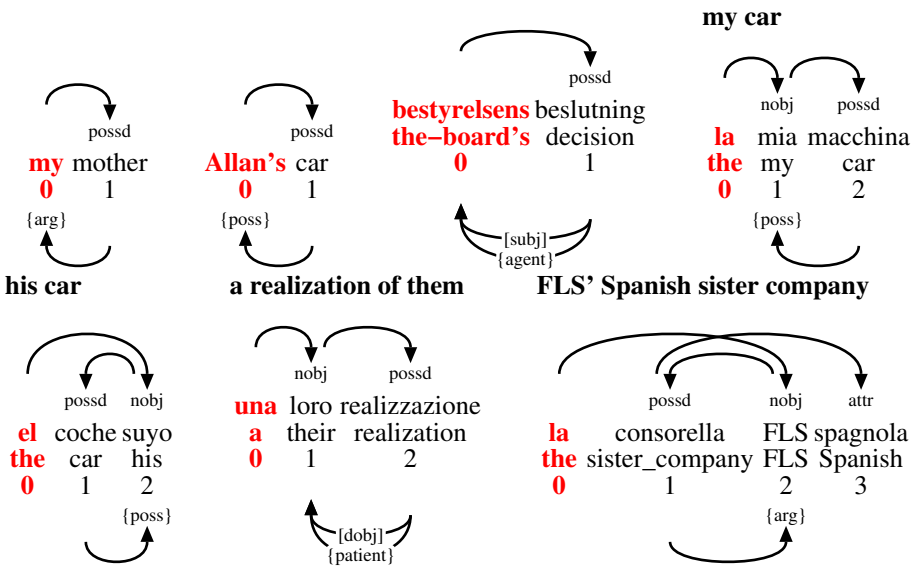
possd *Possessed complement.* The possessed complement in a possessive construction. Possession is understood in a syntactic sense as any construction with a clitic genitive marker, not necessarily as possession in a narrow semantic sense. A better name may be chosen for this relation in the future.

isa SYNCOMP

[99]

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

Confusion$_{307}$: attr$_{3\%}$ attr$_{3\%}$ attr$_{3\%}$ attr$_{3\%}$ attr$_{3\%}$ coord$_{1\%}$ iobj$_{0\%}$ title$_{0\%}$ appr$_{0\%}$ appa$_{0\%}$ concom$_{0\%}$ name$_{0\%}$.



possr *Possessor complement.* NO LONGER IN USE

isa SYNCOMP

[100]

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.

Confusion$_{25}$: possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ possr$_{4\%}$ numm$_{1\%}$ numm$_{1\%}$ numm$_{1\%}$ numm$_{1\%}$ numm$_{1\%}$.

N/A
0

pred *Predicative.*

isa SYNCOMP

Subtypes: predo preds.

[87]

Related types: predo preds.

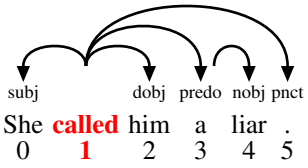
predo *Object predicative.*

isa pred

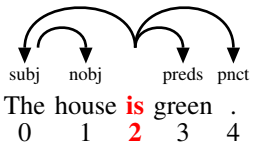
Related types: preds.

[89]

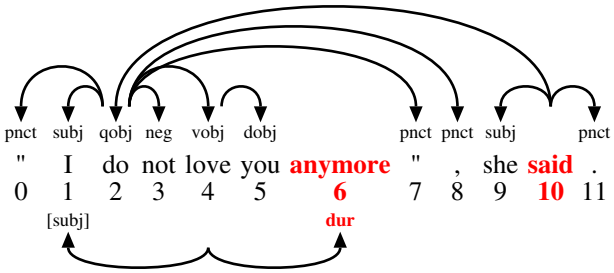
Confusion$_{29}$: dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$ dobj$_{5\%}$.



preds *Subject predicative.*
isa pred Related types: predo.
[88] Confusion$_{514}$: preds$_{66\%}$ preds$_{66\%}$ nobj$_{6\%}$ nobj$_{6\%}$ nobj$_{6\%}$ attr$_{2\%}$ agent$_{0\%}$ accom$_{0\%}$ name$_{0\%}$ quant$_{0\%}$ man$_{0\%}$ concom$_{0\%}$ appr$_{0\%}$ appa$_{0\%}$ xpl$_{0\%}$.

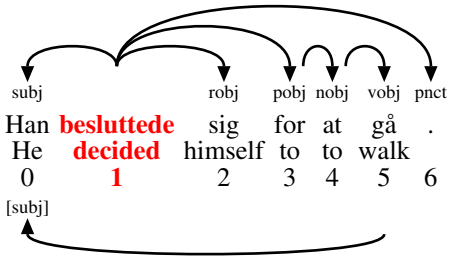


qobj *Quotational object.* A phrase or discourse segment functioning as directly quoted speech,
isa SYNCOMP typically by an attribution verb. Indirect speech is analyzed as ”dobj” or ”nobj”.
[101] Related types: xpl.
Confusion$_{73}$: coord$_{7\%}$ coord$_{7\%}$ coord$_{7\%}$ coord$_{7\%}$ coord$_{7\%}$ coord$_{7\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$ pnct$_{1\%}$.



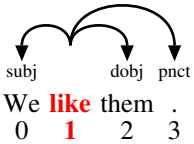
robj *Reflexive object.*
isa SYNCOMP Related types: dobj.
[91] Confusion$_{11}$: .

He decided to walk.



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

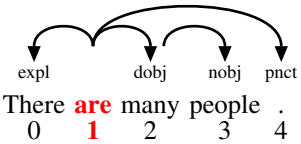
Subtypes: expl.
Related types: expl.
Confusion$_{1434}$: nobj$_{5\%}$ nobj$_{5\%}$ nobj$_{5\%}$ nobj$_{5\%}$ vobj$_{1\%}$ agent$_{0\%}$ resem$_{0\%}$ epi$_{0\%}$ accom$_{0\%}$ concom$_{0\%}$ cause$_{0\%}$ CONJ:elab$_{0\%}$ fpredo$_{0\%}$ part$_{0\%}$ conc$_{0\%}$ focal$_{0\%}$ exem$_{0\%}$ qobj$_{0\%}$ contr$_{0\%}$ compo$_{0\%}$ iobj$_{0\%}$ iter$_{0\%}$ inst$_{0\%}$ event$_{0\%}$ xpl$_{0\%}$ predo$_{0\%}$.



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.

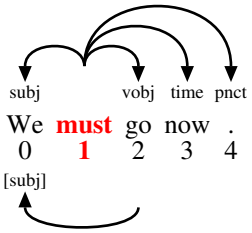
Confusion$_{62}$: .



vobj isa SYNCOMP [90] *Verbal object.*

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

Confusion$_{1092}$: concom$_{0\%}$ appr$_{0\%}$ resem$_{0\%}$ focal$_{0\%}$ add$_{0\%}$ possr$_{0\%}$ modp$_{0\%}$ qobj$_{0\%}$ cause$_{0\%}$ cond$_{0\%}$ eval$_{0\%}$ xpl$_{0\%}$ epi$_{0\%}$ agent$_{0\%}$ fpredo$_{0\%}$.



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.

CDT1ADJ isa CDT1 SYNADJ [397] *Deprecated CDT1 adjunct relations.* Deprecated adjunct relations from the CDT1+2 treebanks.

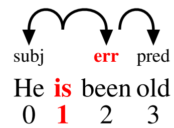
Subtypes: err list mod mods obl rep.

err isa CDT1ADJ [402] *Deprecated error relation..* Deprecated error relation. Used when connecting two phrases that do not fit together, often because of errors in the text.

Confusion$_{9}$: .

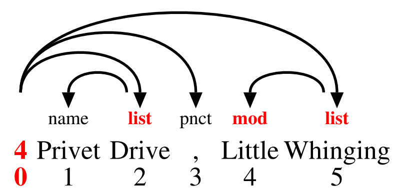
SYNADJ: syntactic adjunct
- ADVERB: adverbial
- CDT1ADJ: Deprecated CDT1 adjunct relations
  - err: Deprecated error relation.
  - list: Deprecated list element.
  - mod: modifier/adverbial
    - modo: object-oriented modifier
    - modp: parenthetic modifier
    - modr: restrictive modifier
  - mods:
  - obl:
  - rep:
- 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
  - CDT1GAP: Deprecated CDT1 gap relations
    - <avobj>:
    - <dobj>:
    - <lobj>:
    - <mod>:
    - <nobj>:
    - <pobj:nobj>:
    - <pobj>:
    - <possd>:
    - <pred>:
    - <qobj>:
    - <subj:pobj>:
    - <subj>:
    - <vobj>:
    - <xpl>:
  - RuleGap: gapping dependent
- name: part of name
  - namef: first name
  - naml: 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-!ADVERB-TOPIC.



list isa CDT1ADJ [401] *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.

Confusion$_{8}$: other$_{50\%}$ attr$_{25\%}$ attr$_{25\%}$ attr$_{25\%}$.



mod isa CDT1ADJ [421] *Modifier/adverbial.* Deprecated name for adverbials

Subtypes: modo modp modr.

Confusion$_{433}$: .

modo isa mod [424] *Object-oriented modifier.* Deprecated name for object-oriented modifiers

modp isa mod [423] *Parenthetic modifier.* Deprecated name for parenthetic modifiers

Related types: {elab}.

Confusion$_{32}$: subj$_{5\%}$ subj$_{5\%}$ subj$_{5\%}$ subj$_{5\%}$ subj$_{5\%}$ subj$_{5\%}$ subj$_{5\%}$ predo$_{1\%}$ predo$_{1\%}$ predo$_{1\%}$ predo$_{1\%}$ predo$_{1\%}$ predo$_{1\%}$ predo$_{1\%}$ predo$_{1\%}$.

modr isa mod [422] *Restrictive modifier.* Deprecated name for restrictive modifiers

mods isa CDT1ADJ [404] .

Confusion$_{2}$: fpreds$_{100\%}$.

obl isa CDT1ADJ [403] .

Confusion$_{3}$: .

rep isa CDT1ADJ [405] .

Confusion$_{1}$: REP$_{100\%}$.

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.

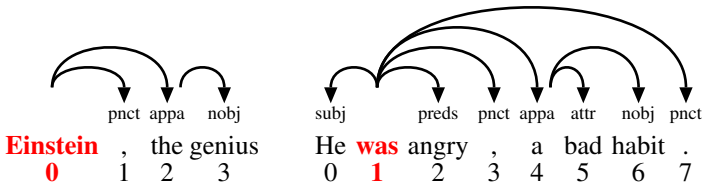
Related types: appa appr.

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

Subtypes: xpl.

Related types: appr xpl.

Confusion$_{50}$: appa$_{54\%}$ appa$_{54\%}$ appa$_{54\%}$ appa$_{54\%}$ appa$_{54\%}$ appa$_{54\%}$ appa$_{54\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$ pobj$_{2\%}$.

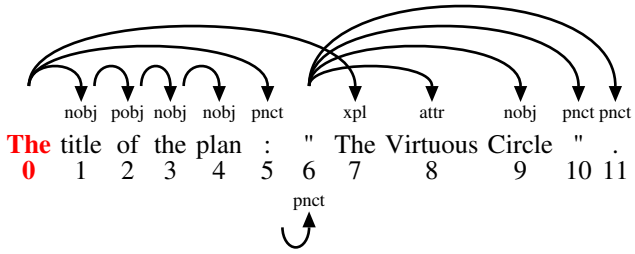


xpl *Explication.* Explication of an NP or VP.

isa appa

Related types: qobj.

[130] Confusion$_{24}$: pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$ pobj$_{5\%}$.

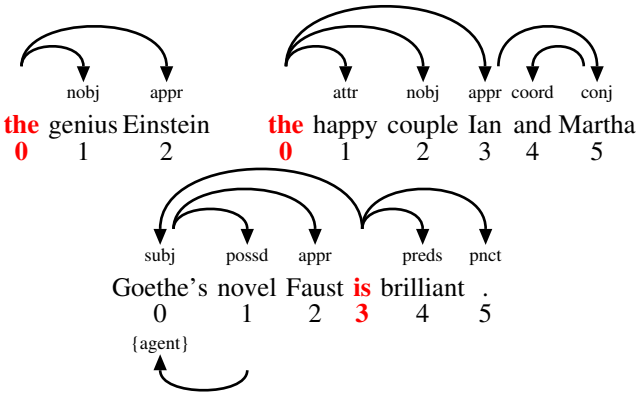


appr *Restrictive apposition (no comma).*

isa app

Related types: appa.

[118] Confusion$_{50}$: appr$_{64\%}$ nobj$_{8\%}$ nobj$_{8\%}$ nobj$_{8\%}$ nobj$_{8\%}$ nobj$_{8\%}$ nobj$_{8\%}$ title$_{2\%}$.

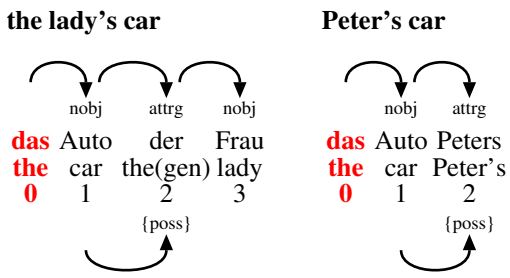


attrg *Genitive attributive.*

isa SYNADJ

Related types: SEMROLE gobj.

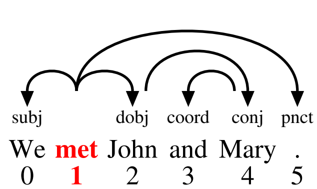
[115]

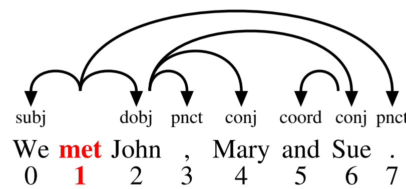


conj isa SYNADJ [106] *Conjunct relation.* A dependency relation relating the conjuncts in a coordination. Secondary conjuncts are analyzed as "conj"-dependents of the first conjunct. Coordinators are analyzed as dependents of the secondary conjuncts.

Related types: coord correl.

Confusion$_{689}$: pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ coord$_{1\%}$ CONJ:add$_{1\%}$ focal$_{0\%}$ cond$_{0\%}$ correl$_{0\%}$ eval$_{0\%}$ prg$_{0\%}$ comp$_{0\%}$ event$_{0\%}$ fpredo$_{0\%}$ aobj$_{0\%}$ man$_{0\%}$ appr$_{0\%}$ accom$_{0\%}$ add$_{0\%}$.

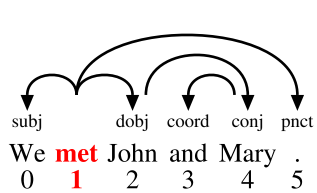


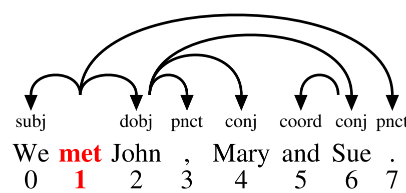


coord isa SYNADJ [107] *Coordinator relation.* A dependency relation between a coordinating conjunction and a secondary conjunct. The coordinator is analyzed as a dependent of the secondary conjunct. Secondary conjuncts are in turn analyzed as "conj"-dependents of the first conjunct.

Related types: conj correl discmark.

Confusion$_{525}$: qobj$_{1\%}$ fpredo$_{0\%}$ inst$_{0\%}$ eval$_{0\%}$ relr$_{0\%}$ conc$_{0\%}$ focal$_{0\%}$ modp$_{0\%}$ add$_{0\%}$ iter$_{0\%}$ avobj$_{0\%}$ predo$_{0\%}$ prg$_{0\%}$ source$_{0\%}$.

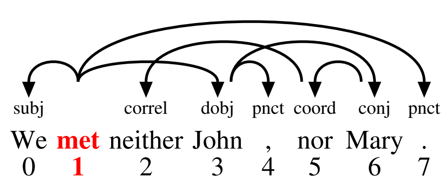


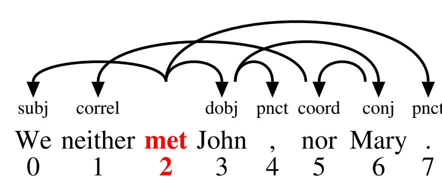


correl isa SYNADJ [108] *Correlative coordinator relation.*

Related types: conj coord.

Confusion$_{13}$: .





fpred isa SYNADJ [111] *Free predicative.*

Subtypes: fpredo fpreds.

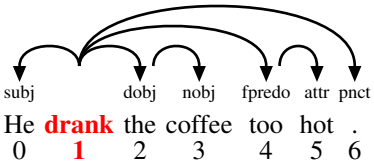
Related types: fpredo fpreds.

V–>free predicative
0 1

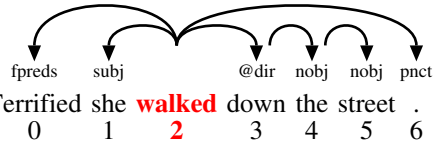
fpredo isa fpred [113] *Free direct-object predicative.*

Related types: fpreds man.

Confusion$_{13}$: pobj$_{3\%}$ pobj$_{3\%}$ pobj$_{3\%}$ pobj$_{3\%}$ pobj$_{3\%}$.

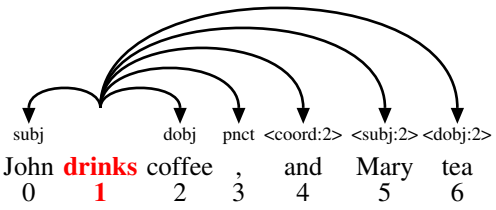


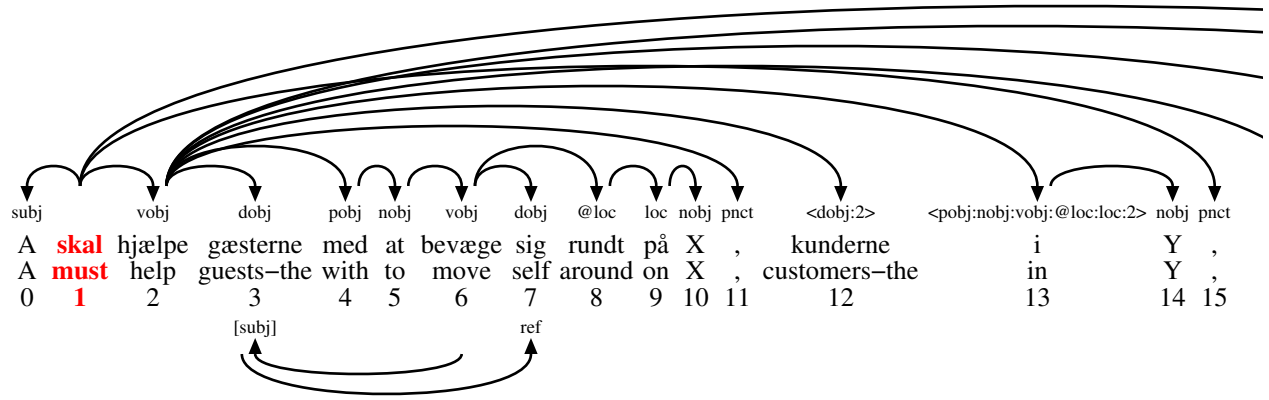
fpreds *Free subject predicative.*
isa fpred Related types: fpredo.
[112] Confusion$_{10}$: mod$_{40\%}$ man$_{20\%}$ mods$_{20\%}$ nobj$_{10\%}$ vobj$_{10\%}$.

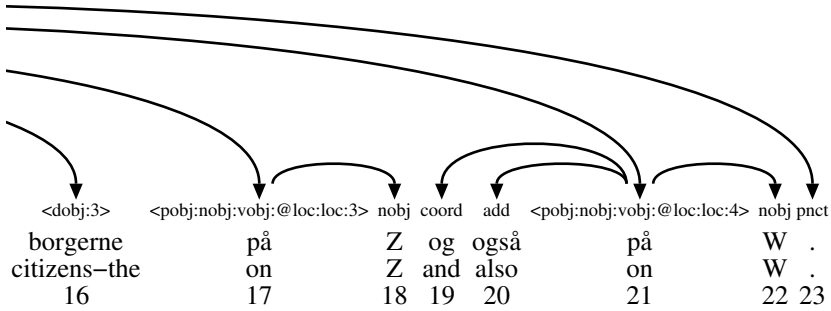


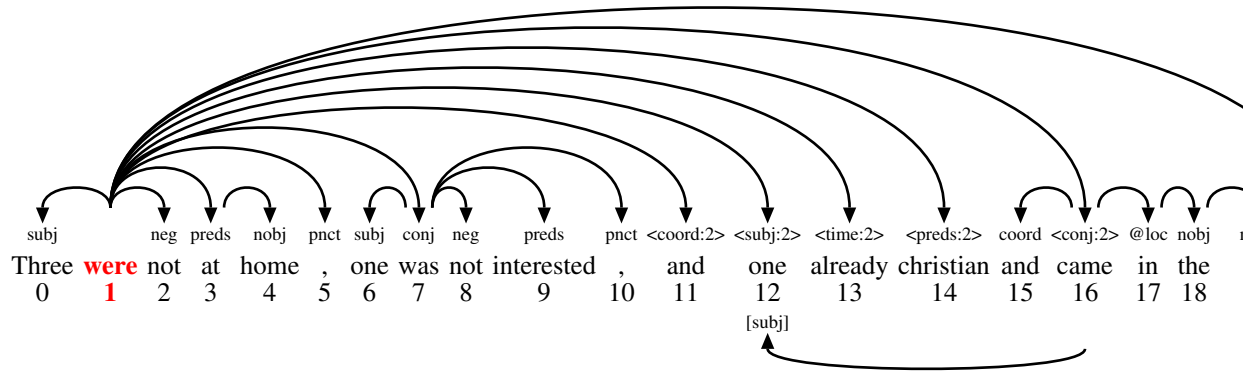
gapd *Gapping dependent* (long: GAPPING, deprecated GAP). A relation between a gapping dependent
isa SYNADJ in a secondary conjunct and the head of the first conjunct. In gapping coordinations, the sec-
[23] ondary conjuncts have an elided head, so the remaining material in the secondary conjuncts is 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.

