The inventory of linguistic relations used in the Copenhagen Dependency Treebanks

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Abstract

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

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[1] `http://spreadsheets.google.com/ccc?key=0ArjTKYTQS1lWcnNUWGJrX3lZTkxDc3QxYmlqWlRXQ1E&hl=en`

Contents

Chapter 1

Introduction

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

relation
isa super
[12]

The notation in the left margin indicates that we now describe the relation relation; it has immediate super type super and is defined in row 12 in the spreadsheet. When describing a relation, we also lists its other properties, if relevant, including its:

- *long name*: we use short names in the annotation for brevity, but long names are sometimes more descriptive, so we provide these as an alias for the short relation name;

- *deprecated names*: when renaming relations, the old name is listed as a deprecated name for backwards compatibility, but it should be avoided in future annotation;

- *immediate subtypes*: the relation names that have been specified as the immediate subtypes of the relation;

- *related types*: lists the relations that are closely related to this relation, in some way or another, and which you might want to consult for clarification or additional information;

- *confusion*: lists relations that are confused with this relation with percentages (ie, the probability that other annotators will use another relation name); the numbers in "Confusion$_{A,A_U,A_L}^{N}$ list the number of times the relation name has been used for a multiply-annotated in-node, and the labeled agreement A, the unlabeled agreement A_U, and the label agreement A_L for the relation.

- *examples*: small annotated text examples that illustrate how the relation is used;

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

Chapter 2

Top-level relations: ANY

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

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

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
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.

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.

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.

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.

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.

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.

2.2 Annotation type dimension: DIM:TYPE

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.

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

Subtypes: ONTOCLASS.

REL
isa DIM:TYPE
[19]
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).

Subtypes: ALIGNREL ANAREL IDIOM LAND PRIM SEC SEMREL.

IDIOM
isa REL
[32]
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.

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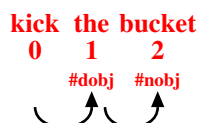
RuleIdiom *Idiomatic relation pattern* (long: (SEMREL)"#"). A semantic relation can be marked as id-
isa IDIOM RULE iomatic by putting a trailing "#" after the semantic relation name. The idiom marker is only
[374] used with semantic relations, not with syntactic relations.

LAND *Landing relation* (long: LANDING). A relation between a lexical element and its landing site.
isa REL Landing relations are not annotated explicitly in the Copenhagen Dependency Treebanks.
[25] 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 *Licensed filler.* A landing relation from a filler licensor to a phonetically empty filler that it
isa LAND licenses. The filler licensor is viewed as the landing site for the filler. Filler relations are never
[27]

7

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.

Pica ss o
0 1 2

ADJ
isa PRIM
[22]
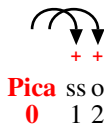
Adjunct relation (long: ADJUNCT). A primary adjunct relation. The relation is licensed by the adjunct, ie, the lexical entry of the adjunct specifies the adjunct relations licensed by the adjunct, along with the associated semantic interpretation mechanisms and selectional restrictions on the licensed 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 *Valency-bound adverbial* (long: `"@"`ADVERB). An adverbial relation can be marked as obliga-
isa COMP RULE   tory by putting "@" in front of the relation name.

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

SEC *Secondary dependency relation* (long: SECONDARY). A secondary dependency relation. Intu-
isa REL   itively, if a node functions as a dependent of more than one word (eg, in verbal chains, raising
[24]   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 *Secondary relation pattern* (long: `"["`PRIM`"]"`). A secondary relation name is formed by en-
isa RULE SEC   closing a primary relation name in square brackets.
[369]   Related types: SEC.
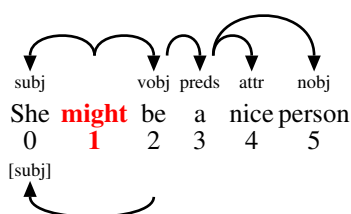
repl *Replacement in gapping coordination.* A relation that encodes a constituent in the first con-
isa SEC   junct replaced by a gapping dependent. The relation goes from the head of the replaced
[34]   constituent to the head of the gapping dependent. The extraction path for the gapping de-
pendent 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.
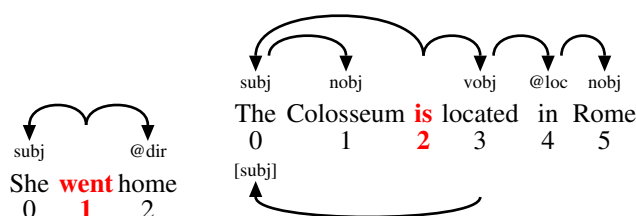
@time *Valency-bound time adverbial.* A valency bound time expression. Formerly analyzed as tem-
isa SYNCOMP poral object "tobj", but we have decided to provide a general mechanism (@) for converting
   [102] adverbial relations into valency-bound relations instead.

Related types: cont dur ext hab prec succ.
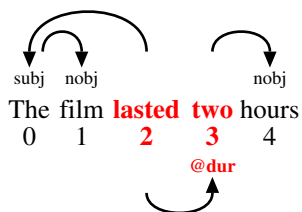
CDT1COMP *Deprecated CDT1 complement relations.* Deprecated complement relations from the CDT1+2
isa CDT1 SYNCOMP treebanks.
   [396]

Subtypes: lobj tobj.

lobj *Deprecated locative object..* Deprecated locative object.

isa CDT1COMP

[399] Confusion$_{0/100/0\%}^{11}$: loc$_{91\%}$ time$_{9\%}$.


```
      subj      lobj
   He  lives  here
   0    1      2
```
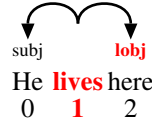
tobj *Deprecated temporal object..* Deprecated temporal object.

isa CDT1COMP

[400] Confusion$_{0/100/0\%}^{2}$: time$_{100\%}$.


```
      subj      tobj   nobj
   It  lasted  two  hours
   0    1       2     3
```

avobj *Adverbial object.*

isa SYNCOMP

[94] Related types: aobj part.

Confusion$_{61/88/61\%}^{38}$: avobj$_{61\%}$ part$_{8\%}$ other$_{8\%}$ quant$_{5\%}$ subj$_{3\%}$ conj$_{3\%}$ aobj$_{3\%}$ loc$_{3\%}$ pobj$_{3\%}$ nobj$_{1\%}$ pnct$_{1\%}$ namef$_{1\%}$ man$_{1\%}$ appa$_{1\%}$ attr$_{0\%}$ coord$_{0\%}$ numm$_{0\%}$.


```
      subj          avobj pobj nobj pnct
   She  acted  out  of  love  .
   0     1      2   3    4    5
```
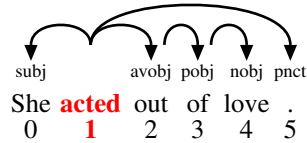
dobj *Direct object.* A direct object relation. In languages with case, the direct object is typically

isa SYNCOMP accusative-marked.

[82] Related types: iobj robj.

Confusion$_{76/85/77\%}^{904}$: dobj$_{77\%}$ nobj$_{6\%}$ attr$_{3\%}$ pnct$_{3\%}$ pobj$_{2\%}$ subj$_{1\%}$ vobj$_{1\%}$ coord$_{1\%}$ robj$_{1\%}$ preds$_{1\%}$ iobj$_{1\%}$ time$_{1\%}$ conj$_{1\%}$ 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$_{0\%}$.


```
      expl       dobj   nobj pnct        subj    dobj nobj pnct
   There  are  many people  .       He  has  a  ball  .
   0      1     2    3     4         0   1    2   3    4
```
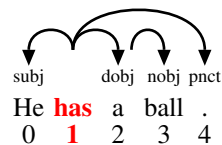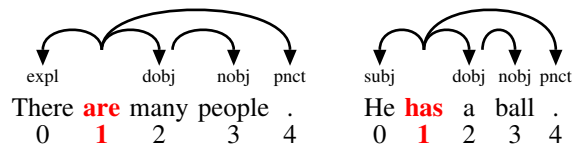
fobj *Filler object.* Filler objects are never annotated explicitly in the CDT annotation. In Discon-

isa SYNCOMP tinuous Grammar, a "filler" is a phonetically empty constituent which is licensed lexically

[95] by a "filler licensor" lexeme (eg, the relative verb in a relative construction acts as filler li-censor 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.

subj nobj dobj fobj subj rel   preds pnct
The bird that e we saw **was** nice .
0   1   2   3 4   5   **6**   7 8
fill
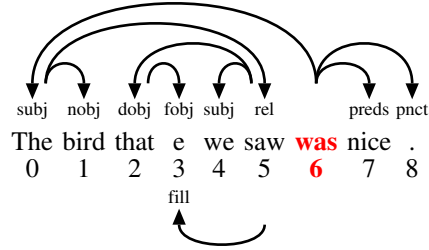
gobj *Genitive object.* If the genitve object is part of a NP which nucleus is deverbal, the following
isa SYNCOMP   annotation possibilities are available: gobj.subj{SEMROLE} gobj.dobj{SEMROLE} gobj.pobj{SEMROLE}
[84]   gobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient,
experient, location.

Related types: SEMROLE attrg.

the presence of film critics

nobj   gobj.subj   nobj
das Dasein   der   Filmkritiker
the presence the(gen) film_critics
0   1   2   3
{agent}
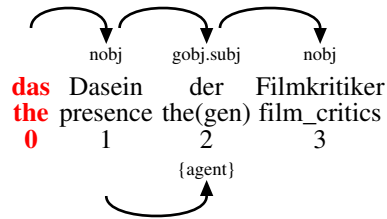
with help from the keyboard

nobj   gobj.subj   nobj
mit Hilfe   der   Tastatur
with help   the   keyboard
0   1   2   3
{agent}

the sale of the car

nobj   gobj.dobj   nobj
der Verkauf   des   Autos
the sale   the(gen) car(gen)
0   1   2   3
{patient}

Denmark's attitude

nobj   gobj
die Haltung Dänemarks
the attitude Denmark's
0   1   2
{arg}
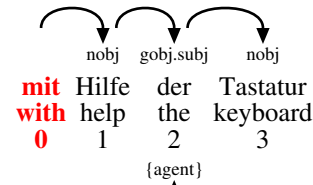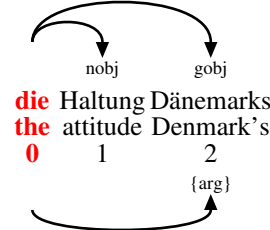
iobj *Indirect object.*
isa SYNCOMP   Related types: dobj.
[85] $\text{Confusion}^{25}_{64/97/64\%}$: iobj$_{64\%}$ dobj$_{20\%}$ robj$_{12\%}$ pnct$_{1\%}$ subj$_{1\%}$ nobj$_{0\%}$ attr$_{0\%}$ possd$_{0\%}$ modp$_{0\%}$.

subj   iobj dobj nobj
He **gave** her a kiss
0   **1**   2 3 4
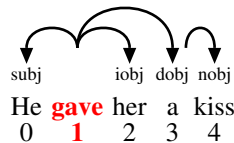
nobj *Nominal object.* If the nominal object is part of a NP which nucleus is deverbal, the following
isa SYNCOMP   annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE} nobj.pobj{SEMROLE}
[92]   nobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient,
experient, location.

$\text{Confusion}^{3409}_{79/85/81\%}$: nobj$_{81\%}$ attr$_{3\%}$ pnct$_{2\%}$ subj$_{2\%}$ vobj$_{2\%}$ pobj$_{1\%}$ dobj$_{1\%}$ conj$_{1\%}$ preds$_{1\%}$ coord$_{1\%}$ time$_{1\%}$ 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$_{0\%}$.

They joined the party.

nobj.subj
shark **attack**
0   **1**
{agent}#

subj   dobj   part pobj   nobj   pnct
De   **meldte**   sig   ind   i   partiet   .
They   **joined**   themselves   in   in   party−the
0   **1**   2   3   4   5   6

nobj
the car
0   1

navigator   **keyword**

nobj.dobj
book **review**
0   **1**
{patient}#

nobj.dobj
indicatore percorsi
indicator   tracks
0   1
{patient}#

nobj
parola chiave
word   key
0   1
{goal}#

---
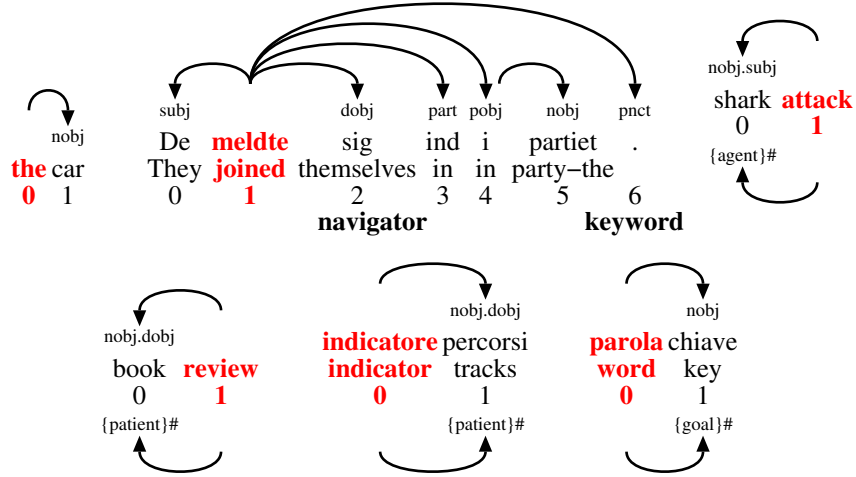
numa *Additive numeral complement.* An additive numeral complement relation. Numerals license
isa SYNCOMP   one additive and one numeral complement, both optional. The numerical value associated
[96]   with the expression is the value M * N + A, where M is the numerical value of the multi-
plicative 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$_{67/88/67\%}^{6}$: numa$_{67\%}$ nobj$_{21\%}$ attr$_{4\%}$ dobj$_{4\%}$ possd$_{4\%}$.

numa   numm   numm   numa   coord numa
hundred two   two hundred three **thousand** and one
0   1   0   1   2   **3**   4   5

---
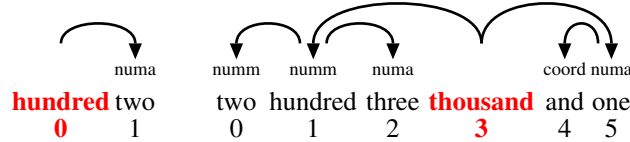
numm *Multiplicative numeral complement.* An multiplicative numeral complement relation. Nu-
isa SYNCOMP   merals license one additive and one numeral complement, both optional. The numerical value
[97]   associated with the expression is the value M * N + A, where M is the numerical value of the
multiplicative 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$_{21/31/21\%}^{59}$: nobj$_{26\%}$ numm$_{21\%}$ pnct$_{9\%}$ attr$_{8\%}$ subj$_{5\%}$ vobj$_{5\%}$ dobj$_{3\%}$ conj$_{3\%}$ pobj$_{3\%}$ resem$_{2\%}$ preds$_{2\%}$ co-
ord$_{2\%}$ possd$_{2\%}$ time$_{1\%}$ namef$_{1\%}$ name$_{1\%}$ quant$_{1\%}$ focal$_{1\%}$ part$_{1\%}$ loc$_{1\%}$ concom$_{1\%}$ 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$_{0\%}$.

numm   numm   numm   numa   coord numa
two **hundred**   two hundred three **thousand** and one
0   **1**   0   1   2   **3**   4   5
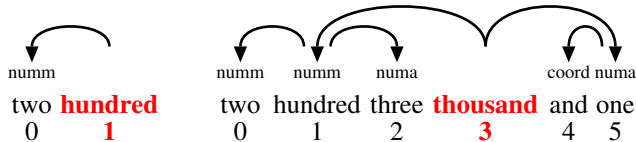
part *Verbal particle.* Verbal particle.

isa SYNCOMP   Related types: avobj.

[98]   Confusion$_{46/70/46\%}^{33}$: part$_{46\%}$ avobj$_{9\%}$ nobj$_{6\%}$ pobj$_{5\%}$ conj$_{4\%}$ pnct$_{4\%}$ other$_{4\%}$ attr$_{3\%}$ coord$_{3\%}$ dir$_{3\%}$ scene$_{3\%}$ vobj$_{3\%}$ preds$_{2\%}$ subj$_{1\%}$ numm$_{1\%}$ epi$_{1\%}$ man$_{1\%}$ time$_{1\%}$ namef$_{1\%}$ dobj$_{0\%}$ name$_{0\%}$.

the fair two years ago
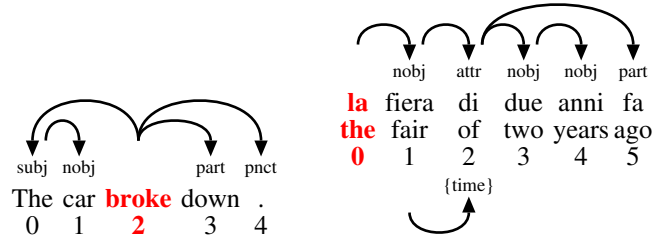
pobj *Prepositional object.* A prepositional object relation. The governor may be a verb, noun,

isa SYNCOMP adjective, adverbial, or another preposition. The preposition is analyzed as the head of the

[83] prepositional object itself. If the prepositional object is part of a deverbal NP (ie, an NP where the nucleus is derived from a verb), the CDT annotation specifies the underlying role of the NP within the PP by adding a "." followed by the underlying role to the relation, e.g., "pobj.subj" (the NP in the PP would act as subject in the underlying V), "pobj.dobj", "pobj.pobj", and "pobj.iobj"; in these cases, the semantic role "{SEMROLE}" must be annotated as well (the most relevant semantic roles in this context are "agent", "patient", "recipient", "experient", "location").
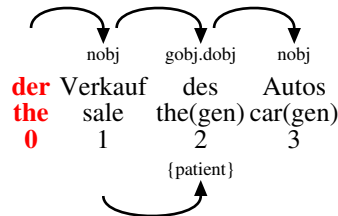
Related types: SEMROLE avobj.

Confusion$_{60/79/61\%}^{777}$: pobj$_{61\%}$ attr$_{8\%}$ nobj$_{8\%}$ pnct$_{2\%}$ dobj$_{2\%}$ subj$_{2\%}$ goal$_{2\%}$ vobj$_{2\%}$ other$_{2\%}$ mod$_{1\%}$ dir$_{1\%}$ coord$_{1\%}$ agent$_{1\%}$ loc$_{1\%}$ conj$_{1\%}$ preds$_{1\%}$ time$_{1\%}$ 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$_{0\%}$.

meeting of ministers
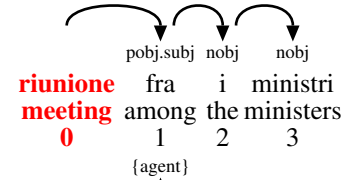
the discovering of the gold   **participation in the meeting**
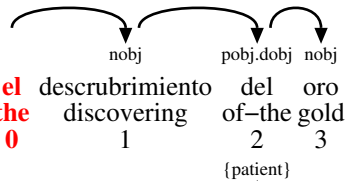
sale to minors
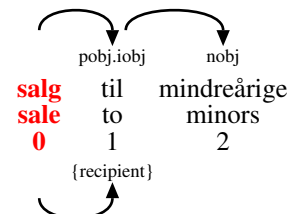
possd *Possessed complement.* The possessed complement in a possessive construction. Possession
isa SYNCOMP is understood in a syntactic sense as any construction with a clitic genitive marker, not nec-
[99] essarily as possession in a narrow semantic sense. A better name may be chosen for this
relation in the future.

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

Confusion$_{75/80/77\%}^{307}$: possd$_{77\%}$ nobj$_{7\%}$ attr$_{3\%}$ pnct$_{3\%}$ vobj$_{1\%}$ dobj$_{1\%}$ pobj$_{1\%}$ coord$_{1\%}$ subj$_{1\%}$ conj$_{1\%}$ time$_{1\%}$ relr$_{1\%}$
quant$_{1\%}$ 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$_{0\%}$.

my car

possd

bestyrelsens beslutning
the–board's decision
0   1

nobj   possd

la mia macchina
the my   car
0   1   2

{poss}

possd

my mother
0   1

{arg}

possd

Allan's car
0   1

{poss}

[subj]
{agent}

his car

possd nobj

el coche suyo
the car his
0   1   2

{poss}

a realization of them

nobj possd

una loro realizzazione
a their realization
0   1   2

[dobj]
{patient}

FLS' Spanish sister company

possd nobj attr

la consorella FLS spagnola
the sister_company FLS Spanish
0   1   2   3

{arg}

possr *Possessor complement.* NO LONGER IN USE
isa SYNCOMP   The possessor complement in a possessive construction. Possession is understood in a
[100] 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$_{0/10/4\%}^{25}$: nobj$_{28\%}$ subj$_{14\%}$ pnct$_{14\%}$ attr$_{6\%}$ pobj$_{5\%}$ possr$_{4\%}$ dobj$_{4\%}$ conj$_{3\%}$ time$_{2\%}$ vobj$_{2\%}$ preds$_{2\%}$ coord$_{2\%}$
possd$_{2\%}$ relr$_{1\%}$ aobj$_{1\%}$ neg$_{1\%}$ resem$_{1\%}$ name$_{1\%}$ loc$_{1\%}$ namef$_{1\%}$ numm$_{1\%}$ concom$_{1\%}$ appa$_{1\%}$ man$_{1\%}$ appr$_{0\%}$.

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$_{7/68/7\%}^{29}$: preds$_{42\%}$ vobj$_{11\%}$ predo$_{7\%}$ inst$_{7\%}$ nobj$_{7\%}$ attr$_{6\%}$ dobj$_{5\%}$ pnct$_{4\%}$ relr$_{3\%}$ fpredo$_{3\%}$ conj$_{2\%}$ appa$_{1\%}$
modp$_{1\%}$ coord$_{0\%}$ pobj$_{0\%}$ subj$_{0\%}$ numm$_{0\%}$.

subj   dobj predo nobj pnct

She **called** him a liar .
0   **1**   2   3   4   5

preds *Subject predicative.*

isa pred Related types: predo.

[88] Confusion$_{66/89/66\%}^{514}$: preds$_{66\%}$ vobj$_{10\%}$ nobj$_{6\%}$ loc$_{3\%}$ predo$_{2\%}$ attr$_{2\%}$ subj$_{2\%}$ dobj$_{2\%}$ pnct$_{2\%}$ time$_{1\%}$ pobj$_{1\%}$ coord$_{1\%}$ 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$_{0\%}$.

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$_{73/73/73\%}^{73}$: qobj$_{73\%}$ conj$_{7\%}$ coord$_{7\%}$ discmark$_{3\%}$ CONJ:add$_{2\%}$ nobj$_{2\%}$ AGENTIVE:reas$_{1\%}$ dobj$_{1\%}$ pnct$_{1\%}$ subj$_{1\%}$ time$_{1\%}$ vobj$_{0\%}$ numm$_{0\%}$ other$_{0\%}$ loc$_{0\%}$ resem$_{0\%}$ pobj$_{0\%}$ attr$_{0\%}$.
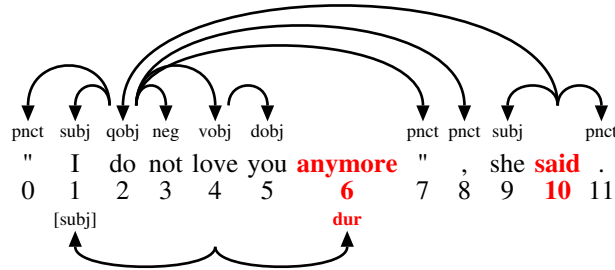
robj *Reflexive object.*

isa SYNCOMP Related types: dobj.

[91] Confusion$_{9/100/9\%}^{11}$: dobj$_{64\%}$ iobj$_{27\%}$ robj$_{9\%}$.

He decided to walk.
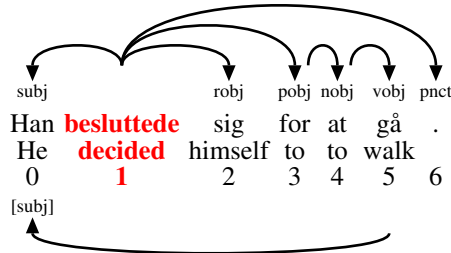
subj *Subject.* A subject relation. In languages with case, subjects are usually nominative-marked.

isa SYNCOMP Agent-roles are often encoded as subjects, but not necessarily so (eg, in passive constructions).

[80]

Subtypes: expl.

Related types: expl.

Confusion$_{81/83/82\%}^{1434}$: subj$_{82\%}$ nobj$_{5\%}$ pnct$_{2\%}$ attr$_{2\%}$ pobj$_{1\%}$ vobj$_{1\%}$ dobj$_{1\%}$ conj$_{1\%}$ coord$_{1\%}$ preds$_{1\%}$ 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$_{0\%}$.

```
        subj      dobj  pnct
      We  like  them   .
      0    1     2     3
```

expl *Expletive subject.* An expletive subject relation. The expletive subject is typically a situational
isa subj place adverbial like "there" or time adverbial like "now", and is only possible for verbs that
[81] 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 distin-
guish 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$_{89/97/89\%}^{62}$: expl$_{89\%}$ subj$_{9\%}$ preds$_{2\%}$ time$_{1\%}$ pobj$_{1\%}$.

```
        expl      dobj   nobj  pnct
      There are  many  people  .
      0    1     2      3      4
```

vobj *Verbal object.*
isa SYNCOMP Related types: "["$PRIM"]".
[90] Confusion$_{75/85/76\%}^{1092}$: vobj$_{76\%}$ nobj$_{6\%}$ preds$_{5\%}$ pnct$_{3\%}$ attr$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ pobj$_{1\%}$ conj$_{1\%}$ coord$_{1\%}$ 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$_{0\%}$.

```
        subj          vobj  time  pnct
      We  must  go   now    .
      0    1    2     3     4
     [subj]
```

3.2 Non-adverbial adjunct relations: SYNADJ

SYNADJ *Syntactic adjunct.* An adjunct role at the syntactic level. This relation type is used to group
isa ADJ SYN a large class of adjunct roles that only apply at the syntactic level.
[105]
Subtypes: ADVERB CDT1ADJ app attr attrg conj coord correl fpred gapd name pnct rel voc xtop.

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.

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

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
        namel: last name
        title: person title
    pnct: punctuation
    rel: relative clause
        relelab: elaborating relative clause
        relpa: parenthetic relative clause
        relr: restrictive relative clause
    voc: vocative
    xtop: external topic with resuming pronoun

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

Subtypes: err list mod mods obl rep.

err *Deprecated error relation..* Deprecated error relation. Used when connecting two phrases
isa CDT1ADJ that do not fit together, often because of errors in the text.
[402] Confusion$_{67/67/78\%}^{9}$: err$_{78\%}$ other$_{11\%}$ focal$_{11\%}$.

subj   **err**   pred
He **is** been old
0   **1**   2   3
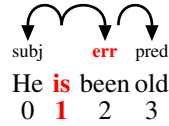
list *Deprecated list element..* Deprecated list element. Used when two or more phrases form
isa CDT1ADJ a unit, but the internal structure is hard to analyze with the existing set of relations (eg,
[401] addresses, phone numbers, etc). The secondary elements are analyzed as list adjuncts of the
first element.
Confusion$_{0/88/0\%}^{8}$: other$_{50\%}$ attr$_{25\%}$ pnct$_{13\%}$ xpl$_{13\%}$.

name   **list**   pnct   **mod**   **list**
4 Privet Drive   ,   Little Whinging
0   1   2   3   4   5
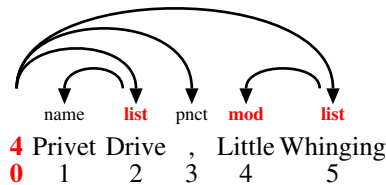
mod *Modifier/adverbial.* Deprecated name for adverbials
isa CDT1ADJ Subtypes: modo modp modr.
[421] Confusion$_{0/93/0\%}^{433}$: attr$_{22\%}$ time$_{13\%}$ other$_{11\%}$ loc$_{10\%}$ man$_{7\%}$ prg$_{5\%}$ quant$_{5\%}$ scene$_{4\%}$ nobj$_{3\%}$ pobj$_{2\%}$ goal$_{2\%}$ eval$_{2\%}$
cons$_{2\%}$ inst$_{1\%}$ cause$_{1\%}$ fpreds$_{1\%}$ cond$_{1\%}$ event$_{1\%}$ exem$_{1\%}$ neg$_{1\%}$ iter$_{1\%}$ epi$_{1\%}$ conc$_{1\%}$ fpredo$_{1\%}$ modp$_{1\%}$ resem$_{1\%}$
correl$_{1\%}$ accom$_{1\%}$ focal$_{0\%}$ source$_{0\%}$ agent$_{0\%}$ mod$_{0\%}$.

modo *Object-oriented modifier.* Deprecated name for object-oriented modifiers
isa mod
[424]
modp *Parenthetic modifier.* Deprecated name for parenthetic modifiers
isa mod Related types: {elab}.
[423] Confusion$_{31/41/38\%}^{32}$: modp$_{38\%}$ nobj$_{12\%}$ attr$_{10\%}$ pnct$_{9\%}$ mod$_{6\%}$ subj$_{5\%}$ quant$_{4\%}$ dobj$_{4\%}$ possd$_{3\%}$ pobj$_{2\%}$ conj$_{2\%}$ aobj$_{2\%}$
predo$_{1\%}$ vobj$_{1\%}$ coord$_{1\%}$ relr$_{1\%}$ epi$_{1\%}$ man$_{0\%}$ iobj$_{0\%}$ prg$_{0\%}$.

modr *Restrictive modifier.* Deprecated name for restrictive modifiers
isa mod
[422]
mods .
isa CDT1ADJ Confusion$_{0/100/0\%}^{2}$: fpreds$_{100\%}$.
[404]
obl .
isa CDT1ADJ Confusion$_{0/100/0\%}^{3}$: pobj$_{67\%}$ time$_{33\%}$.
[403]
rep .
isa CDT1ADJ Confusion$_{0/100/0\%}^{1}$: REP$_{100\%}$.
[405]
app *Apposition.* An appositional relation between two phrases, typically NPs. The head of the
isa SYNADJ first NP in the apposition is always analyzed as the head of the second NP.
[116]

Subtypes: appa appr.

Related types: appa appr.

appa *Parenthetic apposition (comma).*

isa app Subtypes: xpl.

[117] Related types: appr xpl.

Confusion$_{48/49/54\%}^{50}$: appa$_{54\%}$ nobj$_{11\%}$ pnct$_{6\%}$ subj$_{5\%}$ attr$_{5\%}$ dobj$_{4\%}$ vobj$_{4\%}$ pobj$_{2\%}$ conj$_{1\%}$ coord$_{1\%}$ appr$_{1\%}$ time$_{1\%}$ namef$_{1\%}$ predo$_{1\%}$ inst$_{1\%}$ relr$_{1\%}$ avobj$_{1\%}$ man$_{1\%}$ numm$_{0\%}$ possr$_{0\%}$ quant$_{0\%}$ name$_{0\%}$ other$_{0\%}$ correl$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$.
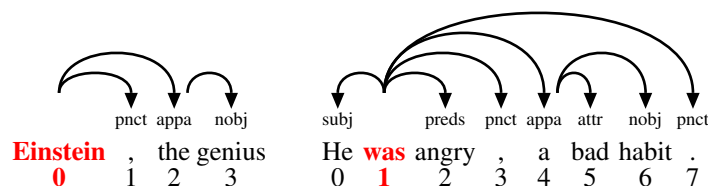
xpl *Explication.* Explication of an NP or VP.

isa appa Related types: qobj.

[130] Confusion$_{67/88/67\%}^{24}$: xpl$_{67\%}$ <xpl>$_{8\%}$ conj$_{5\%}$ pobj$_{5\%}$ other$_{4\%}$ list$_{4\%}$ nobj$_{3\%}$ subj$_{1\%}$ vobj$_{1\%}$ preds$_{0\%}$ pnct$_{0\%}$ title$_{0\%}$.
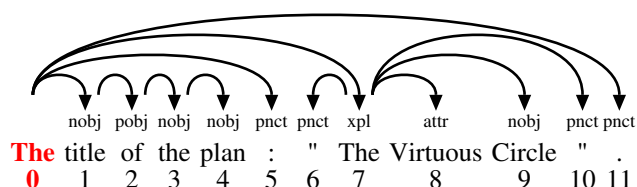
appr *Restrictive apposition (no comma).*

isa app Related types: appa.

[118] Confusion$_{64/71/64\%}^{50}$: appr$_{64\%}$ nobj$_{8\%}$ pnct$_{5\%}$ subj$_{4\%}$ attr$_{3\%}$ pobj$_{3\%}$ dobj$_{3\%}$ title$_{2\%}$ vobj$_{2\%}$ coord$_{1\%}$ appa$_{1\%}$ focal$_{1\%}$ neg$_{1\%}$ conc$_{0\%}$ numm$_{0\%}$ name$_{0\%}$ add$_{0\%}$ conj$_{0\%}$ quant$_{0\%}$ iter$_{0\%}$ time$_{0\%}$ possr$_{0\%}$ correl$_{0\%}$ preds$_{0\%}$ possd$_{0\%}$.

attrg *Genitive attributive.*

isa SYNADJ Related types: SEMROLE gobj.

[115]

the lady's car   **Peter's car**

	nobj	attrg	nobj			nobj	attrg
das	Auto	der	Frau		**das**	Auto	Peters
the	car	the(gen)	lady		**the**	car	Peter's
0	1	2	3		**0**	1	2

{poss}   {poss}

---

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

Related types: coord correl.

Confusion$^{689}_{74/76/76\%}$: conj$_{76\%}$ nobj$_{5\%}$ attr$_{3\%}$ pnct$_{3\%}$ subj$_{2\%}$ vobj$_{1\%}$ coord$_{1\%}$ CONJ:add$_{1\%}$ pobj$_{1\%}$ qobj$_{1\%}$ dobj$_{1\%}$ 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$_{0\%}$.

subj		dobj	coord	conj	pnct		subj		dobj	pnct	conj	coord	conj	pnct
We	**met**	John	and	Mary	.		We	**met**	John	,	Mary	and	Sue	.
0	**1**	2	3	4	5		0	**1**	2	3	4	5	6	7

---

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

Related types: conj correl discmark.

Confusion$^{525}_{70/76/71\%}$: coord$_{71\%}$ nobj$_{7\%}$ discmark$_{3\%}$ pnct$_{3\%}$ attr$_{2\%}$ subj$_{2\%}$ pobj$_{2\%}$ dobj$_{2\%}$ conj$_{1\%}$ vobj$_{1\%}$ qobj$_{1\%}$ time$_{1\%}$ preds$_{1\%}$ possd$_{1\%}$ 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$_{0\%}$.

subj		dobj	coord	conj	pnct		subj		dobj	pnct	conj	coord	conj	pnct
We	**met**	John	and	Mary	.		We	**met**	John	,	Mary	and	Sue	.
0	**1**	2	3	4	5		0	**1**	2	3	4	5	6	7

---

correl *Correlative coordinator relation.*
isa SYNADJ   Related types: conj coord.
[108]   Confusion$^{13}_{39/70/39\%}$: correl$_{39\%}$ mod$_{15\%}$ subj$_{9\%}$ add$_{8\%}$ focal$_{8\%}$ other$_{8\%}$ nobj$_{4\%}$ pnct$_{4\%}$ dobj$_{2\%}$ conj$_{2\%}$ appr$_{1\%}$ appa$_{1\%}$ pobj$_{1\%}$.

subj		correl	dobj	pnct	coord	conj	pnct		subj	correl		dobj	pnct	coord	conj	pnct
We	**met**	neither	John	,	nor	Mary	.		We	neither	**met**	John	,	nor	Mary	.
0	**1**	2	3	4	5	6	7		0	1	**2**	3	4	5	6	7

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

<div align="center">

V–>free predicative
0　　　**1**

</div>

fpredo *Free direct-object predicative.*
isa fpred Related types: fpreds man.
[113] Confusion$_{0/46/0\%}^{13}$: loc$_{15\%}$ mod$_{15\%}$ preds$_{10\%}$ goal$_{10\%}$ nobj$_{8\%}$ predo$_{8\%}$ man$_{8\%}$ pnct$_{7\%}$ subj$_{5\%}$ time$_{4\%}$ attr$_{3\%}$ pobj$_{3\%}$ coord$_{2\%}$ cond$_{2\%}$ conj$_{1\%}$ vobj$_{1\%}$.

subj　　　dobj　nobj　fpredo　attr　pnct
He **drank** the coffee too hot .
0　　**1**　　2　　3　　4　　5　　6
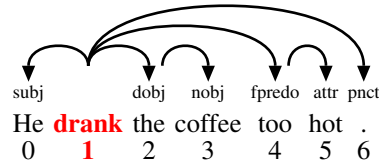
fpreds *Free subject predicative.*
isa fpred Related types: fpredo.
[112] Confusion$_{0/80/0\%}^{10}$: mod$_{40\%}$ man$_{20\%}$ mods$_{20\%}$ nobj$_{10\%}$ vobj$_{10\%}$.

fpreds　subj　　　@dir　nobj　nobj　pnct
Terrified she **walked** down the street .
0　　1　　**2**　　3　　4　　5　　6

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 depen- dent 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.

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

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

[subj]   ref

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

subj	neg	preds	nobj	pnct	subj	conj	neg	preds	pnct	<coord:2>	<subj:2>	<time:2>	<preds:2>	coord	<conj:2>	@loc	nobj	
Three	**were**	not	at	home	,	one	was	not	interested	,	and	one	already	christian	and	came	in	the
0	**1**	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

[subj]

nobj	pnct
church	.
19	20

CDT1GAP *Deprecated CDT1 gap relations.* Deprecated gapping relations from the CDT1+2 treebanks.

isa CDT1 gapd
[398]

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

<vobj> <xpl>.

<avobj> .
isa CDT1GAP
[410]

<dobj> .
isa CDT1GAP $\text{Confusion}^1_{100/100/100\%}$: <dobj>$_{100\%}$.
[408]

<lobj> .
isa CDT1GAP
[402]

<mod> .
isa CDT1GAP $\text{Confusion}^1_{100/100/100\%}$: <mod>$_{100\%}$.
[406]

<nobj> .
isa CDT1GAP
[411]

<pobj:nobj> .
isa CDT1GAP
[418]

<pobj> .
isa CDT1GAP
[414]

<possd> .
isa CDT1GAP
[413]

<pred> .
isa CDT1GAP
[405]

<qobj> .
isa CDT1GAP
[407]

<subj:pobj> .
isa CDT1GAP
[415]

<subj> .
isa CDT1GAP
[417]

<vobj> .
isa CDT1GAP
[409]

<xpl> .
isa CDT1GAP $\text{Confusion}^2_{0/100/0\%}$: xpl$_{100\%}$.
[416]

RuleGap *Gapping dependent* (long: "<"PRIM(":"PRIM)*":"INTEGER">"). A gapping dependency rela-
isa RULE gapd tion is formed by using angled brackets to enclose a colon-separated list of primary relations
[370] 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.

subj	dobj	pnct	<coord:1>	<subj:1>	pnct

Peter **likes** dogs , and Elizabeth **cats** .
0 **1** 2 3 4 5 **6** 7
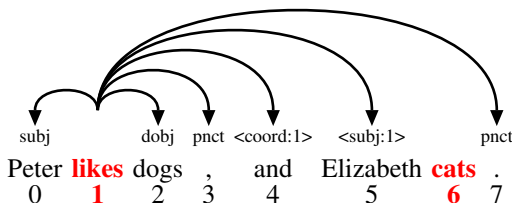
name *Part of name.* Part of a name.
isa SYNADJ Subtypes: namef namel title.
[124] $\text{Confusion}^{46}_{41/63/44\%}$: name$_{44\%}$ nobj$_{25\%}$ attr$_{9\%}$ vobj$_{4\%}$ subj$_{4\%}$ dobj$_{3\%}$ conj$_{2\%}$ pnct$_{2\%}$ pobj$_{1\%}$ numm$_{1\%}$ possr$_{1\%}$ cause$_{1\%}$ iter$_{1\%}$ title$_{1\%}$ other$_{1\%}$ quant$_{0\%}$ preds$_{0\%}$ appr$_{0\%}$ relr$_{0\%}$ focal$_{0\%}$ aobj$_{0\%}$ loc$_{0\%}$ appa$_{0\%}$ time$_{0\%}$ part$_{0\%}$ possd$_{0\%}$.

a Garrett engine a Citroen X2
0   1   2   0   1   2
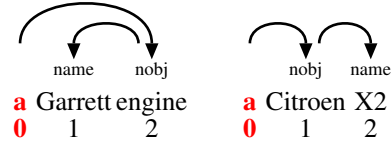
namef *First name.* A first name.
isa name   Related types: namel title.
[125] $\text{Confusion}^{168}_{85/88/87\%}$: $\text{namef}_{87\%}$ $\text{nobj}_{3\%}$ $\text{pnct}_{2\%}$ $\text{subj}_{2\%}$ $\text{attr}_{2\%}$ $\text{pobj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{conj}_{0\%}$ $\text{numm}_{0\%}$ $\text{dobj}_{0\%}$ $\text{time}_{0\%}$ $\text{appa}_{0\%}$ $\text{possd}_{0\%}$ $\text{coord}_{0\%}$ $\text{relr}_{0\%}$ $\text{scene}_{0\%}$ $\text{possr}_{0\%}$ $\text{avobj}_{0\%}$ $\text{man}_{0\%}$ $\text{concom}_{0\%}$ $\text{part}_{0\%}$ $\text{exem}_{0\%}$ $\text{goal}_{0\%}$ $\text{eval}_{0\%}$ $\text{quant}_{0\%}$.

John **Travolta**
0   **1**
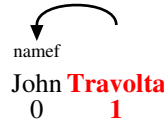
namel *Last name.* A second last name
isa name   Related types: namef title.
[126] $\text{Confusion}^{8}_{100/100/100\%}$: $\text{namel}_{100\%}$.

Matthias Trautner **Kromann**
0   1   **2**
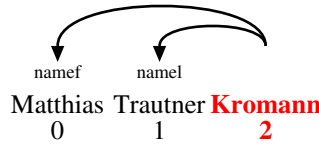
title *Person title.* A title in a name. If the is the title is determinated by an article, eg. the director
isa name   Smith, the title must be annotated as "nobj" and the name as "appr".
[127]   Related types: namef namel.
$\text{Confusion}^{39}_{67/73/67\%}$: $\text{title}_{67\%}$ $\text{nobj}_{13\%}$ $\text{subj}_{3\%}$ $\text{appr}_{3\%}$ $\text{dobj}_{3\%}$ $\text{pnct}_{2\%}$ $\text{attr}_{2\%}$ $\text{conj}_{2\%}$ $\text{vobj}_{2\%}$ $\text{preds}_{1\%}$ $\text{coord}_{1\%}$ $\text{name}_{1\%}$ $\text{neg}_{0\%}$ $\text{possd}_{0\%}$ $\text{agent}_{0\%}$ $\text{numm}_{0\%}$ $\text{pobj}_{0\%}$ $\text{xpl}_{0\%}$.

Dr. **Zhivago**
0   **1**
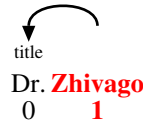
pnct *Punctuation.*
isa SYNADJ $\text{Confusion}^{2138}_{78/80/85\%}$: $\text{pnct}_{85\%}$ $\text{nobj}_{5\%}$ $\text{attr}_{2\%}$ $\text{subj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{conj}_{1\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{1\%}$ $\text{time}_{0\%}$ $\text{possd}_{0\%}$ $\text{preds}_{0\%}$
[109] $\text{relr}_{0\%}$ $\text{numm}_{0\%}$ $\text{man}_{0\%}$ $\text{possr}_{0\%}$ $\text{namef}_{0\%}$ $\text{modp}_{0\%}$ $\text{neg}_{0\%}$ $\text{appa}_{0\%}$ $\text{appr}_{0\%}$ $\text{quant}_{0\%}$ $\text{focal}_{0\%}$ $\text{other}_{0\%}$ $\text{loc}_{0\%}$ $\text{scene}_{0\%}$ $\text{contr}_{0\%}$ $\text{epi}_{0\%}$ $\text{resem}_{0\%}$ $\text{accom}_{0\%}$ $\text{list}_{0\%}$ $\text{dir}_{0\%}$ $\text{part}_{0\%}$ $\text{goal}_{0\%}$ $\text{predo}_{0\%}$ $\text{title}_{0\%}$ $\text{name}_{0\%}$ $\text{aobj}_{0\%}$ $\text{inst}_{0\%}$ $\text{conc}_{0\%}$ $\text{prg}_{0\%}$ $\text{qobj}_{0\%}$ $\text{cause}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{eval}_{0\%}$ $\text{add}_{0\%}$ $\text{concom}_{0\%}$ $\text{agent}_{0\%}$ $\text{avobj}_{0\%}$ $\text{correl}_{0\%}$ $\text{cond}_{0\%}$ $\text{iobj}_{0\%}$ $\text{event}_{0\%}$ $\text{xpl}_{0\%}$ $\text{source}_{0\%}$.

subj   dobj pnct conj coord conj pnct
We **met** John ,   Mary and Sue .
0   **1**   2   3   4   5   6   7

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

Subtypes: relelab relpa relr.
Related types: relelab relpa relr.
Confusion$_{4/95/4\%}^{76}$: relr$_{88\%}$ relelab$_{5\%}$ rel$_{4\%}$ relpa$_{1\%}$ vobj$_{1\%}$.
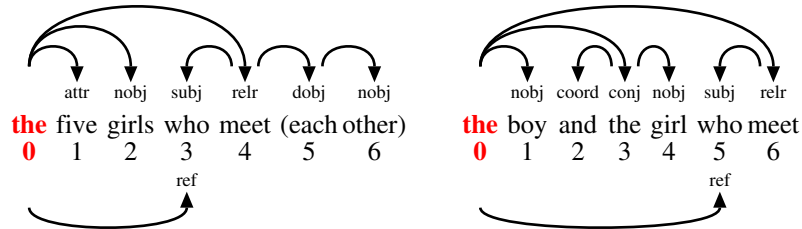
relelab *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da: hvilket,
isa rel it: il che, cosa che
[122] Related types: relpa relr.
Confusion$_{0/100/0\%}^{6}$: rel$_{67\%}$ relr$_{33\%}$.

V–>V
0

relpa *Parenthetic relative clause* (deprecated relp).
isa rel Related types: relelab relr.
[121] Confusion$_{29/100/29\%}^{17}$: relr$_{65\%}$ relpa$_{29\%}$ rel$_{6\%}$.
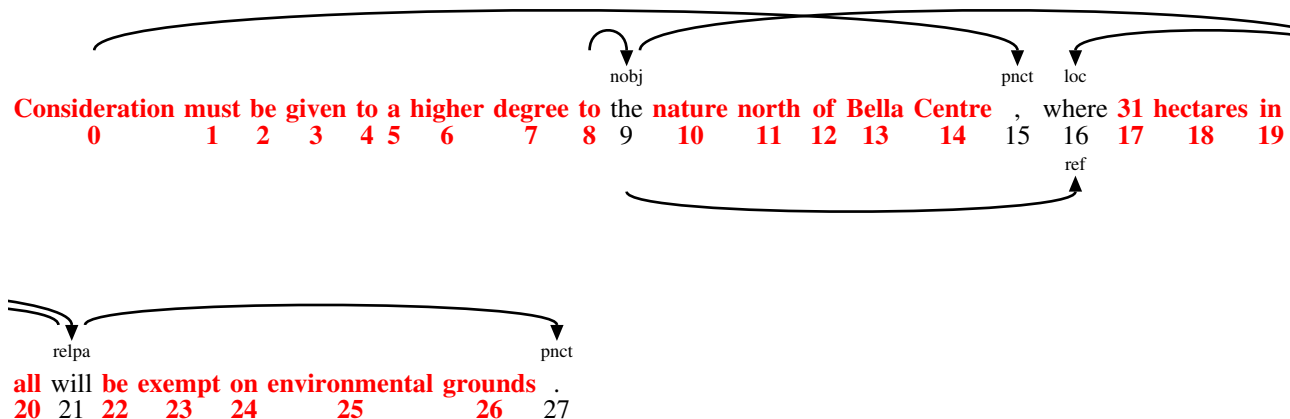
relr *Restrictive relative clause.*
isa rel Related types: relelab relpa.
[120] Confusion$_{30/74/33\%}^{187}$: rel$_{36\%}$ relr$_{33\%}$ nobj$_{7\%}$ relpa$_{6\%}$ attr$_{3\%}$ pnct$_{3\%}$ vobj$_{2\%}$ subj$_{2\%}$ pobj$_{1\%}$ relelab$_{1\%}$ possd$_{1\%}$ dobj$_{1\%}$
conj$_{1\%}$ predo$_{1\%}$ quant$_{1\%}$ time$_{1\%}$ 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$_{0\%}$.

subj nobj subj relr preds pnct
The flower Mary bought **was** red .
0 1 2 3 **4** 5 6
[dobj]

subj nobj subj relr preds pnct
The flower that bloomed **was** red .
0 1 2 3 **4** 5 6
ref
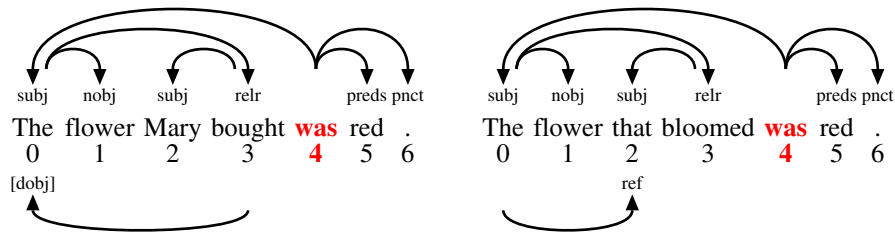
voc *Vocative.* Vocative specification. The person to whom the statement is directed.

isa SYNADJ
[129]

Confusion$^3_{100/100/100\%}$: voc$_{100\%}$.

voc pnct subj vobj pnct
Mary , **will** you help me ?
0 1 **2** 3 4 5 6
[subj] dobj

subj vobj dobj pnct voc pnct
Will you help me , Mary ?
0 1 2 3 4 5 6
[subj]
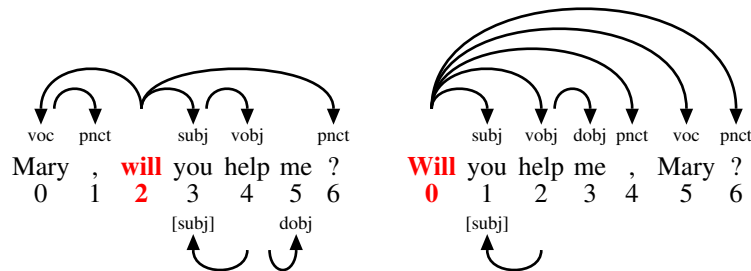
xtop *External topic with resuming pronoun.* An external topic is a sentence-initial NP whose only

isa SYNADJ function is to provide the antecedent for a pronoun later in the sentence. Eg in "John, he is a

[123] nice person". Here "John" is the "xtop" of "is", and "he" is the subject of "is".

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

xtop pnct subj preds attr nobj pnct
John , he **is** a nice person .
0 1 2 **3** 4 5 6 7
ref

xtop nobj pnct subj preds pnct
That boy , he **is** nice .
0 1 2 3 **4** 5 6
ref
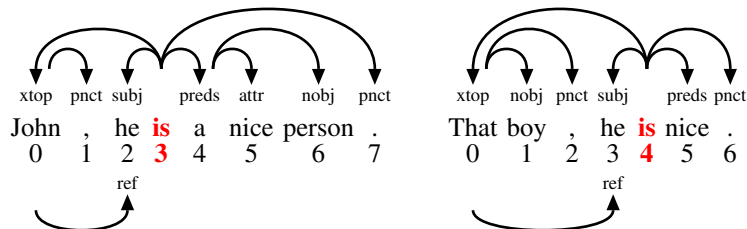
If you are having any problems, call me.

subj preds pnct xtop nobj pnct
He **is** nice , that boy .
0 **1** 2 3 4 5 6
ref

xtop subj vobj dobj nobj pnct cons goal dobj pnct
Hvis du har nogen problemer , så **ring** til mig .
If you have any problems then **call** to me
0 1 2 3 4 5 6 **7** 8 9 10
ref
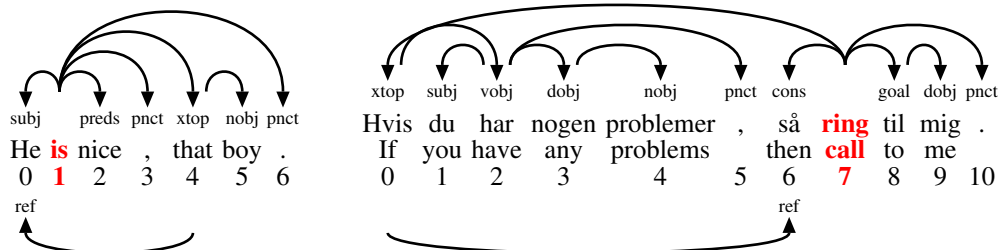
3.3 Adverbial adjunct relations: ADVERB

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.