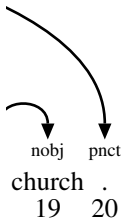
Subtypes: CDT1GAP RuleGap.











CDT1GAP isa CDT1 gapd [398]

Deprecated CDT1 gap relations. Deprecated gapping relations from the CDT1+2 treebanks.

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

<vobj> <xpl>.

<avobj> .
isa CDT1GAP
[419]

<dobj> .
isa CDT1GAP Confusion$_1$: <dobj>$_{100\%}$.
[408]

<lobj> .
isa CDT1GAP
[412]

<mod> .
isa CDT1GAP Confusion$_1$: <mod>$_{100\%}$.
[406]

<nobj> .
isa CDT1GAP
[410]

<pobj:nobj> .
isa CDT1GAP
[418]

<pobj> .
isa CDT1GAP
[411]

<possd> .
isa CDT1GAP
[413]

<pred> .
isa CDT1GAP
[407]

<qobj> .
isa CDT1GAP
[415]

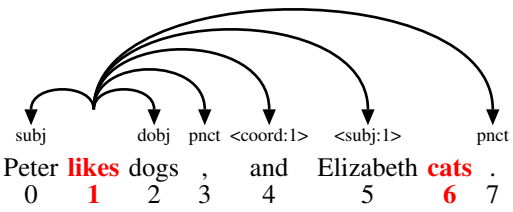
<subj:pobj> .
isa CDT1GAP
[417]

<subj> .
isa CDT1GAP
[409]

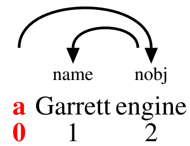
<vobj> .
isa CDT1GAP
[414]

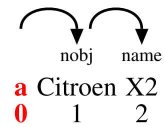
<xpl> .
isa CDT1GAP Confusion$_2$: xpl$_{100\%}$.
[416]

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
[370]

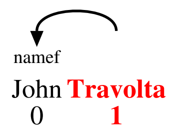


name *Part of name.* Part of a name.
isa SYNADJ Subtypes: namef namel title.
[124] Confusion$_{46}$: .

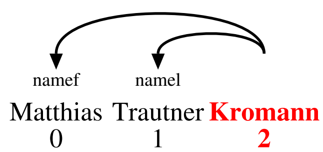




namef *First name.* A first name.
isa name Related types: namel title.
[125] Confusion$_{168}$: namef$_{87\%}$ namef$_{87\%}$ pnct$_{2\%}$.

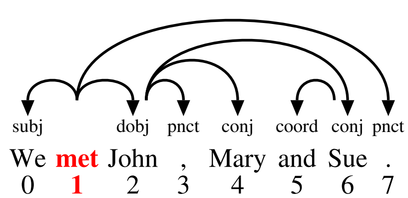


namel *Last name.* A second last name
isa name Related types: namef title.
[126] Confusion$_{8}$: namel$_{100\%}$.



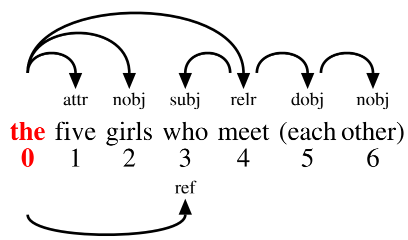
title *Person title.* A title in a name. If the is the title is determinated by an article, eg. the director Smith, the title must be annotated as "nobj" and the name as "appr".
isa name
[127] Related types: namef namel.
Confusion$_{39}$: attr$_{2\%}$ attr$_{2\%}$ attr$_{2\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$ preds$_{1\%}$.

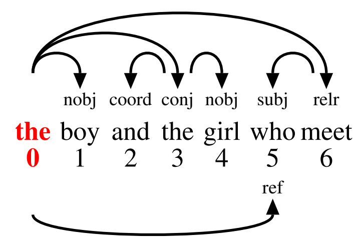
pnct *Punctuation.*
isa SYNADJ Confusion$_{2138}$: dobj$_{1\%}$ list$_{0\%}$ dir$_{0\%}$ part$_{0\%}$
[109] goal$_{0\%}$ predo$_{0\%}$ title$_{0\%}$ name$_{0\%}$ aobj$_{0\%}$ inst$_{0\%}$ conc$_{0\%}$ prg$_{0\%}$ qobj$_{0\%}$ cause$_{0\%}$ fpredo$_{0\%}$ eval$_{0\%}$ add$_{0\%}$ concom$_{0\%}$ agent$_{0\%}$ avobj$_{0\%}$ correl$_{0\%}$ cond$_{0\%}$ iobj$_{0\%}$ event$_{0\%}$ xpl$_{0\%}$ source$_{0\%}$.



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$_{76}$: .





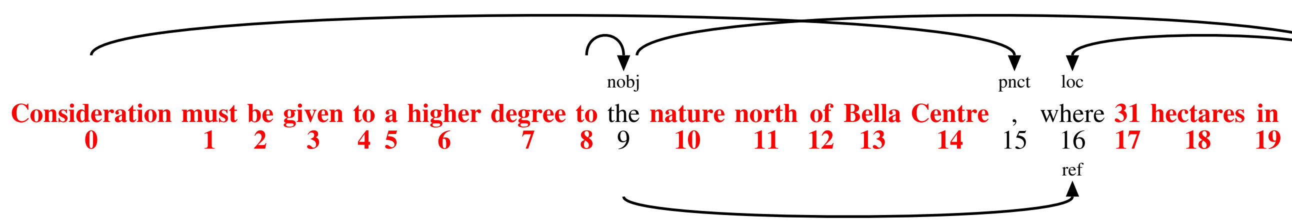
relelab *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da: hvilket, it: il che, cosa che
isa rel
[122]

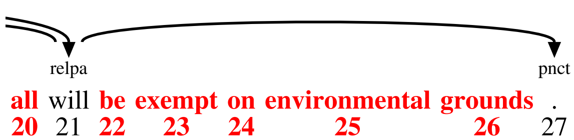
Related types: relpa relr.
Confusion$_{6}$: .

V–>V
0

relpa *Parenthetic relative clause* (deprecated relp).
isa rel
[121]

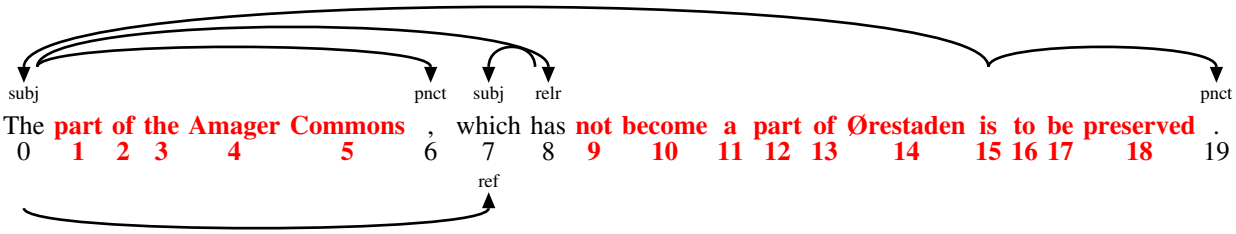
Related types: relelab relr.
Confusion$_{17}$: .





relr *Restrictive relative clause.*
isa rel
[120]

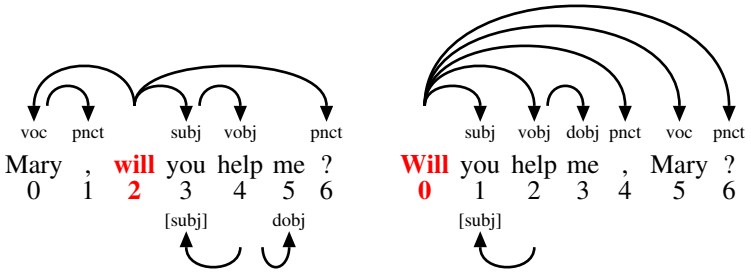
Related types: relelab relpa.
Confusion$_{187}$: nobj$_{7\%}$ nobj$_{7\%}$ attr$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ possd$_{1\%}$.



voc *Vocative.* Vocative specification. The person to whom the statement is directed.

isa SYNADJ [129]

Confusion$_3$: voc$_{100\%}$.

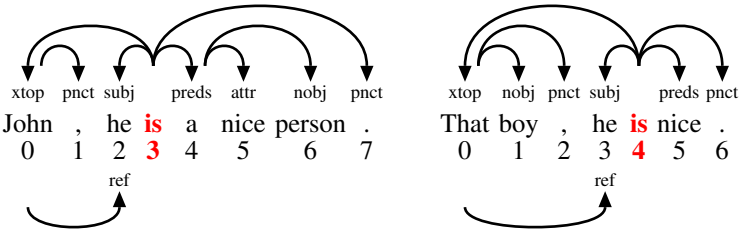


xtop *External topic with resuming pronoun.* An external topic is a sentence-initial NP whose only function is to provide the antecedent for a pronoun later in the sentence. Eg in ”John, he is a nice person”. Here ”John” is the ”xtop” of ”is”, and ”he” is the subject of ”is”.

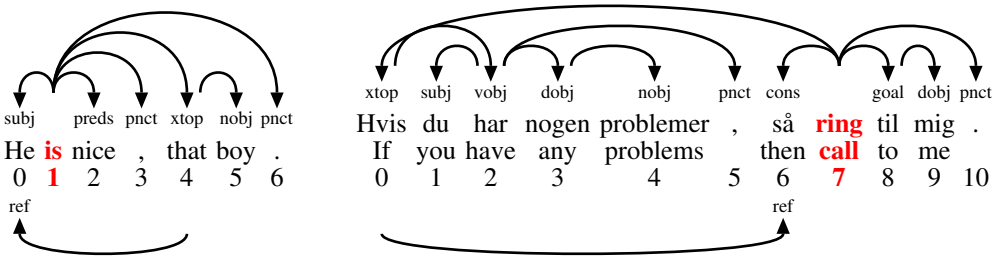
isa SYNADJ [123]

Related types: cons ref xtop.

Confusion$_4$: xtop$_{100\%}$.



If you are having any problems, call me.



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-TOPIC.

3.3 Adverbial adjunct relations: ADVERB

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

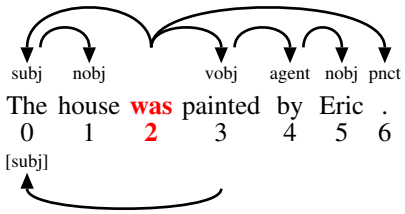
isa SYNADJ [141]

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]

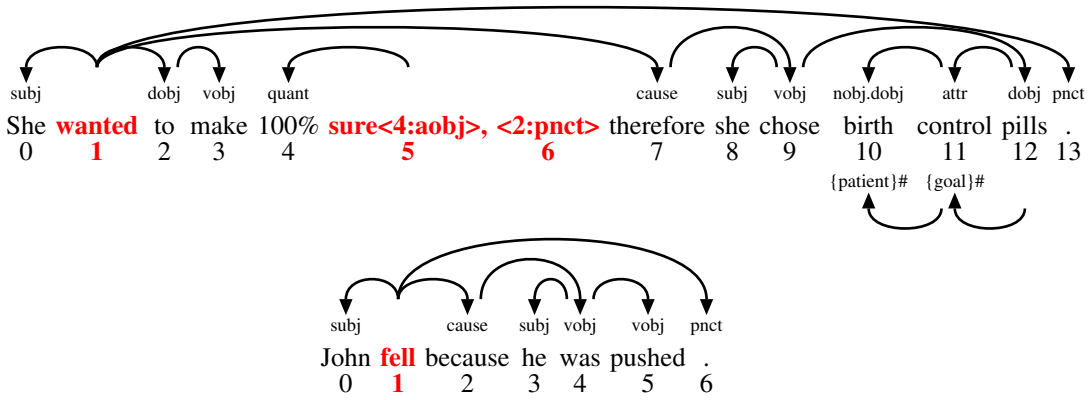
Confusion$_1$: AGENT:MC$_{100\%}$.



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

isa ADVERB [160]

Subtypes: goal.
Confusion$_{57}$: .

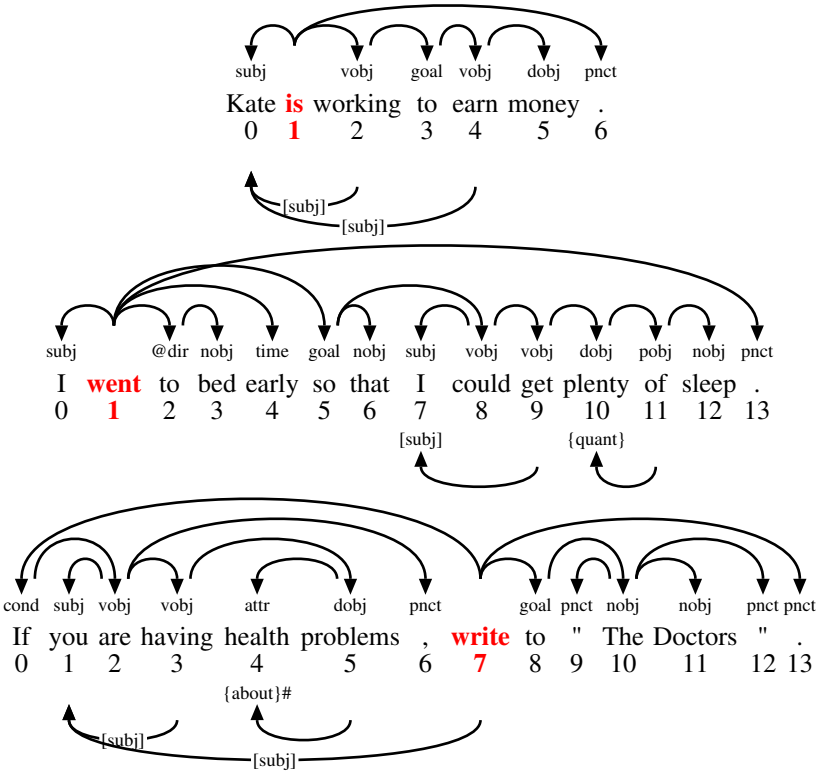


goal *Goal adverbial* (deprecated ben). Describes the intended goal of the event/action. Also used in connection with free datives.

isa cause

[161] Related types: reas.

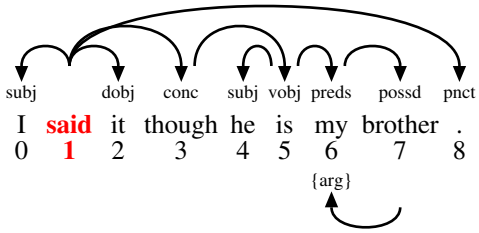
Confusion$_{69}$: mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$.



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

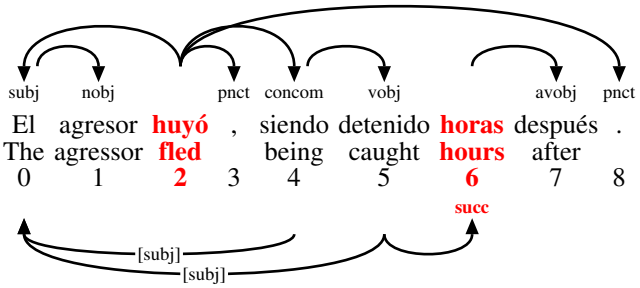
isa ADVERB

[164] Confusion$_{23}$: contr$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ mod$_{13\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$.

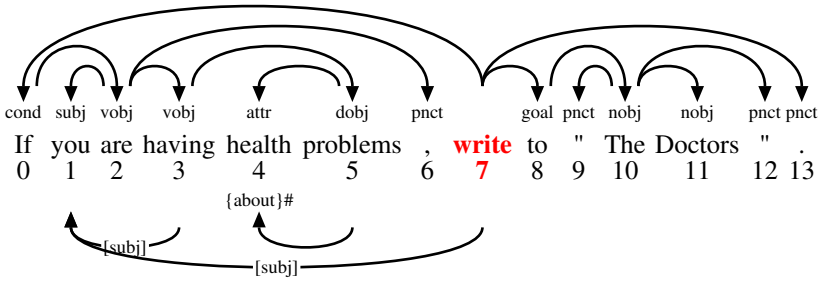


concom . Gerunds in Romance
isa ADVERB Related types: vobj.
[168] Confusion$_{15}$: coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$ coord$_{4\%}$.

The agressor fled and/but got caught hours later.



cond *Condition adverbial.* Describes the condition of the event/action.
isa ADVERB Related types: pcond.
[163] Confusion$_{40}$: mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$ mod$_{10\%}$.

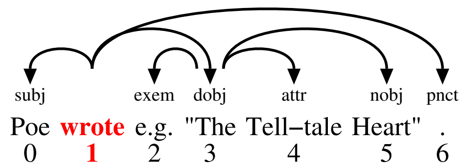


cons *Consequence adverbial.* Describes the consequence of the event/action.
isa ADVERB Related types: xtop.
[162] Confusion$_{21}$: .

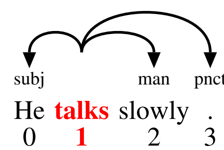
event *Adverbial expressing an event.* Used when the adverbial in questions expresses an event rather that time or place.
isa ADVERB
[156] Confusion$_{10}$: mod$_{40\%}$ time$_{20\%}$ loc$_{20\%}$ nobj$_{9\%}$ attr$_{3\%}$ attr$_{3\%}$ attr$_{3\%}$ attr$_{3\%}$ subj$_{1\%}$ pnct$_{1\%}$ quant$_{1\%}$.

I andet sæt vandt han 15–6 **He told us last Wednesday at the meeting**
0 1 2 3 4 5 **0 1 2 3 4 5 6 7**

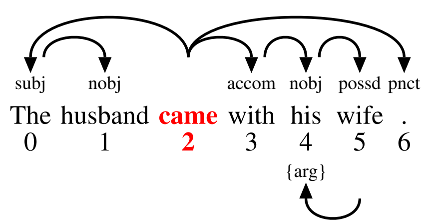
exem *Example adverbial* (long: exemplification, deprecated ex). Exemplification; subordinated the object which is added to a list.
isa ADVERB
[167]
Confusion$_{21}$: mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$ mod$_{19\%}$.



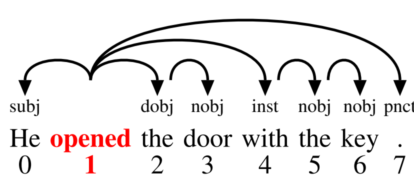
man *Manner adverbial.* The way things are done
isa ADVERB
[157]
Subtypes: accom inst.
Related types: fpredo.
Confusion$_{155}$: nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ nobj$_{4\%}$ pobj$_{1\%}$.



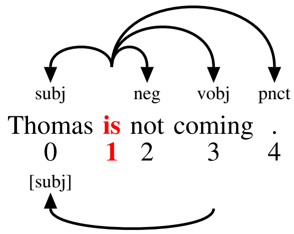
accom *Companionship adverbial* (deprecated comp). Companionship
isa man
[158]
Related types: man.
Confusion$_{1}$: conj$_{40\%}$ nobj$_{40\%}$ subj$_{20\%}$.



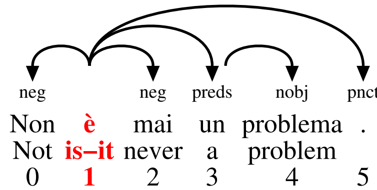
inst *Instrument adverbial.* Instrument/means
isa man
[159]
Related types: man.
Confusion$_{37}$: inst$_{27\%}$ inst$_{27\%}$ inst$_{27\%}$ inst$_{27\%}$ inst$_{27\%}$ inst$_{27\%}$ inst$_{27\%}$ inst$_{27\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$ pnct$_{3\%}$.



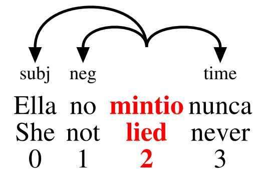
neg *Negation adverbial.* Negation of a verbal
isa ADVERB
[171]
Confusion$_{133}$: neg$_{76\%}$.



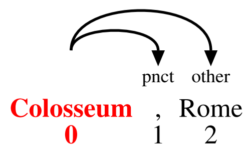
It’s never a problem.



She never lied



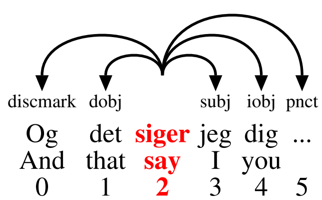
other *Other adverbial.* Unspecified adverbial relation.
isa ADVERB
[172]
Confusion$_{191}$: iter$_{1\%}$ epi$_{1\%}$ dir$_{1\%}$ eval$_{1\%}$ conc$_{1\%}$ dobj$_{1\%}$.



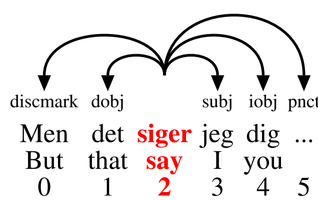
prg *Pragmatic adverbial* (long: pragmatic). Sentence level.
isa ADVERB
[142]
Subtypes: discmark epi eval focal scene.
Confusion$_{57}$: eval$_{14\%}$ eval$_{14\%}$ prg$_{7\%}$.

discmark *Sentence-initial discourse marker* (long: discoursemarker). Discourse marker
isa prg
[147]
Related types: coord.
Confusion$_{32}$: .

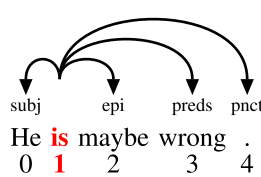
And I’m telling you...



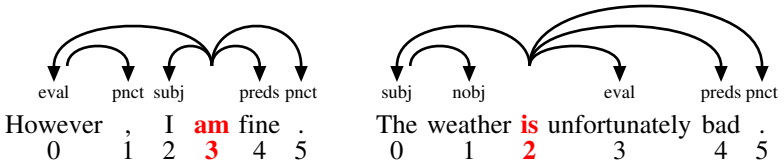
But I’m telling you...