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.

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

isa ADVERB $\mathrm{Confusion}^3_{0/100/0\%}$: $>_{33\%}$ AGENT:MC$_{33\%}$ DERvn:agent$_{33\%}$.
[170]
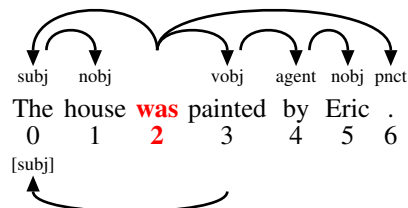
cause *Causation adverbial.* Causation adverbial. Describes why the event occurred.

isa ADVERB   Subtypes: goal.
[160] $\mathrm{Confusion}^{57}_{67/81/74\%}$: cause$_{74\%}$ mod$_{9\%}$ attr$_{5\%}$ conj$_{2\%}$ time$_{2\%}$ cons$_{2\%}$ pobj$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ other$_{1\%}$ pnct$_{1\%}$ iter$_{0\%}$ nobj$_{0\%}$ name$_{0\%}$ vobj$_{0\%}$.

She wanted to make 100% sure<4:aobj>, <2:pnct> therefore she chose birth control pills .

subj — wanted — dobj — vobj — quant — sure — cause — subj — vobj — nobj.dobj — attr — dobj — pnct

She **wanted** to make 100% **sure<4:aobj>, <2:pnct>** therefore she chose birth control pills .
0   **1**   2   3   4   **5**   **6**   7   8   9   10   11   12   13

{patient}#   {goal}#

---

subj — fell — cause — subj — vobj — vobj — pnct

John **fell** because he was pushed .
0   **1**   2   3   4   5   6

---
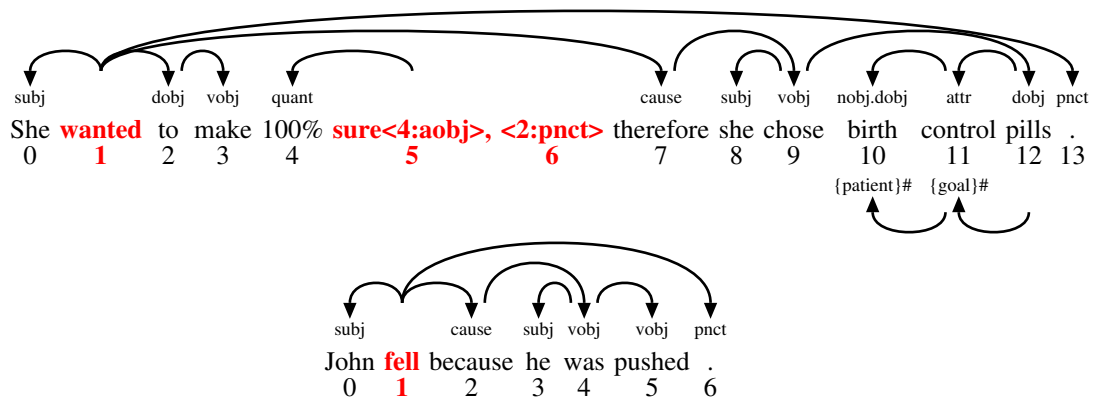
goal *Goal adverbial* (deprecated ben). Describes the intended goal of the event/action. Also used in
isa cause   connection with free datives.
[161]

Related types: reas.

$\text{Confusion}^{69}_{22/66/26\%}$: $\text{goal}_{26\%}$ $\text{pobj}_{21\%}$ $\text{mod}_{13\%}$ $\text{nobj}_{8\%}$ $\text{attr}_{8\%}$ $\text{subj}_{4\%}$ $\text{dobj}_{3\%}$ $\text{scene}_{3\%}$ $\text{man}_{3\%}$ $\text{pnct}_{2\%}$ $\text{fpredo}_{2\%}$ $\text{other}_{2\%}$
$\text{vobj}_{1\%}$ $\text{preds}_{1\%}$ $\text{time}_{1\%}$ $\text{coord}_{1\%}$ $\text{accom}_{1\%}$ $\text{conj}_{1\%}$ $\text{numm}_{0\%}$ $\text{namef}_{0\%}$ $\text{exem}_{0\%}$.

---

subj — is — vobj — goal — vobj — dobj — pnct

Kate **is** working to earn money .
0   **1**   2   3   4   5   6

[subj]   [subj]

---

subj — went — @dir — nobj — time — goal — nobj — subj — vobj — vobj — dobj — pobj — nobj — pnct

I **went** to bed early so that I could get plenty of sleep .
0   **1**   2   3   4   5   6   7   8   9   10   11   12   13

[subj]   {quant}

---

cond — subj — vobj — vobj — attr — dobj — pnct — goal — pnct — nobj — nobj — pnct — pnct

If you are having health problems , **write** to " The Doctors " .
0   1   2   3   4   5   6   **7**   8   9   10   11   12   13

{about}#

[subj]   [subj]

---
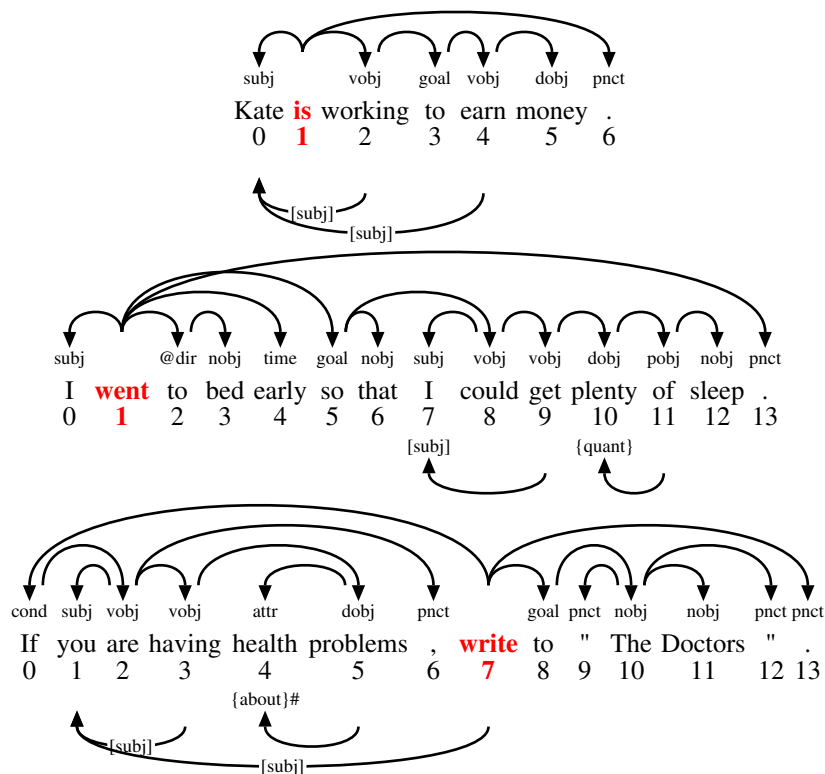
conc *Concession adverbial.* Describes the concession of the event/action.
isa ADVERB $\text{Confusion}^{23}_{22/65/22\%}$: $\text{conc}_{22\%}$ $\text{contr}_{13\%}$ $\text{mod}_{13\%}$ $\text{prg}_{9\%}$ $\text{other}_{9\%}$ $\text{pobj}_{6\%}$ $\text{nobj}_{6\%}$ $\text{conj}_{5\%}$ $\text{attr}_{5\%}$ $\text{pnct}_{4\%}$ $\text{dobj}_{3\%}$ $\text{subj}_{2\%}$
[164] $\text{possd}_{1\%}$ $\text{appr}_{1\%}$ $\text{coord}_{1\%}$.
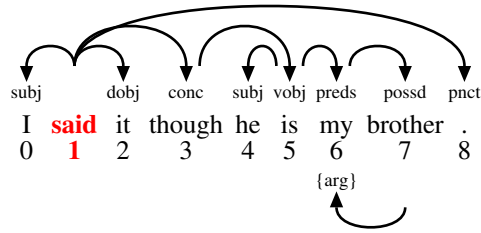
concom . Gerunds in Romance
isa ADVERB   Related types: vobj.

[168] $\text{Confusion}^{15}_{7/29/7\%}$: $\text{nobj}_{25\%}$ $\text{subj}_{11\%}$ $\text{source}_{7\%}$ $\text{concom}_{7\%}$ $\text{man}_{7\%}$ $\text{inst}_{7\%}$ $\text{conj}_{6\%}$ $\text{attr}_{5\%}$ $\text{pnct}_{4\%}$ $\text{coord}_{4\%}$ $\text{vobj}_{4\%}$ $\text{aobj}_{3\%}$ $\text{relr}_{2\%}$ $\text{numm}_{2\%}$ $\text{namef}_{2\%}$ $\text{dobj}_{1\%}$ $\text{possr}_{1\%}$ $\text{eval}_{1\%}$ $\text{pobj}_{1\%}$ $\text{time}_{1\%}$ $\text{preds}_{1\%}$ $\text{possd}_{1\%}$.

The agressor fled and/but got caught hours later.
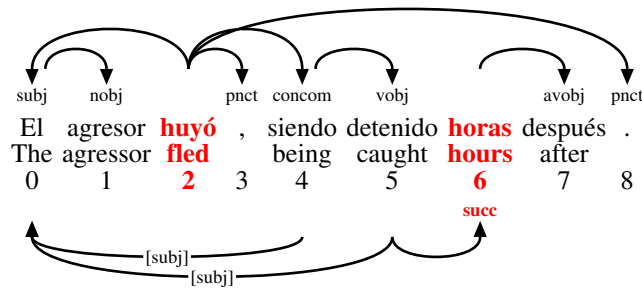
cond *Condition adverbial.* Describes the condition of the event/action.
isa ADVERB   Related types: pcond.

[163] $\text{Confusion}^{40}_{63/80/68\%}$: $\text{cond}_{68\%}$ $\text{mod}_{10\%}$ $\text{nobj}_{6\%}$ $\text{time}_{4\%}$ $\text{subj}_{3\%}$ $\text{man}_{3\%}$ $\text{dobj}_{1\%}$ $\text{preds}_{1\%}$ $\text{conj}_{1\%}$ $\text{possd}_{1\%}$ $\text{numm}_{1\%}$ $\text{vobj}_{1\%}$ $\text{attr}_{1\%}$ $\text{fpredo}_{1\%}$ $\text{pnct}_{0\%}$ $\text{other}_{0\%}$.
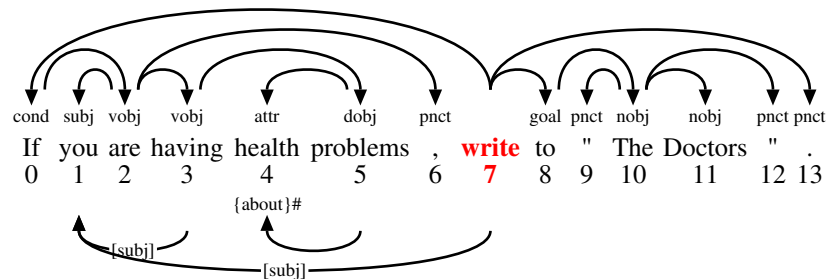
cons *Consequence adverbial.* Describes the consequence of the event/action.
isa ADVERB   Related types: xtop.

[162] $\text{Confusion}^{21}_{33/91/43\%}$: $\text{cons}_{43\%}$ $\text{mod}_{33\%}$ $\text{time}_{14\%}$ $\text{inst}_{5\%}$ $\text{cause}_{5\%}$.

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

[156] $\text{Confusion}^{10}_{0/70/0\%}$: $\text{mod}_{40\%}$ $\text{time}_{20\%}$ $\text{loc}_{20\%}$ $\text{nobj}_{9\%}$ $\text{attr}_{3\%}$ $\text{conj}_{2\%}$ $\text{scene}_{2\%}$ $\text{possd}_{2\%}$ $\text{subj}_{1\%}$ $\text{pnct}_{1\%}$ $\text{quant}_{1\%}$.

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] $\text{Confusion}_{52/67/67\%}^{21}$: $\text{exem}_{67\%}$ $\text{mod}_{19\%}$ $\text{subj}_{3\%}$ $\text{conj}_{2\%}$ $\text{other}_{2\%}$ $\text{attr}_{2\%}$ $\text{source}_{1\%}$ $\text{namef}_{1\%}$ $\text{nobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{goal}_{1\%}$ $\text{pobj}_{1\%}$.

subj · exem · dobj · attr · nobj · pnct
Poe **wrote** e.g. "The Tell–tale Heart" .
0   1   2   3   4   5   6

---
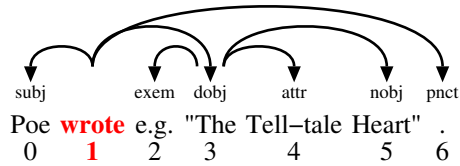
man *Manner adverbial.* The way things are done

isa ADVERB

Subtypes: accom inst.

[157] Related types: fpredo.

$\text{Confusion}_{38/82/42\%}^{155}$: $\text{man}_{42\%}$ $\text{mod}_{19\%}$ $\text{accom}_{5\%}$ $\text{nobj}_{4\%}$ $\text{attr}_{4\%}$ $\text{other}_{3\%}$ $\text{time}_{3\%}$ $\text{quant}_{3\%}$ $\text{pnct}_{2\%}$ $\text{inst}_{2\%}$ $\text{epi}_{2\%}$ $\text{fpreds}_{1\%}$ $\text{goal}_{1\%}$ $\text{vobj}_{1\%}$ $\text{pobj}_{1\%}$ $\text{subj}_{1\%}$ $\text{prg}_{1\%}$ $\text{cond}_{1\%}$ $\text{concom}_{1\%}$ $\text{fpredo}_{1\%}$ $\text{resem}_{1\%}$ $\text{source}_{1\%}$ $\text{dir}_{1\%}$ $\text{aobj}_{1\%}$ $\text{eval}_{1\%}$ $\text{scene}_{1\%}$ $\text{dobj}_{0\%}$ $\text{namef}_{0\%}$ $\text{appa}_{0\%}$ $\text{avobj}_{0\%}$ $\text{part}_{0\%}$ $\text{numm}_{0\%}$ $\text{conj}_{0\%}$ $\text{preds}_{0\%}$ $\text{modp}_{0\%}$ $\text{possr}_{0\%}$.

subj · man · pnct
He **talks** slowly .
0   1   2   3

---

accom *Companionship adverbial* (deprecated comp). Companionship

isa man

Related types: man.

[158] $\text{Confusion}_{0/0/0\%}^{1}$: $\text{conj}_{40\%}$ $\text{nobj}_{40\%}$ $\text{subj}_{20\%}$.

subj · nobj · accom · nobj · possd · pnct
The husband **came** with his wife .
0   1   2   3   4   5   6
{arg}

---
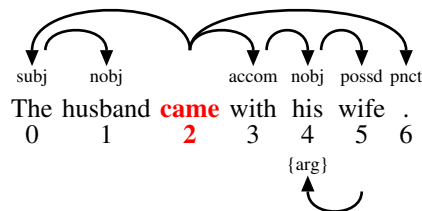
inst *Instrument adverbial.* Instrument/means

isa man

Related types: man.

[159] $\text{Confusion}_{24/77/27\%}^{37}$: $\text{inst}_{27\%}$ $\text{mod}_{16\%}$ $\text{man}_{8\%}$ $\text{loc}_{8\%}$ $\text{pobj}_{6\%}$ $\text{predo}_{5\%}$ $\text{possd}_{4\%}$ $\text{attr}_{4\%}$ $\text{pnct}_{3\%}$ $\text{conj}_{3\%}$ $\text{concom}_{3\%}$ $\text{scene}_{3\%}$ $\text{preds}_{3\%}$ $\text{cons}_{3\%}$ $\text{nobj}_{2\%}$ $\text{coord}_{1\%}$ $\text{appa}_{1\%}$ $\text{time}_{1\%}$ $\text{subj}_{0\%}$ $\text{dobj}_{0\%}$.

subj · dobj · nobj · inst · nobj · nobj · pnct
He **opened** the door with the key .
0   1   2   3   4   5   6   7

---
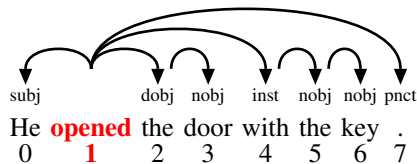
neg *Negation adverbial.* Negation of a verbal

isa ADVERB

[171] $\text{Confusion}_{75/87/76\%}^{133}$: $\text{neg}_{76\%}$ $\text{nobj}_{5\%}$ $\text{subj}_{3\%}$ $\text{mod}_{2\%}$ $\text{pnct}_{2\%}$ $\text{dobj}_{2\%}$ $\text{attr}_{2\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{1\%}$ $\text{time}_{1\%}$ $\text{add}_{1\%}$ $\text{vobj}_{1\%}$ $\text{eval}_{1\%}$ $\text{preds}_{0\%}$ $\text{scene}_{0\%}$ $\text{relr}_{0\%}$ $\text{conj}_{0\%}$ $\text{possr}_{0\%}$ $\text{accom}_{0\%}$ $\text{possd}_{0\%}$ $\text{appr}_{0\%}$ $\text{other}_{0\%}$ $\text{agent}_{0\%}$ $\text{title}_{0\%}$.

It's never a problem.

She never lied

subj	neg	vobj	pnct

Thomas **is** not coming .
0 **1** 2 3 4

[subj]

neg		neg	preds	nobj	pnct

Non **è** mai un problema .
Not **is–it** never a problem
0 **1** 2 3 4 5

subj	neg		time

Ella no **mintio** nunca
She not **lied** never
0 1 **2** 3
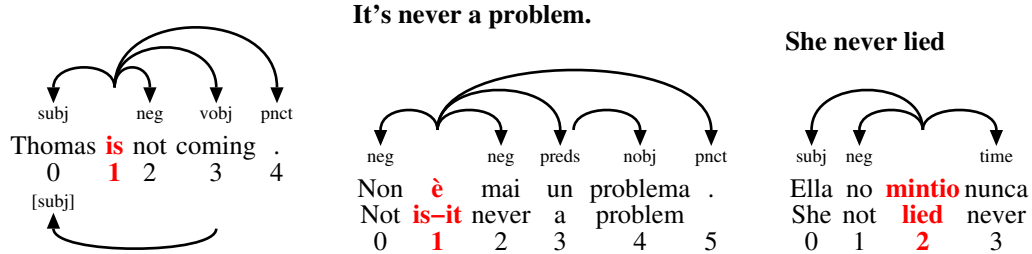
other *Other adverbial.* Unspecified adverbial relation.

isa ADVERB
[172]

Confusion$^{191}_{14/84/14\%}$: mod$_{26\%}$ other$_{14\%}$ attr$_{10\%}$ loc$_{6\%}$ pobj$_{6\%}$ nobj$_{4\%}$ add$_{4\%}$ prg$_{3\%}$ list$_{2\%}$ quant$_{2\%}$ man$_{2\%}$ focal$_{2\%}$ avobj$_{2\%}$ pnct$_{2\%}$ time$_{1\%}$ iter$_{1\%}$ epi$_{1\%}$ dir$_{1\%}$ eval$_{1\%}$ conc$_{1\%}$ dobj$_{1\%}$ subj$_{1\%}$ preds$_{1\%}$ goal$_{1\%}$ part$_{1\%}$ conj$_{1\%}$ err$_{1\%}$ resem$_{1\%}$ xpl$_{1\%}$ source$_{1\%}$ contr$_{1\%}$ correl$_{1\%}$ scene$_{1\%}$ accom$_{1\%}$ coord$_{0\%}$ vobj$_{0\%}$ possd$_{0\%}$ cause$_{0\%}$ exem$_{0\%}$ name$_{0\%}$ numm$_{0\%}$ cond$_{0\%}$ qobj$_{0\%}$ appa$_{0\%}$ neg$_{0\%}$.

pnct	other

Colosseum , Rome
0   1 2

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

isa ADVERB
[142]

Subtypes: discmark epi eval focal scene.

Confusion$^{57}_{7/88/7\%}$: mod$_{39\%}$ eval$_{14\%}$ other$_{9\%}$ prg$_{7\%}$ time$_{4\%}$ quant$_{4\%}$ conc$_{4\%}$ nobj$_{3\%}$ attr$_{3\%}$ subj$_{2\%}$ add$_{2\%}$ contr$_{2\%}$ elab$_{2\%}$ man$_{2\%}$ pnct$_{1\%}$ preds$_{1\%}$ vobj$_{1\%}$ pobj$_{1\%}$ relr$_{1\%}$ conj$_{1\%}$ coord$_{0\%}$ numm$_{0\%}$ modp$_{0\%}$.

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

isa prg
[147]

Related types: coord.

Confusion$^{32}_{16/91/16\%}$: coord$_{56\%}$ discmark$_{16\%}$ contr$_{13\%}$ add$_{9\%}$ qobj$_{6\%}$.

And I'm telling you...

But I'm telling you...

discmark	dobj		subj	iobj	pnct

Og det **siger** jeg dig ...
And that **say** I you
0 1 **2** 3 4 5

discmark	dobj		subj	iobj	pnct

Men det **siger** jeg dig ...
But that **say** I you
0 1 **2** 3 4 5
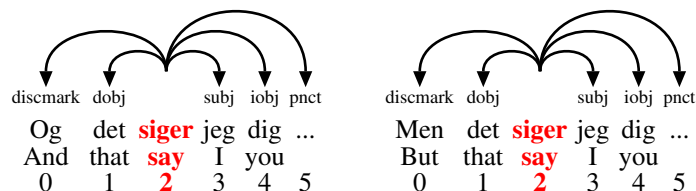
epi *Epistemic adverbial* (long: epistemic). Regarding the level of truth in the expression

isa prg
[145]

Related types: eval.

Confusion$^{24}_{29/67/33\%}$: epi$_{33\%}$ nobj$_{13\%}$ mod$_{13\%}$ man$_{9\%}$ other$_{8\%}$ eval$_{8\%}$ pnct$_{5\%}$ subj$_{4\%}$ relr$_{1\%}$ part$_{1\%}$ pobj$_{1\%}$ attr$_{1\%}$ quant$_{1\%}$ modp$_{1\%}$ vobj$_{1\%}$.

subj	epi	preds	pnct

He **is** maybe wrong .
0 **1** 2 3 4
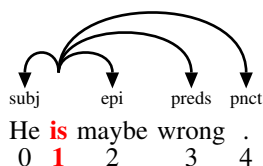
eval *Evaluation adverbial* (long: evaluation, deprecated evalatt). Evaluating and attitude adverbials

isa prg Related types: epi.

[146] Confusion$^{1}_{0/100/0\%}$: $>_{100\%}$.
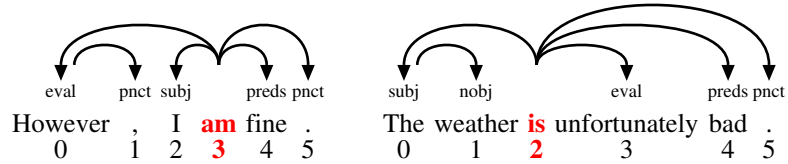
focal *Focalizer adverbial* (long: focalizator). Focalization of a noun

isa prg Related types: quant.

[143] Confusion$^{42}_{33/52/45\%}$: focal$_{45\%}$ attr$_{13\%}$ other$_{8\%}$ pnct$_{6\%}$ loc$_{5\%}$ nobj$_{4\%}$ aobj$_{3\%}$ err$_{2\%}$ correl$_{2\%}$ eval$_{2\%}$ mod$_{2\%}$ pobj$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ vobj$_{1\%}$ conj$_{1\%}$ numm$_{1\%}$ possd$_{1\%}$ appr$_{1\%}$ name$_{0\%}$ coord$_{0\%}$.
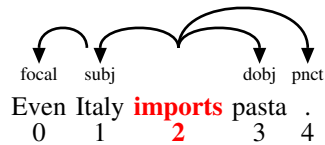
scene *Pragmatic condition and structural adverbial* (deprecated prgcondpcondbgstruct). Setting the scene

isa prg

[144] Subtypes: add contr elab.

Related types: cond.

Confusion$^{71}_{24/67/26\%}$: scene$_{26\%}$ mod$_{24\%}$ attr$_{7\%}$ subj$_{5\%}$ nobj$_{4\%}$ add$_{3\%}$ contr$_{3\%}$ goal$_{3\%}$ loc$_{3\%}$ coord$_{3\%}$ pnct$_{2\%}$ vobj$_{2\%}$ preds$_{2\%}$ time$_{2\%}$ conj$_{2\%}$ part$_{1\%}$ man$_{1\%}$ other$_{1\%}$ inst$_{1\%}$ dobj$_{1\%}$ possd$_{1\%}$ namef$_{1\%}$ neg$_{1\%}$ relr$_{1\%}$ pobj$_{0\%}$ iter$_{0\%}$ agent$_{0\%}$ event$_{0\%}$.
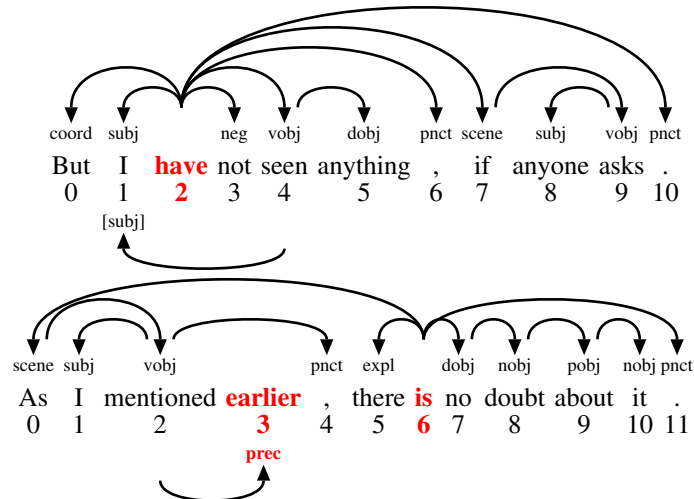
add *Additive adverbial* (long: additive). Additive information

isa scene Confusion$^{66}_{67/90/67\%}$: add$_{67\%}$ other$_{11\%}$ discmark$_{5\%}$ scene$_{3\%}$ subj$_{2\%}$ neg$_{2\%}$ prg$_{2\%}$ correl$_{2\%}$ quant$_{2\%}$ dobj$_{1\%}$ pobj$_{1\%}$

[150] vobj$_{1\%}$ pnct$_{1\%}$ nobj$_{1\%}$ attr$_{1\%}$ preds$_{1\%}$ possd$_{0\%}$ coord$_{0\%}$ appr$_{0\%}$ conj$_{0\%}$ time$_{0\%}$.