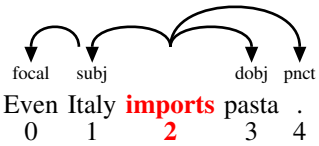
epi *Epistemic adverbial* (long: epistemic). Regarding the level of truth in the expression
isa prg
[145]
Related types: eval.
Confusion$_{24}$: part$_{1\%}$ pobj$_{1\%}$ pobj$_{1\%}$ pobj$_{1\%}$ pobj$_{1\%}$ pobj$_{1\%}$.



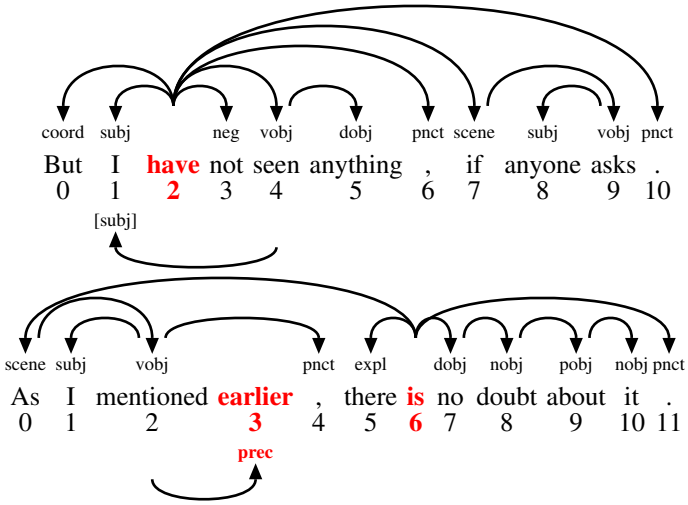
eval *Evaluation adverbial* (long: evaluation, deprecated evalatt). Evaluating and attitude adverbials
isa prg
[146]
Related types: epi.
Confusion$_{62}$: time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$ time$_{2\%}$.



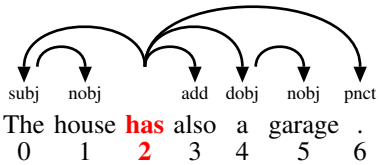
focal *Focalizer adverbial* (long: focalizator). Focalization of a noun
isa prg Related types: quant.
[143] Confusion$_{42}$: dobj$_{1\%}$ dobj$_{1\%}$ dobj$_{1\%}$ dobj$_{1\%}$ dobj$_{1\%}$ dobj$_{1\%}$ dobj$_{1\%}$ dobj$_{1\%}$.



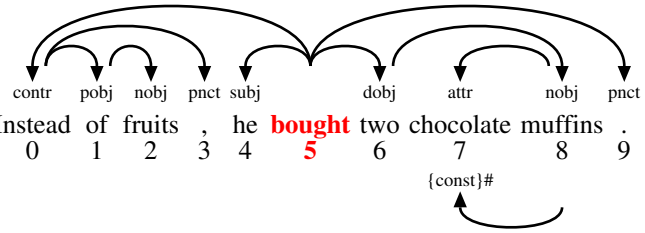
scene *Pragmatic condition and structural adverbial* (deprecated prgcondpcondbgstruct). Setting the scene
isa prg Subtypes: add contr elab.
[144] Related types: cond.
Confusion$_{71}$: .



add *Additive adverbial* (long: additive). Additive information
isa scene Confusion$_{66}$: scene$_{3\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$
[150] subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$ subj$_{2\%}$.



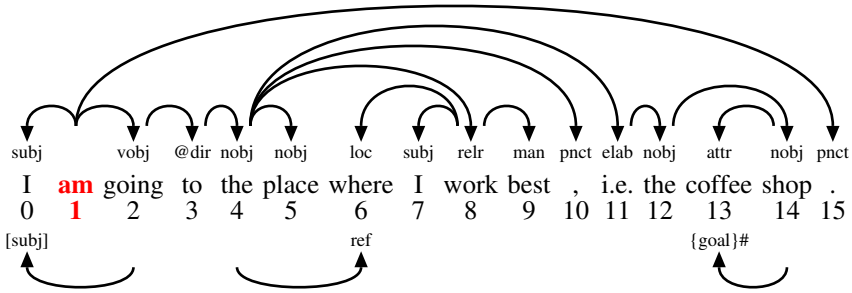
contr *Contrast adverbial* (long: contrast). Opposition
isa scene Related types: struct.
[148] Confusion$_{26}$: relr$_{1\%}$ attr$_{1\%}$ subj$_{1\%}$.



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

isa scene

[149] Confusion$_{4}$: elab$_{50\%}$ prg$_{25\%}$ quant$_{25\%}$.

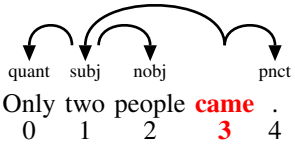


quant *Degree adverbial* (long: quantification, deprecated degr). Modifies the object or verbal by degree

isa ADVERB

Related types: focal.

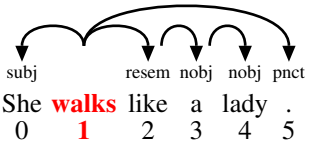
[169] Confusion$_{208}$: pnct$_{1\%}$ prg$_{1\%}$ vobj$_{1\%}$ avobj$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ degr$_{1\%}$ namef$_{0\%}$ event$_{0\%}$.



resem *Comparison adverbial* (deprecated comparecomp). Comparison

isa ADVERB

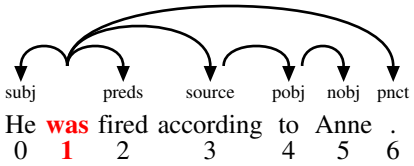
[165] Confusion$_{15}$: time$_{1\%}$ qobj$_{1\%}$.



source *Source attribution adverbial.* Reference/source

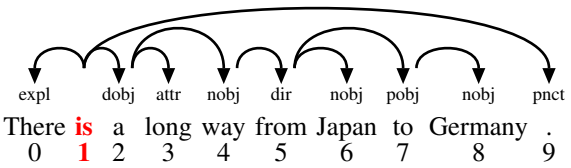
isa ADVERB

[166] Confusion$_{14}$: .

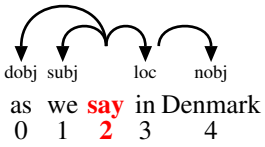


space *Space adverbial.* Space adverbials
isa ADVERB
[153]
Subtypes: dir loc.

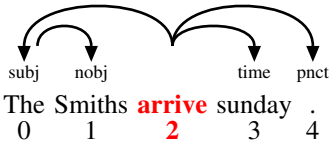
dir *Direction adverbial.* Movement from one place to another; direction
isa space
[155]
Related types: loc.
Confusion$_{75}$: dir$_{40\%}$ dir$_{40\%}$ pobj$_{12\%}$ pobj$_{12\%}$ pobj$_{12\%}$ pobj$_{12\%}$ pobj$_{12\%}$ pobj$_{12\%}$ pobj$_{12\%}$.



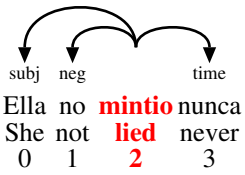
loc *Location adverbial.* Location
isa space
[154]
Related types: dir.
Confusion$_{296}$: inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ inst$_{1\%}$ qobj$_{0\%}$ name$_{0\%}$ relr$_{0\%}$.



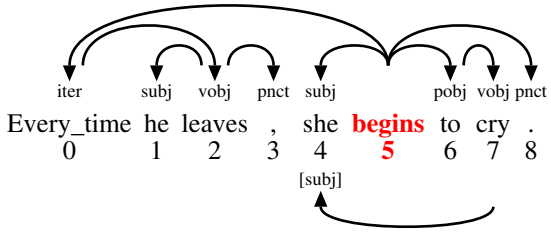
time *Time adverbial.* Time relating adverbials
isa ADVERB
[151]
Subtypes: iter.
Confusion$_{384}$: man$_{1\%}$ resem$_{0\%}$ name$_{0\%}$ concom$_{0\%}$ appr$_{0\%}$ add$_{0\%}$.



She never lied



iter *Habituality adverb* (deprecated `hab`). Habitual; repeated habit
isa time
[152]
Related types: `dur` `ext`.
Confusion$_{28}$: .



Chapter 4

Morphological relations: MORPHOLOGY

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

Figure 4.1: The relations matching MORPHOLOGY-!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 [373] *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.

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-TOPIC.

§ABOUT isa MORPHCOMP [360] *Noun-noun compound (about).* Non-head has an aboutness meaning wrt. head.

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

§AGENT:MC isa MORPHCOMP [351] *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 [350] *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 [342] .

§EVAL isa MORPHCOMP [358] *Noun-noun compound (evaluative).* Non-head has an evaluative meaning wrt. head.

coche de lujo 'luksusbil'
0 1 2 3

§FUNC isa MORPHCOMP [353] *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 [354] *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
[356]

(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
[361]

§POSS *Noun-noun compound (possession).* Non-head has a possessive meaning wrt. head.
isa MORPHCOMP
[355]

(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
[359]

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
[352]

(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
[357]

(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-!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.

4.2.1 Prefix relations: PREFIX

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-TOPIC.

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.

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

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

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

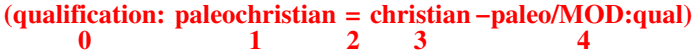
(iterative: redefine = define –re/ITER)
0 1 2 3 4

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

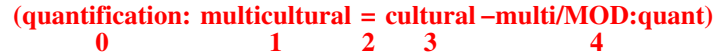
§MOD:eval *Evaluation* (deprecated MOD:man). Prefix conveys evaluation
isa §MOD [296]

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

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

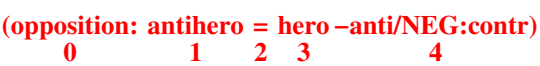


§MOD:quant *Quantification* (deprecated MOD:cuant+GRAD:size). Prefix conveys quantification.
isa §MOD
[295]

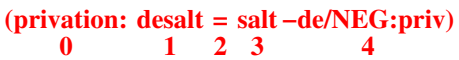


§NEG *Negation.* Prefix conveys negation in a broad sense.
isa PREFIX
Subtypes: §NEG:contr §NEG:priv §NEG:rev.
[286]

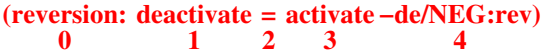
§NEG:contr *Contrast* (deprecated NEG:oppo). Prefix conveys contrast.
isa §NEG
[287]



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



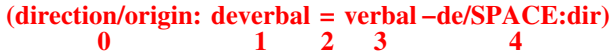
§NEG:rev *Reversion* (deprecated ASPEC:rev). Prefix conveys reversion.
isa §NEG
[289]



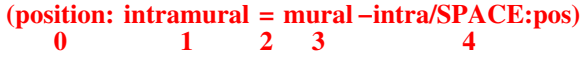
§PRE:other *Other prefix relation.* If in doubt about the meaning conveyed by the prefix
isa PREFIX
[298]

§SPACE *Space* (deprecated LOC). Prefix expresses space in a broad sense.
isa PREFIX
Subtypes: §SPACE:dir §SPACE:loc §SPACE:source.
[278]

§SPACE:dir *Direction* (deprecated LOC:dir). Prefix expresses direction.
isa §SPACE
[280]



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



§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 [346] *Adjective-numeral derivation.* Suffix creates denumeral adjectives in a broad sense.

Subtypes: §DENUM:apart §DENUM:ord §DENUM:quant.

§DENUM:apart isa §DENUM [348] *Adjective-partitive derivation* (deprecated DENUM:part). Suffix creates partitive numerals.

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

§DENUM:ord *Adjective-ordinal derivation.* Suffix creates ordinals.
isa §DENUM
[347]

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

§DENUM:quant *Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.
isa §DENUM
[349]

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

§DER *Verb derivation.* Suffix triggers a derivation
isa SUFFIX
Subtypes: §DERadvv §DERav §DERnv §DERva §DERvn §DERvv.
[302]

§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
Subtypes: §DERva:act §DERva:pas.
[327]

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

"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 *Verb-adjective derivation (potentiality)* (deprecated DEVERB:act.poten). Suffix creates active adjectives with the meaning aspect ”potentiality”.
isa §DERva:act
[330]

"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 *Verb-adjective derivation (passive)* (deprecated DEVERB:pas). Suffix creates passive adjectives.
isa §DERva
Subtypes: §DERva:pas.deon §DERva:pas.epi §DERva:pas.part.
[331]

§DERva:pas.deon *Verb-adjective derivation (passive deontic)* (deprecated DEVERB:pas.deon). Suffix creates passive adjectives with a deontic meaning.
isa §DERva:pas
[334]

"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 *Verb-adjective derivation (passive potentiality)* (deprecated DEVERB:pas.poten). Suffix creates passive adjectives with the meaning aspect ”potentiality”.
isa §DERva:pas
[333]

"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

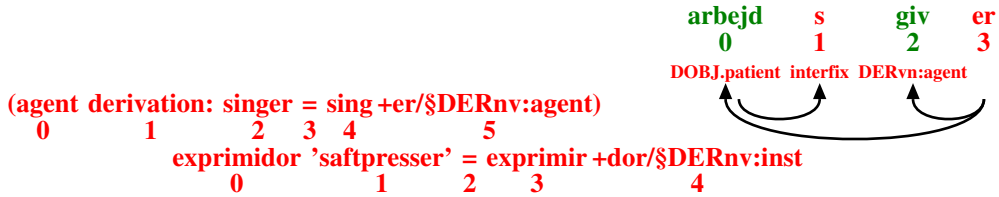
§DERva:pas.part *Verb-adjective derivation (passive participles)* (deprecated DEVERB:pas.part). Suffix creates passive adjectives with the form of participles.
isa §DERva:pas
[332]

"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 [338] *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 [340] *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 [339] *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 [343] *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 [345] *Noun-adjective derivation (other)* (deprecated DENOM:other). If in doubt about the meaning conveyed by the suffix

§DERna:poss isa §DERna [342] *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.

Subtypes: §DERna:rel.norm.

§DERna:rel.norm isa §DERna:rel [337] *Noun-adjective derivation (normal)* (deprecated DENOM:rel.norm). Suffix creates relational adjectives with a "normal" meaning aspect.

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

§DERna:resem isa §DERna [341] *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 [344] *Noun-adjective derivation (effect)* (deprecated DENOM:eff). Suffix creates denominal adjectives that express an effect.

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

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

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

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

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

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

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

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

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

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

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

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

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

§DERv isa SUFFIX [326] (deprecated DEVERB).

§DIMIN isa SUFFIX [300] *Diminution.* Suffix conveys diminution.

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

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

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

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:rel.norm: noun-adjective derivation (normal)
  - §DERna:resem: noun-adjective derivation (resemblance)
  - §DERna:telic: noun-adjective derivation (effect)
- §DERnn: noun-noun derivation
  - §DERnn:agent: noun-noun derivation (agent)
  - §DERnn:assoc: noun-noun derivation (association)
  - §DERnn:capac: noun-noun derivation (capacity)
  - §DERnn:cont: noun-noun derivation (container)
  - §DERnn:loc: noun-noun derivation (location)
  - §DERnn:other: noun-noun derivation (other)
  - §DERnn:quant: noun-noun derivation (quantification)
  - §DERnn:telic: noun-noun derivation (telic)
  - §DERnn:time: noun-noun derivation (time)
- §DERv:
- §DIMIN: diminution
- §PEJ: pejoration

Figure 4.5: The relations matching SUFFIX-TOPIC.

Chapter 5

Discourse relations: DISCOURSE

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 DISCOURSE-!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
[219]

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.

Confusion$_8$: CONJ:add$_{75\%}$ CONJ:add$_{75\%}$ CONJ:add$_{75\%}$.

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.

Confusion$_{11}$: SCENE$_{100\%}$.

headings, titles
0 1

DISCPRAG isa ADJ DISC [218] *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 [217] *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 [372] *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-TOPIC.

DISCPRAG isa ADJ DISC [218] *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.

Confusion$_1$: 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.

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$_2$: AGENTIVE:sbj$_{100\%}$.

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$_3$: .

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

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

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

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

QUEST isa DISCPRAG [254]
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.

Related types: answer.

5.2 Semantic relations: DISCSEM

DISCSEM isa ADJ DISC [217]
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.

AGENTIVE isa DISCSEM [221]
Cause relation (discourse). The dependent segment expresses ”bringing about” or cause in a broad sense

Subtypes: AGENTIVE:expl AGENTIVE:reas AGENTIVE:sbj.

AGENTIVE:expl isa AGENTIVE [222]
Explanation relation in discourse. An explanation relation. The dependent segment explains the governing segment. The relation is more general and elaborating than ”reason”.

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

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:elab: elaboration
  - 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-TOPIC.

Related types: reason.
Confusion$_9$: .

AGENTIVE:reas isa AGENTIVE [223] *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$_9$: .

AGENTIVE:sbj isa AGENTIVE [224] *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$_9$: .

CONC isa DISCSEM [237] *Concession.* A concession relation. The dependent segment admits or acknowledges a fact wrt N, which may however not have the expected consequence or effect.
Typical connectives: [en] Though, Although, However; [da] Skønt; Selvom; [it] Anche se; Sebbene.
Confusion$_{16}$: .

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$_{1}$: conj$_{50\%}$ COND$_{50\%}$.

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$_{3}$: .

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$_{103}$: CONJ$_{1\%}$ CONTR:prg$_{1\%}$ CONTR:sbj$_{1\%}$ DISJ:dir$_{1\%}$ vobj$_{1\%}$.

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$_{76}$: .

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$_{13}$: .

CONST *Constitutive elaboration relation.* The dependent segment adds more details regarding the constitution of the governing segments or part(s) of it.
isa DISCSEM
[229]
Subtypes: CONST:apart CONST:elab CONST:exem CONST:rest.

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$_{11}$: .

CONST:elab *Elaboration* (deprecated ELAB:spec,ELAB:exp). A constitutive elaboration relation. The dependent segment elaborates and expans knowledge of the governing segment; may be difficult to distinguish from CONJ
isa CONST
[231]
Related types: CONJ.
Confusion$_{3}$: .

CONST:exem *Exemplification.* A constitutive exemplification relation. The dependent segment gives examples of elements or phenomena regarding the governing segment.
isa CONST
[230]
Typical connectives: [en] For example; [da] For eksempel; [it] Per esempio.
Confusion$_{12}$: .

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$_{10}$: CONJ:elab$_{20\%}$ TELIC:cons.sbj$_{20\%}$ TELIC:cons.sbj$_{20\%}$ CONST:elab$_{10\%}$ AGENTIVE:expl$_{10\%}$ CONST:exem$_{10\%}$ CONST:exem$_{10\%}$ qobj$_{5\%}$.

CONTR *Contrast.* The dependent text segment expresses a contrast wrt the governing text segment.
isa DISCSEM Subtypes: CONTR:dir CONTR:sbj.
[247] Confusion_{1}: AGENTIVE:$\text{expl}_{100\%}$.

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_{12}: .

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_{6}: .

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_{1}: CONJ:$\text{add}_{100\%}$.

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_{3}: .

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_{8}: CONJ:$\text{elab}_{50\%}$ CONJ:$\text{elab}_{50\%}$ CONJ:$\text{elab}_{50\%}$.

TELIC *Consequence/result/conclusion/goal relation (discourse).* The dependent segment expresses consequence, result, purpose, conclusion or goal wrt the governing segment.
isa DISCSEM
[225] Subtypes: TELIC:cons.dir TELIC:cons.sbj TELIC:goal.

TELIC:cons.dir *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.
isa TELIC
[227] Typical connectives: [en] Therefore, For this reason; [da] Derfor, Af den grund; [it] Perciò, Quindi.

Confusion$_{10}$: AGENTIVE:reas$_{10\%}$ CONTR:dir$_{10\%}$ CONTR:dir$_{10\%}$ CONJ:elab$_{5\%}$ qobj$_{5\%}$.

TELIC:cons.sbj isa TELIC [228] *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$_{11}$: .

TELIC:goal isa TELIC [226] *Goal relation (discourse).* A goal relation. The dependent segment expresses goal, purpose, aim or the like wrt the governing segment.

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.

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$_{1}$: TIME:pre$_{100\%}$.

Chapter 6

Anaphor relations: ANAPHORA

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

Figure 6.1: The relations matching ANAPHORA-!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.

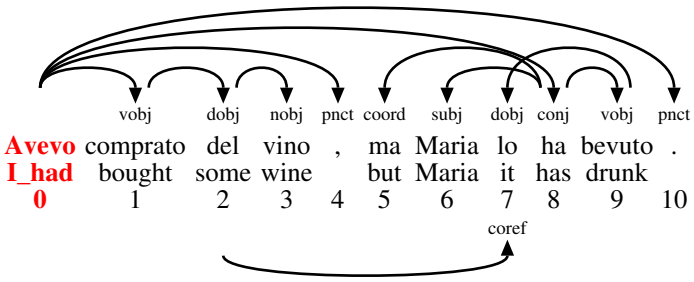
ANAREL isa ANA REL [28]
Anaphor-antecedent relation. An anaphor-antecedent relation, i.e. a relation between an anaphor (pronoun, definite description, etc.) and an antecedent. The anaphor may be either coreferential, i.e. it designates the same discourse referent as the antecedent, or associative. In 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.

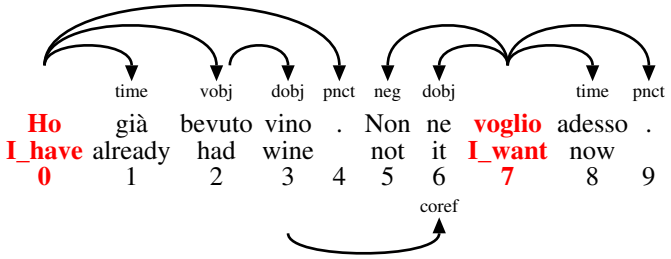
assoc isa anaphor [193]
Associative anaphor. The anaphor designates an entity which is associated with the antecedent
Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.
Confusion$_9$: .

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.
Confusion$_{141}$: .

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-TOPIC.

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

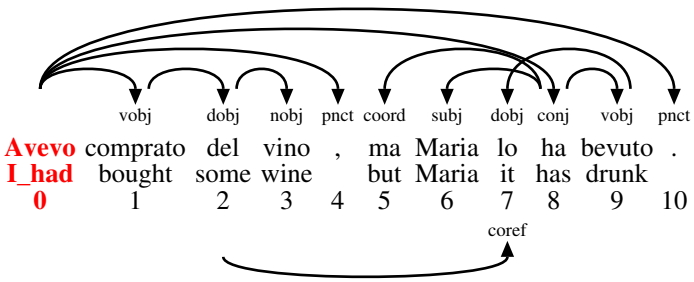
isa anaphor

[186]

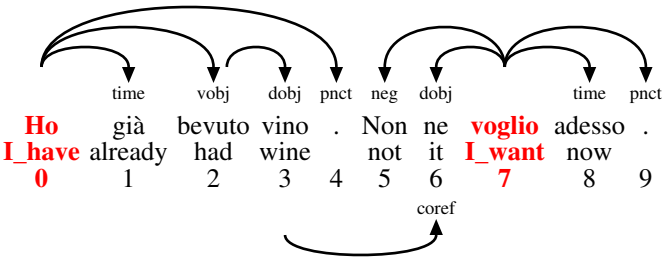
Subtypes: coref-evol coref-iden coref-res coref-var ref.

Confusion$_{141}$: .

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



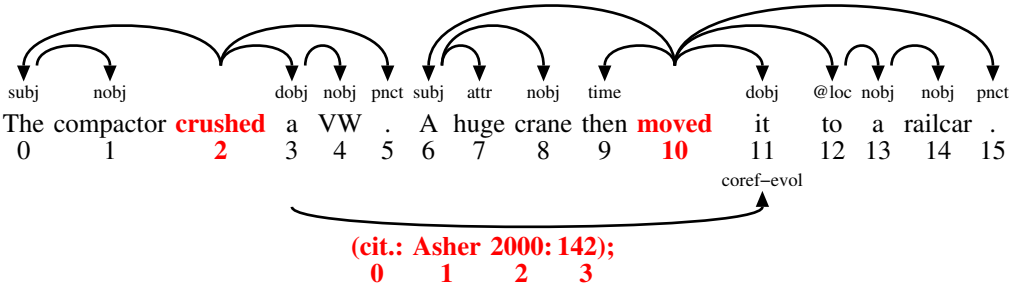
I've already had wine. I don't want anymore right now.

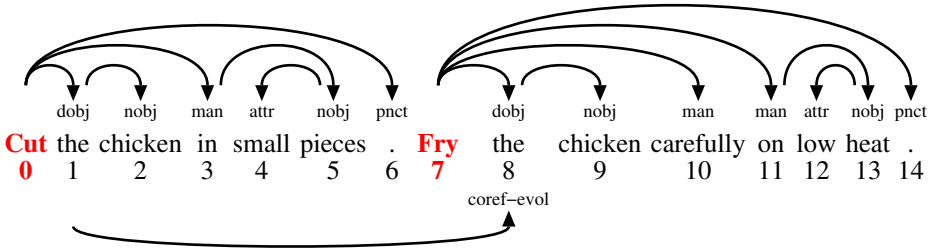


coref-evol isa coref [191]

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$_1$: coref-var$_{100\%}$.

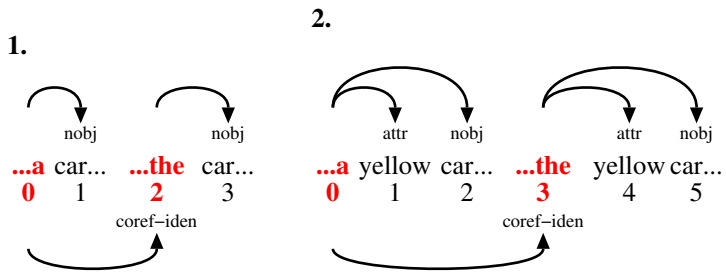




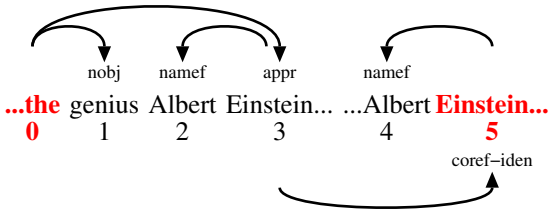
coref-iden isa coref [187]

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:

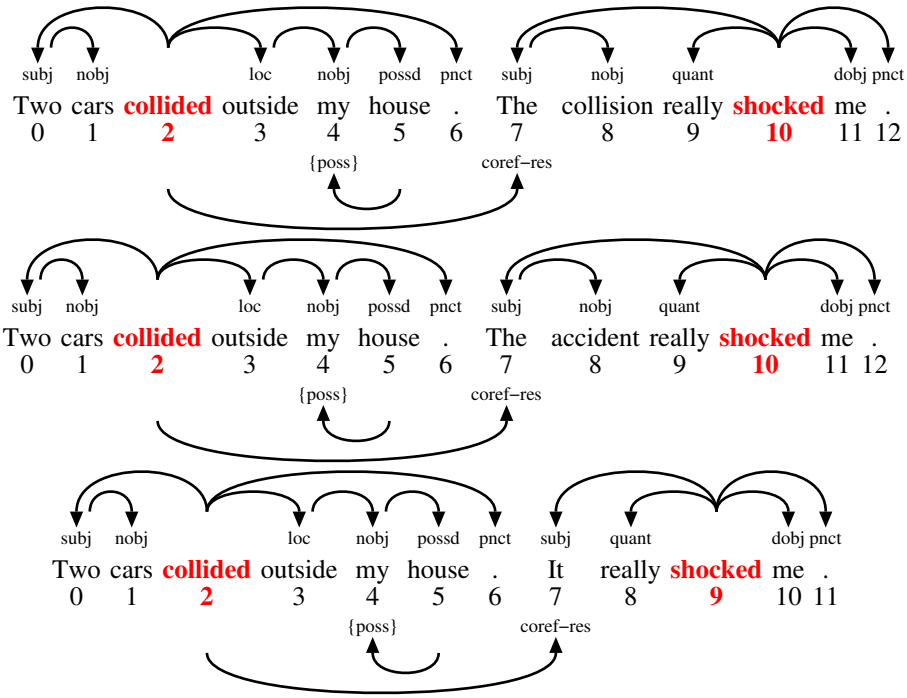
Confusion$_{52}$: .



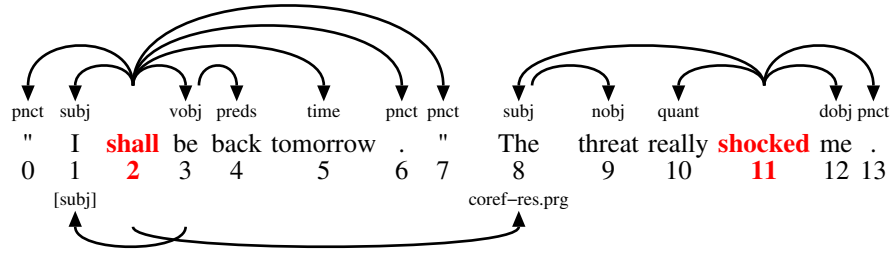
3.

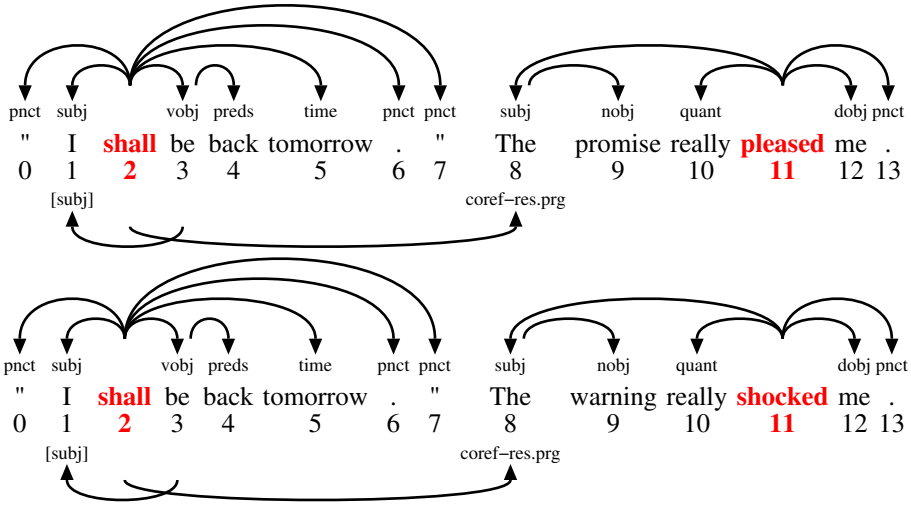


coref-res *Resumptive anaphor* (deprecated nowincludescoref-res.cause). The anaphor summarises a sentence, clause or predicate
isa coref
[189]
Subtypes: coref-res.prg.
Confusion$_{25}$: coref-res$_{72\%}$ coref-var$_{12\%}$ assoc-telic$_{4\%}$ coref-iden$_{4\%}$ coref$_{4\%}$ coref-res.prg$_{4\%}$.



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]
Confusion$_{1}$: coref-res$_{100\%}$.



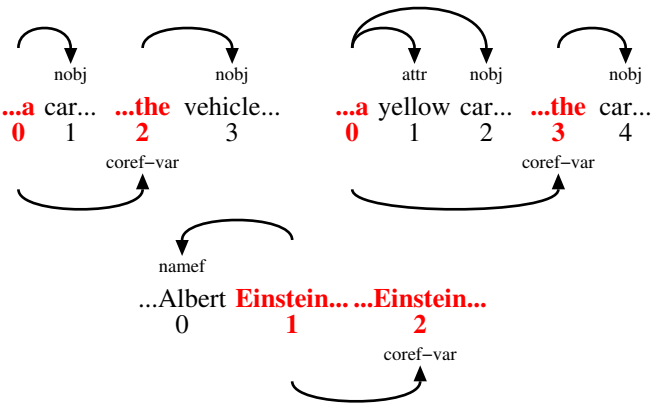


coref-var *Coreferential NP with lexical variety.* The anaphor designates the same entity as the antecedent; the lexical noun and/or attributives or other modifiers are different from those of the antecedent

isa coref

[188]

Confusion$_{97}$: coref-var$_{79\%}$ coref-var$_{79\%}$ coref-var$_{79\%}$ coref-var$_{79\%}$ coref-var$_{79\%}$ coref-evol$_{1\%}$ assoc$_{1\%}$.

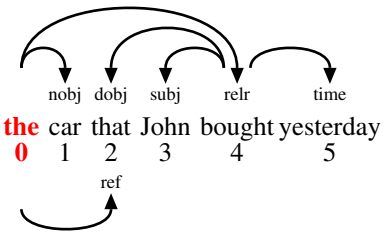


ref *Syntactically determined coreference.* Syntactically determined coreference (e.g. relative pronouns, external topics)

isa SEC coref

[184]

Confusion$_{63}$: ref$_{100\%}$.



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-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)

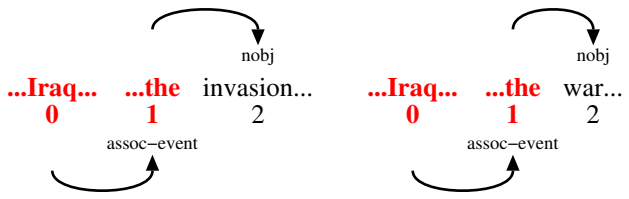
Figure 6.3: The relations matching assoc-TOPIC.

6.2 Associative anaphor relations: assoc

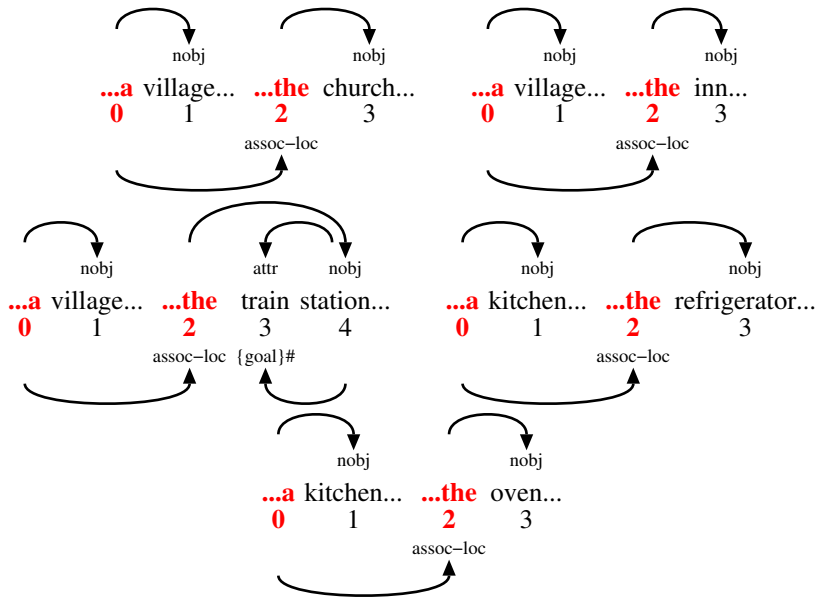
assoc *Associative anaphor.* The anaphor designates an entity which is associated with the antecedent
isa anaphor
[193]
Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.
Confusion$_9$: .

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
[211]
Subtypes: assoc-event assoc-loc assoc-time.

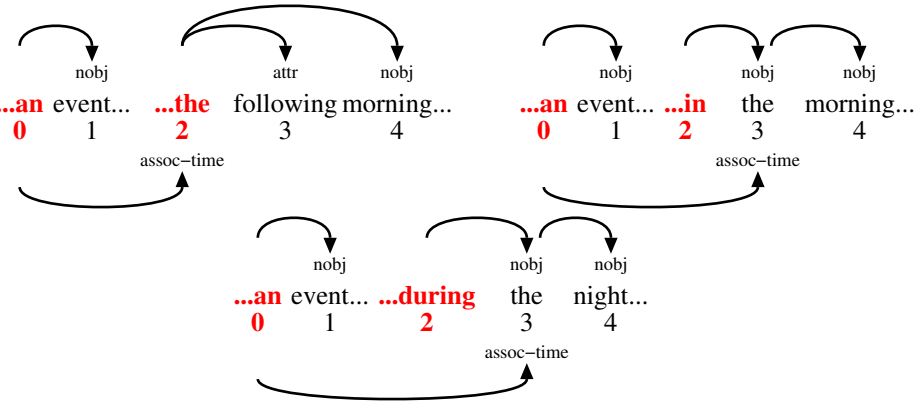
assoc-event *Associative anaphor (event).* The anaphor is a predicate noun or similar which expresses an event that can be associated with the antecedent or in which the antecedent plays a part
isa assoc-OTHER
[214]
Confusion$_3$: assoc-event$_{100\%}$.



assoc-loc *Associative anaphor (location).* The anaphor is located in the antecedent
isa assoc-OTHER
[212]
Confusion$_5$: assoc-loc$_{100\%}$.

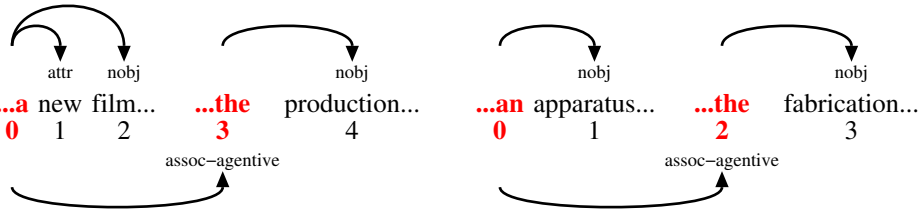


assoc-time *Associative anaphor (time).* The antecedent is a predicate or predicative noun, a time indi-
isa assoc-OTHER cation or a more general narrative frame, the anaphor expresses a point in time linked to it
[213]



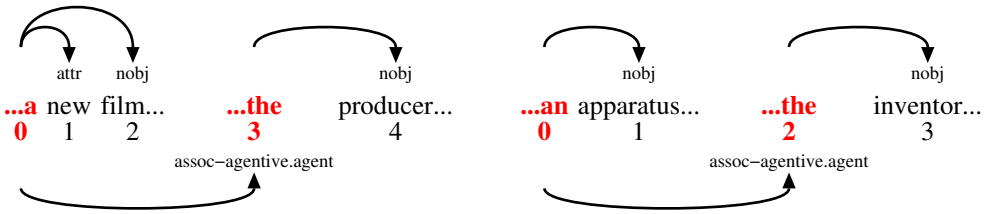
assoc-QUALIA *Associative anaphor wrt. qualia.* The anaphor denotes an entity which is associated with the
isa assoc antecedent with regard to the antecedent's qualia structure
[194]
Subtypes: assoc-agentive assoc-const assoc-formal assoc-telic.

assoc-agentive *Associative anaphor (agentive)* (deprecated assoc-agent?). The anaphor is associated with the
isa assoc-QUALIA antecedent wrt its agentive quale (the "bringing about" of the antecedent)
[197]
Subtypes: assoc-agentive.agent.
Confusion$_4$: assoc-agentive$_{50\%}$ assoc-telic$_{25\%}$ assoc-const$_{25\%}$.



assoc-agentive.agent
isa assoc-agentive
[198]

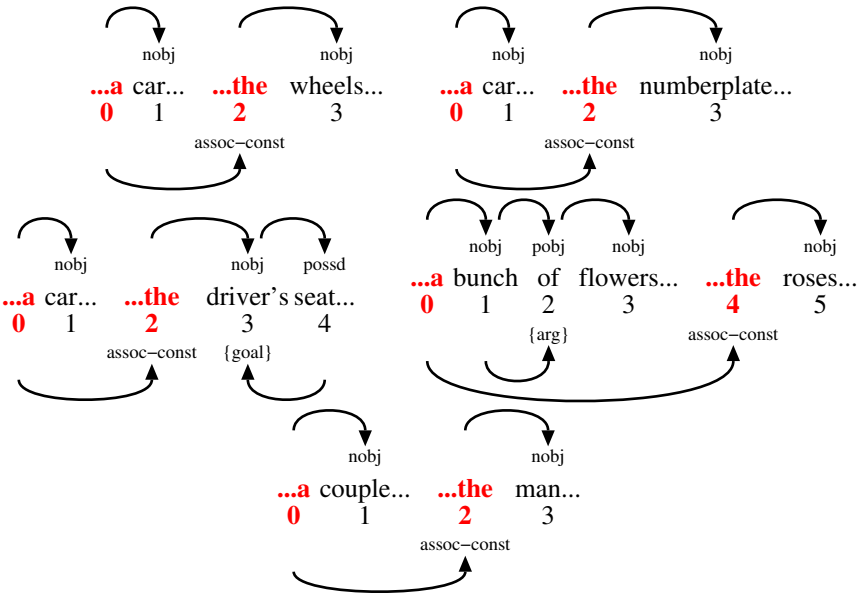
Associative anaphor (agentive-agent). The anaphor plays the semantic role of agent wrt the "bringing about" of the antecedent



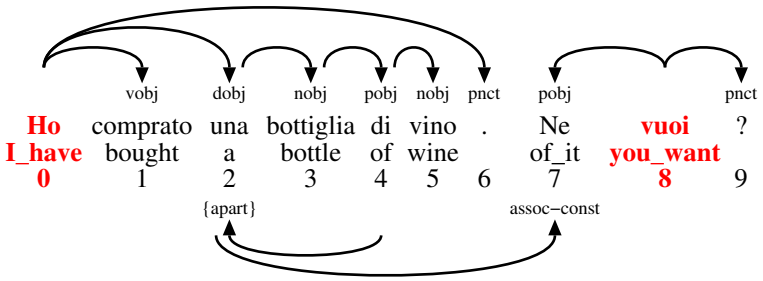
assoc-const
isa assoc-QUALIA
[195]

Associative anaphor (constitutive). The anaphor is associated with the antecedent wrt its constitutive quale (parts, elements, material, etc.)

Confusion$_{39}$: .



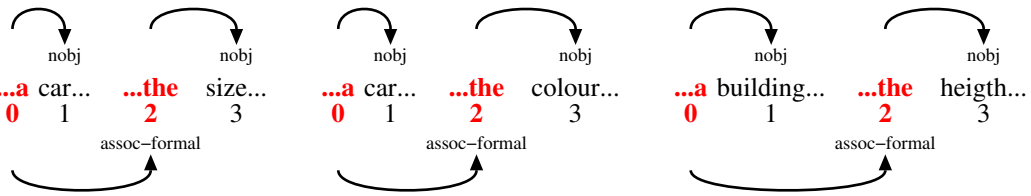
I have bought a bottle of wine. Do you want some of it?



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

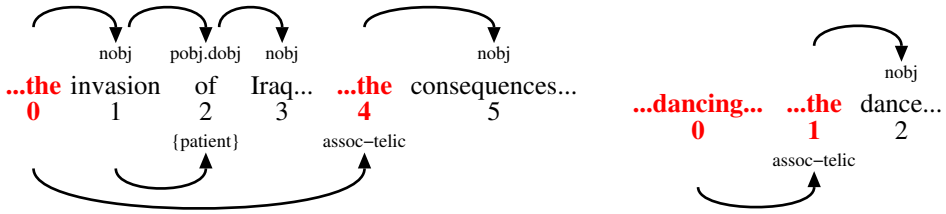


assoc-telic
isa assoc-QUALIA
[199]

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

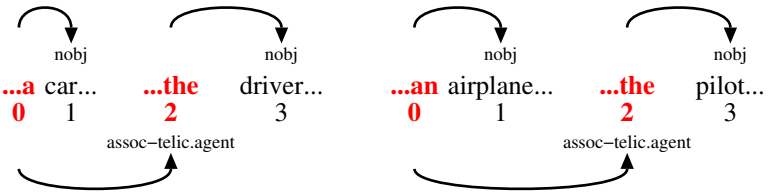
Subtypes: assoc-telic.agent assoc-telic.exper assoc-telic.inst assoc-telic.patient assoc-telic.rec.