The house **has** also a garage .
subj | nobj | | add | dobj | nobj | pnct
0 1 **2** 3 4 5 6
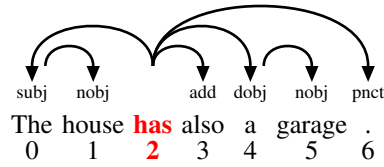
contr *Contrast adverbial* (long: contrast). Opposition

isa scene Related types: struct.

[148] $Confusion^{26}_{35/85/35\%}$: contr$_{35\%}$ discmark$_{15\%}$ conc$_{12\%}$ scene$_{8\%}$ coord$_{8\%}$ nobj$_{6\%}$ pnct$_{5\%}$ prg$_{4\%}$ other$_{4\%}$ dobj$_{2\%}$ relr$_{1\%}$ attr$_{1\%}$ subj$_{1\%}$.

Instead of fruits , he **bought** two chocolate muffins .
contr | pobj | nobj | pnct | subj | | dobj | attr | | nobj | pnct
0 1 2 3 4 **5** 6 7 8 9
{const}#
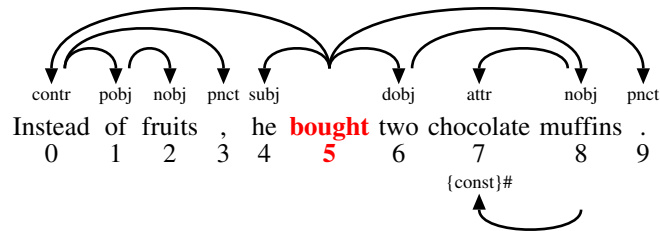
elab *Elaboration adverbial* (long: elaboration). More detailed description

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

[149]

I **am** going to the place where I work best , i.e. the coffee shop .
subj | | vobj | @dir | nobj | nobj | loc | subj | relr | man | pnct | elab | nobj | attr | | nobj | pnct
0 **1** 2 3 4 5 6 7 8 9 10 11 12 13 14 15
[subj] ref {goal}#
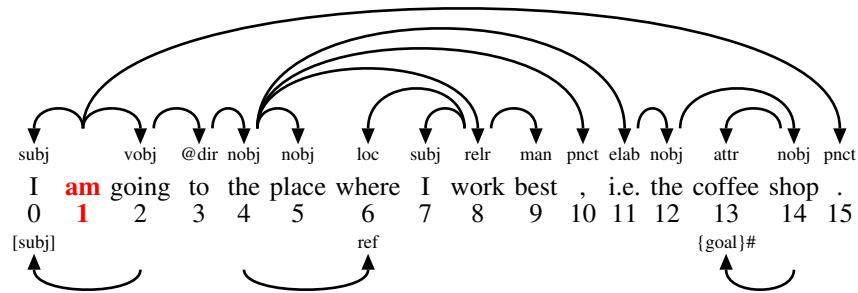
quant *Degree adverbial* (long: quantification, deprecated degr). Modifies the object or verbal by degree

isa ADVERB Related types: focal.

[169] $Confusion^{208}_{59/80/61\%}$: quant$_{61\%}$ mod$_{10\%}$ nobj$_{6\%}$ attr$_{4\%}$ other$_{2\%}$ man$_{2\%}$ pobj$_{2\%}$ time$_{2\%}$ eval$_{1\%}$ dobj$_{1\%}$ pnct$_{1\%}$ prg$_{1\%}$ vobj$_{1\%}$ avobj$_{1\%}$ degr$_{1\%}$ possd$_{1\%}$ modp$_{1\%}$ add$_{1\%}$ relr$_{1\%}$ elab$_{1\%}$ subj$_{1\%}$ conj$_{0\%}$ numm$_{0\%}$ coord$_{0\%}$ accom$_{0\%}$ preds$_{0\%}$ name$_{0\%}$ appa$_{0\%}$ epi$_{0\%}$ iter$_{0\%}$ appr$_{0\%}$ namef$_{0\%}$ event$_{0\%}$.

Only two people **came** .
quant | subj | nobj | | pnct
0 1 2 **3** 4
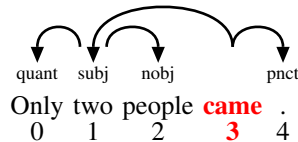
resem *Comparison adverbial* (deprecated comparecomp). Comparison

isa ADVERB $Confusion^{15}_{13/31/27\%}$: resem$_{27\%}$ mod$_{13\%}$ pnct$_{9\%}$ numm$_{8\%}$ preds$_{7\%}$ man$_{7\%}$ other$_{7\%}$ nobj$_{6\%}$ dobj$_{4\%}$ subj$_{4\%}$ attr$_{3\%}$ vobj$_{3\%}$ possr$_{2\%}$ time$_{1\%}$ qobj$_{1\%}$.

[165]

She **walks** like a lady .
0 **1** 2 3 4 5

subj resem nobj nobj pnct
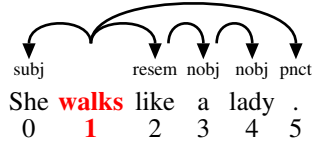
source *Source attribution adverbial.* Reference/source

isa ADVERB
[166]

$\text{Confusion}^{14}_{29/79/29\%}$: $\text{source}_{29\%}$ $\text{pobj}_{22\%}$ $\text{subj}_{11\%}$ $\text{concom}_{7\%}$ $\text{man}_{7\%}$ $\text{other}_{7\%}$ $\text{mod}_{7\%}$ $\text{attr}_{5\%}$ $\text{exem}_{2\%}$ $\text{pnct}_{1\%}$ $\text{nobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{coord}_{1\%}$.

subj preds source pobj nobj pnct

He **was** fired according to Anne .
0 **1** 2 3 4 5 6
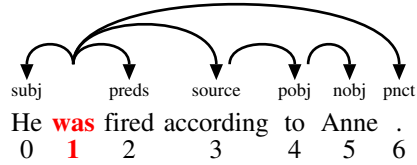
space *Space adverbial.* Space adverbials

isa ADVERB
[153]

Subtypes: dir loc.

dir *Direction adverbial.* Movement from one place to another; direction

isa space
[155]

Related types: loc.

$\text{Confusion}^{75}_{40/95/40\%}$: $\text{dir}_{40\%}$ $\text{loc}_{39\%}$ $\text{pobj}_{12\%}$ $\text{other}_{3\%}$ $\text{part}_{1\%}$ $\text{attr}_{1\%}$ $\text{dobj}_{1\%}$ $\text{man}_{1\%}$ $\text{pnct}_{1\%}$.

expl dobj attr nobj dir nobj pobj nobj pnct

There **is** a long way from Japan to Germany .
0 **1** 2 3 4 5 6 7 8 9
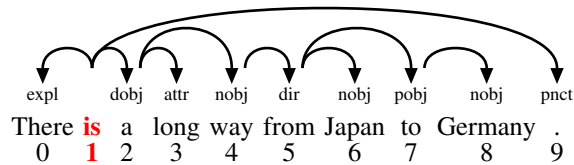
loc *Location adverbial.* Location

isa space
[154]

Related types: dir.

$\text{Confusion}^{3}_{0/100/0\%}$: $\text{LOC}_{67\%}$ $\text{MOD:qual}_{33\%}$.

dobj subj loc nobj

as we **say** in Denmark
0 1 **2** 3 4
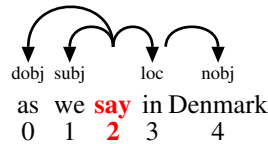
time *Time adverbial.* Time relating adverbials

isa ADVERB
[151]

Subtypes: iter.

$\text{Confusion}^{2}_{0/100/0\%}$: $\text{TIME:MC}_{100\%}$.

She never lied

subj nobj time pnct

The Smiths **arrive** sunday .
0 1 **2** 3 4

subj neg time

Ella no **mintio** nunca
She not **lied** never
0 1 **2** 3

36
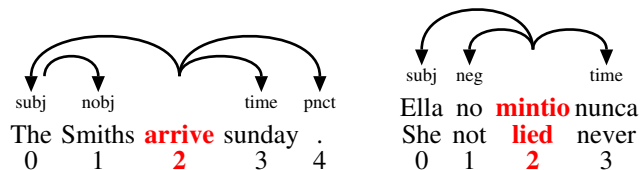
iter *Habituality adverb* (deprecated hab). Habitual; repeated habit

isa time Related types: dur ext.

[152] $\text{Confusion}^{28}_{14/62/18\%}$: $\text{time}_{43\%}$ $\text{iter}_{18\%}$ $\text{mod}_{11\%}$ $\text{other}_{7\%}$ $\text{vobj}_{5\%}$ $\text{attr}_{4\%}$ $\text{eval}_{4\%}$ $\text{nobj}_{2\%}$ $\text{dobj}_{1\%}$ $\text{relr}_{1\%}$ $\text{cause}_{1\%}$ $\text{name}_{1\%}$ $\text{scene}_{1\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{0\%}$ $\text{quant}_{0\%}$ $\text{subj}_{0\%}$ $\text{appr}_{0\%}$.

iter subj vobj pnct subj pobj vobj pnct
Every_time he leaves , she **begins** to cry .
0 1 2 3 4 **5** 6 7 8
[subj]
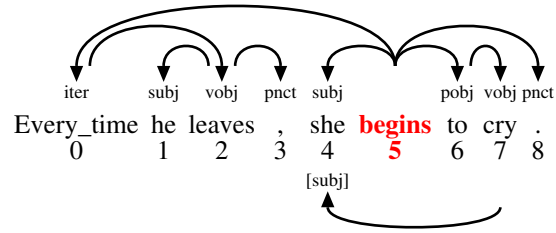
Chapter 4

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

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

§AGENT:MC *Noun-noun compound (agentive).* Non-head has an agentive meaning wrt. head.
isa MORPHCOMP
[351]

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

§CONST *Noun-noun compound (constitutive).* Non-head has a constitutive meaning wrt. head.
isa MORPHCOMP
[350]

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

§DOBJ.patient .
isa MORPHCOMP

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

coche de lujo 'luksusbil'
0 1 2   3

§FUNC *Noun-noun compound (function).* Non-head has a functional/instrumental meaning wrt. head.
isa MORPHCOMP
[353]

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

§GOAL *Noun-noun compound (goal).*
isa MORPHCOMP
[354]

<div align="center">

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

</div>

§LOC   *Noun-noun compound (position).* Non-head has a locative meaning wrt. head.
isa MORPHCOMP
[356]

<div align="center">

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

</div>

§OTHER   *Noun-noun compound (other).* If in doubt about the meaning relation between head and
isa MORPHCOMP   non-head.
[361]

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

<div align="center">

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

</div>

§RESEM   *Noun-noun compound (resemblance).* Denotations of head and non-head resemble each
isa MORPHCOMP   other.
[359]

<div align="center">

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

</div>

§SOURCE   *Noun-noun compound (origin).* Non-head has a meaning of origin wrt. head.
isa MORPHCOMP
[352]

<div align="center">

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

</div>

§TIME:MC   *Noun-noun compound (time).* Non-head has a temporal meaning wrt. head.
isa MORPHCOMP
[357]

<div align="center">

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

</div>

4.2 Derivational relations: MORPHDERIV

<div align="center">

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

</div>

<div align="center">

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

</div>

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

PREFIX   *Semantic relations appearing with prefixes.* A semantic relation is created between a base
isa MORPHDERIV   and a prefix.
[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
isa MORPHDERIV   and a suffix.
[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
isa MORPHDERIV
[275]

Semantic relations appearing with prefixes. A semantic relation is created between a base and a prefix.

Subtypes: §AGENT §ITER §MOD §NEG §PRE:other §SPACE §TELIC §TIME §TRANS.

§AGENT
isa PREFIX
[291]

Agentive (deprecated ASPEC:cause+reflex). Prefix conveys agentive action.

<div style="color:red; text-align:center">

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

</div>

§ITER
isa PREFIX
[290]

Iteration (deprecated ASPEC:iter). Prefix conveys iteration.

<div style="color:red; text-align:center">

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

</div>

§MOD
isa PREFIX
[294]

Modification. Prefix conveys modification in a broad sense.

Subtypes: §MOD:eval §MOD:qual §MOD:quant.

§MOD:eval
isa §MOD
[296]

Evaluation (deprecated MOD:man). Prefix conveys evaluation

<div style="color:red; text-align:center">

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

</div>

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

<div style="color:red; text-align:center">

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

</div>

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

<div style="color:red; text-align:center">

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

</div>

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

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

<div style="color:red; text-align:center">

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

</div>

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

<div style="color:red; text-align:center">

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

</div>

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

<div style="color:red; text-align:center">

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

</div>

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

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

§SPACE:dir   *Direction* (deprecated LOC:dir). Prefix expresses direction.
isa §SPACE $\text{Confusion}^4_{25/100/25\%}$: $>_{25\%}$ $\text{TELIC}_{25\%}$ $<_{25\%}$ $\text{LOC:dir}_{25\%}$.
[280]

<div style="color:red; text-align:center">

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

</div>

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

<div style="color:red; text-align:center">

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

</div>

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

<p align="center" style="color:red">**(origin: extraer: = traer –ex/SPACE:source)**
0   1   2 3   4</p>

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

<p align="center" style="color:red">**(terminative: oplåse 'open' = låse –op/TELIC)**
0   1   2 3 4   5</p>

§TIME *Time.* Prefix conveys time in a broad sense.
isa PREFIX
[283]
    Subtypes: §TIME:post §TIME:pre.

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

<p align="center" style="color:red">**(temporal succession: postmodernism = modernism –post/TIME:post)**
0   1   2   3   4   5</p>

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

<p align="center" style="color:red">**(temporal precedence: prehistorical = historical –pre/TIME:pre)**
0   1   2   3   4   5</p>

§TRANS *Transitivity.* Prefix conveys transitivity.
isa PREFIX
[293]

<p align="center" style="color:red">**(transitivising: påsejle 'collide': sejle –på/TRANS)**
0   1   2   3   4</p>

4.2.2 Suffix relations: SUFFIX

SUFFIX *Semantic relations appearing with suffixes.* A semantic relation is created between a base
isa MORPHDERIV and a suffix.
[276]
    Subtypes: §AUG §DENUM §DER §DERan:qual §DERna §DERnn §DERv §DIMIN §PEJ.

§AUG *Augmentation.* Suffix conveys augmentation.
isa SUFFIX
[299]

<p align="center" style="color:red">**(augmentative: perrazo 'big dog' = perro +azo/AUG)**
0   1   2 3 4 5   6</p>

§DENUM *Adjective-numeral derivation.* Suffix creates denumeral adjectives in a broad sense.
isa SUFFIX
[346]
    Subtypes: §DENUM:apart §DENUM:ord §DENUM:quant.

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

<div style="color: red; text-align: center; font-weight: bold;">

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

</div>

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

<div style="color: red; text-align: center; font-weight: bold;">

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

</div>

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

<div style="color: red; text-align: center; font-weight: bold;">

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

</div>

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

§DERadvv *Adverb-verb derivation.* Suffix triggers a derivation from an adverb to a verb
isa §DER
[306]

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

<div style="color: red; text-align: center; font-weight: bold;">

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

</div>

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

<div style="color: red; text-align: center; font-weight: bold;">

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

</div>

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

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

<div style="color: red; text-align: center; font-weight: bold;">

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

</div>

§DERva:act.disp *Verb-adjective derivation (disposition)* (deprecated DEVERB:act.disp). Suffix creates active ad-
isa §DERva:act jectives with the meaning aspect "disposition".
[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 ad-
isa §DERva:act jectives with the meaning aspect "potentiality".
[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
isa §DERva:pas adjectives with a deontic meaning.
[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
isa §DERva:pas passive adjectives with the meaning aspect "potentiality".
[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 pas-
isa §DERva:pas sive adjectives with the form of participles.
[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
isa §DER sense.
[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
isa §DERvn absorbing the agent role.
[308]

arbejd   s   giv   er
0   1   2   3
DOBJ.patient interfix DERvn:agent

(agent derivation: singer = sing +er/§DERnv:agent)
0   1   2 3 4   5

exprimidor 'saftpresser' = exprimir +dor/§DERnv:inst
0   1   2   3   4

§DERvn:core *Verb-noun derivation (core)* (deprecated PRED:core). Suffix creates deverbal nouns expressing a
isa §DERvn nominalized version of the situation denoted by the original verb.
[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 ab-
isa §DERvn sorbing the experiencer role.
[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
isa §DERvn the location related to the meaning of the original noun.
[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
isa §DERvn by the suffix
[314]

§DERvn:patient *Verb-noun derivation (patient)* (deprecated PRED:result). Suffix creates deverbal nouns absorb-
isa §DERvn ing the patient role.
[311]

§DERvn:recip *Verb-noun derivation (recipient)* (deprecated PRED:recip). Suffix creates deverbal nouns absorb-
isa §DERvn ing the recipient role
[312]

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

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

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

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

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

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

§DERna:deono *Noun-adjective derivation (naming)* (deprecated DENOM:rel.deono). Suffix creates relational ad-
isa §DERna jectives with the meaning of "naming".
[338]
Subtypes: §DERna:deono.loc §DERna:deono.pers.

§DERna:deono.loc *Noun-adjective derivation (naming places)* (deprecated DENOM:rel.deono.place). Suffix creates
isa §DERna:deono relational adjectives with the meaning of "naming" of places.
[340]

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

§DERna:deono.pers *Noun-adjective derivation (naming persons)* (deprecated DENOM:rel.deono.pers). Suffix creates
isa §DERna:deono relational adjectives with the meaning of "naming" persons.
[339]

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

§DERna:disp *Noun-adjective derivation (disposition)* (deprecated DENOM:disp). Suffix creates denominal ad-
isa §DERna jectives that express disposition.
[343]

§DERna:other *Noun-adjective derivation (other)* (deprecated DENOM:other). If in doubt about the meaning
isa §DERna conveyed by the suffix
[345]

§DERna:poss *Noun-adjective derivation (possession)* (deprecated DENOM:poss). Suffix creates denominal ad-
isa §DERna jectives that express possession.
[342]

"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 *Noun-adjective derivation (relational)* (deprecated DENOM:rel). Suffix creates denominal adjec-
isa §DERna tives with a relational meaning.
[336]
Subtypes: §DERna:rel.norm.

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

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

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

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

Sancho Panza')
15   16

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

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

48

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

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

§DERv   (deprecated DEVERB).
isa SUFFIX
§DIMIN   *Diminution.* Suffix conveys diminution.
isa SUFFIX
[300]

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

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

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

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$_{13/50/13\%}^{8}$: CONJ:add$_{75\%}$ JOINT$_{13\%}$ CONST:exem$_{13\%}$.

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.

<div style="text-align:center; color:red;">

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

</div>

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$_{91/91/100\%}^{11}$: SCENE$_{100\%}$.

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.

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

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

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

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.

<p style="color:red; text-align:center">For a free catalogue, call...
0 1 2   3   4</p>

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.

<p style="color:red; text-align:center">Prices have never been so low.
0   1   2   3 4 5</p>

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.

$\text{Confusion}^2_{0/100/0\%}$: AGENTIVE:sbj$_{100\%}$.

<p style="color:red; text-align:center">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</p>

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.

$\text{Confusion}^3_{0/67/0\%}$: CONJ:elab$_{67\%}$ CONJ:seq$_{33\%}$.

<p style="color:red; text-align:center">e.g. imperatives
0   1</p>

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.

<p style="color:red; text-align:center">[en] I'm sorry! My condolences! Thank you so much!
0 1 2   3   4   5 6 7 8</p>

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.

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$^9_{67/100/67\%}$: AGENTIVE:expl$_{67\%}$ CONTR$_{11\%}$ AGENTIVE:reas$_{11\%}$ CONST:rest$_{11\%}$.

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$^9_{33/78/33\%}$: AGENTIVE:reas$_{33\%}$ AGENTIVE:sbj$_{33\%}$ CONJ:elab$_{11\%}$ AGENTIVE:expl$_{11\%}$ TELIC:cons.dir$_{11\%}$.

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$^9_{0/78/0\%}$: CONJ:add$_{33\%}$ AGENTIVE:reas$_{33\%}$ CONSOL:source$_{22\%}$ CONJ:elab$_{11\%}$.

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$^{16}_{44/63/44\%}$: CONC$_{44\%}$ CONJ:add$_{19\%}$ CONJ:elab$_{6\%}$ FORMAL:eval$_{6\%}$ subj$_{6\%}$ CONJ$_{6\%}$ CONST:exem$_{6\%}$ conj$_{3\%}$ CONTR:prg$_{3\%}$.

COND
isa DISCSEM
[238]
Condition. A condition relation. The dependent segment expresses a condition for the realisation of the content of the gonerning segment.

Typical connectives: [en] If, On the condition; [da] Hvis; I det tilfælde at; [it] A condizione che/di; Se.

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

CONJ
isa DISCSEM
[243]
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

Subtypes: CONJ:add CONJ:elab CONJ:seq.

Confusion$^{3}_{0/33/0\%}$: CONJ:add$_{33\%}$ CONJ:elab$_{33\%}$ CONC$_{33\%}$.

CONJ:add
isa CONJ
[244]
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.

Typical connectives: [en] And, Moreover, In addition to that; [da] Endvidere, Desuden; [it] E, Oltre a ciò.

Confusion$^{103}_{44/65/55\%}$: CONJ:add$_{55\%}$ CONJ:elab$_{15\%}$ conj$_{7\%}$ JOINT$_{6\%}$ AGENTIVE:sbj$_{3\%}$ CONC$_{3\%}$ CONJ:seq$_{2\%}$ TELIC:cons.sbj$_{2\%}$ CONST:apart$_{2\%}$ CONTR:dir$_{1\%}$ CONJ$_{1\%}$ CONTR:prg$_{1\%}$ CONTR:sbj$_{1\%}$ DISJ:dir$_{1\%}$ vobj$_{1\%}$.

CONJ:elab
isa CONJ
[245]
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

Confusion$^{76}_{30/53/46\%}$: CONJ:elab$_{46\%}$ CONJ:add$_{20\%}$ FORMAL:eval$_{5\%}$ CONST:apart$_{4\%}$ FORMAL:descr$_{3\%}$ TELIC:cons.sbj$_{3\%}$ CONST:rest$_{3\%}$ CONST:elab$_{3\%}$ subj$_{3\%}$ DIREC$_{3\%}$ CONJ:seq$_{1\%}$ CONTR:prg$_{1\%}$ CONC$_{1\%}$ AGENTIVE:sbj$_{1\%}$ CONJ$_{1\%}$ AGENTIVE:reas$_{1\%}$ qobj$_{1\%}$ TELIC:cons.dir$_{1\%}$.

CONJ:seq
isa CONJ
[246]
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.

Confusion$^{13}_{62/92/69\%}$: CONJ:seq$_{69\%}$ CONJ:add$_{15\%}$ CONJ:elab$_{8\%}$ DIREC$_{8\%}$.

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

Subtypes: CONST:apart CONST:elab CONST:exem CONST:rest.

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

CONST:apart
isa CONST
[232]
Part of relation. A part-of relation. The dependent segment expresses a part of the governing segment or vice versa.

Typical connectives: [en] Including, Herein; [da] Herunder, Heri; [it] Incluso, Tra cui.

Confusion$^{11}_{18/55/27\%}$: CONJ:elab$_{27\%}$ CONST:apart$_{27\%}$ CONJ:add$_{18\%}$ CONST:exem$_{18\%}$ nobj$_{9\%}$.

CONST:elab
isa CONST
[231]
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

Related types: CONJ.

Confusion$^{3}_{0/100/0\%}$: CONJ:elab$_{67\%}$ CONST:rest$_{33\%}$.

CONST:exem
isa CONST
[230]
Exemplification. A constitutive exemplification relation. The dependent segment gives examples of elements or phenomena regarding the governing segment.

Typical connectives: [en] For example; [da] For eksempel; [it] Per esempio.

Confusion$^{12}_{50/92/58\%}$: CONST:exem$_{58\%}$ CONST:apart$_{17\%}$ JOINT$_{8\%}$ CONST:rest$_{8\%}$ CONC$_{8\%}$.

CONST:rest *Restatement.* A restatement relation. The dependent segment states the governing segment
isa CONST again in a different way
[233] Typical connectives: [en] In other words, Or; [da] Dvs., Sagt på en anden måde; [it] Ossia, In altre parole, Cioè.

Confusion$^{10}_{15/65/18\%}$: CONJ:elab$_{20\%}$ TELIC:cons.sbj$_{20\%}$ CONST:rest$_{18\%}$ CONST:elab$_{10\%}$ AGENTIVE:expl$_{10\%}$ CONST:exem$_{10\%}$ conj$_{7\%}$ 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$^{1}_{0/100/0\%}$: AGENTIVE:expl$_{100\%}$.

CONTR:dir *Direct contrast.* A direct contrast relation. The contrast lies between the governing and
isa CONTR dependent text segment.
[248] Typical connectives: [en] But, However; [da] Men, Derimod; [it] Ma, Invece.

Confusion$^{12}_{19/36/36\%}$: CONTR:dir$_{36\%}$ conj$_{24\%}$ CONTR:prg$_{13\%}$ CONJ:add$_{11\%}$ TELIC:cons.sbj$_{8\%}$ TELIC:cons.dir$_{8\%}$.