Confusion$_{24}$: .



assoc-telic.agent
isa assoc-telic
[200]

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)

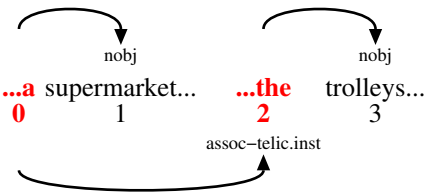


assoc-telic.exper
isa assoc-telic
[203]

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)

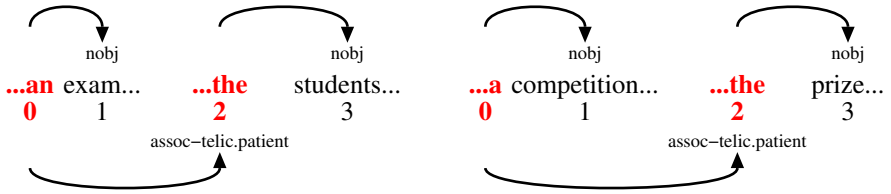
assoc-telic.inst
isa assoc-telic
[204]

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)



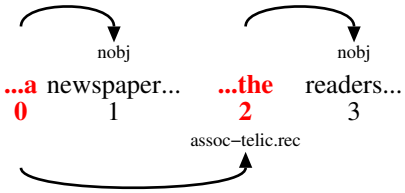
assoc-telic.patient
isa assoc-telic
[201]

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)



assoc-telic.rec
isa assoc-telic
[202]

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)



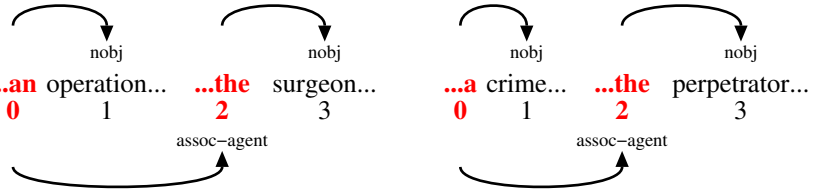
assoc-SEMROLE
isa assoc
[205]

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.

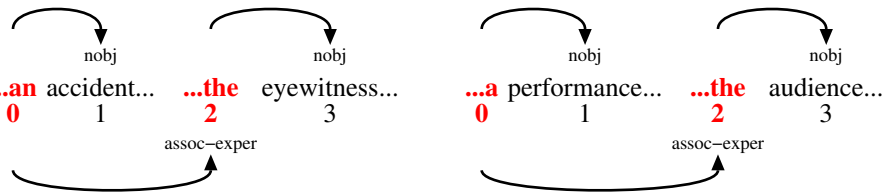
assoc-agent
isa assoc-SEMROLE
[206]

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



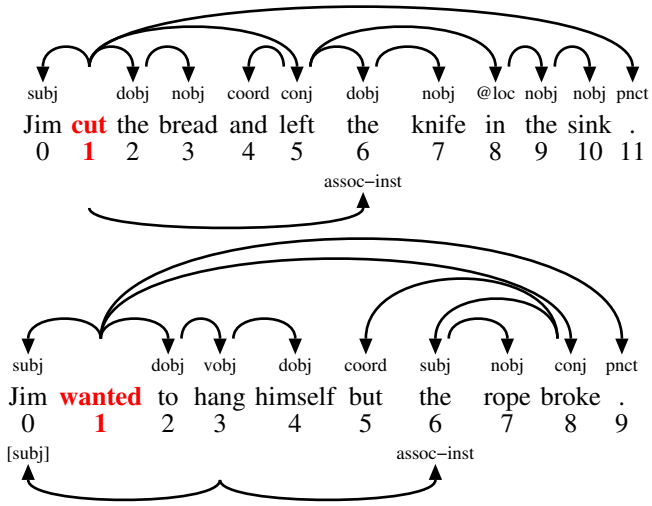
assoc-exper
isa assoc-SEMROLE
[209]

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



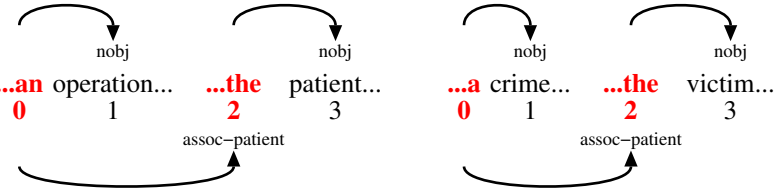
assoc-inst
isa assoc-SEMROLE
[210]

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



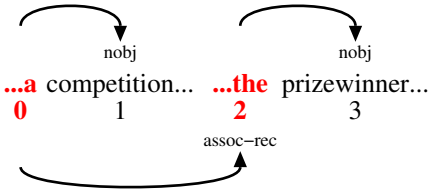
assoc-patient
isa assoc-SEMROLE
[207]

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



assoc-rec
isa assoc-SEMROLE
[208]

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



Chapter 7

Semantic relations: SEMANTICS

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 SEMANTICS-!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.

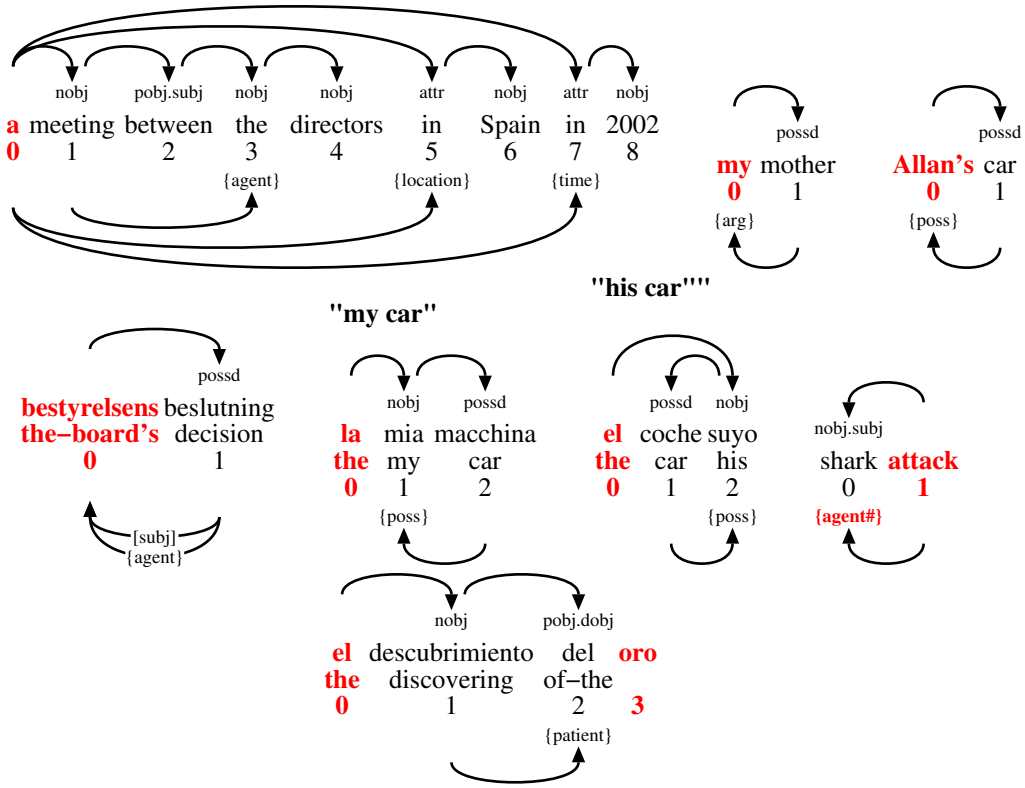
SEMREL
isa REL SEM
[29]

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. In NP constructions, the syntactic head of an adjunct is assumed to also act as the semantic head of the adjunct, ie, the semantic relation mirrors the syntactic relation in this respect.

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]

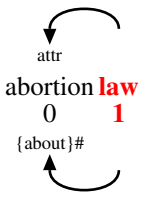
Qualia role. A qualia role. Ie, a semantic relation that links a lexeme to a qualia role associated with that lexeme. Eg, "music" to the act of "composing" (agentive), "listening" (telic), etc.

Subtypes: agentive const formal resemblance telic.

{about} isa SEMREL [62]

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

Confusion$_{39}$: .



{agent} *An object or a person that performs an action.* Used in noun phrases where the satellite is the object or the person that performs the volitional action indicated by the nucleus. Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a subject.

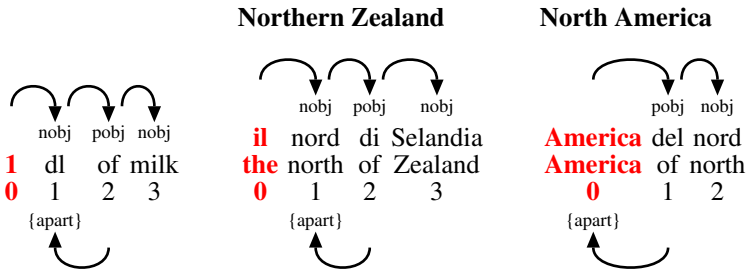
isa SEMREL [50]

Confusion$_{84}$: {agent}$_{50\%}$ {arg}$_{25\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$ {patient}$_{8\%}$.

{apart} . Used in noun phrases where the satellite represents an arbitary part of the nucleus. Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.

isa SEMREL [63]

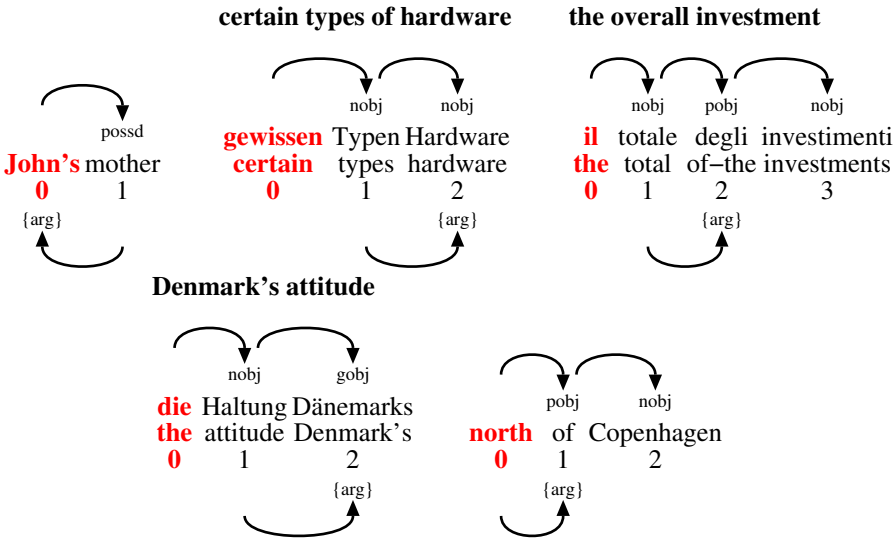
Confusion$_{19}$: .



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

isa SEMREL [68]

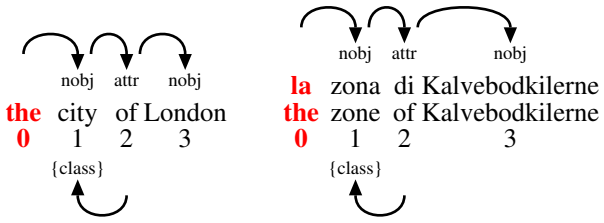
Confusion$_{232}$: .



{cause} . Used in noun phrases where the satellite is the person or object that performs the non-volitional action indicated by the nucleus.
isa SEMREL
[53] Confusion$_1$: {goal}$_{100\%}$.

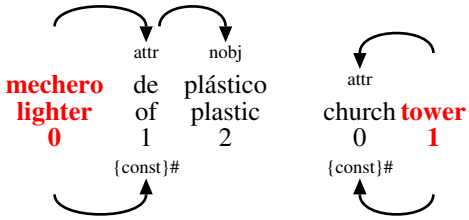
sultedød ildebrand?
0 1

{class} . Used in noun phrases where the satellite indicates the super type or classification of the nucleus. This is in opposition to the identity relation which denotates the opposit relationship between the two units. Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.
isa SEMREL
[64] Related types: {iden}.
Confusion$_5$: {class}$_{40\%}$ {other}$_{40\%}$ {const}$_{20\%}$.



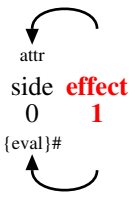
{const} . Used in noun phrases where the satellite represents a part, material or essential constituent of the nucleus.
isa SEMREL
[49] Confusion$_{51}$: {loc}$_{2\%}$ {func}$_{2\%}$ {elab}$_{2\%}$ {apart}$_{2\%}$ {class}$_{2\%}$ {goal}$_{2\%}$.

plastic lighter

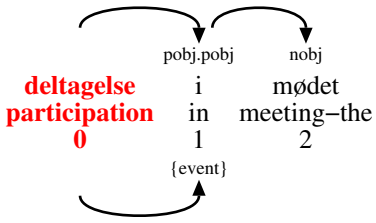


{elab} . position).
isa SEMREL
Related types: modp.
[48] Confusion$_{12}$: {elab}$_{50\%}$ {elab}$_{50\%}$ {elab}$_{50\%}$ {elab}$_{50\%}$ {elab}$_{50\%}$ {elab}$_{50\%}$ {elab}$_{50\%}$.

{eval} . Used in noun phrases where there is a descriptive relation between the nucleus and the satellite. The relation is often a subjective description from the writer who either evaluates the relationship in a positive or negative manner.
isa SEMREL
[60] Confusion$_2$: {arg}$_{50\%}$ {eval}$_{50\%}$.

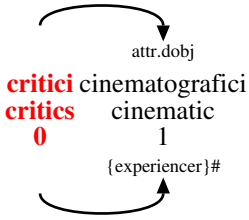


{event} .
isa SEMREL
[59]



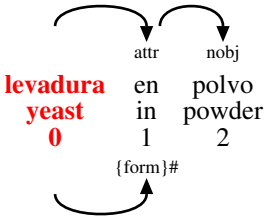
{experiencer} *The receiver of an emotion or a physical impact.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a direct object
isa SEMREL
[71] Confusion$_{7}$: .

film critics

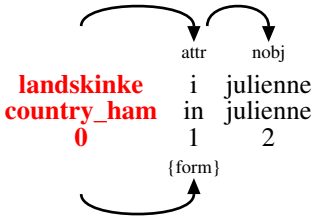


{form} . Used in noun phrases where the satellite indicates the shape or form of the nucleus.
isa SEMREL
[66] Confusion$_{7}$: .

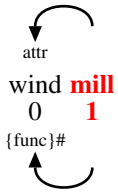
baking powder



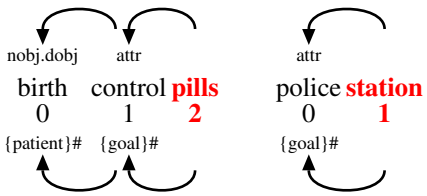
country ham in julienne strips



{func} . Used in noun phrases where the satellite determinates the instrumental function of the nucleus.
isa SEMREL
[55] Confusion$_{45}$: .



{goal} . Used in noun phrases where the satellite determinates the goal or the intention for which the nucleus is destinated.
isa SEMREL
[54] Confusion$_{85}$: {arg}$_{15\%}$ {arg}$_{15\%}$ {arg}$_{15\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$ {other}$_{5\%}$.

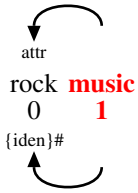


{iden} isa SEMREL [67]

. 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}.

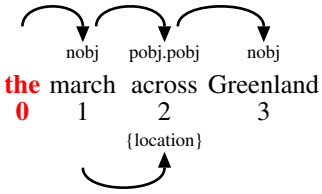
Confusion$_1$: {func}$_{100\%}$.



{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$_2$: {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.

Confusion$_{94}$: {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$ {patient}$_{4\%}$.

{other} isa SEMREL [74]

No specific semantic role. Used when none of the other semantic roles are suitable or when in doubt.

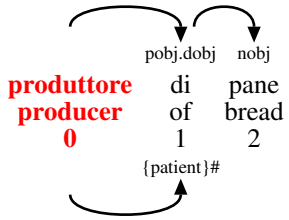
Confusion$_{38}$: .

{patient} isa SEMREL [70]

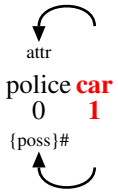
An object or a person that is the subject of the action or the one who is located somewhere. Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a direct object

Confusion$_{95}$: .

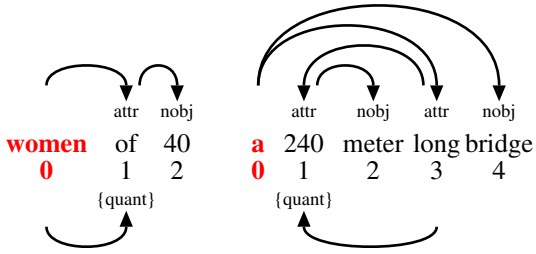
bread producer



{poss} . 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.
isa SEMREL
[56] Confusion$_{32}$: .

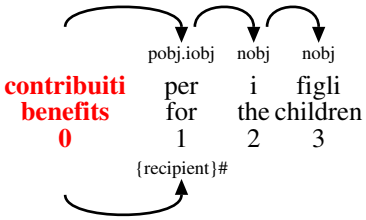


{quant} . Used in noun phrases where the satellite indicates the quantity in numbers or another countable unit of the nucleus.
isa SEMREL
[65] Confusion$_{27}$: {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$ {quant}$_{37\%}$.

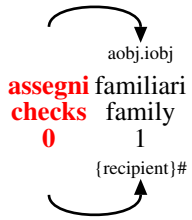


{recipient} *The receiver of something.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as an indirect object
isa SEMREL
[72] Confusion$_{7}$: .

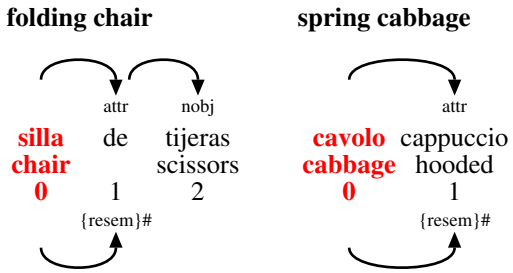
child benefits



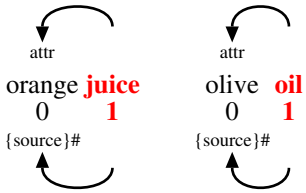
child maintenance



{resem} . Used in noun phrases where there is a resemblance between the nucleus and the satellite.
isa SEMREL
[61] Confusion$_{2}$: {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$_{52}$: .



{time} . Used in noun phrases where the satellite indicates some kind of temporal aspect of the nucleus.
isa SEMREL
[58] Confusion$_{31}$: {time}$_{71\%}$ {time}$_{71\%}$ {time}$_{71\%}$ {time}$_{71\%}$ {time}$_{71\%}$ {time}$_{71\%}$ {time}$_{71\%}$.

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.

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).

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.* The property that distinguishes

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)

Confusion_1: $\text{about}_{100\%}$.

7.2 Thematic role relations: SEMROLE

Figure 7.3: The relations matching SEMROLE.

Chapter 8

Word alignment relations: ALIGNMENT

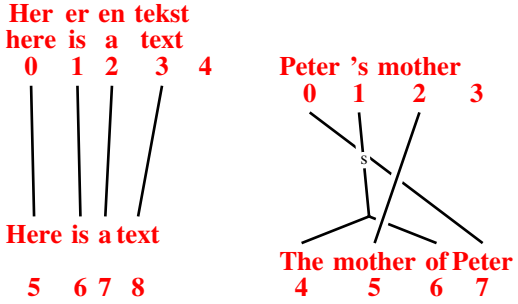
ALIGN: alignment level
  ALIGNREL: alignment relation
    "": unlabeled word alignment
    f: fuzzy word alignment

Figure 8.1: The relations matching ALIGNMENT-TOPIC.

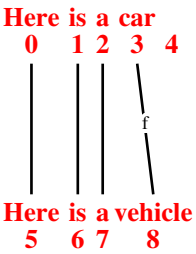
ALIGN isa DIM:LEVEL [15]
Alignment level (long: ALIGNMENT). The alignment level includes alignment relations as well as lexical features associated with alignments.
Subtypes: ALIGNREL.

ALIGNREL isa ALIGN REL [31]
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.
Subtypes: "" f.

"" isa ALIGNREL [390]
Unlabeled word alignment (long: align). An unlabeled word alignment is represented as a word alignment where the label is an empty string. It is used to represent the default word alignment, where there is full translational equivalence between the two sets of words.



f isa ALIGNREL [391]
Fuzzy word alignment (long: fuzzy). A semantically fuzzy word alignment.


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-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.* The property that distinguishes

RuleAnd *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.
isa RULE
[365]

RuleAttr *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)
isa RULE
[377]

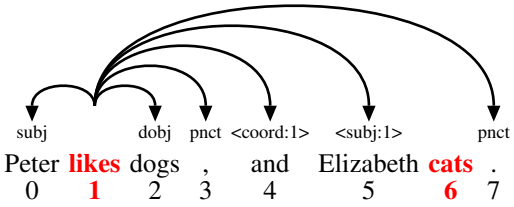
RuleAttrD *Down-dependent in attribution* (long: DISC"*"). The dependent in the relation is one step further down in the attribution chain
isa RULE
[379]

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

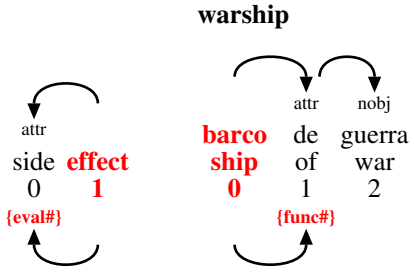
RuleDisc *Syntactic discourse relation* (long: "¤"(PRIM)). A primary syntactic relation that has been used as a discourse relation for stilistic purposes.
isa DISC RULE
[372]

RuleExpConn *Explicit connector* (long: PRIM"/"CONNECTOR). The discourse relation has explicit connector $CONNECTOR
isa RULE
[380]

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
[370]



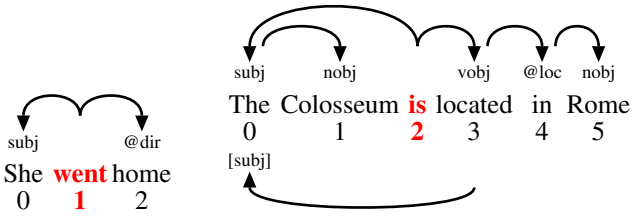
RuleIdiom *Idiomatic relation pattern* (long: (SEMREL)"#"). A semantic relation can be marked as idiomatic by putting a trailing "#" after the semantic relation name. The idiom marker is only used with semantic relations, not with syntactic relations.
isa IDIOM RULE
[374]



RuleImpConn *Implicit connector* (long: PRIM"/("CONNECTOR")"). The discourse relation has implicit connector $CONNECTOR
isa RULE
[381]

RuleMorph *Syntactic morphlogy relation* (long: "§"(PRIM)). A primary syntactic relation that has been used as a morphology relation for stilistic purposes.
isa MORPH RULE
[373]

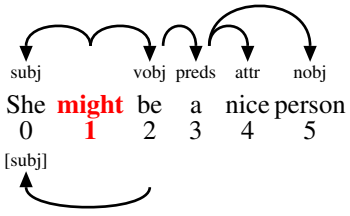
RuleOblAdv *Valency-bound adverbial* (long: "@"ADVERB). An adverbial relation can be marked as obligatory by putting "@" in front of the relation name.
isa COMP RULE
[371]
Related types: cont dir dur ext hab loc prec succ time.



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
[366]

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
[367]

RuleSec *Secondary relation pattern* (long: "["PRIM"]"). A secondary relation name is formed by enclosing a primary relation name in square brackets.
isa RULE SEC
[369]
Related types: SEC.



Chapter 10

Ontological relations: ONTOLOGY

ONT: ontology level
  ONTOCLASS: ontological class
    ¤top: ontological entity
      ¤abstract: abstract entity
      ¤concrete: concrete entity

Figure 10.1: The relations matching ONTOLOGY-TOPIC.

ONT
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 ONT
[460]

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
[461]

Ontological entity.

Subtypes: ¤abstract ¤concrete.

¤abstract
isa ¤top
[462]

Abstract entity.

¤concrete
isa ¤top
[463]

Concrete entity.

Chapter 11

Relations misplaced outside the ANY hierarchy

MISPLACED: misplaced relation
§interfix:

Figure 11.1: 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 12

Annotation topics:: TOPICS

Figure 12.1: The relations matching TOPICS-DIM.

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.

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

The relations matching DIM:LEVEL-!SYNTAX-!MORPHOLOGY-!DISCOURSE-!ANAPHORA-!SEMANTICS-!ALIGNMENT-!ONTOLOGY-!RULE-!TOPICS.

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-!MORPHOLOGY-!DISCOURSE-!ANAPHORA-!SEMANTICS-!ALIGNMENT-!ONTOLOGY-!TOPICS.

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

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

SYNCOMP: syntactic complement
- @space: valency-bound location/direction adverbial
- @time: valency-bound time adverbial
- CDT1COMP: Deprecated CDT1 complement relations
  - lobj: Deprecated locative object.
  - tobj: Deprecated temporal object.
- avobj: adverbial object
- dobj: direct object
- fobj: filler object
- gobj: genitive object
- iobj: indirect object
- nobj: nominal object
- numa: additive numeral complement
- numm: multiplicative numeral complement
- part: verbal particle
- pobj: prepositional object
- possd: possessed complement
- possr: possessor complement
- pred: predicative
  - predo: object predicative
  - preds: subject predicative
- qobj: quotational object
- robj: reflexive object
- subj: subject
  - expl: expletive subject
- vobj: verbal object

The relations matching SYNCOMP-TOPIC.

SYNADJ: syntactic adjunct
- ADVERB: adverbial
- 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:
- 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
  - CDT1GAP: Deprecated CDT1 gap relations
    - <avobj>:
    - <dobj>:
    - <lobj>:
    - <mod>:
    - <nobj>:
    - <pobj:nobj>:
    - <pobj>:
    - <possd>:
    - <pred>:
    - <qobj>:
    - <subj:pobj>:
    - <subj>:
    - <vobj>:
    - <xpl>:
  - RuleGap: gapping dependent
- name: part of name
  - namef: first name
  - naml: last name
  - title: person title
- pnct: punctuation
- rel: relative clause
  - relelab: elaborating relative clause
  - relpa: parenthetic relative clause
  - relr: restrictive relative clause
- voc: vocative
- xtop: external topic with resuming pronoun

The relations matching SYNADJ-!ADVERB-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-TOPIC.

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

The relations matching MORPHOLOGY-!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-TOPIC.

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

The relations matching MORPHDERIV-!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-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:rel.norm: noun-adjective derivation (normal)
  - §DERna:resem: noun-adjective derivation (resemblance)
  - §DERna:telic: noun-adjective derivation (effect)
- §DERnn: noun-noun derivation
  - §DERnn:agent: noun-noun derivation (agent)
  - §DERnn:assoc: noun-noun derivation (association)
  - §DERnn:capac: noun-noun derivation (capacity)
  - §DERnn:cont: noun-noun derivation (container)
  - §DERnn:loc: noun-noun derivation (location)
  - §DERnn:other: noun-noun derivation (other)
  - §DERnn:quant: noun-noun derivation (quantification)
  - §DERnn:telic: noun-noun derivation (telic)
  - §DERnn:time: noun-noun derivation (time)
- §DERv:
- §DIMIN: diminution
- §PEJ: pejoration

The relations matching SUFFIX-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 DISCOURSE-!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-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:elab: elaboration
  - 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-TOPIC.

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

The relations matching ANAPHORA-!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-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-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-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 SEMANTICS-!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.

The relations matching SEMROLE.

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

The relations matching ALIGNMENT-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-TOPIC.

ONT: ontology level
    ONTOCLASS: ontological class
        ¤top: ontological entity
            ¤abstract: abstract entity
            ¤concrete: concrete entity

The relations matching ONTOLOGY-TOPIC.

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

B.1 Confusion table: syntax

R	A	N	Confusion list
xtop	100%	4	xtop$_{100\%}$
voc	100%	3	voc$_{100\%}$
namel	100%	8	namel$_{100\%}$
<mod>	100%	1	<mod>$_{100\%}$
<dobj>	100%	1	<dobj>$_{100\%}$
att	100%	1	att$_{100\%}$
expl	88%	62	expl$_{88\%}$ subj$_{8\%}$ preds$_{1\%}$ time$_{0\%}$ pobj$_{0\%}$
namef	87%	168	namef$_{87\%}$ nobj$_{3\%}$ pnct$_{2\%}$ subj$_{1\%}$ attr$_{1\%}$ pobj$_{0\%}$ vobj$_{0\%}$ conj$_{0\%}$ numm$_{0\%}$ dobj$_{0\%}$ time$_{0\%}$ appa$_{0\%}$ possd$_{0\%}$ coord$_{0\%}$ relr$_{0\%}$ scene$_{0\%}$ possr$_{0\%}$ avobj$_{0\%}$ man$_{0\%}$ concom$_{0\%}$ part$_{0\%}$ exem$_{0\%}$ goal$_{0\%}$ eval$_{0\%}$ quant$_{0\%}$
pnct	84%	2138	pnct$_{84\%}$ nobj$_{4\%}$ attr$_{1\%}$ subj$_{1\%}$ vobj$_{1\%}$ dobj$_{1\%}$ conj$_{0\%}$ pobj$_{0\%}$ coord$_{0\%}$ time$_{0\%}$ possd$_{0\%}$ preds$_{0\%}$ relr$_{0\%}$ numm$_{0\%}$ man$_{0\%}$ possr$_{0\%}$ namef$_{0\%}$ modp$_{0\%}$ neg$_{0\%}$ appa$_{0\%}$ appr$_{0\%}$ quant$_{0\%}$ focal$_{0\%}$ other$_{0\%}$ loc$_{0\%}$ scene$_{0\%}$ contr$_{0\%}$ epi$_{0\%}$ resem$_{0\%}$ accom$_{0\%}$ list$_{0\%}$ dir$_{0\%}$ part$_{0\%}$ goal$_{0\%}$ predo$_{0\%}$ title$_{0\%}$ name$_{0\%}$ aobj$_{0\%}$ inst$_{0\%}$ conc$_{0\%}$ prg$_{0\%}$ qobj$_{0\%}$ cause$_{0\%}$ fpredo$_{0\%}$ eval$_{0\%}$ add$_{0\%}$ concom$_{0\%}$ agent$_{0\%}$ avobj$_{0\%}$ correl$_{0\%}$ cond$_{0\%}$ iobj$_{0\%}$ event$_{0\%}$ xpl$_{0\%}$ source$_{0\%}$

subj	81%	1434	subj$_{81\%}$ nobj$_{5\%}$ pnct$_{2\%}$ attr$_{2\%}$ pobj$_{1\%}$ vobj$_{1\%}$ dobj$_{0\%}$ conj$_{0\%}$ coord$_{0\%}$ preds$_{0\%}$ expl$_{0\%}$ time$_{0\%}$ scene$_{0\%}$ neg$_{0\%}$ numm$_{0\%}$ goal$_{0\%}$ loc$_{0\%}$ relr$_{0\%}$ possr$_{0\%}$ possd$_{0\%}$ appa$_{0\%}$ appr$_{0\%}$ namef$_{0\%}$ other$_{0\%}$ name$_{0\%}$ modp$_{0\%}$ cond$_{0\%}$ source$_{0\%}$ prg$_{0\%}$ avobj$_{0\%}$ add$_{0\%}$ correl$_{0\%}$ title$_{0\%}$ man$_{0\%}$ quant$_{0\%}$ agent$_{0\%}$ resem$_{0\%}$ epi$_{0\%}$ accom$_{0\%}$ concom$_{0\%}$ cause$_{0\%}$ CONJ:elab$_{0\%}$ fpredo$_{0\%}$ part$_{0\%}$ conc$_{0\%}$ focal$_{0\%}$ exem$_{0\%}$ qobj$_{0\%}$ contr$_{0\%}$ comp$_{0\%}$ iobj$_{0\%}$ iter$_{0\%}$ inst$_{0\%}$ event$_{0\%}$ xpl$_{0\%}$ predo$_{0\%}$
nobj	81%	3409	nobj$_{81\%}$ attr$_{3\%}$ pnct$_{2\%}$ subj$_{1\%}$ vobj$_{1\%}$ pobj$_{1\%}$ dobj$_{1\%}$ conj$_{0\%}$ preds$_{0\%}$ coord$_{0\%}$ time$_{0\%}$ possd$_{0\%}$ mod$_{0\%}$ quant$_{0\%}$ relr$_{0\%}$ loc$_{0\%}$ aobj$_{0\%}$ name$_{0\%}$ numm$_{0\%}$ other$_{0\%}$ goal$_{0\%}$ neg$_{0\%}$ namef$_{0\%}$ man$_{0\%}$ appa$_{0\%}$ possr$_{0\%}$ title$_{0\%}$ epi$_{0\%}$ modp$_{0\%}$ appr$_{0\%}$ concom$_{0\%}$ accom$_{0\%}$ eval$_{0\%}$ cond$_{0\%}$ agent$_{0\%}$ scene$_{0\%}$ contr$_{0\%}$ numa$_{0\%}$ prg$_{0\%}$ fpreds$_{0\%}$ conc$_{0\%}$ part$_{0\%}$ predo$_{0\%}$ focal$_{0\%}$ fpredo$_{0\%}$ qobj$_{0\%}$ resem$_{0\%}$ inst$_{0\%}$ add$_{0\%}$ iter$_{0\%}$ correl$_{0\%}$ event$_{0\%}$ cause$_{0\%}$ comp$_{0\%}$ xpl$_{0\%}$ exem$_{0\%}$ iobj$_{0\%}$ avobj$_{0\%}$ source$_{0\%}$
err	77%	9	err$_{77\%}$ other$_{11\%}$ focal$_{11\%}$
vobj	76%	1092	vobj$_{76\%}$ nobj$_{5\%}$ preds$_{4\%}$ pnct$_{2\%}$ attr$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ pobj$_{1\%}$ conj$_{0\%}$ coord$_{0\%}$ relr$_{0\%}$ possd$_{0\%}$ numm$_{0\%}$ predo$_{0\%}$ time$_{0\%}$ quant$_{0\%}$ loc$_{0\%}$ appa$_{0\%}$ scene$_{0\%}$ man$_{0\%}$ iter$_{0\%}$ aobj$_{0\%}$ name$_{0\%}$ rel$_{0\%}$ fpreds$_{0\%}$ part$_{0\%}$ goal$_{0\%}$ namef$_{0\%}$ neg$_{0\%}$ prg$_{0\%}$ accom$_{0\%}$ title$_{0\%}$ other$_{0\%}$ concom$_{0\%}$ appr$_{0\%}$ resem$_{0\%}$ focal$_{0\%}$ add$_{0\%}$ possr$_{0\%}$ modp$_{0\%}$ qobj$_{0\%}$ cause$_{0\%}$ cond$_{0\%}$ eval$_{0\%}$ xpl$_{0\%}$ epi$_{0\%}$ agent$_{0\%}$ fpredo$_{0\%}$
possd	76%	307	possd$_{76\%}$ nobj$_{6\%}$ attr$_{3\%}$ pnct$_{2\%}$ vobj$_{1\%}$ dobj$_{1\%}$ pobj$_{1\%}$ coord$_{1\%}$ subj$_{0\%}$ conj$_{0\%}$ time$_{0\%}$ relr$_{0\%}$ quant$_{0\%}$ inst$_{0\%}$ numm$_{0\%}$ modp$_{0\%}$ scene$_{0\%}$ loc$_{0\%}$ preds$_{0\%}$ other$_{0\%}$ aobj$_{0\%}$ possr$_{0\%}$ namef$_{0\%}$ conc$_{0\%}$ neg$_{0\%}$ focal$_{0\%}$ cond$_{0\%}$ numa$_{0\%}$ event$_{0\%}$ add$_{0\%}$ iobj$_{0\%}$ title$_{0\%}$ appr$_{0\%}$ appa$_{0\%}$ concom$_{0\%}$ name$_{0\%}$
neg	76%	133	neg$_{76\%}$ nobj$_{4\%}$ subj$_{2\%}$ mod$_{2\%}$ pnct$_{2\%}$ dobj$_{1\%}$ attr$_{1\%}$ pobj$_{1\%}$ coord$_{1\%}$ time$_{0\%}$ add$_{0\%}$ vobj$_{0\%}$ eval$_{0\%}$ preds$_{0\%}$ scene$_{0\%}$ relr$_{0\%}$ conj$_{0\%}$ possr$_{0\%}$ accom$_{0\%}$ possd$_{0\%}$ appr$_{0\%}$ other$_{0\%}$ agent$_{0\%}$ title$_{0\%}$
dobj	76%	904	dobj$_{76\%}$ nobj$_{6\%}$ attr$_{2\%}$ pnct$_{2\%}$ pobj$_{2\%}$ subj$_{1\%}$ vobj$_{1\%}$ coord$_{0\%}$ robj$_{0\%}$ preds$_{0\%}$ iobj$_{0\%}$ time$_{0\%}$ conj$_{0\%}$ possd$_{0\%}$ neg$_{0\%}$ quant$_{0\%}$ goal$_{0\%}$ other$_{0\%}$ loc$_{0\%}$ numm$_{0\%}$ appa$_{0\%}$ predo$_{0\%}$ relr$_{0\%}$ modp$_{0\%}$ name$_{0\%}$ appr$_{0\%}$ dir$_{0\%}$ possr$_{0\%}$ title$_{0\%}$ scene$_{0\%}$ qobj$_{0\%}$ namef$_{0\%}$ cause$_{0\%}$ resem$_{0\%}$ add$_{0\%}$ focal$_{0\%}$ conc$_{0\%}$ iter$_{0\%}$ agent$_{0\%}$ aobj$_{0\%}$ man$_{0\%}$ contr$_{0\%}$ numa$_{0\%}$ concom$_{0\%}$ cond$_{0\%}$ part$_{0\%}$ exem$_{0\%}$ source$_{0\%}$ correl$_{0\%}$ inst$_{0\%}$
conj	76%	689	conj$_{76\%}$ nobj$_{5\%}$ attr$_{3\%}$ pnct$_{3\%}$ subj$_{1\%}$ vobj$_{1\%}$ coord$_{1\%}$ CONJ:add$_{1\%}$ pobj$_{0\%}$ qobj$_{0\%}$ dobj$_{0\%}$ possd$_{0\%}$ preds$_{0\%}$ time$_{0\%}$ CONTR:sbj$_{0\%}$ CONTR:dir$_{0\%}$ numm$_{0\%}$ loc$_{0\%}$ part$_{0\%}$ conc$_{0\%}$ scene$_{0\%}$ xpl$_{0\%}$ name$_{0\%}$ other$_{0\%}$ relr$_{0\%}$ cause$_{0\%}$ inst$_{0\%}$ avobj$_{0\%}$ CONST:rest$_{0\%}$ TELIC:cons.dir$_{0\%}$ concom$_{0\%}$ possr$_{0\%}$ quant$_{0\%}$ namef$_{0\%}$ modp$_{0\%}$ exem$_{0\%}$ neg$_{0\%}$ title$_{0\%}$ appa$_{0\%}$ goal$_{0\%}$ predo$_{0\%}$ agent$_{0\%}$ focal$_{0\%}$ cond$_{0\%}$ correl$_{0\%}$ eval$_{0\%}$ prg$_{0\%}$ comp$_{0\%}$ event$_{0\%}$ fpredo$_{0\%}$ aobj$_{0\%}$ man$_{0\%}$ appr$_{0\%}$ accom$_{0\%}$ add$_{0\%}$

qobj	73%	73	qobj$_{73\%}$ conj$_{7\%}$ coord$_{7\%}$ discmark$_{2\%}$ CONJ:add$_{2\%}$ nobj$_{1\%}$ AGENTIVE:reas$_{1\%}$ dobj$_{1\%}$ pnct$_{1\%}$ subj$_{0\%}$ time$_{0\%}$ vobj$_{0\%}$ numm$_{0\%}$ other$_{0\%}$ loc$_{0\%}$ resem$_{0\%}$ pobj$_{0\%}$ attr$_{0\%}$
cause	73%	57	cause$_{73\%}$ mod$_{8\%}$ attr$_{5\%}$ conj$_{1\%}$ time$_{1\%}$ cons$_{1\%}$ pobj$_{1\%}$ subj$_{0\%}$ dobj$_{0\%}$ other$_{0\%}$ pnct$_{0\%}$ iter$_{0\%}$ nobj$_{0\%}$ name$_{0\%}$ vobj$_{0\%}$
coord	71%	525	coord$_{71\%}$ nobj$_{6\%}$ discmark$_{3\%}$ pnct$_{3\%}$ attr$_{2\%}$ subj$_{1\%}$ pobj$_{1\%}$ dobj$_{1\%}$ conj$_{1\%}$ vobj$_{1\%}$ qobj$_{1\%}$ time$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$ contr$_{0\%}$ scene$_{0\%}$ neg$_{0\%}$ loc$_{0\%}$ accom$_{0\%}$ part$_{0\%}$ numm$_{0\%}$ appa$_{0\%}$ appr$_{0\%}$ other$_{0\%}$ quant$_{0\%}$ goal$_{0\%}$ possr$_{0\%}$ concom$_{0\%}$ namef$_{0\%}$ title$_{0\%}$ fpredo$_{0\%}$ inst$_{0\%}$ eval$_{0\%}$ relr$_{0\%}$ conc$_{0\%}$ focal$_{0\%}$ modp$_{0\%}$ add$_{0\%}$ iter$_{0\%}$ avobj$_{0\%}$ predo$_{0\%}$ prg$_{0\%}$ source$_{0\%}$
cond	67%	40	cond$_{67\%}$ mod$_{10\%}$ nobj$_{6\%}$ time$_{4\%}$ subj$_{3\%}$ man$_{2\%}$ dobj$_{0\%}$ preds$_{0\%}$ conj$_{0\%}$ possd$_{0\%}$ numm$_{0\%}$ vobj$_{0\%}$ attr$_{0\%}$ fpredo$_{0\%}$ pnct$_{0\%}$ other$_{0\%}$
xpl	66%	24	xpl$_{66\%}$ <xpl>$_{8\%}$ conj$_{5\%}$ pobj$_{5\%}$ other$_{4\%}$ list$_{4\%}$ nobj$_{3\%}$ subj$_{0\%}$ vobj$_{0\%}$ preds$_{0\%}$ pnct$_{0\%}$ title$_{0\%}$
title	66%	39	title$_{66\%}$ nobj$_{13\%}$ subj$_{3\%}$ appr$_{2\%}$ dobj$_{2\%}$ pnct$_{2\%}$ attr$_{2\%}$ conj$_{1\%}$ vobj$_{1\%}$ preds$_{1\%}$ coord$_{0\%}$ name$_{0\%}$ neg$_{0\%}$ possd$_{0\%}$ agent$_{0\%}$ numm$_{0\%}$ pobj$_{0\%}$ xpl$_{0\%}$
preds	66%	514	preds$_{66\%}$ vobj$_{10\%}$ nobj$_{6\%}$ loc$_{2\%}$ predo$_{2\%}$ attr$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ pnct$_{1\%}$ time$_{1\%}$ pobj$_{0\%}$ coord$_{0\%}$ aobj$_{0\%}$ conj$_{0\%}$ scene$_{0\%}$ fpredo$_{0\%}$ other$_{0\%}$ numm$_{0\%}$ inst$_{0\%}$ resem$_{0\%}$ expl$_{0\%}$ goal$_{0\%}$ neg$_{0\%}$ part$_{0\%}$ prg$_{0\%}$ possd$_{0\%}$ possr$_{0\%}$ relr$_{0\%}$ title$_{0\%}$ add$_{0\%}$ cond$_{0\%}$ agent$_{0\%}$ accom$_{0\%}$ name$_{0\%}$ quant$_{0\%}$ man$_{0\%}$ concom$_{0\%}$ appr$_{0\%}$ appa$_{0\%}$ xpl$_{0\%}$
numa	66%	6	numa$_{66\%}$ nobj$_{20\%}$ attr$_{4\%}$ dobj$_{4\%}$ possd$_{4\%}$
exem	66%	21	exem$_{66\%}$ mod$_{19\%}$ subj$_{3\%}$ conj$_{2\%}$ other$_{2\%}$ attr$_{1\%}$ source$_{1\%}$ namef$_{0\%}$ nobj$_{0\%}$ dobj$_{0\%}$ goal$_{0\%}$ pobj$_{0\%}$
add	66%	66	add$_{66\%}$ other$_{10\%}$ discmark$_{4\%}$ scene$_{3\%}$ subj$_{2\%}$ neg$_{1\%}$ prg$_{1\%}$ correl$_{1\%}$ quant$_{1\%}$ dobj$_{1\%}$ pobj$_{0\%}$ vobj$_{0\%}$ pnct$_{0\%}$ nobj$_{0\%}$ attr$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$ coord$_{0\%}$ appr$_{0\%}$ conj$_{0\%}$ time$_{0\%}$
iobj	64%	25	iobj$_{64\%}$ dobj$_{20\%}$ robj$_{12\%}$ pnct$_{1\%}$ subj$_{0\%}$ nobj$_{0\%}$ attr$_{0\%}$ possd$_{0\%}$ modp$_{0\%}$
appr	64%	50	appr$_{64\%}$ nobj$_{8\%}$ pnct$_{4\%}$ subj$_{4\%}$ attr$_{3\%}$ pobj$_{2\%}$ dobj$_{2\%}$ title$_{2\%}$ vobj$_{1\%}$ coord$_{1\%}$ appa$_{1\%}$ focal$_{0\%}$ neg$_{0\%}$ conc$_{0\%}$ numm$_{0\%}$ name$_{0\%}$ add$_{0\%}$ conj$_{0\%}$ quant$_{0\%}$ iter$_{0\%}$ time$_{0\%}$ possr$_{0\%}$ correl$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$
quant	61%	208	quant$_{61\%}$ mod$_{9\%}$ nobj$_{6\%}$ attr$_{3\%}$ other$_{1\%}$ man$_{1\%}$ pobj$_{1\%}$ time$_{1\%}$ eval$_{1\%}$ dobj$_{1\%}$ pnct$_{1\%}$ prg$_{1\%}$ vobj$_{1\%}$ avobj$_{1\%}$ degr$_{1\%}$ possd$_{0\%}$ modp$_{0\%}$ add$_{0\%}$ relr$_{0\%}$ elab$_{0\%}$ subj$_{0\%}$ conj$_{0\%}$ numm$_{0\%}$ coord$_{0\%}$ accom$_{0\%}$ preds$_{0\%}$ name$_{0\%}$ appa$_{0\%}$ epi$_{0\%}$ iter$_{0\%}$ appr$_{0\%}$ namef$_{0\%}$ event$_{0\%}$
pobj	60%	777	pobj$_{60\%}$ attr$_{8\%}$ nobj$_{7\%}$ pnct$_{2\%}$ dobj$_{2\%}$ subj$_{2\%}$ goal$_{1\%}$ vobj$_{1\%}$ other$_{1\%}$ mod$_{1\%}$ dir$_{1\%}$ coord$_{0\%}$ agent$_{0\%}$ loc$_{0\%}$ conj$_{0\%}$ preds$_{0\%}$ time$_{0\%}$ possd$_{0\%}$ source$_{0\%}$ quant$_{0\%}$ relr$_{0\%}$ inst$_{0\%}$ obl$_{0\%}$ neg$_{0\%}$ numm$_{0\%}$ man$_{0\%}$ conc$_{0\%}$ xpl$_{0\%}$ possr$_{0\%}$ namef$_{0\%}$ part$_{0\%}$ appr$_{0\%}$ appa$_{0\%}$ cause$_{0\%}$ avobj$_{0\%}$ accom$_{0\%}$ focal$_{0\%}$ name$_{0\%}$ prg$_{0\%}$ add$_{0\%}$ modp$_{0\%}$ scene$_{0\%}$ eval$_{0\%}$ expl$_{0\%}$ epi$_{0\%}$ fpredo$_{0\%}$ qobj$_{0\%}$ exem$_{0\%}$ iter$_{0\%}$ concom$_{0\%}$ predo$_{0\%}$ title$_{0\%}$ correl$_{0\%}$