CONTR:sbj *Subjective contrast* (deprecated CONTR:prg). A subjective contrast relation. The contrast lies
isa CONTR between an explicit and a subjectively inferred text segment.
[249] Typical connectives: [en] But, However; [da] Men, Derimod; [it] Ma, Invece.

Confusion$^{6}_{44/61/44\%}$: CONTR:sbj$_{44\%}$ conj$_{22\%}$ CONTR:prg$_{17\%}$ CONJ:add$_{17\%}$.

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

DISJ:dir *Direct disjunction.* A direct disjunction relation. The disjunction lies between the governing
isa DISJ and dependent text segment.
[251] Typical connectives: [en] Or, Or else, Otherwise; [da] Eller, Ellers; [it] Oppure, Altrimenti.

Confusion$^{1}_{0/100/0\%}$: CONJ:add$_{100\%}$.

DISJ:sbj *Subjective disjunction* (deprecated DISJ:prg). An indirect or subjective disjunction relation. The
isa DISJ disjunction lies between the dependent and a subjectively inferred text segment.
[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
isa DISCSEM quale (form, dimension, colour, etc.). The governing segment may be a first-order or second-
[234] order entity.

Subtypes: FORMAL:descr FORMAL:eval.

FORMAL:descr *Neutral description* (deprecated DESCR:qual). An objective and neutral description relation.
isa FORMAL The dependent segment expresses an objective and/or neutral description of the governing
[235] segment.

Confusion$^{3}_{33/67/33\%}$: CONJ:elab$_{67\%}$ FORMAL:descr$_{33\%}$.

FORMAL:eval *Positive/negative evaluation* (deprecated DESCR:eval). A personal and subjective description
isa FORMAL relation. The dependent segment expresses a personal and/or subjective description of the
[236] governing segment.

Confusion$^{8}_{25/50/38\%}$: CONJ:elab$_{50\%}$ FORMAL:eval$_{38\%}$ CONC$_{13\%}$.

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

Subtypes: TELIC:cons.dir TELIC:cons.sbj TELIC:goal.

Confusion$_{21/100/21\%}^{14}$: $<_{43\%}$ TELIC$_{21\%}$ $>_{14\%}$ TRANS$_{7\%}$ DERvn:core$_{7\%}$ LOC:dir$_{7\%}$.

TELIC:cons.dir *Direct, physical consequence, result* (deprecated TELIC:dir). A consequence or result relation.
isa TELIC The dependent segment expresses a physical and/or objectively observed consequence or
[227] result wrt the governing segment.

Typical connectives: [en] Therefore, For this reason; [da] Derfor, Af den grund; [it] Perciò, Quindi.

Confusion$_{43/58/63\%}^{10}$: TELIC:cons.dir$_{63\%}$ AGENTIVE:reas$_{10\%}$ CONTR:dir$_{10\%}$ conj$_{7\%}$ CONJ:elab$_{5\%}$ qobj$_{5\%}$.

TELIC:cons.sbj *Pragmatic/personal conclusion, deduction* (deprecated TELIC:sbj). A personal conclusion or de-
isa TELIC duction relation. The dependent segment expresses a subjective conclusion or deduction on
[228] behalf of the speaker.

Typical connectives: [en] Therefore, For this reason; [da] Derfor, Af den grund; [it] Perciò, Quindi.

Confusion$_{36/73/36\%}^{11}$: TELIC:cons.sbj$_{36\%}$ CONJ:add$_{18\%}$ CONJ:elab$_{18\%}$ CONST:rest$_{18\%}$ CONTR:dir$_{9\%}$.

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

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

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

TIME:post *Temporal succession* (deprecated TIME:succ). A succession relation. The event described in the
isa TIME dependent text segment succeeds the one described in the governing segment.
[242]
Typical connectives: [en] Later, Some time afterwards; [da] Senere, Nogen tid efter; [it] Dopo, Poco tempo dopo.

TIME:pre *Temporal precedence* (deprecated TIME:prec). A precedence relation. The event described in the
isa TIME dependent text segment precedes the one described in the governing segment.
[241]
Typical connectives: [en] Earlier, Some days before; [da] Før det, Forinden; [it] Prima, Tre giorni prima.

Confusion$_{100/100/100\%}^{1}$: 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 *Anaphor level* (long: ANAPHORA). The anaphor level includes relations between anaphors and
isa DIM:LEVEL their antecedents, as well as lexical features associated with anaphora.
[14]
Subtypes: ANAREL anaphor.

ANAREL *Anaphor-antecedent relation.* An anaphor-antecedent relation, i.e. a relation between an
isa ANA REL anaphor (pronoun, definite description, etc.) and an antecedent. The anaphor may be either
[28] 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 . This section concerns anaphors as well as cataphors. Cataphors may by and large express
isa ANA the same relations with their postcedents as anaphors with their antecedents; the relations are
[183] 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 *Associative anaphor.* The anaphor designates an entity which is associated with the an-
isa anaphor tecedent
[193]
Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.

Confusion$_{39/83/39\%}^{9}$: assoc-const$_{44\%}$ assoc$_{39\%}$ coref-var$_{11\%}$ coref$_{6\%}$.

coref *Coreference.* The anaphor designates the same entity as the antecedent; all coreferential pro-
isa anaphor nouns are labelled this way
[186]
Subtypes: coref-evol coref-iden coref-res coref-var ref.

Confusion$_{84/85/92\%}^{141}$: coref$_{92\%}$ coref-var$_{4\%}$ coref-iden$_{2\%}$ coref-res$_{1\%}$ assoc$_{1\%}$ assoc-const$_{0\%}$.

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

	vobj	dobj	nobj	pnct	coord	subj	dobj	conj	vobj	pnct
Avevo	comprato	del	vino	,	ma	Maria	lo	ha	bevuto	.
I_had	bought	some	wine		but	Maria	it	has	drunk	
0	1	2	3	4	5	6	7	8	9	10

coref

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

	time	vobj	dobj	pnct	neg	dobj		time	pnct
Ho	già	bevuto	vino	.	Non	ne	**voglio**	adesso	.
I_have	already	had	wine		not	it	**I_want**	now	
0	1	2	3	4	5	6	**7**	8	9
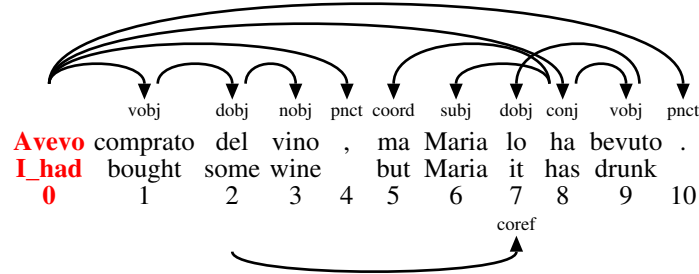
coref

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 pro-
isa anaphor nouns are labelled this way
[186] Subtypes: coref-evol coref-iden coref-res coref-var ref.
Confusion$_{84/85/92\%}^{141}$: coref$_{92\%}$ coref-var$_{4\%}$ coref-iden$_{2\%}$ coref-res$_{1\%}$ assoc$_{1\%}$ assoc-const$_{0\%}$.

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

	vobj	dobj	nobj	pnct	coord	subj	dobj	conj	vobj	pnct
Avevo	comprato	del	vino	,	ma	Maria	lo	ha	bevuto	.
I_had	bought	some	wine		but	Maria	it	has	drunk	
0	1	2	3	4	5	6	7	8	9	10

coref

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

time	vobj	dobj	pnct	neg	dobj		time	pnct
Ho	già	bevuto	vino	.	Non	ne	**voglio**	adesso	.
I_have	already	had	wine		not	it	**I_want**	now	
0	1	2	3	4	5	6	**7**	8	9
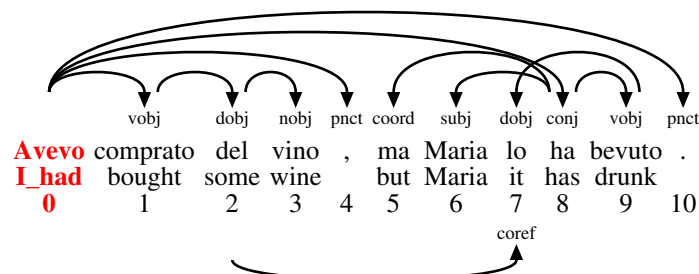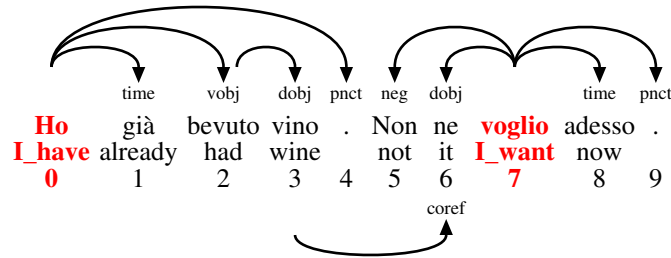
coref

coref-evol *Evolving anaphor.* The anaphor refers to the same discourse referent as the antecedent, but
isa coref after it has undergone radical changes in its ontological status
[191] Confusion$^1_{0/100/0\%}$: coref-var$_{100\%}$.

subj		nobj		dobj	nobj	pnct	subj	attr	nobj	time		dobj	@loc	nobj	nobj	pnct
The	compactor	**crushed**	a	VW	.	A	huge	crane	then	**moved**		it	to	a	railcar	.
0	1	**2**	3	4	5	6	7	8	9	**10**		11	12	13	14	15

coref–evol

(cit.: Asher 2000: 142);
0   1   2   3

dobj	nobj	man	attr	nobj	pnct	dobj	nobj	man	man	attr	nobj	pnct
Cut	the	chicken	in	small	pieces	.	**Fry**	the	chicken	carefully	on	low	heat	.
0	1	2	3	4	5	6	**7**	8	9	10	11	12	13	14

coref–evol
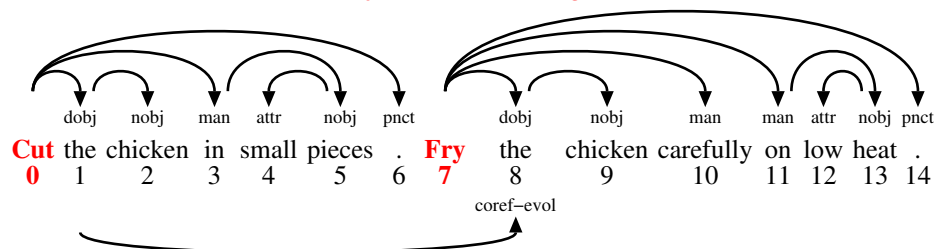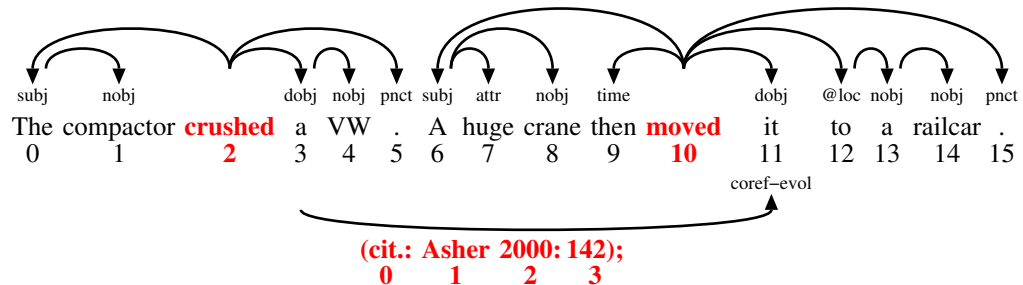
coref-iden *Coreferential NP with lexical identity* (deprecated coref-id). The anaphor designates the same
isa coref entity as the antecedent and the lexical noun is identical to that of the antecedent; if the
[187] antecedent NP contains attributives or other modifiers, these too must be identical in the
anaphor NP. In cases such as example 3., the apposition functions as antecedent:
Confusion$^{52}_{77/83/81\%}$: coref-iden$_{81\%}$ coref-var$_{10\%}$ coref$_{3\%}$ assoc-const$_{2\%}$ coref-res$_{2\%}$ corefcoref-iden$_{2\%}$.

1.

	nobj		nobj
...a	car...	**...the**	car...
0	1	**2**	3

coref–iden

2.

	attr	nobj		attr	nobj
...a	yellow	car...	**...the**	yellow	car...
0	1	2	**3**	4	5

coref–iden

3.

$$
\begin{array}{ccccc}
\text{nobj} & \text{namef} & \text{appr} & \text{namef} \\
\textbf{...the} & \text{genius} & \text{Albert} & \text{Einstein...} & \text{...Albert} & \textbf{Einstein...} \\
\textbf{0} & 1 & 2 & 3 & 4 & \textbf{5} \\
& & & & & \text{coref--iden}
\end{array}
$$
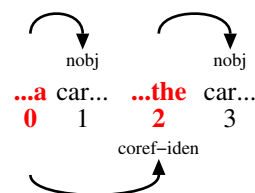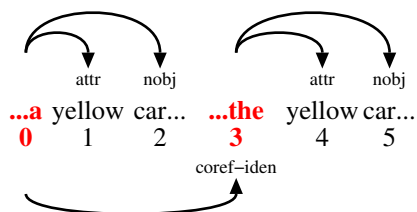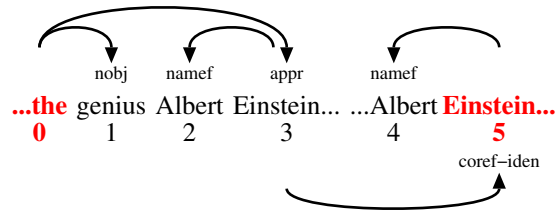
coref-res *Resumptive anaphor* (deprecated nowincludescoref-res.cause). The anaphor summarises a sentence,
isa coref   clause or predicate
[189]   Subtypes: coref-res.prg.

Confusion$_{65/73/72\%}^{25}$: coref-res$_{72\%}$ coref-var$_{12\%}$ assoc-telic$_{4\%}$ coref-iden$_{4\%}$ coref$_{4\%}$ coref-res.prg$_{4\%}$.

$$
\begin{array}{ccccccccccccc}
\text{subj} & \text{nobj} & & \text{loc} & \text{nobj} & \text{possd} & \text{pnct} & \text{subj} & \text{nobj} & \text{quant} & & \text{dobj} & \text{pnct} \\
\text{Two} & \text{cars} & \textbf{collided} & \text{outside} & \text{my} & \text{house} & . & \text{The} & \text{collision} & \text{really} & \textbf{shocked} & \text{me} & . \\
0 & 1 & \textbf{2} & 3 & 4 & 5 & 6 & 7 & 8 & 9 & \textbf{10} & 11 & 12 \\
& & & & \{\text{poss}\} & & & & \text{coref--res}
\end{array}
$$

$$
\begin{array}{ccccccccccccc}
\text{subj} & \text{nobj} & & \text{loc} & \text{nobj} & \text{possd} & \text{pnct} & \text{subj} & \text{nobj} & \text{quant} & & \text{dobj} & \text{pnct} \\
\text{Two} & \text{cars} & \textbf{collided} & \text{outside} & \text{my} & \text{house} & . & \text{The} & \text{accident} & \text{really} & \textbf{shocked} & \text{me} & . \\
0 & 1 & \textbf{2} & 3 & 4 & 5 & 6 & 7 & 8 & 9 & \textbf{10} & 11 & 12 \\
& & & & \{\text{poss}\} & & & & \text{coref--res}
\end{array}
$$

$$
\begin{array}{cccccccccccc}
\text{subj} & \text{nobj} & & \text{loc} & \text{nobj} & \text{possd} & \text{pnct} & \text{subj} & \text{quant} & & \text{dobj} & \text{pnct} \\
\text{Two} & \text{cars} & \textbf{collided} & \text{outside} & \text{my} & \text{house} & . & \text{It} & \text{really} & \textbf{shocked} & \text{me} & . \\
0 & 1 & \textbf{2} & 3 & 4 & 5 & 6 & 7 & 8 & \textbf{9} & 10 & 11 \\
& & & & \{\text{poss}\} & & & \text{coref--res}
\end{array}
$$

coref-res.prg *Pragmatic resumptive anaphor.* The anaphor summarises a sentence, clause or predicate and
isa coref-res   evaluates it with respect to speech act
[190]   Confusion$_{0/0/0\%}^{1}$: coref-res$_{100\%}$.

$$
\begin{array}{cccccccccccccc}
\text{pnct} & \text{subj} & & \text{vobj} & \text{preds} & \text{time} & & \text{pnct} & \text{pnct} & \text{subj} & \text{nobj} & \text{quant} & & \text{dobj} & \text{pnct} \\
" & \text{I} & \textbf{shall} & \text{be} & \text{back} & \text{tomorrow} & . & " & \text{The} & \text{threat} & \text{really} & \textbf{shocked} & \text{me} & . \\
0 & 1 & \textbf{2} & 3 & 4 & 5 & & 6 & 7 & 8 & 9 & 10 & \textbf{11} & 12 & 13 \\
& [\text{subj}] & & & & & & & \text{coref--res.prg}
\end{array}
$$

63

```
      pnct  subj      vobj  preds  time      pnct pnct   subj      nobj   quant          dobj pnct
       "    I   shall be    back   tomorrow   .   "      The   promise really  pleased    me   .
       0    1    2    3     4      5          6   7      8      9      10     11         12   13
            [subj]                                       coref−res.prg
```

```
      pnct  subj      vobj  preds  time      pnct pnct   subj      nobj   quant          dobj pnct
       "    I   shall be    back   tomorrow   .   "      The   warning really  shocked    me   .
       0    1    2    3     4      5          6   7      8      9      10     11         12   13
            [subj]                                       coref−res.prg
```

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

Confusion$_{71/79/79\%}^{97}$: coref-var$_{79\%}$ coref$_{6\%}$ coref-iden$_{6\%}$ assoc-const$_{4\%}$ coref-res$_{3\%}$ coref-evol$_{1\%}$ assoc$_{1\%}$.

```
          nobj              nobj              attr   nobj          nobj
      ...a  car...    ...the  vehicle...   ...a  yellow  car...  ...the  car...
        0    1          2       3           0      1      2        3      4
                       coref−var                                 coref−var

                              namef
                          ...Albert  Einstein...  ...Einstein...
                              0          1             2
                                                   coref−var
```
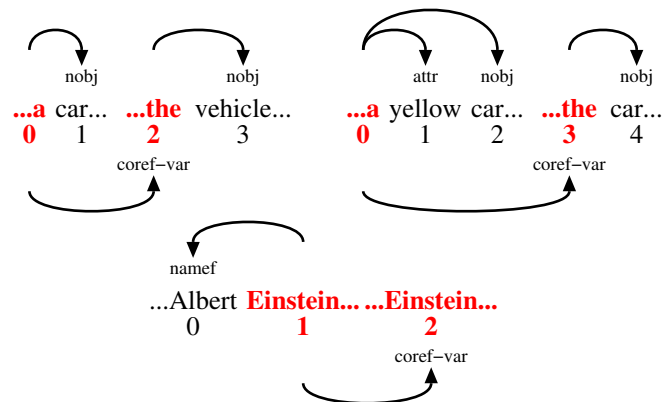
ref *Syntactically determined coreference.* Syntactically determined coreference (e.g. relative pro-
isa SEC coref   nouns, external topics). In the DG theory, "ref" is a shorthand for the label "[fobj]" with re-
[184]   versed direction of the arc, ie, a secondary filler object. It is typically used in relative clauses
                 with a relative pronoun, in which the relative pronoun "consumes" the filler for the relativized
                 noun generated by the relative verb.

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

```
      subj nobj dobj  subj     relr      time              preds
      the  car  that  John  bought  yesterday   was  yellow
       0    1    2     3      4        5          6    7
                ref
```
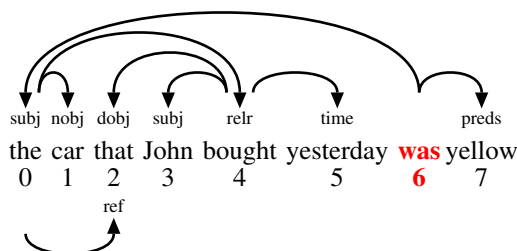
6.2 Associative anaphor relations: assoc

assoc: associative anaphor
    assoc-OTHER: other anaphoric relations
        assoc-event: associative anaphor (event)
        assoc-loc: associative anaphor (location)
        assoc-time: associative anaphor (time)
    assoc-QUALIA: associative anaphor wrt. qualia
        assoc-agentive: associative anaphor (agentive)
            assoc-agentive.agent: associative anaphor (agentive-agent)
        assoc-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.

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$^9_{39/83/39\%}$: assoc-const$_{44\%}$ assoc$_{39\%}$ coref-var$_{11\%}$ coref$_{6\%}$.

assoc-OTHER
isa assoc
[211]

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).

Subtypes: assoc-event assoc-loc assoc-time.

assoc-event
isa assoc-OTHER
[214]

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

Confusion$^3_{100/100/100\%}$: assoc-event$_{100\%}$.
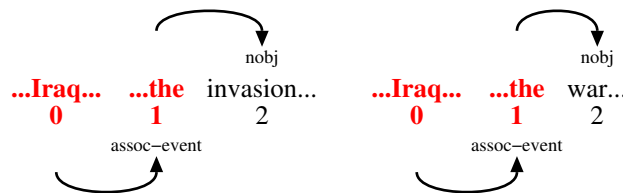
assoc-loc
isa assoc-OTHER
[212]

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

Confusion$^5_{100/100/100\%}$: assoc-loc$_{100\%}$.
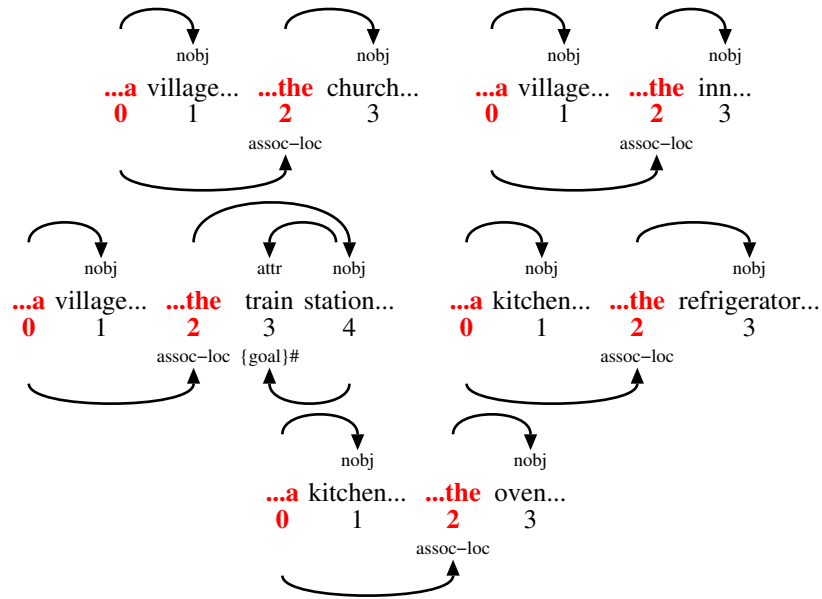
assoc-time *Associative anaphor (time).* The antecedent is a predicate or predicative noun, a time indi-
isa assoc-OTHER cation or a more general narrative frame, the anaphor expresses a point in time linked to it
[213]
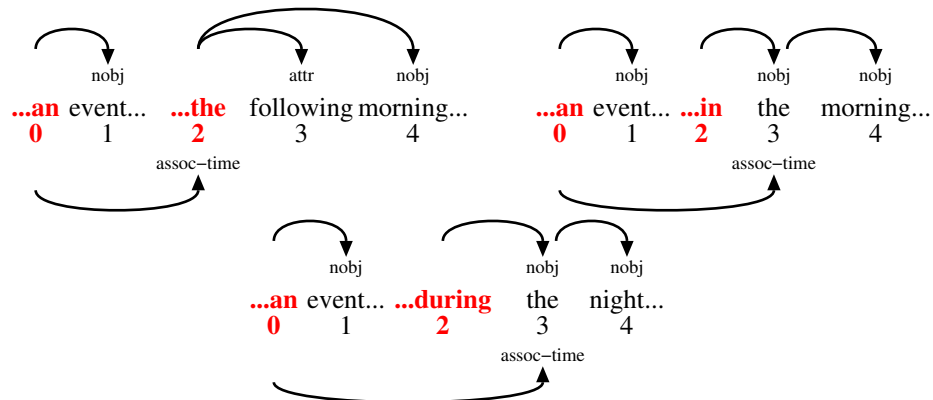
assoc-QUALIA *Associative anaphor wrt. qualia.* The anaphor denotes an entity which is associated with the
isa assoc antecedent with regard to the antecedent's qualia structure
[194]

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$_{25/50/50\%}^{4}$: assoc-agentive$_{50\%}$ assoc-telic$_{25\%}$ assoc-const$_{25\%}$.
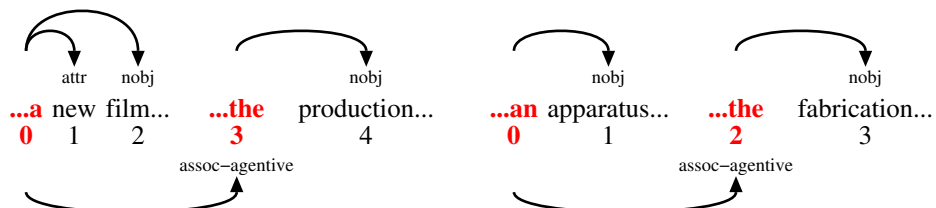
assoc-agentive.agent *Associative anaphor (agentive-agent).* The anaphor plays the semantic role of agent wrt the
isa assoc-agentive "bringing about" of the antecedent
[198]
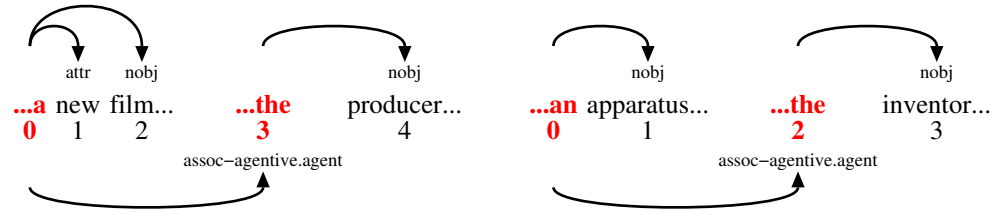
assoc-const *Associative anaphor (constitutive).* The anaphor is associated with the antecedent wrt its
isa assoc-QUALIA constitutive quale (parts, elements, material, etc.)
[195] $\text{Confusion}^{39}_{59/77/67\%}$: assoc-const$_{67\%}$ coref-var$_{10\%}$ assoc$_{10\%}$ assoc-telic$_{5\%}$ coref-iden$_{3\%}$ coref$_{3\%}$ assoc-agentive$_{3\%}$.
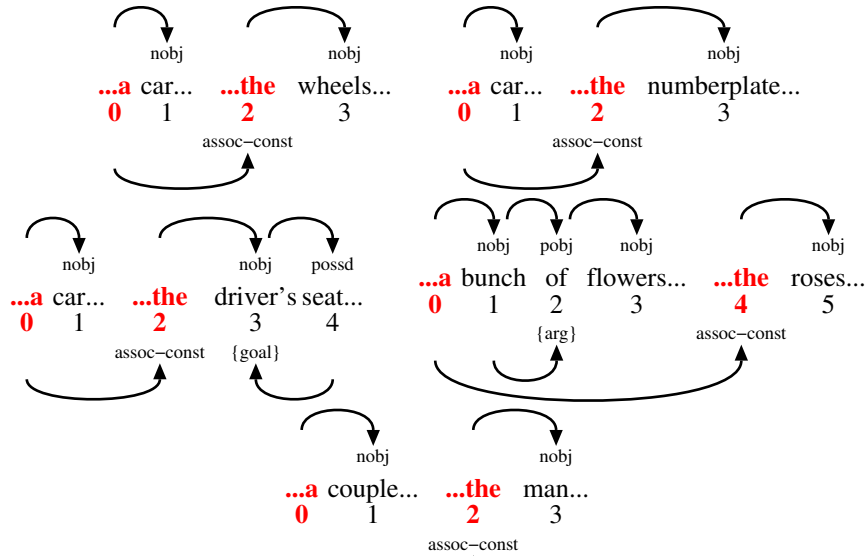
I have bought a bottle of wine. Do you want some of it?
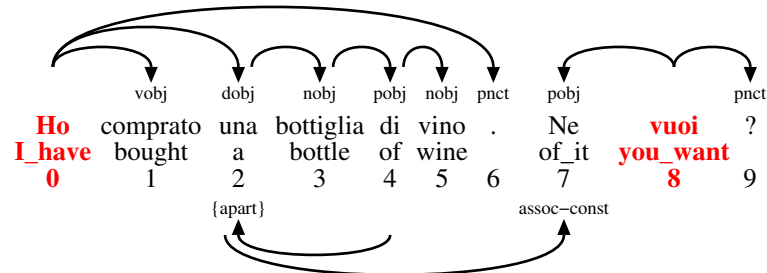
assoc-formal *Associative anaphor (formal).* The anaphor is associated with the antecedent wrt its formal
isa assoc-QUALIA quale (shape, dimension, colour, etc.)
[196] $\text{Confusion}^{1}_{100/100/100\%}$: assoc-formal$_{100\%}$.