avobj	60%	38	avobj$_{60\%}$ part$_{7\%}$ other$_{7\%}$ quant$_{5\%}$ subj$_{2\%}$ conj$_{2\%}$ aobj$_{2\%}$ loc$_{2\%}$ pobj$_{2\%}$ nobj$_{1\%}$ pnct$_{1\%}$ namef$_{0\%}$ man$_{0\%}$ appa$_{0\%}$ attr$_{0\%}$ coord$_{0\%}$ numm$_{0\%}$
attr	59%	1409	attr$_{59\%}$ nobj$_{9\%}$ mod$_{6\%}$ pobj$_{4\%}$ pnct$_{2\%}$ subj$_{2\%}$ dobj$_{1\%}$ loc$_{1\%}$ vobj$_{1\%}$ other$_{1\%}$ time$_{1\%}$ conj$_{1\%}$ coord$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$ aobj$_{0\%}$ quant$_{0\%}$ focal$_{0\%}$ goal$_{0\%}$ relr$_{0\%}$ man$_{0\%}$ scene$_{0\%}$ numm$_{0\%}$ cause$_{0\%}$ name$_{0\%}$ modp$_{0\%}$ neg$_{0\%}$ accom$_{0\%}$ appa$_{0\%}$ list$_{0\%}$ predo$_{0\%}$ appr$_{0\%}$ namef$_{0\%}$ prg$_{0\%}$ conc$_{0\%}$ inst$_{0\%}$ agent$_{0\%}$ possr$_{0\%}$ iter$_{0\%}$ dir$_{0\%}$ part$_{0\%}$ title$_{0\%}$ eval$_{0\%}$ exem$_{0\%}$ source$_{0\%}$ add$_{0\%}$ concom$_{0\%}$ fpredo$_{0\%}$ resem$_{0\%}$ contr$_{0\%}$ numa$_{0\%}$ cond$_{0\%}$ epi$_{0\%}$ iobj$_{0\%}$ qobj$_{0\%}$ avobj$_{0\%}$ event$_{0\%}$
appa	54%	50	appa$_{54\%}$ nobj$_{10\%}$ pnct$_{5\%}$ subj$_{4\%}$ attr$_{4\%}$ dobj$_{4\%}$ vobj$_{3\%}$ pobj$_{2\%}$ conj$_{1\%}$ coord$_{1\%}$ appr$_{1\%}$ time$_{0\%}$ namef$_{0\%}$ predo$_{0\%}$ inst$_{0\%}$ relr$_{0\%}$ avobj$_{0\%}$ man$_{0\%}$ numm$_{0\%}$ possr$_{0\%}$ quant$_{0\%}$ name$_{0\%}$ other$_{0\%}$ correl$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$
time	50%	384	time$_{50\%}$ mod$_{15\%}$ nobj$_{6\%}$ attr$_{5\%}$ iter$_{3\%}$ pnct$_{2\%}$ preds$_{1\%}$ dobj$_{1\%}$ subj$_{1\%}$ coord$_{1\%}$ pobj$_{1\%}$ man$_{1\%}$ quant$_{0\%}$ cons$_{0\%}$ conj$_{0\%}$ other$_{0\%}$ possd$_{0\%}$ prg$_{0\%}$ event$_{0\%}$ tobj$_{0\%}$ vobj$_{0\%}$ cond$_{0\%}$ loc$_{0\%}$ neg$_{0\%}$ scene$_{0\%}$ eval$_{0\%}$ cause$_{0\%}$ obl$_{0\%}$ lobj$_{0\%}$ numm$_{0\%}$ relr$_{0\%}$ possr$_{0\%}$ goal$_{0\%}$ fpredo$_{0\%}$ appa$_{0\%}$ qobj$_{0\%}$ expl$_{0\%}$ namef$_{0\%}$ part$_{0\%}$ inst$_{0\%}$ resem$_{0\%}$ name$_{0\%}$ concom$_{0\%}$ appr$_{0\%}$ add$_{0\%}$
elab	50%	4	elab$_{50\%}$ prg$_{25\%}$ quant$_{25\%}$
part	45%	33	part$_{45\%}$ avobj$_{9\%}$ nobj$_{5\%}$ pobj$_{4\%}$ conj$_{4\%}$ pnct$_{4\%}$ other$_{3\%}$ attr$_{3\%}$ coord$_{3\%}$ dir$_{3\%}$ scene$_{3\%}$ vobj$_{2\%}$ preds$_{1\%}$ subj$_{1\%}$ numm$_{0\%}$ epi$_{0\%}$ man$_{0\%}$ time$_{0\%}$ namef$_{0\%}$ dobj$_{0\%}$ name$_{0\%}$
focal	45%	42	focal$_{45\%}$ attr$_{12\%}$ other$_{7\%}$ pnct$_{5\%}$ loc$_{4\%}$ nobj$_{3\%}$ aobj$_{2\%}$ err$_{2\%}$ correl$_{2\%}$ eval$_{2\%}$ mod$_{2\%}$ pobj$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ vobj$_{0\%}$ conj$_{0\%}$ numm$_{0\%}$ possd$_{0\%}$ appr$_{0\%}$ name$_{0\%}$ coord$_{0\%}$
name	43%	46	name$_{43\%}$ nobj$_{24\%}$ attr$_{8\%}$ vobj$_{3\%}$ subj$_{3\%}$ dobj$_{2\%}$ conj$_{2\%}$ pnct$_{1\%}$ pobj$_{1\%}$ numm$_{0\%}$ possr$_{0\%}$ cause$_{0\%}$ iter$_{0\%}$ title$_{0\%}$ other$_{0\%}$ quant$_{0\%}$ preds$_{0\%}$ appr$_{0\%}$ relr$_{0\%}$ focal$_{0\%}$ aobj$_{0\%}$ loc$_{0\%}$ appa$_{0\%}$ time$_{0\%}$ part$_{0\%}$ possd$_{0\%}$
eval	43%	62	eval$_{43\%}$ mod$_{14\%}$ prg$_{12\%}$ nobj$_{4\%}$ quant$_{4\%}$ epi$_{3\%}$ other$_{3\%}$ time$_{2\%}$ focal$_{1\%}$ neg$_{1\%}$ iter$_{1\%}$ man$_{1\%}$ attr$_{1\%}$ pnct$_{0\%}$ pobj$_{0\%}$ coord$_{0\%}$ conj$_{0\%}$ vobj$_{0\%}$ relr$_{0\%}$ namef$_{0\%}$ concom$_{0\%}$ numm$_{0\%}$
cons	42%	21	cons$_{42\%}$ mod$_{33\%}$ time$_{14\%}$ inst$_{4\%}$ cause$_{4\%}$
man	41%	155	man$_{41\%}$ mod$_{19\%}$ accom$_{4\%}$ nobj$_{4\%}$ attr$_{3\%}$ other$_{2\%}$ time$_{2\%}$ quant$_{2\%}$ pnct$_{2\%}$ inst$_{1\%}$ epi$_{1\%}$ fpreds$_{1\%}$ goal$_{1\%}$ vobj$_{1\%}$ pobj$_{1\%}$ subj$_{0\%}$ prg$_{0\%}$ cond$_{0\%}$ concom$_{0\%}$ fpredo$_{0\%}$ resem$_{0\%}$ source$_{0\%}$ dir$_{0\%}$ aobj$_{0\%}$ eval$_{0\%}$ scene$_{0\%}$ dobj$_{0\%}$ namef$_{0\%}$ appa$_{0\%}$ avobj$_{0\%}$ part$_{0\%}$ numm$_{0\%}$ conj$_{0\%}$ preds$_{0\%}$ modp$_{0\%}$ possr$_{0\%}$
loc	41%	296	loc$_{41\%}$ mod$_{14\%}$ dir$_{9\%}$ attr$_{6\%}$ preds$_{4\%}$ nobj$_{4\%}$ other$_{4\%}$ lobj$_{3\%}$ pobj$_{2\%}$ inst$_{1\%}$ subj$_{0\%}$ vobj$_{0\%}$ focal$_{0\%}$ scene$_{0\%}$ event$_{0\%}$ fpredo$_{0\%}$ dobj$_{0\%}$ pnct$_{0\%}$ conj$_{0\%}$ time$_{0\%}$ coord$_{0\%}$ avobj$_{0\%}$ possd$_{0\%}$ possr$_{0\%}$ numm$_{0\%}$ qobj$_{0\%}$ name$_{0\%}$ relr$_{0\%}$
dir	40%	75	dir$_{40\%}$ loc$_{38\%}$ pobj$_{12\%}$ other$_{2\%}$ part$_{1\%}$ attr$_{1\%}$ dobj$_{1\%}$ man$_{1\%}$ pnct$_{1\%}$

correl	38%	13	correl$_{38\%}$ mod$_{15\%}$ subj$_{8\%}$ add$_{7\%}$ focal$_{7\%}$ other$_{7\%}$ nobj$_{4\%}$ pnct$_{3\%}$ dobj$_{2\%}$ conj$_{1\%}$ appr$_{0\%}$ appa$_{0\%}$ pobj$_{0\%}$
modp	37%	32	modp$_{37\%}$ nobj$_{11\%}$ attr$_{9\%}$ pnct$_{9\%}$ mod$_{6\%}$ subj$_{5\%}$ quant$_{3\%}$ dobj$_{3\%}$ possd$_{2\%}$ pobj$_{2\%}$ conj$_{2\%}$ aobj$_{1\%}$ predo$_{1\%}$ vobj$_{0\%}$ coord$_{0\%}$ relr$_{0\%}$ epi$_{0\%}$ man$_{0\%}$ iobj$_{0\%}$ prg$_{0\%}$
contr	34%	26	contr$_{34\%}$ discmark$_{15\%}$ conc$_{11\%}$ scene$_{7\%}$ coord$_{7\%}$ nobj$_{5\%}$ pnct$_{4\%}$ prg$_{3\%}$ other$_{3\%}$ dobj$_{1\%}$ relr$_{1\%}$ attr$_{1\%}$ subj$_{1\%}$
epi	33%	24	epi$_{33\%}$ nobj$_{13\%}$ mod$_{12\%}$ man$_{9\%}$ other$_{8\%}$ eval$_{8\%}$ pnct$_{4\%}$ subj$_{3\%}$ relr$_{1\%}$ part$_{1\%}$ pobj$_{1\%}$ attr$_{0\%}$ quant$_{0\%}$ modp$_{0\%}$ vobj$_{0\%}$
relr	32%	187	rel$_{35\%}$ relr$_{32\%}$ nobj$_{7\%}$ relpa$_{5\%}$ attr$_{3\%}$ pnct$_{3\%}$ vobj$_{2\%}$ subj$_{1\%}$ pobj$_{1\%}$ relelab$_{1\%}$ possd$_{1\%}$ dobj$_{0\%}$ conj$_{0\%}$ predo$_{0\%}$ quant$_{0\%}$ time$_{0\%}$ neg$_{0\%}$ scene$_{0\%}$ preds$_{0\%}$ coord$_{0\%}$ prg$_{0\%}$ epi$_{0\%}$ namef$_{0\%}$ appa$_{0\%}$ possr$_{0\%}$ iter$_{0\%}$ contr$_{0\%}$ modp$_{0\%}$ concom$_{0\%}$ name$_{0\%}$ numm$_{0\%}$ eval$_{0\%}$ loc$_{0\%}$
agent	31%	22	agent$_{31\%}$ pobj$_{31\%}$ nobj$_{10\%}$ attr$_{5\%}$ pnct$_{4\%}$ mod$_{4\%}$ subj$_{2\%}$ dobj$_{2\%}$ conj$_{1\%}$ preds$_{1\%}$ scene$_{1\%}$ numm$_{1\%}$ title$_{0\%}$ neg$_{0\%}$ vobj$_{0\%}$
aobj	30%	39	aobj$_{30\%}$ nobj$_{25\%}$ attr$_{19\%}$ preds$_{5\%}$ vobj$_{3\%}$ focal$_{2\%}$ avobj$_{2\%}$ man$_{2\%}$ pnct$_{1\%}$ concom$_{1\%}$ possd$_{1\%}$ modp$_{1\%}$ dobj$_{0\%}$ possr$_{0\%}$ conj$_{0\%}$ name$_{0\%}$
relpa	29%	17	relr$_{64\%}$ relpa$_{29\%}$ rel$_{5\%}$
source	28%	14	source$_{28\%}$ pobj$_{22\%}$ subj$_{10\%}$ concom$_{7\%}$ man$_{7\%}$ other$_{7\%}$ mod$_{7\%}$ attr$_{4\%}$ exem$_{1\%}$ pnct$_{1\%}$ nobj$_{0\%}$ dobj$_{0\%}$ coord$_{0\%}$
inst	27%	37	inst$_{27\%}$ mod$_{16\%}$ man$_{8\%}$ loc$_{8\%}$ pobj$_{6\%}$ predo$_{5\%}$ possd$_{3\%}$ attr$_{3\%}$ pnct$_{3\%}$ conj$_{2\%}$ concom$_{2\%}$ scene$_{2\%}$ preds$_{2\%}$ cons$_{2\%}$ nobj$_{1\%}$ coord$_{1\%}$ appa$_{0\%}$ time$_{0\%}$ subj$_{0\%}$ dobj$_{0\%}$
resem	26%	15	resem$_{26\%}$ mod$_{13\%}$ pnct$_{8\%}$ numm$_{7\%}$ preds$_{6\%}$ man$_{6\%}$ other$_{6\%}$ nobj$_{5\%}$ dobj$_{4\%}$ subj$_{4\%}$ attr$_{3\%}$ vobj$_{2\%}$ possr$_{2\%}$ time$_{1\%}$ qobj$_{1\%}$
goal	26%	69	goal$_{26\%}$ pobj$_{20\%}$ mod$_{13\%}$ nobj$_{7\%}$ attr$_{7\%}$ subj$_{4\%}$ dobj$_{3\%}$ scene$_{2\%}$ man$_{2\%}$ pnct$_{1\%}$ fpredo$_{1\%}$ other$_{1\%}$ vobj$_{1\%}$ preds$_{1\%}$ time$_{0\%}$ coord$_{0\%}$ accom$_{0\%}$ conj$_{0\%}$ numm$_{0\%}$ namef$_{0\%}$ exem$_{0\%}$
scene	25%	71	scene$_{25\%}$ mod$_{23\%}$ attr$_{6\%}$ subj$_{5\%}$ nobj$_{3\%}$ add$_{2\%}$ contr$_{2\%}$ goal$_{2\%}$ loc$_{2\%}$ coord$_{2\%}$ pnct$_{2\%}$ vobj$_{2\%}$ preds$_{1\%}$ time$_{1\%}$ conj$_{1\%}$ part$_{1\%}$ man$_{1\%}$ other$_{1\%}$ inst$_{1\%}$ dobj$_{1\%}$ possd$_{0\%}$ namef$_{0\%}$ neg$_{0\%}$ relr$_{0\%}$ pobj$_{0\%}$ iter$_{0\%}$ agent$_{0\%}$ event$_{0\%}$
conc	21%	23	conc$_{21\%}$ contr$_{13\%}$ mod$_{13\%}$ prg$_{8\%}$ other$_{8\%}$ pobj$_{6\%}$ nobj$_{6\%}$ conj$_{5\%}$ attr$_{5\%}$ pnct$_{4\%}$ dobj$_{2\%}$ subj$_{2\%}$ possd$_{1\%}$ appr$_{0\%}$ coord$_{0\%}$
accom	21%	28	man$_{25\%}$ accom$_{21\%}$ nobj$_{11\%}$ attr$_{9\%}$ mod$_{7\%}$ coord$_{4\%}$ pnct$_{4\%}$ other$_{3\%}$ pobj$_{3\%}$ vobj$_{2\%}$ subj$_{2\%}$ goal$_{1\%}$ quant$_{1\%}$ neg$_{1\%}$ preds$_{0\%}$ conj$_{0\%}$
numm	20%	59	nobj$_{25\%}$ numm$_{20\%}$ pnct$_{8\%}$ attr$_{8\%}$ subj$_{5\%}$ vobj$_{4\%}$ dobj$_{3\%}$ conj$_{3\%}$ pobj$_{3\%}$ resem$_{1\%}$ preds$_{1\%}$ coord$_{1\%}$ possd$_{1\%}$ time$_{1\%}$ namef$_{1\%}$ name$_{0\%}$ quant$_{0\%}$ focal$_{0\%}$ part$_{0\%}$ loc$_{0\%}$ concom$_{0\%}$ goal$_{0\%}$ cond$_{0\%}$ man$_{0\%}$ agent$_{0\%}$ possr$_{0\%}$ other$_{0\%}$ appr$_{0\%}$ appa$_{0\%}$ qobj$_{0\%}$ relr$_{0\%}$ prg$_{0\%}$ avobj$_{0\%}$ eval$_{0\%}$ title$_{0\%}$ predo$_{0\%}$
iter	17%	28	time$_{42\%}$ iter$_{17\%}$ mod$_{10\%}$ other$_{7\%}$ vobj$_{5\%}$ attr$_{3\%}$ eval$_{3\%}$ nobj$_{1\%}$ dobj$_{1\%}$ relr$_{0\%}$ cause$_{0\%}$ name$_{0\%}$ scene$_{0\%}$ pobj$_{0\%}$ coord$_{0\%}$ quant$_{0\%}$ subj$_{0\%}$ appr$_{0\%}$
discmark	15%	32	coord$_{56\%}$ discmark$_{15\%}$ contr$_{12\%}$ add$_{9\%}$ qobj$_{6\%}$