67

nobj   nobj   nobj   nobj   nobj   nobj

...a car...   **...the** size...   **...a** car...   **...the** colour...   **...a** building...   **...the** heigth...
0   1   **2**   3   **0**   1   **2**   3   **0**   1   **2**   3

assoc−formal   assoc−formal   assoc−formal
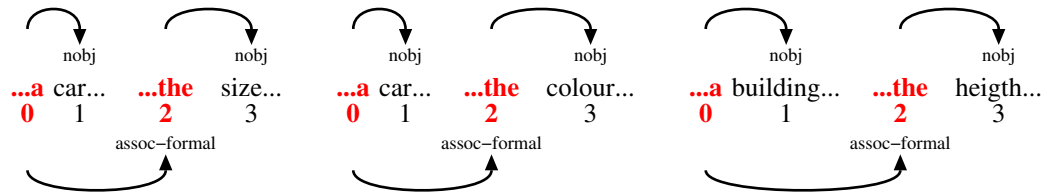
assoc-telic   *Associative anaphor (telic)* (deprecated `assoc-scope`?). The anaphor is associated with antecedent
isa assoc-QUALIA   wrt its telic quale (purpose, function, result, consequence etc.)
[199]   Subtypes: assoc-telic.agent assoc-telic.exper assoc-telic.inst assoc-telic.patient assoc-telic.rec.
Confusion$^{24}_{71/88/83\%}$: assoc-telic$_{83\%}$ assoc-const$_{8\%}$ coref-res$_{4\%}$ assoc-agentive$_{4\%}$.

nobj   pobj.dobj   nobj   nobj   nobj

...the invasion   of   Iraq...   **...the** consequences...   **...dancing...**   **...the** dance...
0   1   2   3   **4**   5   **0**   **1**   2

{patient}   assoc−telic   assoc−telic
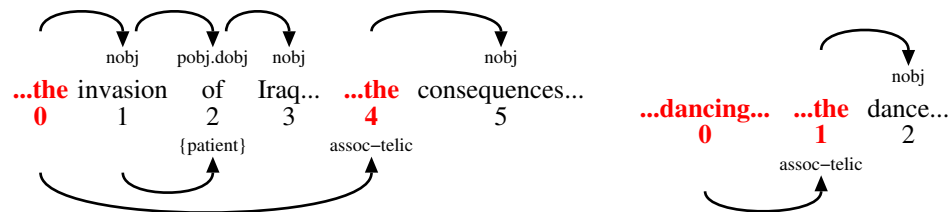
assoc-telic.agent   *Associative anaphor (telic-agent).* The anaphor plays the semantic role of agent wrt the telic
isa assoc-telic   quale of the antecedent (NB: the precise analysis of the semantic role will depend on the
[200]   inferred predicate)

nobj   nobj   nobj   nobj

...a car...   **...the** driver...   **...an** airplane...   **...the** pilot...
0   1   **2**   3   **0**   1   **2**   3

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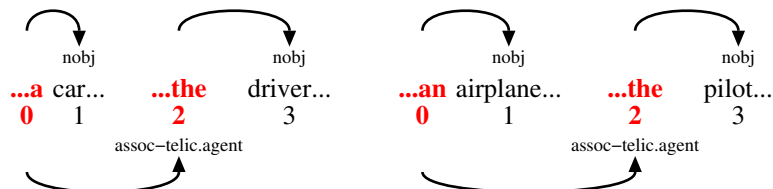
assoc-telic.exper   *Associative anaphor (telic-experiencer).* The anaphor plays the semantic role of experiencer
isa assoc-telic   wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend
[203]   on the inferred predicate)

nobj   nobj

...a TV−film...   **...the** viewers...
0   1   **2**   3

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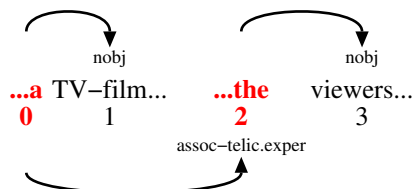
assoc-telic.inst   *Associative anaphor (telic-instrument).* The anaphor plays the semantic role of instrument
isa assoc-telic   wrt the telic quale of the antecedent (NB: the precise analysis of the semantic role will depend
[204]   on the inferred predicate)

...a supermarket... ...the trolleys...
0   1   2   3

nobj   nobj   assoc−telic.inst
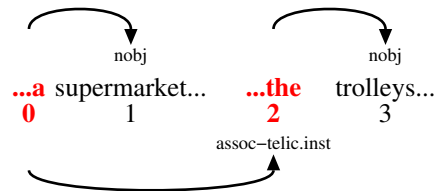
assoc-telic.patient
isa assoc-telic
[201]

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)

...an exam... ...the students...   ...a competition... ...the prize...
0   1   2   3   0   1   2   3

nobj nobj assoc−telic.patient   nobj nobj assoc−telic.patient
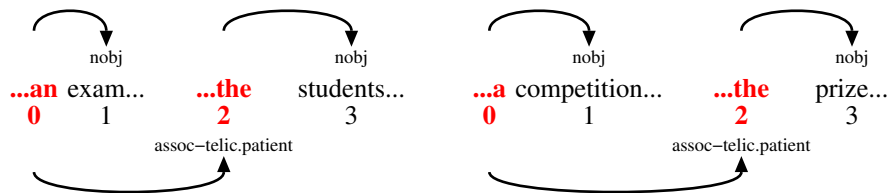
assoc-telic.rec
isa assoc-telic
[202]

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)

...a newspaper... ...the readers...
0   1   2   3

nobj nobj assoc−telic.rec
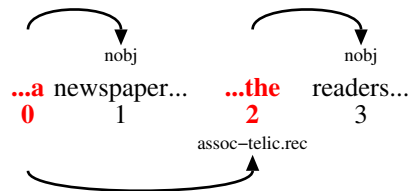
assoc-SEMROLE
isa assoc
[205]

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

...an operation... ...the surgeon...   ...a crime... ...the perpetrator...
0   1   2   3   0   1   2   3

nobj nobj assoc−agent   nobj nobj assoc−agent

assoc-exper
isa assoc-SEMROLE
[209]
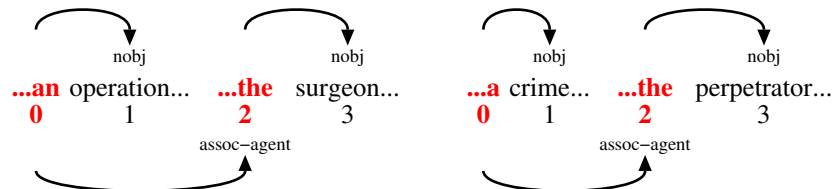
Associative anaphor (experiencer). The antecedent is a predicate or predicative noun, and the anaphor is the semantic experiencer

nobj	nobj	nobj	nobj
...an accident...	**...the** eyewitness...	**...a** performance...	**...the** audience...
0 1	**2** 3	**0** 1	**2** 3
	assoc−exper		assoc−exper
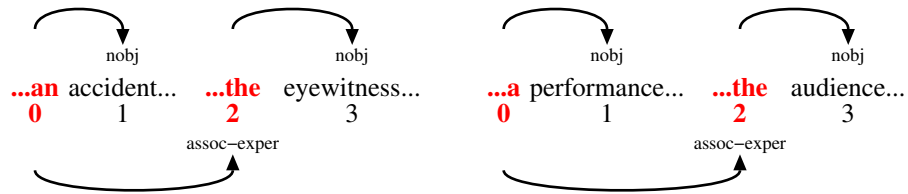
assoc-inst *Associative anaphor (instrument).* The antecedent is a predicate or predicative noun, and the
isa assoc-SEMROLE anaphor is the semantic instrument.
[210]

subj		dobj	nobj	coord	conj	dobj	nobj	@loc	nobj	nobj	pnct
Jim	**cut**	the	bread	and	left	the	knife	in	the	sink	.
0	**1**	2	3	4	5	6	7	8	9	10	11

assoc−inst

subj			dobj	vobj	dobj	coord	subj	nobj	conj	pnct
Jim	**wanted**	to	hang	himself	but	the	rope	broke		.
0	**1**	2	3	4	5	6	7	8		9

[subj]   assoc−inst
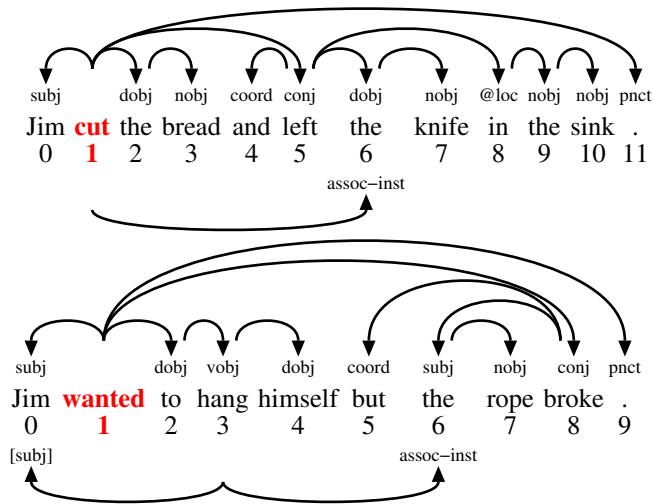
assoc-patient *Associative anaphor (patient).* The antecedent is a predicate or predicative noun, and the
isa assoc-SEMROLE anaphor is the semantic patient
[207]

nobj	nobj	nobj	nobj
...an operation...	**...the** patient...	**...a** crime...	**...the** victim...
0 1	**2** 3	**0** 1	**2** 3
	assoc−patient		assoc−patient
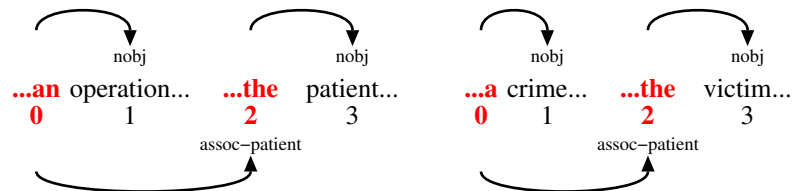
assoc-rec *Associative anaphor (recipient).* The antecedent is a predicate or predicative noun, and the
isa assoc-SEMROLE anaphor is the semantic recipient
[208]

nobj	nobj
...a competition...	**...the** prizewinner...
0 1	**2** 3
	assoc−rec

70
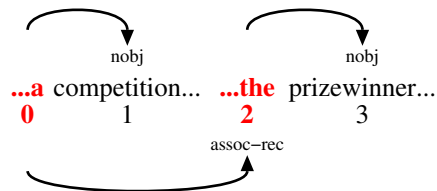
Chapter 7

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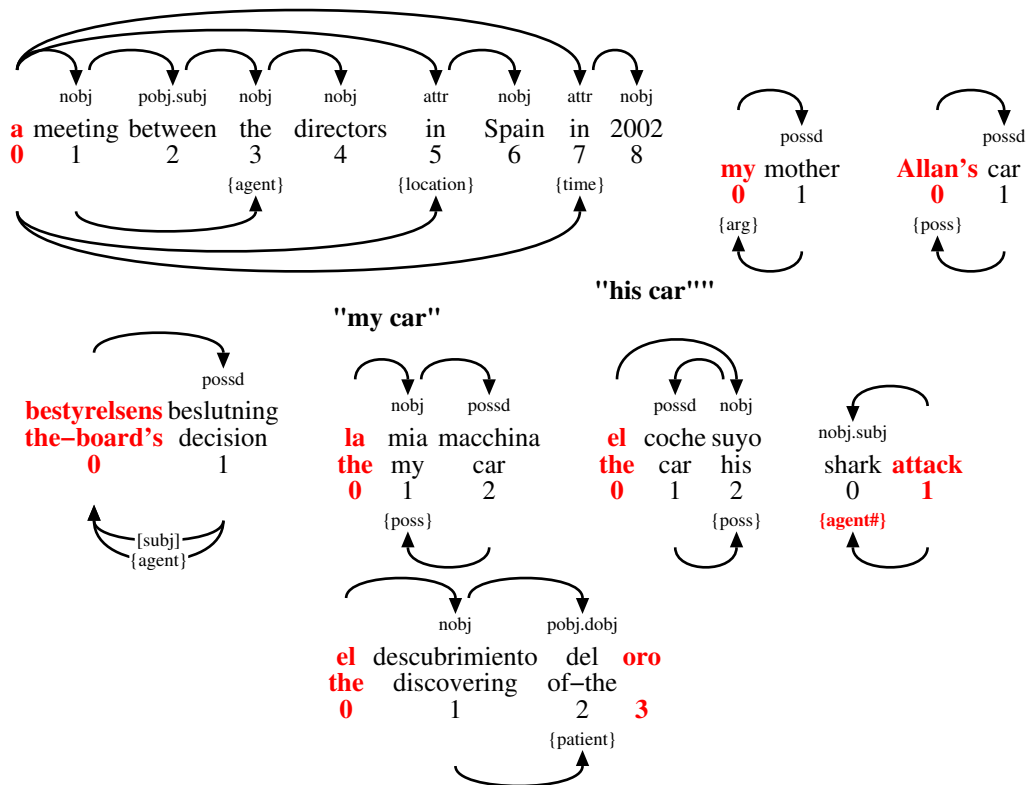
QUALIA *Qualia role.* A qualia role. Ie, a semantic relation that links a lexeme to a qualia role associated
isa SEMREL with that lexeme. Eg, "music" to the act of "composing" (agentive), "listening" (telic), etc.
[30]
Subtypes: agentive const formal resemblance telic.

{about} . Used in noun phrases where the satellite indicates the content or genre of the nucleus, which
isa SEMREL typically denotes a semiotic artefact.
[62]
Confusion$^{39}_{33/87/33\%}$: {about}$_{33\%}$ {patient}$_{24\%}$ {arg}$_{21\%}$ {agent}$_{6\%}$ {goal}$_{6\%}$ {func}$_{5\%}$ {loc}$_{3\%}$ {other}$_{1\%}$ {quant}$_{1\%}$ {time}$_{1\%}$
.
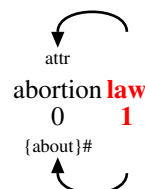
{agent} *An object or a person that performs an action.* Used in noun phrases where the satellite is
isa SEMREL the object or the person that performs the volitional action indicated by the nucleus. Used in
[50] noun phrases where there is a deverbal relation between the nucleus and the satellite. Often
realized as a subject.

Confusion$_{45/80/50\%}^{84}$: {agent}$_{50\%}$ {arg}$_{25\%}$ {patient}$_{8\%}$ {experiencer}$_{4\%}$ {about}$_{3\%}$ {goal}$_{2\%}$ {source}$_{2\%}$ {loc}$_{2\%}$ {elab}$_{2\%}$
{quant}$_{1\%}$ {poss}$_{1\%}$ {time}$_{0\%}$ {other}$_{0\%}$.

attr
police **violence**
0   **1**
{agent}#

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

Confusion$_{42/100/42\%}^{19}$: {quant}$_{47\%}$ {apart}$_{42\%}$ {loc}$_{5\%}$ {const}$_{5\%}$.

Northern Zealand   **North America**

nobj pobj nobj   nobj pobj nobj   pobj nobj
1   dl   of milk   **il**   nord   di   Selandia   **America** del nord
0   1   2   3   **the** north of Zealand   **America** of north
{apart}   **0**   1   2   3   **0**   1   2
   {apart}   {apart}
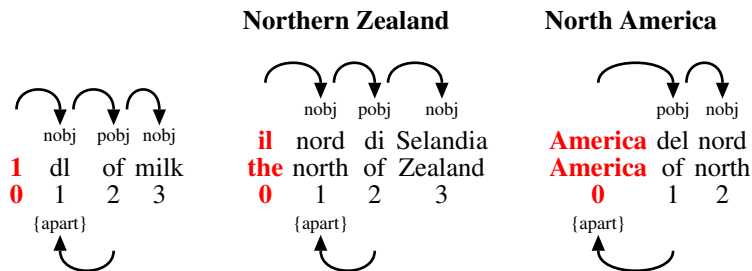
{arg} . Used in noun phrases where there is a deadjectival relation or another similiar relationship
isa SEMREL between the nucleus and the satellite.
[68]
Confusion$_{47/87/50\%}^{232}$: {arg}$_{50\%}$ {agent}$_{9\%}$ {patient}$_{8\%}$ {goal}$_{5\%}$ {loc}$_{5\%}$ {const}$_{4\%}$ {about}$_{4\%}$ {func}$_{3\%}$ {source}$_{3\%}$ {other}$_{3\%}$
{poss}$_{3\%}$ {quant}$_{1\%}$ {time}$_{1\%}$ {eval}$_{0\%}$ {elab}$_{0\%}$.

certain types of hardware   **the overall investment**

possd   nobj   nobj   nobj pobj nobj
John's mother   **gewissen** Typen Hardware   **il**   totale   degli   investimenti
0   1   **certain** types hardware   **the** total of−the investments
{arg}   **0**   1   2   **0**   1   2   3
   {arg}   {arg}

Denmark's attitude

nobj   gobj
die Haltung Dänemarks   pobj   nobj
the attitude Denmark's   **north** of Copenhagen
0   1   2   **0**   1   2
{arg}   {arg}
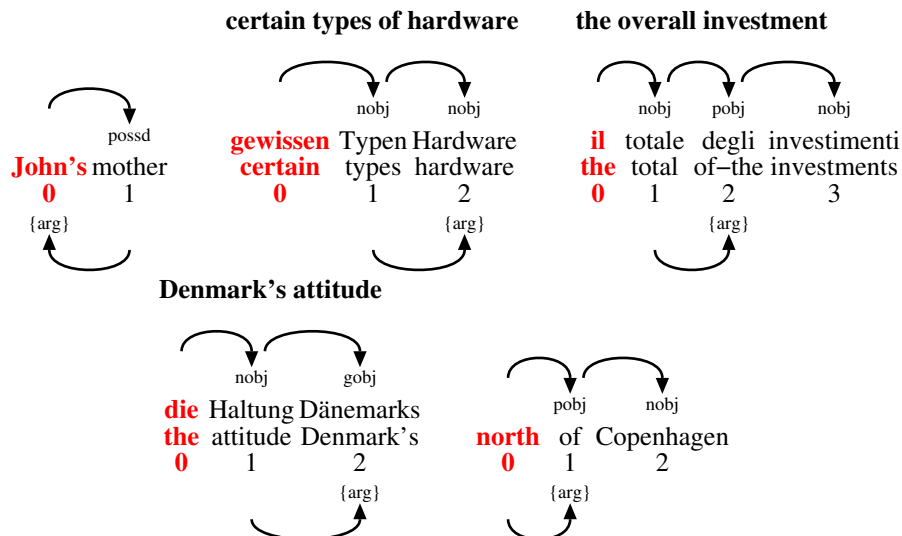
{cause} . Used in noun phrases where the satellite is the person or object that performs the non-
isa SEMREL volitional action indicated by the nucleus.
[53] Confusion$^1_{0/100/0\%}$: {goal}$_{100\%}$.

<div align="center" style="color:red">

sulted ød ildebrand?
0   1

</div>

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

Related types: {iden}.
Confusion$^5_{40/100/40\%}$: {class}$_{40\%}$ {other}$_{40\%}$ {const}$_{20\%}$.
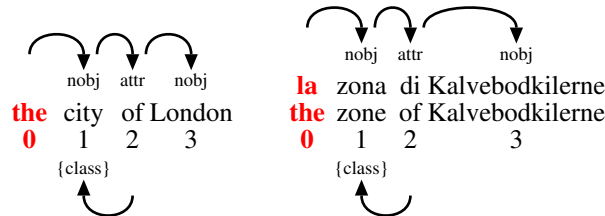
{const} . Used in noun phrases where the satellite represents a part, material or essential constituent
isa SEMREL of the nucleus.
[49] Confusion$^{51}_{53/92/55\%}$: {const}$_{55\%}$ {arg}$_{20\%}$ {source}$_{6\%}$ {form}$_{4\%}$ {poss}$_{4\%}$ {loc}$_{2\%}$ {func}$_{2\%}$ {elab}$_{2\%}$ {apart}$_{2\%}$ {class}$_{2\%}$
{goal}$_{2\%}$.

plastic lighter
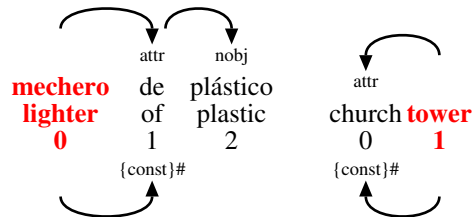
{elab} . position).
isa SEMREL Related types: modp.
[48] Confusion$^{12}_{42/50/50\%}$: {elab}$_{50\%}$ {loc}$_{13\%}$ {agent}$_{13\%}$ {const}$_{8\%}$ {form}$_{8\%}$ {arg}$_{4\%}$ {other}$_{4\%}$.

{eval} . Used in noun phrases where there is a descriptive relation between the nucleus and the
isa SEMREL satellite. The relation is often a subjective description from the writer who either evaluates
[60] the relationship in a positive or negative manner.
Confusion$^2_{50/50/50\%}$: {arg}$_{50\%}$ {eval}$_{50\%}$.

{event} .
isa SEMREL
[59]

deltagelse   i   mødet
participation in meeting−the
pobj.pobj / nobj
0   1   2
{event}
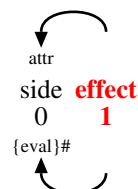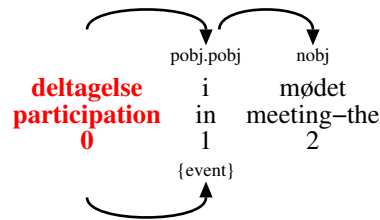
{experiencer} *The receiver of an emotion or a physical impact.* Used in noun phrases where there is a
isa SEMREL deverbal relation between the nucleus and the satellite. Often realized as a direct object
[71] $Confusion^{7}_{43/100/43\%}$: {experiencer}$_{43\%}$ {agent}$_{43\%}$ {patient}$_{14\%}$.

film critics

critici cinematografici
critics cinematic
attr.dobj
0   1
{experiencer}#
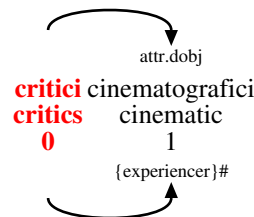
{form} . Used in noun phrases where the satellite indicates the shape or form of the nucleus.
isa SEMREL $Confusion^{7}_{43/86/43\%}$: {form}$_{43\%}$ {const}$_{29\%}$ {loc}$_{14\%}$ {elab}$_{14\%}$.
[66]
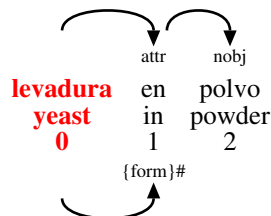
baking powder   **country ham in julienne strips**

levadura en polvo   landskinke i julienne
yeast   in powder   **country_ham** in julienne
attr / nobj   attr / nobj
0   1   2   **0**   1   2
{form}#   {form}
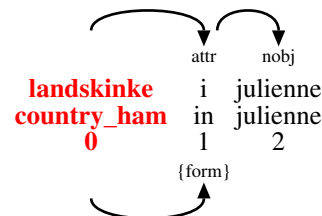
{func} . Used in noun phrases where the satellite determinates the instrumental function of the
isa SEMREL nucleus.
[55] $Confusion^{45}_{51/100/51\%}$: {func}$_{51\%}$ {arg}$_{18\%}$ {goal}$_{11\%}$ {loc}$_{7\%}$ {about}$_{4\%}$ {const}$_{2\%}$ {iden}$_{2\%}$ {patient}$_{2\%}$ {other}$_{2\%}$.

attr
wind **mill**
0 **1**
{func}#
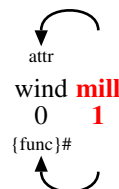
{goal} . Used in noun phrases where the satellite determinates the goal or the intention for which
isa SEMREL the nucleus is destinated.
[54] $Confusion^{85}_{55/90/57\%}$: {goal}$_{57\%}$ {arg}$_{15\%}$ {func}$_{6\%}$ {loc}$_{5\%}$ {other}$_{5\%}$ {about}$_{3\%}$ {agent}$_{2\%}$ {patient}$_{2\%}$ {cause}$_{1\%}$ {resem}$_{1\%}$ {const}$_{1\%}$ {recipient}$_{1\%}$ {quant}$_{1\%}$.

nobj.dobj   attr   attr
birth control **pills**   police **station**
  0   1   **2**   0   **1**
{patient}# {goal}#   {goal}#
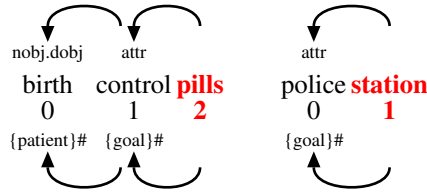
{iden} . Used in noun phrases where the satellite indicates the identity of the nucleus. In this case it
isa SEMREL is also possible to equate the satellite to the nucleus i.e. that the nucleus represents the super
[67] type of the satellite.

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

attr
rock **music**
  0   **1**
{iden}#

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

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

nobj   pobj.pobj   nobj
the march across Greenland
0   1   2   3
{location}
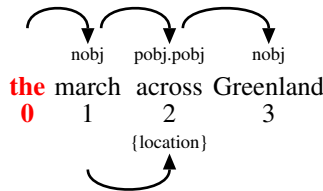
{loc} (deprecated {pos}). Used in noun phrases where the satellite indicates the location of the posi-
isa SEMREL tion or the location of nucleus.
[57] Confusion$^{94}_{47/82/55\%}$: {loc}$_{55\%}$ {arg}$_{11\%}$ {source}$_{7\%}$ {goal}$_{5\%}$ {patient}$_{4\%}$ {func}$_{3\%}$ {other}$_{3\%}$ {poss}$_{2\%}$ {agent}$_{2\%}$ {elab}$_{2\%}$
{const}$_{1\%}$ {form}$_{1\%}$ {location}$_{1\%}$ {apart}$_{1\%}$ {recipient}$_{1\%}$ {about}$_{1\%}$ {quant}$_{0\%}$.

attr
floor **lamp**
  0   **1**
{loc}#
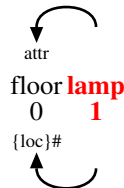
{other} *No specific semantic role.* Used when none of the other semantic roles are suitable or when
isa SEMREL in doubt.
[74] Confusion$^{38}_{22/69/22\%}$: {other}$_{22\%}$ {arg}$_{17\%}$ {goal}$_{11\%}$ {poss}$_{9\%}$ {loc}$_{8\%}$ {source}$_{8\%}$ {time}$_{6\%}$ {class}$_{5\%}$ {patient}$_{4\%}$ {quant}$_{3\%}$
{func}$_{3\%}$ {elab}$_{1\%}$ {about}$_{1\%}$ {agent}$_{1\%}$.

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

Confusion$^{95}_{43/78/47\%}$: {patient}$_{47\%}$ {arg}$_{20\%}$ {about}$_{10\%}$ {agent}$_{7\%}$ {loc}$_{4\%}$ {poss}$_{4\%}$ {other}$_{2\%}$ {goal}$_{2\%}$ {quant}$_{1\%}$ {func}$_{1\%}$ {experiencer}$_{1\%}$ {recipient}$_{1\%}$ {time}$_{0\%}$.

bread producer

	pobj.dobj	nobj
produttore	di	pane
producer	of	bread
0	1	2
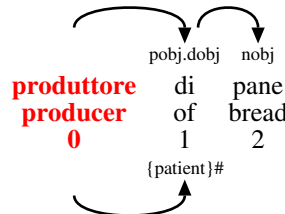
{patient}#

{poss} . Used in noun phrases where there is a possession relation between the nucleus and the
isa SEMREL satellite. Often the satelite is the owner or possessor of the nucleus.
[56] Confusion$^{32}_{38/76/41\%}$: {poss}$_{41\%}$ {arg}$_{18\%}$ {patient}$_{10\%}$ {other}$_{10\%}$ {loc}$_{6\%}$ {const}$_{6\%}$ {source}$_{6\%}$ {agent}$_{2\%}$.

attr
police **car**
0 **1**
{poss}#
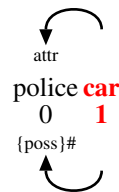
{quant} . Used in noun phrases where the satellite indicates the quantity in numbers or another
isa SEMREL countable unit of the nucleus.
[65] Confusion$^{27}_{37/82/37\%}$: {quant}$_{37\%}$ {apart}$_{33\%}$ {arg}$_{7\%}$ {patient}$_{5\%}$ {other}$_{5\%}$ {agent}$_{4\%}$ {source}$_{4\%}$ {goal}$_{3\%}$ {loc}$_{2\%}$ {about}$_{1\%}$.

	attr	nobj		attr	nobj	attr	nobj
women	of	40		**a**	240	meter	long bridge
0	1	2		**0**	1	2	3	4

{quant}   {quant}
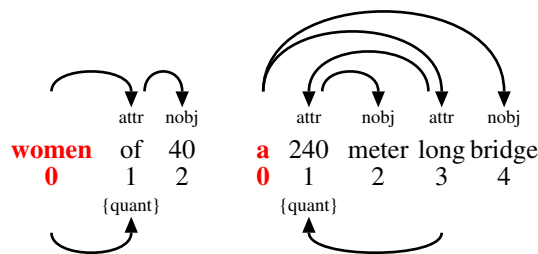
{recipient} *The receiver of something.* Used in noun phrases where there is a deverbal relation between
isa SEMREL the nucleus and the satellite. Often realized as an indirect object
[72] Confusion$^{7}_{57/100/57\%}$: {recipient}$_{57\%}$ {loc}$_{14\%}$ {patient}$_{14\%}$ {goal}$_{14\%}$.

child benefits   **child maintenance**

	pobj.iobj	nobj	nobj
contribuiti	per	i	figli
benefits	for	the	children
0	1	2	3

{recipient}#

	aobj.iobj
assegni	familiari
checks	family
0	1

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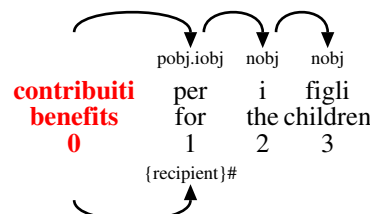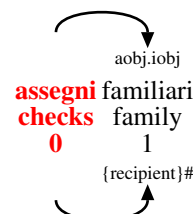
{resem} . Used in noun phrases where there is a resemblance between the nucleus and the satellite.
isa SEMREL Confusion$_{50/100/50\%}^{2}$: {resem}$_{50\%}$ {goal}$_{50\%}$.
[61]

folding chair   **spring cabbage**

	attr	nobj		attr
silla	de	tijeras	**cavolo**	cappuccio
chair		scissors	**cabbage**	hooded
0	1	2	**0**	1

{resem}#   {resem}#
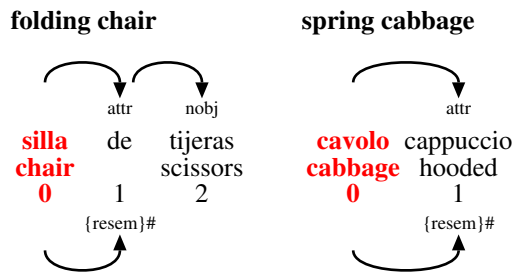
{source} (deprecated {origin}). Used in noun phrases where the satellite is the source from which the
isa SEMREL nucleus derives or is deduced.
[52] Confusion$_{40/81/42\%}^{52}$: {source}$_{42\%}$ {arg}$_{15\%}$ {loc}$_{14\%}$ {time}$_{8\%}$ {const}$_{6\%}$ {other}$_{6\%}$ {agent}$_{4\%}$ {poss}$_{4\%}$ {quant}$_{2\%}$.

attr	attr
orange **juice**	olive **oil**
0 **1**	0 **1**
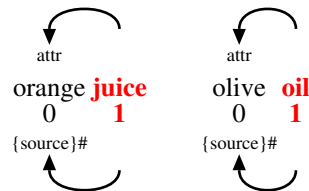
{source}#   {source}#

{time} . Used in noun phrases where the satellite indicates some kind of temporal aspect of the
isa SEMREL nucleus.
[58] Confusion$_{55/69/71\%}^{31}$: {time}$_{71\%}$ {source}$_{13\%}$ {other}$_{7\%}$ {arg}$_{7\%}$ {about}$_{1\%}$ {patient}$_{1\%}$ {agent}$_{1\%}$.

attr
november **rain**
0 **1**

{time}#

7.1 Qualia relations: QUALIA

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

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

const *Constitutive qualia* (long: constitutive). A relation between an object and its constituents or
isa QUALIA proper parts. E.g., material, weight, parts and component elements (cf. Pustejovsky 1995).
[38]
Confusion$_{0/100/0\%}^{6}$: $>_{33\%}$ CONST$_{33\%}$ MOD:qual$_{17\%}$ GOAL$_{17\%}$.

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.

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)

$\text{Confusion}^4_{25/100/25\%}$: $\text{ABOUT}_{50\%}$ $\text{SPACE:dir}_{25\%}$ $\text{about}_{25\%}$.

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]
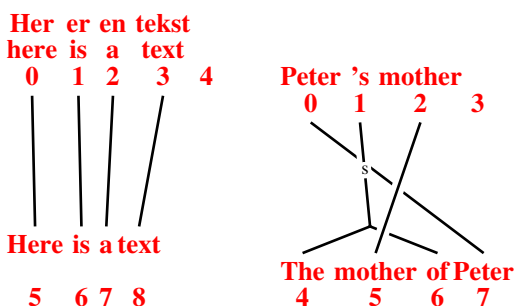
Fuzzy word alignment (long: fuzzy). A semantically fuzzy word alignment.

Here is a car
 0   1 2 3   4

f
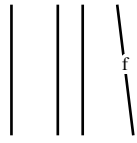
Here is a vehicle
 5   6 7   8

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
isa RULE
[365]
Conjunctive both-and type (long: (REL)"&"(REL)). Conjunctive both-and relation types can be formed as "&"-separated lists of relation types. Conjunctive relation types are used by the annotators when two or more relation types seem to hold simultaneously. They may be removed from later versions of the CDT treebanks.

RuleAttr
isa RULE
[377]
Attribution (long: (PRIM)"/ATTR"INTEGER). Specifies the person to whom the utterance is attributed (ATTR or ATTR1, ATTR2, ... when there is more than one person)

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

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

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

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

RuleGap
isa RULE gapd
[370]
Gapping dependent (long: "<"PRIM(":"PRIM)*":"INTEGER">"). A gapping dependency relation is formed by using angled brackets to enclose a colon-separated list of primary relations followed by an integer that indicates the number of the gapped conjunct, starting with 1. The list of primary relations describes the path from the head of the gapped conjunct to the gapping dependent within the gapped conjunct, viewed as a copy of the tree structure within the first conjunct.
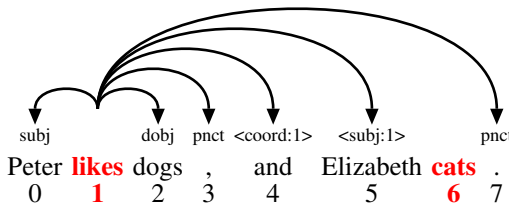
RuleIdiom
isa IDIOM RULE
[374]
Idiomatic relation pattern (long: (SEMREL)"#"). A semantic relation can be marked as idiomatic by putting a trailing "#" after the semantic relation name. The idiom marker is only used with semantic relations, not with syntactic relations.
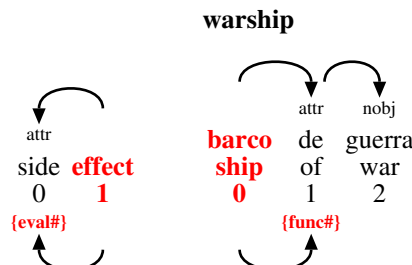
RuleImpConn
isa RULE
[381]

Implicit connector (long: PRIM"/("CONNECTOR")"). The discourse relation has implicit connector $CONNECTOR

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.

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.

subj   nobj   vobj   @loc   nobj
The Colosseum **is** located in Rome
0   1   **2**   3   4   5
[subj]

subj   @dir
She **went** home
0   **1**   2
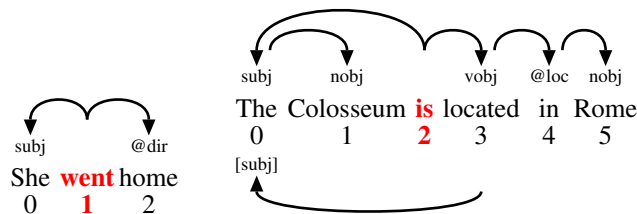
RuleOr
isa RULE
[366]

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.

RulePar
isa RULE
[367]

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.

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.

subj   vobj preds attr nobj
She **might** be   a   nice person
0   **1**   2   3   4   5
[subj]
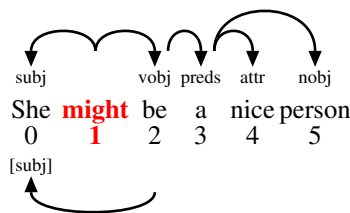
Chapter 10

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 *Misplaced relation.* A misplaced relation. A relation is misplaced if it fails to have "ANY"
[6] 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
        namel: last name
        title: person title
    pnct: punctuation
    rel: relative clause
        relelab: elaborating relative clause
        relpa: parenthetic relative clause
        relr: restrictive relative clause
    voc: vocative
    xtop: external topic with resuming pronoun
```

The relations matching SYNADJ-!ADVERB-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
```

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.

- *Full labeled agreement A:* the probability that another annotator assigns the same label and out-node to the relation.

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

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

- *Relation count N:* the number of distinct multiply annotated tokens in the corpus that were annotated with the relation by at least one annotator.

- *Confusion table:* the relations that other annotators used, with a percentage that indicates the probability that each relation was used by the other annotator instead of R.

Note that nodes with multiple incoming relations (eg, secondary relations) will lower the agreement artificially.

B.1 Confusion table: syntax

R	N	$A/A_U/A_L$	Confusion list
\<dobj\>	1	100/100/100%	$\text{\<dobj\>}_{100\%}$
\<mod\>	1	100/100/100%	$\text{\<mod\>}_{100\%}$
att	1	100/100/100%	$\text{att}_{100\%}$
namel	8	100/100/100%	$\text{namel}_{100\%}$
voc	3	100/100/100%	$\text{voc}_{100\%}$
xtop	4	100/100/100%	$\text{xtop}_{100\%}$
expl	62	89/97/89%	$\text{expl}_{89\%}$ $\text{subj}_{9\%}$ $\text{preds}_{2\%}$ $\text{time}_{1\%}$ $\text{pobj}_{1\%}$
namef	168	85/88/87%	$\text{namef}_{87\%}$ $\text{nobj}_{3\%}$ $\text{pnct}_{2\%}$ $\text{subj}_{2\%}$ $\text{attr}_{2\%}$ $\text{pobj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{conj}_{0\%}$ $\text{numm}_{0\%}$ $\text{dobj}_{0\%}$ $\text{time}_{0\%}$ $\text{appa}_{0\%}$ $\text{possd}_{0\%}$ $\text{co-ord}_{0\%}$ $\text{relr}_{0\%}$ $\text{scene}_{0\%}$ $\text{possr}_{0\%}$ $\text{avobj}_{0\%}$ $\text{man}_{0\%}$ $\text{concom}_{0\%}$ $\text{part}_{0\%}$ $\text{exem}_{0\%}$ $\text{goal}_{0\%}$ $\text{eval}_{0\%}$ $\text{quant}_{0\%}$

subj	1434	81/83/82%	$\text{subj}_{82\%}$ $\text{nobj}_{5\%}$ $\text{pnct}_{2\%}$ $\text{attr}_{2\%}$ $\text{pobj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{conj}_{1\%}$ $\text{coord}_{1\%}$ $\text{preds}_{1\%}$ $\text{expl}_{0\%}$ $\text{time}_{0\%}$ $\text{scene}_{0\%}$ $\text{neg}_{0\%}$ $\text{numm}_{0\%}$ $\text{goal}_{0\%}$ $\text{loc}_{0\%}$ $\text{relr}_{0\%}$ $\text{possr}_{0\%}$ $\text{possd}_{0\%}$ $\text{appa}_{0\%}$ $\text{appr}_{0\%}$ $\text{namef}_{0\%}$ $\text{other}_{0\%}$ $\text{name}_{0\%}$ $\text{modp}_{0\%}$ $\text{cond}_{0\%}$ $\text{source}_{0\%}$ $\text{prg}_{0\%}$ $\text{avobj}_{0\%}$ $\text{add}_{0\%}$ $\text{correl}_{0\%}$ $\text{title}_{0\%}$ $\text{man}_{0\%}$ $\text{quant}_{0\%}$ $\text{agent}_{0\%}$ $\text{resem}_{0\%}$ $\text{epi}_{0\%}$ $\text{accom}_{0\%}$ $\text{concom}_{0\%}$ $\text{cause}_{0\%}$ $\text{CONJ:elab}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{part}_{0\%}$ $\text{conc}_{0\%}$ $\text{focal}_{0\%}$ $\text{exem}_{0\%}$ $\text{qobj}_{0\%}$ $\text{contr}_{0\%}$ $\text{comp}_{0\%}$ $\text{iobj}_{0\%}$ $\text{iter}_{0\%}$ $\text{inst}_{0\%}$ $\text{event}_{0\%}$ $\text{xpl}_{0\%}$ $\text{predo}_{0\%}$
nobj	3409	79/85/81%	$\text{nobj}_{81\%}$ $\text{attr}_{3\%}$ $\text{pnct}_{2\%}$ $\text{subj}_{2\%}$ $\text{vobj}_{2\%}$ $\text{pobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{conj}_{1\%}$ $\text{preds}_{1\%}$ $\text{coord}_{1\%}$ $\text{time}_{1\%}$ $\text{possd}_{0\%}$ $\text{mod}_{0\%}$ $\text{quant}_{0\%}$ $\text{relr}_{0\%}$ $\text{loc}_{0\%}$ $\text{aobj}_{0\%}$ $\text{name}_{0\%}$ $\text{numm}_{0\%}$ $\text{other}_{0\%}$ $\text{goal}_{0\%}$ $\text{neg}_{0\%}$ $\text{namef}_{0\%}$ $\text{man}_{0\%}$ $\text{appa}_{0\%}$ $\text{possr}_{0\%}$ $\text{title}_{0\%}$ $\text{epi}_{0\%}$ $\text{modp}_{0\%}$ $\text{appr}_{0\%}$ $\text{concom}_{0\%}$ $\text{accom}_{0\%}$ $\text{eval}_{0\%}$ $\text{cond}_{0\%}$ $\text{agent}_{0\%}$ $\text{scene}_{0\%}$ $\text{contr}_{0\%}$ $\text{numa}_{0\%}$ $\text{prg}_{0\%}$ $\text{fpreds}_{0\%}$ $\text{conc}_{0\%}$ $\text{part}_{0\%}$ $\text{predo}_{0\%}$ $\text{focal}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{qobj}_{0\%}$ $\text{resem}_{0\%}$ $\text{inst}_{0\%}$ $\text{add}_{0\%}$ $\text{iter}_{0\%}$ $\text{correl}_{0\%}$ $\text{event}_{0\%}$ $\text{cause}_{0\%}$ $\text{comp}_{0\%}$ $\text{xpl}_{0\%}$ $\text{exem}_{0\%}$ $\text{iobj}_{0\%}$ $\text{avobj}_{0\%}$ $\text{source}_{0\%}$
pnct	2138	78/80/85%	$\text{pnct}_{85\%}$ $\text{nobj}_{5\%}$ $\text{attr}_{2\%}$ $\text{subj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{conj}_{1\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{1\%}$ $\text{time}_{0\%}$ $\text{possd}_{0\%}$ $\text{preds}_{0\%}$ $\text{relr}_{0\%}$ $\text{numm}_{0\%}$ $\text{man}_{0\%}$ $\text{possr}_{0\%}$ $\text{namef}_{0\%}$ $\text{modp}_{0\%}$ $\text{neg}_{0\%}$ $\text{appa}_{0\%}$ $\text{appr}_{0\%}$ $\text{quant}_{0\%}$ $\text{focal}_{0\%}$ $\text{other}_{0\%}$ $\text{loc}_{0\%}$ $\text{scene}_{0\%}$ $\text{contr}_{0\%}$ $\text{epi}_{0\%}$ $\text{resem}_{0\%}$ $\text{accom}_{0\%}$ $\text{list}_{0\%}$ $\text{dir}_{0\%}$ $\text{part}_{0\%}$ $\text{goal}_{0\%}$ $\text{predo}_{0\%}$ $\text{title}_{0\%}$ $\text{name}_{0\%}$ $\text{aobj}_{0\%}$ $\text{inst}_{0\%}$ $\text{conc}_{0\%}$ $\text{prg}_{0\%}$ $\text{qobj}_{0\%}$ $\text{cause}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{eval}_{0\%}$ $\text{add}_{0\%}$ $\text{concom}_{0\%}$ $\text{agent}_{0\%}$ $\text{avobj}_{0\%}$ $\text{correl}_{0\%}$ $\text{cond}_{0\%}$ $\text{iobj}_{0\%}$ $\text{event}_{0\%}$ $\text{xpl}_{0\%}$ $\text{source}_{0\%}$
dobj	904	76/85/77%	$\text{dobj}_{77\%}$ $\text{nobj}_{6\%}$ $\text{attr}_{3\%}$ $\text{pnct}_{3\%}$ $\text{pobj}_{2\%}$ $\text{subj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{coord}_{1\%}$ $\text{robj}_{1\%}$ $\text{preds}_{1\%}$ $\text{iobj}_{1\%}$ $\text{time}_{1\%}$ $\text{conj}_{1\%}$ $\text{possd}_{0\%}$ $\text{neg}_{0\%}$ $\text{quant}_{0\%}$ $\text{goal}_{0\%}$ $\text{other}_{0\%}$ $\text{loc}_{0\%}$ $\text{numm}_{0\%}$ $\text{appa}_{0\%}$ $\text{predo}_{0\%}$ $\text{relr}_{0\%}$ $\text{modp}_{0\%}$ $\text{name}_{0\%}$ $\text{appr}_{0\%}$ $\text{dir}_{0\%}$ $\text{possr}_{0\%}$ $\text{title}_{0\%}$ $\text{scene}_{0\%}$ $\text{qobj}_{0\%}$ $\text{namef}_{0\%}$ $\text{cause}_{0\%}$ $\text{resem}_{0\%}$ $\text{add}_{0\%}$ $\text{focal}_{0\%}$ $\text{conc}_{0\%}$ $\text{iter}_{0\%}$ $\text{agent}_{0\%}$ $\text{aobj}_{0\%}$ $\text{man}_{0\%}$ $\text{contr}_{0\%}$ $\text{numa}_{0\%}$ $\text{concom}_{0\%}$ $\text{cond}_{0\%}$ $\text{part}_{0\%}$ $\text{exem}_{0\%}$ $\text{source}_{0\%}$ $\text{correl}_{0\%}$ $\text{inst}_{0\%}$
vobj	1092	75/85/76%	$\text{vobj}_{76\%}$ $\text{nobj}_{6\%}$ $\text{preds}_{5\%}$ $\text{pnct}_{3\%}$ $\text{attr}_{2\%}$ $\text{subj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{pobj}_{1\%}$ $\text{conj}_{1\%}$ $\text{coord}_{1\%}$ $\text{relr}_{0\%}$ $\text{possd}_{0\%}$ $\text{numm}_{0\%}$ $\text{predo}_{0\%}$ $\text{time}_{0\%}$ $\text{quant}_{0\%}$ $\text{loc}_{0\%}$ $\text{appa}_{0\%}$ $\text{scene}_{0\%}$ $\text{man}_{0\%}$ $\text{iter}_{0\%}$ $\text{aobj}_{0\%}$ $\text{name}_{0\%}$ $\text{rel}_{0\%}$ $\text{fpreds}_{0\%}$ $\text{part}_{0\%}$ $\text{goal}_{0\%}$ $\text{namef}_{0\%}$ $\text{neg}_{0\%}$ $\text{prg}_{0\%}$ $\text{accom}_{0\%}$ $\text{title}_{0\%}$ $\text{other}_{0\%}$ $\text{concom}_{0\%}$ $\text{appr}_{0\%}$ $\text{resem}_{0\%}$ $\text{focal}_{0\%}$ $\text{add}_{0\%}$ $\text{possr}_{0\%}$ $\text{modp}_{0\%}$ $\text{qobj}_{0\%}$ $\text{cause}_{0\%}$ $\text{cond}_{0\%}$ $\text{eval}_{0\%}$ $\text{xpl}_{0\%}$ $\text{epi}_{0\%}$ $\text{agent}_{0\%}$ $\text{fpredo}_{0\%}$
possd	307	75/80/77%	$\text{possd}_{77\%}$ $\text{nobj}_{7\%}$ $\text{attr}_{3\%}$ $\text{pnct}_{3\%}$ $\text{vobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{1\%}$ $\text{subj}_{1\%}$ $\text{conj}_{1\%}$ $\text{time}_{1\%}$ $\text{relr}_{1\%}$ $\text{quant}_{1\%}$ $\text{inst}_{0\%}$ $\text{numm}_{0\%}$ $\text{modp}_{0\%}$ $\text{scene}_{0\%}$ $\text{loc}_{0\%}$ $\text{preds}_{0\%}$ $\text{other}_{0\%}$ $\text{aobj}_{0\%}$ $\text{possr}_{0\%}$ $\text{namef}_{0\%}$ $\text{conc}_{0\%}$ $\text{neg}_{0\%}$ $\text{focal}_{0\%}$ $\text{cond}_{0\%}$ $\text{numa}_{0\%}$ $\text{event}_{0\%}$ $\text{add}_{0\%}$ $\text{iobj}_{0\%}$ $\text{title}_{0\%}$ $\text{appr}_{0\%}$ $\text{appa}_{0\%}$ $\text{concom}_{0\%}$ $\text{name}_{0\%}$
neg	133	75/87/76%	$\text{neg}_{76\%}$ $\text{nobj}_{5\%}$ $\text{subj}_{3\%}$ $\text{mod}_{2\%}$ $\text{pnct}_{2\%}$ $\text{dobj}_{2\%}$ $\text{attr}_{2\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{1\%}$ $\text{time}_{1\%}$ $\text{add}_{1\%}$ $\text{vobj}_{1\%}$ $\text{eval}_{1\%}$ $\text{preds}_{0\%}$ $\text{scene}_{0\%}$ $\text{relr}_{0\%}$ $\text{conj}_{0\%}$ $\text{possr}_{0\%}$ $\text{accom}_{0\%}$ $\text{possd}_{0\%}$ $\text{appr}_{0\%}$ $\text{other}_{0\%}$ $\text{agent}_{0\%}$ $\text{title}_{0\%}$