other	13%	191	$mod_{25\%}$ $other_{13\%}$ $attr_{10\%}$ $loc_{6\%}$ $pobj_{6\%}$ $nobj_{3\%}$ $add_{3\%}$ $prg_{2\%}$ $list_{2\%}$ $quant_{2\%}$ $man_{2\%}$ $focal_{1\%}$ $avobj_{1\%}$ $pnct_{1\%}$ $time_{1\%}$ $iter_{1\%}$ $epi_{1\%}$ $dir_{1\%}$ $eval_{1\%}$ $conc_{1\%}$ $dobj_{1\%}$ $subj_{0\%}$ $preds_{0\%}$ $goal_{0\%}$ $part_{0\%}$ $conj_{0\%}$ $err_{0\%}$ $resem_{0\%}$ $xpl_{0\%}$ $source_{0\%}$ $contr_{0\%}$ $correl_{0\%}$ $scene_{0\%}$ $accom_{0\%}$ $coord_{0\%}$ $vobj_{0\%}$ $possd_{0\%}$ $cause_{0\%}$ $exem_{0\%}$ $name_{0\%}$ $numm_{0\%}$ $cond_{0\%}$ $qobj_{0\%}$ $appa_{0\%}$ $neg_{0\%}$
robj	9%	11	$dobj_{63\%}$ $iobj_{27\%}$ $robj_{9\%}$
prg	7%	57	$mod_{38\%}$ $eval_{14\%}$ $other_{8\%}$ $prg_{7\%}$ $time_{3\%}$ $quant_{3\%}$ $conc_{3\%}$ $nobj_{2\%}$ $attr_{2\%}$ $subj_{2\%}$ $add_{1\%}$ $contr_{1\%}$ $elab_{1\%}$ $man_{1\%}$ $pnct_{1\%}$ $preds_{1\%}$ $vobj_{1\%}$ $pobj_{1\%}$ $relr_{0\%}$ $conj_{0\%}$ $coord_{0\%}$ $numm_{0\%}$ $modp_{0\%}$
predo	6%	29	$preds_{41\%}$ $vobj_{11\%}$ $predo_{6\%}$ $inst_{6\%}$ $nobj_{6\%}$ $attr_{5\%}$ $dobj_{5\%}$ $pnct_{3\%}$ $relr_{3\%}$ $fpredo_{3\%}$ $conj_{1\%}$ $appa_{1\%}$ $modp_{1\%}$ $coord_{0\%}$ $pobj_{0\%}$ $subj_{0\%}$ $numm_{0\%}$
concom	6%	15	$nobj_{25\%}$ $subj_{10\%}$ $source_{6\%}$ $concom_{6\%}$ $man_{6\%}$ $inst_{6\%}$ $conj_{6\%}$ $attr_{4\%}$ $pnct_{4\%}$ $coord_{4\%}$ $vobj_{3\%}$ $aobj_{3\%}$ $relr_{1\%}$ $numm_{1\%}$ $namef_{1\%}$ $dobj_{1\%}$ $possr_{1\%}$ $eval_{0\%}$ $pobj_{0\%}$ $time_{0\%}$ $preds_{0\%}$ $possd_{0\%}$
possr	4%	25	$nobj_{28\%}$ $subj_{13\%}$ $pnct_{13\%}$ $attr_{5\%}$ $pobj_{4\%}$ $possr_{4\%}$ $dobj_{3\%}$ $conj_{2\%}$ $time_{2\%}$ $vobj_{2\%}$ $preds_{2\%}$ $coord_{1\%}$ $possd_{1\%}$ $relr_{1\%}$ $aobj_{1\%}$ $neg_{1\%}$ $resem_{1\%}$ $name_{1\%}$ $loc_{1\%}$ $namef_{1\%}$ $numm_{1\%}$ $concom_{0\%}$ $appa_{0\%}$ $man_{0\%}$ $appr_{0\%}$
rel	3%	76	$relr_{88\%}$ $relelab_{5\%}$ $rel_{3\%}$ $relpa_{1\%}$ $vobj_{1\%}$
<xpl>	0%	2	$xpl_{100\%}$
tobj	0%	2	$time_{100\%}$
rep	0%	1	$REP_{100\%}$
relelab	0%	6	$rel_{66\%}$ $relr_{33\%}$
obl	0%	3	$pobj_{66\%}$ $time_{33\%}$
mods	0%	2	$fpreds_{100\%}$
mod	0%	433	$attr_{21\%}$ $time_{13\%}$ $other_{11\%}$ $loc_{9\%}$ $man_{6\%}$ $prg_{5\%}$ $quant_{4\%}$ $scene_{3\%}$ $nobj_{2\%}$ $pobj_{2\%}$ $goal_{2\%}$ $eval_{2\%}$ $cons_{1\%}$ $inst_{1\%}$ $cause_{1\%}$ $fpreds_{0\%}$ $cond_{0\%}$ $event_{0\%}$ $exem_{0\%}$ $neg_{0\%}$ $iter_{0\%}$ $epi_{0\%}$ $conc_{0\%}$ $fpredo_{0\%}$ $modp_{0\%}$ $resem_{0\%}$ $correl_{0\%}$ $accom_{0\%}$ $focal_{0\%}$ $source_{0\%}$ $agent_{0\%}$ $mod_{0\%}$
lobj	0%	11	$loc_{90\%}$ $time_{9\%}$
list	0%	8	$other_{50\%}$ $attr_{25\%}$ $pnct_{12\%}$ $xpl_{12\%}$
fpreds	0%	10	$mod_{40\%}$ $man_{20\%}$ $mods_{20\%}$ $nobj_{10\%}$ $vobj_{10\%}$
fpredo	0%	13	$loc_{15\%}$ $mod_{15\%}$ $preds_{9\%}$ $goal_{9\%}$ $nobj_{8\%}$ $predo_{7\%}$ $man_{7\%}$ $pnct_{6\%}$ $subj_{4\%}$ $time_{3\%}$ $attr_{3\%}$ $pobj_{3\%}$ $coord_{1\%}$ $cond_{1\%}$ $conj_{1\%}$ $vobj_{0\%}$
event	0%	10	$mod_{40\%}$ $time_{20\%}$ $loc_{20\%}$ $nobj_{9\%}$ $attr_{3\%}$ $conj_{1\%}$ $scene_{1\%}$ $possd_{1\%}$ $subj_{1\%}$ $pnct_{1\%}$ $quant_{1\%}$
degr	0%	2	$quant_{100\%}$
comp	0%	1	$conj_{40\%}$ $nobj_{40\%}$ $subj_{20\%}$
TOTAL	67%	17047	

B.2 Confusion table: semantics

R	A	N	Confusion list
time	71%	31	$time_{71\%}$ $source_{12\%}$ $other_{7\%}$ $arg_{6\%}$ $about_{0\%}$ $patient_{0\%}$ $agent_{0\%}$
recipient	57%	7	$recipient_{57\%}$ $loc_{14\%}$ $patient_{14\%}$ $goal_{14\%}$

goal	56%	85	goal$_{56\%}$ arg$_{15\%}$ func$_{5\%}$ loc$_{5\%}$ other$_{5\%}$ about$_{2\%}$ agent$_{2\%}$ patient$_{1\%}$ cause$_{1\%}$ resem$_{1\%}$ const$_{1\%}$ recipient$_{1\%}$ quant$_{0\%}$
loc	54%	94	loc$_{54\%}$ arg$_{10\%}$ source$_{7\%}$ goal$_{4\%}$ patient$_{4\%}$ func$_{3\%}$ other$_{3\%}$ poss$_{2\%}$ agent$_{1\%}$ elab$_{1\%}$ const$_{1\%}$ form$_{1\%}$ location$_{1\%}$ apart$_{1\%}$ recipient$_{1\%}$ about$_{1\%}$ quant$_{0\%}$
const	54%	51	const$_{54\%}$ arg$_{19\%}$ source$_{5\%}$ form$_{3\%}$ poss$_{3\%}$ loc$_{2\%}$ func$_{2\%}$ elab$_{2\%}$ apart$_{2\%}$ class$_{2\%}$ goal$_{2\%}$
func	51%	45	func$_{51\%}$ arg$_{17\%}$ goal$_{11\%}$ loc$_{6\%}$ about$_{4\%}$ const$_{2\%}$ iden$_{2\%}$ patient$_{2\%}$ other$_{2\%}$
resem	50%	2	resem$_{50\%}$ goal$_{50\%}$
location	50%	2	loc$_{50\%}$ location$_{50\%}$
eval	50%	2	arg$_{50\%}$ eval$_{50\%}$
elab	50%	12	elab$_{50\%}$ loc$_{12\%}$ agent$_{12\%}$ const$_{8\%}$ form$_{8\%}$ arg$_{4\%}$ other$_{4\%}$
arg	50%	232	arg$_{50\%}$ agent$_{9\%}$ patient$_{8\%}$ goal$_{5\%}$ loc$_{4\%}$ const$_{4\%}$ about$_{3\%}$ func$_{3\%}$ source$_{3\%}$ other$_{3\%}$ poss$_{2\%}$ quant$_{0\%}$ time$_{0\%}$ eval$_{0\%}$ elab$_{0\%}$
agent	50%	84	agent$_{50\%}$ arg$_{25\%}$ patient$_{8\%}$ experiencer$_{3\%}$ about$_{2\%}$ goal$_{2\%}$ source$_{2\%}$ loc$_{1\%}$ elab$_{1\%}$ quant$_{1\%}$ poss$_{0\%}$ time$_{0\%}$ other$_{0\%}$
patient	47%	95	patient$_{47\%}$ arg$_{20\%}$ about$_{9\%}$ agent$_{7\%}$ loc$_{4\%}$ poss$_{3\%}$ other$_{1\%}$ goal$_{1\%}$ quant$_{1\%}$ func$_{1\%}$ experiencer$_{1\%}$ recipient$_{1\%}$ time$_{0\%}$
source	42%	52	source$_{42\%}$ arg$_{15\%}$ loc$_{13\%}$ time$_{7\%}$ const$_{5\%}$ other$_{5\%}$ agent$_{3\%}$ poss$_{3\%}$ quant$_{1\%}$
form	42%	7	form$_{42\%}$ const$_{28\%}$ loc$_{14\%}$ elab$_{14\%}$
experiencer	42%	7	experiencer$_{42\%}$ agent$_{42\%}$ patient$_{14\%}$
apart	42%	19	quant$_{47\%}$ apart$_{42\%}$ loc$_{5\%}$ const$_{5\%}$
poss	40%	32	poss$_{40\%}$ arg$_{18\%}$ patient$_{10\%}$ other$_{10\%}$ loc$_{6\%}$ const$_{6\%}$ source$_{6\%}$ agent$_{1\%}$
class	40%	5	class$_{40\%}$ other$_{40\%}$ const$_{20\%}$
quant	37%	27	quant$_{37\%}$ apart$_{33\%}$ arg$_{7\%}$ patient$_{4\%}$ other$_{4\%}$ agent$_{3\%}$ source$_{3\%}$ goal$_{2\%}$ loc$_{1\%}$ about$_{0\%}$
about	33%	39	about$_{33\%}$ patient$_{23\%}$ arg$_{21\%}$ agent$_{5\%}$ goal$_{5\%}$ func$_{5\%}$ loc$_{2\%}$ other$_{1\%}$ quant$_{0\%}$ time$_{0\%}$
other	22%	38	other$_{22\%}$ arg$_{17\%}$ goal$_{11\%}$ poss$_{8\%}$ loc$_{7\%}$ source$_{7\%}$ time$_{5\%}$ class$_{5\%}$ patient$_{4\%}$ quant$_{3\%}$ func$_{2\%}$ elab$_{1\%}$ about$_{1\%}$ agent$_{0\%}$
iden	0%	1	func$_{100\%}$
cause	0%	1	goal$_{100\%}$
TOTAL	48%	970	

B.3 Confusion table: discourse

R	A	N	Confusion list
SCENE	100%	11	SCENE$_{100\%}$
ANSW	100%	1	ANSW$_{100\%}$
CONJ:seq	69%	13	CONJ:seq$_{69\%}$ CONJ:add$_{15\%}$ CONJ:elab$_{7\%}$ DIREC$_{7\%}$
AGENTIVE:expl	66%	9	AGENTIVE:expl$_{66\%}$ CONTR$_{11\%}$ AGENTIVE:reas$_{11\%}$ CONST:rest$_{11\%}$

TELIC:cons.dir	63%	10	TELIC:cons.dir$_{63\%}$ AGENTIVE:reas$_{10\%}$ CONTR:dir$_{10\%}$ conj$_{6\%}$ CONJ:elab$_{5\%}$ qobj$_{5\%}$
CONST:exem	58%	12	CONST:exem$_{58\%}$ CONST:apart$_{16\%}$ JOINT$_{8\%}$ CONST:rest$_{8\%}$ CONC$_{8\%}$
CONJ:add	55%	103	CONJ:add$_{55\%}$ CONJ:elab$_{14\%}$ conj$_{6\%}$ JOINT$_{5\%}$ AGENTIVE:sbj$_{2\%}$ CONC$_{2\%}$ CONJ:seq$_{1\%}$ TELIC:cons.sbj$_{1\%}$ CONST:apart$_{1\%}$ CONTR:dir$_{1\%}$ CONJ$_{1\%}$ CONTR:prg$_{1\%}$ CONTR:sbj$_{1\%}$ DISJ:dir$_{1\%}$ vobj$_{1\%}$
COND	50%	1	conj$_{50\%}$ COND$_{50\%}$
CONJ:elab	46%	76	CONJ:elab$_{46\%}$ CONJ:add$_{19\%}$ FORMAL:eval$_{5\%}$ CONST:apart$_{3\%}$ FORMAL:descr$_{2\%}$ TELIC:cons.sbj$_{2\%}$ CONST:rest$_{2\%}$ CONST:elab$_{2\%}$ subj$_{2\%}$ DIREC$_{2\%}$ CONJ:seq$_{1\%}$ CONTR:prg$_{1\%}$ CONC$_{1\%}$ AGENTIVE:sbj$_{1\%}$ CONJ$_{1\%}$ AGENTIVE:reas$_{1\%}$ qobj$_{0\%}$ TELIC:cons.dir$_{0\%}$
CONTR:sbj	44%	6	CONTR:sbj$_{44\%}$ conj$_{22\%}$ CONTR:prg$_{16\%}$ CONJ:add$_{16\%}$
CONC	43%	16	CONC$_{43\%}$ CONJ:add$_{18\%}$ CONJ:elab$_{6\%}$ FORMAL:eval$_{6\%}$ subj$_{6\%}$ CONJ$_{6\%}$ CONST:exem$_{6\%}$ conj$_{3\%}$ CONTR:prg$_{3\%}$
FORMAL:eval	37%	8	CONJ:elab$_{50\%}$ FORMAL:eval$_{37\%}$ CONC$_{12\%}$
TELIC:cons.sbj	36%	11	TELIC:cons.sbj$_{36\%}$ CONJ:add$_{18\%}$ CONJ:elab$_{18\%}$ CONST:rest$_{18\%}$ CONTR:dir$_{9\%}$
CONTR:dir	36%	12	CONTR:dir$_{36\%}$ conj$_{23\%}$ CONTR:prg$_{12\%}$ CONJ:add$_{11\%}$ TELIC:cons.sbj$_{8\%}$ TELIC:cons.dir$_{8\%}$
FORMAL:descr	33%	3	CONJ:elab$_{66\%}$ FORMAL:descr$_{33\%}$
AGENTIVE:reas	33%	9	AGENTIVE:reas$_{33\%}$ AGENTIVE:sbj$_{33\%}$ CONJ:elab$_{11\%}$ AGENTIVE:expl$_{11\%}$ TELIC:cons.dir$_{11\%}$
CONST:apart	27%	11	CONJ:elab$_{27\%}$ CONST:apart$_{27\%}$ CONJ:add$_{18\%}$ CONST:exem$_{18\%}$ nobj$_{9\%}$
CONST:rest	18%	10	CONJ:elab$_{20\%}$ TELIC:cons.sbj$_{20\%}$ CONST:rest$_{18\%}$ CONST:elab$_{10\%}$ AGENTIVE:expl$_{10\%}$ CONST:exem$_{10\%}$ conj$_{6\%}$ qobj$_{5\%}$
JOINT	12%	8	CONJ:add$_{75\%}$ JOINT$_{12\%}$ CONST:exem$_{12\%}$
DISJ:dir	0%	1	CONJ:add$_{100\%}$
DIREC	0%	3	CONJ:elab$_{66\%}$ CONJ:seq$_{33\%}$
CONTR:prg	0%	7	conj$_{28\%}$ CONTR:dir$_{21\%}$ CONTR:sbj$_{14\%}$ CONJ:add$_{14\%}$ CONJ:elab$_{14\%}$ CONC$_{7\%}$
CONTR	0%	1	AGENTIVE:expl$_{100\%}$
CONST:elab	0%	3	CONJ:elab$_{66\%}$ CONST:rest$_{33\%}$
CONSOL:source	0%	2	AGENTIVE:sbj$_{100\%}$
CONJ	0%	3	CONJ:add$_{33\%}$ CONJ:elab$_{33\%}$ CONC$_{33\%}$
AGENTIVE:sbj	0%	9	CONJ:add$_{33\%}$ AGENTIVE:reas$_{33\%}$ CONSOL:source$_{22\%}$ CONJ:elab$_{11\%}$
TOTAL	45%	359	

B.4 Confusion table: anaphora

R	A	N	Confusion list
ref	100%	63	ref$_{100\%}$
assoc-loc	100%	5	assoc-loc$_{100\%}$
assoc-formal	100%	1	assoc-formal$_{100\%}$
assoc-event	100%	3	assoc-event$_{100\%}$

coref	92%	141	coref$_{92\%}$ coref-var$_{4\%}$ coref-iden$_{1\%}$ coref-res$_{0\%}$ assoc$_{0\%}$ assoc-const$_{0\%}$
assoc-telic	83%	24	assoc-telic$_{83\%}$ assoc-const$_{8\%}$ coref-res$_{4\%}$ assoc-agentive$_{4\%}$
coref-iden	80%	52	coref-iden$_{80\%}$ coref-var$_{10\%}$ coref$_{3\%}$ assoc-const$_{1\%}$ coref-res$_{1\%}$ coref coref-iden$_{1\%}$
coref-var	79%	97	coref-var$_{79\%}$ coref$_{6\%}$ coref-iden$_{5\%}$ assoc-const$_{4\%}$ coref-res$_{3\%}$ coref-evol$_{1\%}$ assoc$_{1\%}$
coref-res	72%	25	coref-res$_{72\%}$ coref-var$_{12\%}$ assoc-telic$_{4\%}$ coref-iden$_{4\%}$ coref$_{4\%}$ coref-res.prg$_{4\%}$
assoc-const	66%	39	assoc-const$_{66\%}$ coref-var$_{10\%}$ assoc$_{10\%}$ assoc-telic$_{5\%}$ coref-iden$_{2\%}$ coref$_{2\%}$ assoc-agentive$_{2\%}$
assoc-agentive	50%	4	assoc-agentive$_{50\%}$ assoc-telic$_{25\%}$ assoc-const$_{25\%}$
assoc	38%	9	assoc-const$_{44\%}$ assoc$_{38\%}$ coref-var$_{11\%}$ coref$_{5\%}$
coref-res.prg	0%	1	coref-res$_{100\%}$
coref-evol	0%	1	coref-var$_{100\%}$
coref coref-iden	0%	1	coref-iden$_{100\%}$
TOTAL	83%	466	

B.5 Confusion table: morphology

R	A	N	Confusion list
TIME:pre	100%	1	TIME:pre$_{100\%}$
MOD:quant	100%	1	MOD:quant$_{100\%}$
MOD:qual	100%	3	MOD:qual$_{100\%}$
DERvn:agent	100%	2	DERvn:agent$_{100\%}$
DERnv	100%	3	DERnv$_{100\%}$
DERnn:agent	100%	1	DERnn:agent$_{100\%}$
DERna:disp	100%	1	DERna:disp$_{100\%}$
DERan:qual	100%	1	DERan:qual$_{100\%}$
DER:aa	100%	1	DER:aa$_{100\%}$
about	100%	1	about$_{100\%}$
DERva:act	66%	3	DERva:act$_{66\%}$ $<_{33\%}$
DERvn:core	47%	19	DERvn:core$_{47\%}$ $>_{26\%}$ DERvn:patient$_{15\%}$ SUBJ.agent$_{10\%}$
func	25%	8	$>_{37\%}$ func$_{25\%}$ GOAL$_{25\%}$ SUBJ.agent$_{12\%}$
DERvn:patient	20%	5	DERvn:core$_{60\%}$ DERvn:patient$_{20\%}$ $>_{20\%}$
SUBJ.agent	0%	4	DERvn:core$_{50\%}$ func$_{25\%}$ $<_{25\%}$
subj.agent	0%	4	$>_{100\%}$
NEG:priv	0%	1	NEG:contr$_{100\%}$
NEG:contr	0%	1	NEG:priv$_{100\%}$
GOAL	0%	3	func$_{66\%}$ $<_{33\%}$
DERnn:assoc	0%	1	DERna:rel.norm$_{100\%}$
DERna:rel.norm	0%	4	$>_{75\%}$ DERnn:assoc$_{25\%}$
DERna:rel	0%	1	DENOM:rel.place$_{100\%}$
DENOM:rel.place	0%	1	DERna:rel$_{100\%}$
ARG	0%	1	$<_{100\%}$
AGENT:MC	0%	1	agent$_{100\%}$
agent	0%	1	AGENT:MC$_{100\%}$
$<$	0%	4	DERva:act$_{25\%}$ SUBJ.agent$_{25\%}$ ARG$_{25\%}$ GOAL$_{25\%}$

>	0%	16	DERvn:core$_{31\%}$ subj.agent$_{25\%}$ DERna:rel.norm$_{18\%}$ func$_{18\%}$ DERvn:patient$_{6\%}$
TOTAL	31%	93	

B.6 Confusion table: alignment

R	A	N	Confusion list

Appendix C

Annotation status

C.1 All texts

	alignment	discourse	morphology	postag	syntax
none	1016	2038	2208		950
auto				1774	81
outdated-final	536				880
first	45	79	110	1	156
discussed	178	194	1		154
final				536	91

C.2 da texts

	discourse	morphology	postag	syntax
none	421	468		
auto				
outdated-final				484
first	29	67	1	18
discussed	86	1		23
final			535	7

C.3 de texts

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

C.4 en texts

	discourse	morphology	postag	syntax
none	496	535		
auto			536	69
outdated-final				396

first	40			39
discussed				19
final				6

C.5 es texts

	discourse	morphology	postag	syntax
none	386	382		380
auto			413	
outdated-final				
first	2	31		5
discussed	25			27
final				1

C.6 it texts

	discourse	morphology	postag	syntax
none	330	411		244
auto			412	3
outdated-final				
first		5		38
discussed	83			77
final			1	54

C.7 da-de texts

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

C.8 da-en texts

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

C.9 da-es texts

	alignment	morphology	syntax
none	332		

auto			2
outdated-final			
first		2	
discussed	81		
final			

C.10 da-it texts

	alignment	morphology	syntax
none	316		
auto			2
outdated-final			
first		1	
discussed	97		
final			

Appendix D

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