conj	689	74/76/76%	$conj_{76\%}$ $nobj_{5\%}$ $attr_{3\%}$ $pnct_{3\%}$ $subj_{2\%}$ $vobj_{1\%}$ $coord_{1\%}$ $CONJ{:}add_{1\%}$ $pobj_{1\%}$ $qobj_{1\%}$ $dobj_{1\%}$ $possd_{0\%}$ $preds_{0\%}$ $time_{0\%}$ $CONTR{:}sbj_{0\%}$ $CONTR{:}dir_{0\%}$ $numm_{0\%}$ $loc_{0\%}$ $part_{0\%}$ $conc_{0\%}$ $scene_{0\%}$ $xpl_{0\%}$ $name_{0\%}$ $other_{0\%}$ $relr_{0\%}$ $cause_{0\%}$ $inst_{0\%}$ $avobj_{0\%}$ $CONST{:}rest_{0\%}$ $TELIC{:}cons.dir_{0\%}$ $concom_{0\%}$ $possr_{0\%}$ $quant_{0\%}$ $namef_{0\%}$ $modp_{0\%}$ $exem_{0\%}$ $neg_{0\%}$ $title_{0\%}$ $appa_{0\%}$ $goal_{0\%}$ $predo_{0\%}$ $agent_{0\%}$ $focal_{0\%}$ $cond_{0\%}$ $correl_{0\%}$ $eval_{0\%}$ $prg_{0\%}$ $comp_{0\%}$ $event_{0\%}$ $fpredo_{0\%}$ $aobj_{0\%}$ $man_{0\%}$ $appr_{0\%}$ $accom_{0\%}$ $add_{0\%}$
qobj	73	73/73/73%	$qobj_{73\%}$ $conj_{7\%}$ $coord_{7\%}$ $discmark_{3\%}$ $CONJ{:}add_{2\%}$ $nobj_{2\%}$ $AGENTIVE{:}reas_{1\%}$ $dobj_{1\%}$ $pnct_{1\%}$ $subj_{1\%}$ $time_{1\%}$ $vobj_{0\%}$ $numm_{0\%}$ $other_{0\%}$ $loc_{0\%}$ $resem_{0\%}$ $pobj_{0\%}$ $attr_{0\%}$
coord	525	70/76/71%	$coord_{71\%}$ $nobj_{7\%}$ $discmark_{3\%}$ $pnct_{3\%}$ $attr_{2\%}$ $subj_{2\%}$ $pobj_{2\%}$ $dobj_{2\%}$ $conj_{1\%}$ $vobj_{1\%}$ $qobj_{1\%}$ $time_{1\%}$ $preds_{1\%}$ $possd_{1\%}$ $contr_{0\%}$ $scene_{0\%}$ $neg_{0\%}$ $loc_{0\%}$ $accom_{0\%}$ $part_{0\%}$ $numm_{0\%}$ $appa_{0\%}$ $appr_{0\%}$ $other_{0\%}$ $quant_{0\%}$ $goal_{0\%}$ $possr_{0\%}$ $concom_{0\%}$ $namef_{0\%}$ $title_{0\%}$ $fpredo_{0\%}$ $inst_{0\%}$ $eval_{0\%}$ $relr_{0\%}$ $conc_{0\%}$ $focal_{0\%}$ $modp_{0\%}$ $add_{0\%}$ $iter_{0\%}$ $avobj_{0\%}$ $predo_{0\%}$ $prg_{0\%}$ $source_{0\%}$
add	66	67/90/67%	$add_{67\%}$ $other_{11\%}$ $discmark_{5\%}$ $scene_{3\%}$ $subj_{2\%}$ $neg_{2\%}$ $prg_{2\%}$ $correl_{2\%}$ $quant_{2\%}$ $dobj_{1\%}$ $pobj_{1\%}$ $vobj_{1\%}$ $pnct_{1\%}$ $nobj_{1\%}$ $attr_{1\%}$ $preds_{1\%}$ $possd_{0\%}$ $coord_{0\%}$ $appr_{0\%}$ $conj_{0\%}$ $time_{0\%}$
cause	57	67/81/74%	$cause_{74\%}$ $mod_{9\%}$ $attr_{5\%}$ $conj_{2\%}$ $time_{2\%}$ $cons_{2\%}$ $pobj_{2\%}$ $subj_{1\%}$ $dobj_{1\%}$ $other_{1\%}$ $pnct_{1\%}$ $iter_{0\%}$ $nobj_{0\%}$ $name_{0\%}$ $vobj_{0\%}$
err	9	67/67/78%	$err_{78\%}$ $other_{11\%}$ $focal_{11\%}$
numa	6	67/88/67%	$numa_{67\%}$ $nobj_{21\%}$ $attr_{4\%}$ $dobj_{4\%}$ $possd_{4\%}$
title	39	67/73/67%	$title_{67\%}$ $nobj_{13\%}$ $subj_{3\%}$ $appr_{3\%}$ $dobj_{3\%}$ $pnct_{2\%}$ $attr_{2\%}$ $conj_{2\%}$ $vobj_{2\%}$ $preds_{1\%}$ $coord_{1\%}$ $name_{1\%}$ $neg_{0\%}$ $possd_{0\%}$ $agent_{0\%}$ $numm_{0\%}$ $pobj_{0\%}$ $xpl_{0\%}$
xpl	24	67/88/67%	$xpl_{67\%}$ $<xpl>_{8\%}$ $conj_{5\%}$ $pobj_{5\%}$ $other_{4\%}$ $list_{4\%}$ $nobj_{3\%}$ $subj_{1\%}$ $vobj_{1\%}$ $preds_{0\%}$ $pnct_{0\%}$ $title_{0\%}$
preds	514	66/89/66%	$preds_{66\%}$ $vobj_{10\%}$ $nobj_{6\%}$ $loc_{3\%}$ $predo_{2\%}$ $attr_{2\%}$ $subj_{2\%}$ $dobj_{2\%}$ $pnct_{2\%}$ $time_{1\%}$ $pobj_{1\%}$ $coord_{1\%}$ $aobj_{0\%}$ $conj_{0\%}$ $scene_{0\%}$ $fpredo_{0\%}$ $other_{0\%}$ $numm_{0\%}$ $inst_{0\%}$ $resem_{0\%}$ $expl_{0\%}$ $goal_{0\%}$ $neg_{0\%}$ $part_{0\%}$ $prg_{0\%}$ $possd_{0\%}$ $possr_{0\%}$ $relr_{0\%}$ $title_{0\%}$ $add_{0\%}$ $cond_{0\%}$ $agent_{0\%}$ $accom_{0\%}$ $name_{0\%}$ $quant_{0\%}$ $man_{0\%}$ $concom_{0\%}$ $appr_{0\%}$ $appa_{0\%}$ $xpl_{0\%}$
appr	50	64/71/64%	$appr_{64\%}$ $nobj_{8\%}$ $pnct_{5\%}$ $subj_{4\%}$ $attr_{3\%}$ $pobj_{3\%}$ $dobj_{3\%}$ $title_{2\%}$ $vobj_{2\%}$ $coord_{1\%}$ $appa_{1\%}$ $focal_{1\%}$ $neg_{1\%}$ $conc_{0\%}$ $numm_{0\%}$ $name_{0\%}$ $add_{0\%}$ $conj_{0\%}$ $quant_{0\%}$ $iter_{0\%}$ $time_{0\%}$ $possr_{0\%}$ $correl_{0\%}$ $preds_{0\%}$ $possd_{0\%}$
iobj	25	64/97/64%	$iobj_{64\%}$ $dobj_{20\%}$ $robj_{12\%}$ $pnct_{1\%}$ $subj_{1\%}$ $nobj_{0\%}$ $attr_{0\%}$ $possd_{0\%}$ $modp_{0\%}$
cond	40	63/80/68%	$cond_{68\%}$ $mod_{10\%}$ $nobj_{6\%}$ $time_{4\%}$ $subj_{3\%}$ $man_{3\%}$ $dobj_{1\%}$ $preds_{1\%}$ $conj_{1\%}$ $possd_{1\%}$ $numm_{1\%}$ $vobj_{1\%}$ $attr_{1\%}$ $fpredo_{1\%}$ $pnct_{0\%}$ $other_{0\%}$
avobj	38	61/88/61%	$avobj_{61\%}$ $part_{8\%}$ $other_{8\%}$ $quant_{5\%}$ $subj_{3\%}$ $conj_{3\%}$ $aobj_{3\%}$ $loc_{3\%}$ $pobj_{3\%}$ $nobj_{1\%}$ $pnct_{1\%}$ $namef_{1\%}$ $man_{1\%}$ $appa_{1\%}$ $attr_{0\%}$ $coord_{0\%}$ $numm_{0\%}$

pobj	777	60/79/61%	$\text{pobj}_{61\%}$ $\text{attr}_{8\%}$ $\text{nobj}_{8\%}$ $\text{pnct}_{2\%}$ $\text{dobj}_{2\%}$ $\text{subj}_{2\%}$ $\text{goal}_{2\%}$ $\text{vobj}_{2\%}$ $\text{other}_{2\%}$ $\text{mod}_{1\%}$ $\text{dir}_{1\%}$ $\text{coord}_{1\%}$ $\text{agent}_{1\%}$ $\text{loc}_{1\%}$ $\text{conj}_{1\%}$ $\text{preds}_{1\%}$ $\text{time}_{1\%}$ $\text{possd}_{0\%}$ $\text{source}_{0\%}$ $\text{quant}_{0\%}$ $\text{relr}_{0\%}$ $\text{inst}_{0\%}$ $\text{obl}_{0\%}$ $\text{neg}_{0\%}$ $\text{numm}_{0\%}$ $\text{man}_{0\%}$ $\text{conc}_{0\%}$ $\text{xpl}_{0\%}$ $\text{possr}_{0\%}$ $\text{namef}_{0\%}$ $\text{part}_{0\%}$ $\text{appr}_{0\%}$ $\text{appa}_{0\%}$ $\text{cause}_{0\%}$ $\text{avobj}_{0\%}$ $\text{accom}_{0\%}$ $\text{focal}_{0\%}$ $\text{name}_{0\%}$ $\text{prg}_{0\%}$ $\text{add}_{0\%}$ $\text{modp}_{0\%}$ $\text{scene}_{0\%}$ $\text{eval}_{0\%}$ $\text{expl}_{0\%}$ $\text{epi}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{qobj}_{0\%}$ $\text{exem}_{0\%}$ $\text{iter}_{0\%}$ $\text{concom}_{0\%}$ $\text{predo}_{0\%}$ $\text{title}_{0\%}$ $\text{correl}_{0\%}$
quant	208	59/80/61%	$\text{quant}_{61\%}$ $\text{mod}_{10\%}$ $\text{nobj}_{6\%}$ $\text{attr}_{4\%}$ $\text{other}_{2\%}$ $\text{man}_{2\%}$ $\text{pobj}_{2\%}$ $\text{time}_{2\%}$ $\text{eval}_{1\%}$ $\text{dobj}_{1\%}$ $\text{pnct}_{1\%}$ $\text{prg}_{1\%}$ $\text{vobj}_{1\%}$ $\text{avobj}_{1\%}$ $\text{degr}_{1\%}$ $\text{possd}_{1\%}$ $\text{modp}_{1\%}$ $\text{add}_{1\%}$ $\text{relr}_{1\%}$ $\text{elab}_{1\%}$ $\text{subj}_{1\%}$ $\text{conj}_{0\%}$ $\text{numm}_{0\%}$ $\text{coord}_{0\%}$ $\text{accom}_{0\%}$ $\text{preds}_{0\%}$ $\text{name}_{0\%}$ $\text{appa}_{0\%}$ $\text{epi}_{0\%}$ $\text{iter}_{0\%}$ $\text{appr}_{0\%}$ $\text{namef}_{0\%}$ $\text{event}_{0\%}$
attr	1409	55/74/59%	$\text{attr}_{59\%}$ $\text{nobj}_{9\%}$ $\text{mod}_{7\%}$ $\text{pobj}_{4\%}$ $\text{pnct}_{3\%}$ $\text{subj}_{2\%}$ $\text{dobj}_{2\%}$ $\text{loc}_{1\%}$ $\text{vobj}_{1\%}$ $\text{other}_{1\%}$ $\text{time}_{1\%}$ $\text{conj}_{1\%}$ $\text{coord}_{1\%}$ $\text{preds}_{1\%}$ $\text{possd}_{1\%}$ $\text{aobj}_{1\%}$ $\text{quant}_{1\%}$ $\text{focal}_{0\%}$ $\text{goal}_{0\%}$ $\text{relr}_{0\%}$ $\text{man}_{0\%}$ $\text{scene}_{0\%}$ $\text{numm}_{0\%}$ $\text{cause}_{0\%}$ $\text{name}_{0\%}$ $\text{modp}_{0\%}$ $\text{neg}_{0\%}$ $\text{accom}_{0\%}$ $\text{appa}_{0\%}$ $\text{list}_{0\%}$ $\text{predo}_{0\%}$ $\text{appr}_{0\%}$ $\text{namef}_{0\%}$ $\text{prg}_{0\%}$ $\text{conc}_{0\%}$ $\text{inst}_{0\%}$ $\text{agent}_{0\%}$ $\text{possr}_{0\%}$ $\text{iter}_{0\%}$ $\text{dir}_{0\%}$ $\text{part}_{0\%}$ $\text{title}_{0\%}$ $\text{eval}_{0\%}$ $\text{exem}_{0\%}$ $\text{source}_{0\%}$ $\text{add}_{0\%}$ $\text{concom}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{resem}_{0\%}$ $\text{contr}_{0\%}$ $\text{numa}_{0\%}$ $\text{cond}_{0\%}$ $\text{epi}_{0\%}$ $\text{iobj}_{0\%}$ $\text{qobj}_{0\%}$ $\text{avobj}_{0\%}$ $\text{event}_{0\%}$
exem	21	52/67/67%	$\text{exem}_{67\%}$ $\text{mod}_{19\%}$ $\text{subj}_{3\%}$ $\text{conj}_{2\%}$ $\text{other}_{2\%}$ $\text{attr}_{2\%}$ $\text{source}_{1\%}$ $\text{namef}_{1\%}$ $\text{nobj}_{1\%}$ $\text{dobj}_{1\%}$ $\text{goal}_{1\%}$ $\text{pobj}_{1\%}$
elab	4	50/75/50%	$\text{elab}_{50\%}$ $\text{prg}_{25\%}$ $\text{quant}_{25\%}$
appa	50	48/49/54%	$\text{appa}_{54\%}$ $\text{nobj}_{11\%}$ $\text{pnct}_{6\%}$ $\text{subj}_{5\%}$ $\text{attr}_{5\%}$ $\text{dobj}_{4\%}$ $\text{vobj}_{4\%}$ $\text{pobj}_{2\%}$ $\text{conj}_{1\%}$ $\text{coord}_{1\%}$ $\text{appr}_{1\%}$ $\text{time}_{1\%}$ $\text{namef}_{1\%}$ $\text{predo}_{1\%}$ $\text{inst}_{1\%}$ $\text{relr}_{1\%}$ $\text{avobj}_{1\%}$ $\text{man}_{1\%}$ $\text{numm}_{0\%}$ $\text{possr}_{0\%}$ $\text{quant}_{0\%}$ $\text{name}_{0\%}$ $\text{other}_{0\%}$ $\text{correl}_{0\%}$ $\text{preds}_{0\%}$ $\text{possd}_{0\%}$
time	384	47/74/51%	$\text{time}_{51\%}$ $\text{mod}_{15\%}$ $\text{nobj}_{7\%}$ $\text{attr}_{5\%}$ $\text{iter}_{3\%}$ $\text{pnct}_{3\%}$ $\text{preds}_{2\%}$ $\text{dobj}_{1\%}$ $\text{subj}_{1\%}$ $\text{coord}_{1\%}$ $\text{pobj}_{1\%}$ $\text{man}_{1\%}$ $\text{quant}_{1\%}$ $\text{cons}_{1\%}$ $\text{conj}_{1\%}$ $\text{other}_{1\%}$ $\text{possd}_{1\%}$ $\text{prg}_{1\%}$ $\text{event}_{1\%}$ $\text{tobj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{cond}_{0\%}$ $\text{loc}_{0\%}$ $\text{neg}_{0\%}$ $\text{scene}_{0\%}$ $\text{eval}_{0\%}$ $\text{cause}_{0\%}$ $\text{obl}_{0\%}$ $\text{lobj}_{0\%}$ $\text{numm}_{0\%}$ $\text{relr}_{0\%}$ $\text{possr}_{0\%}$ $\text{goal}_{0\%}$ $\text{fpredo}_{0\%}$ $\text{appa}_{0\%}$ $\text{qobj}_{0\%}$ $\text{expl}_{0\%}$ $\text{namef}_{0\%}$ $\text{part}_{0\%}$ $\text{inst}_{0\%}$ $\text{resem}_{0\%}$ $\text{name}_{0\%}$ $\text{concom}_{0\%}$ $\text{appr}_{0\%}$ $\text{add}_{0\%}$
part	33	46/70/46%	$\text{part}_{46\%}$ $\text{avobj}_{9\%}$ $\text{nobj}_{6\%}$ $\text{pobj}_{5\%}$ $\text{conj}_{4\%}$ $\text{pnct}_{4\%}$ $\text{other}_{4\%}$ $\text{attr}_{3\%}$ $\text{coord}_{3\%}$ $\text{dir}_{3\%}$ $\text{scene}_{3\%}$ $\text{vobj}_{3\%}$ $\text{preds}_{2\%}$ $\text{subj}_{1\%}$ $\text{numm}_{1\%}$ $\text{epi}_{1\%}$ $\text{man}_{1\%}$ $\text{time}_{1\%}$ $\text{namef}_{1\%}$ $\text{dobj}_{0\%}$ $\text{name}_{0\%}$
eval	62	42/86/44%	$\text{eval}_{44\%}$ $\text{mod}_{15\%}$ $\text{prg}_{13\%}$ $\text{nobj}_{5\%}$ $\text{quant}_{5\%}$ $\text{epi}_{3\%}$ $\text{other}_{3\%}$ $\text{time}_{2\%}$ $\text{focal}_{2\%}$ $\text{neg}_{2\%}$ $\text{iter}_{2\%}$ $\text{man}_{2\%}$ $\text{attr}_{1\%}$ $\text{pnct}_{1\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{0\%}$ $\text{conj}_{0\%}$ $\text{vobj}_{0\%}$ $\text{relr}_{0\%}$ $\text{namef}_{0\%}$ $\text{concom}_{0\%}$ $\text{numm}_{0\%}$
name	46	41/63/44%	$\text{name}_{44\%}$ $\text{nobj}_{25\%}$ $\text{attr}_{9\%}$ $\text{vobj}_{4\%}$ $\text{subj}_{4\%}$ $\text{dobj}_{3\%}$ $\text{conj}_{2\%}$ $\text{pnct}_{2\%}$ $\text{pobj}_{1\%}$ $\text{numm}_{1\%}$ $\text{possr}_{1\%}$ $\text{cause}_{1\%}$ $\text{iter}_{1\%}$ $\text{title}_{1\%}$ $\text{other}_{1\%}$ $\text{quant}_{0\%}$ $\text{preds}_{0\%}$ $\text{appr}_{0\%}$ $\text{relr}_{0\%}$ $\text{focal}_{0\%}$ $\text{aobj}_{0\%}$ $\text{loc}_{0\%}$ $\text{appa}_{0\%}$ $\text{time}_{0\%}$ $\text{part}_{0\%}$ $\text{possd}_{0\%}$
dir	75	40/95/40%	$\text{dir}_{40\%}$ $\text{loc}_{39\%}$ $\text{pobj}_{12\%}$ $\text{other}_{3\%}$ $\text{part}_{1\%}$ $\text{attr}_{1\%}$ $\text{dobj}_{1\%}$ $\text{man}_{1\%}$ $\text{pnct}_{1\%}$
loc	296	40/86/42%	$\text{loc}_{42\%}$ $\text{mod}_{15\%}$ $\text{dir}_{10\%}$ $\text{attr}_{7\%}$ $\text{preds}_{4\%}$ $\text{nobj}_{4\%}$ $\text{other}_{4\%}$ $\text{lobj}_{3\%}$ $\text{pobj}_{2\%}$ $\text{inst}_{1\%}$ $\text{subj}_{1\%}$ $\text{vobj}_{1\%}$ $\text{focal}_{1\%}$ $\text{scene}_{1\%}$ $\text{event}_{1\%}$ $\text{fpredo}_{1\%}$ $\text{dobj}_{1\%}$ $\text{pnct}_{1\%}$ $\text{conj}_{1\%}$ $\text{time}_{1\%}$ $\text{coord}_{0\%}$ $\text{avobj}_{0\%}$ $\text{possd}_{0\%}$ $\text{possr}_{0\%}$ $\text{numm}_{0\%}$ $\text{qobj}_{0\%}$ $\text{name}_{0\%}$ $\text{relr}_{0\%}$

correl	13	39/70/39%	correl$_{39\%}$ mod$_{15\%}$ subj$_{9\%}$ add$_{8\%}$ focal$_{8\%}$ other$_{8\%}$ nobj$_{4\%}$ pnct$_{4\%}$ dobj$_{2\%}$ conj$_{2\%}$ appr$_{1\%}$ appa$_{1\%}$ pobj$_{1\%}$
man	155	38/82/42%	man$_{42\%}$ mod$_{19\%}$ accom$_{5\%}$ nobj$_{4\%}$ attr$_{4\%}$ other$_{3\%}$ time$_{3\%}$ quant$_{3\%}$ pnct$_{2\%}$ inst$_{2\%}$ epi$_{2\%}$ fpreds$_{1\%}$ goal$_{1\%}$ vobj$_{1\%}$ pobj$_{1\%}$ subj$_{1\%}$ prg$_{1\%}$ cond$_{1\%}$ concom$_{1\%}$ fpredo$_{1\%}$ resem$_{1\%}$ source$_{1\%}$ dir$_{1\%}$ aobj$_{1\%}$ eval$_{1\%}$ scene$_{1\%}$ dobj$_{0\%}$ namef$_{0\%}$ appa$_{0\%}$ avobj$_{0\%}$ part$_{0\%}$ numm$_{0\%}$ conj$_{0\%}$ preds$_{0\%}$ modp$_{0\%}$ possr$_{0\%}$
contr	26	35/85/35%	contr$_{35\%}$ discmark$_{15\%}$ conc$_{12\%}$ scene$_{8\%}$ coord$_{8\%}$ nobj$_{6\%}$ pnct$_{5\%}$ prg$_{4\%}$ other$_{4\%}$ dobj$_{2\%}$ relr$_{1\%}$ attr$_{1\%}$ subj$_{1\%}$
cons	21	33/91/43%	cons$_{43\%}$ mod$_{33\%}$ time$_{14\%}$ inst$_{5\%}$ cause$_{5\%}$
focal	42	33/52/45%	focal$_{45\%}$ attr$_{13\%}$ other$_{8\%}$ pnct$_{6\%}$ loc$_{5\%}$ nobj$_{4\%}$ aobj$_{3\%}$ err$_{2\%}$ correl$_{2\%}$ eval$_{2\%}$ mod$_{2\%}$ pobj$_{2\%}$ subj$_{1\%}$ dobj$_{1\%}$ vobj$_{1\%}$ conj$_{1\%}$ numm$_{1\%}$ possd$_{1\%}$ appr$_{1\%}$ name$_{0\%}$ coord$_{0\%}$
agent	22	32/74/32%	agent$_{32\%}$ pobj$_{32\%}$ nobj$_{11\%}$ attr$_{5\%}$ pnct$_{5\%}$ mod$_{5\%}$ subj$_{3\%}$ dobj$_{2\%}$ conj$_{2\%}$ preds$_{1\%}$ scene$_{1\%}$ numm$_{1\%}$ title$_{1\%}$ neg$_{1\%}$ vobj$_{1\%}$
modp	32	31/41/38%	modp$_{38\%}$ nobj$_{12\%}$ attr$_{10\%}$ pnct$_{9\%}$ mod$_{6\%}$ subj$_{5\%}$ quant$_{4\%}$ dobj$_{4\%}$ possd$_{3\%}$ pobj$_{2\%}$ conj$_{2\%}$ aobj$_{2\%}$ predo$_{1\%}$ vobj$_{1\%}$ coord$_{1\%}$ relr$_{1\%}$ epi$_{1\%}$ man$_{0\%}$ iobj$_{0\%}$ prg$_{0\%}$
aobj	39	31/67/31%	aobj$_{31\%}$ nobj$_{25\%}$ attr$_{19\%}$ preds$_{5\%}$ vobj$_{4\%}$ focal$_{3\%}$ avobj$_{3\%}$ man$_{3\%}$ pnct$_{2\%}$ concom$_{1\%}$ possd$_{1\%}$ modp$_{1\%}$ dobj$_{1\%}$ possr$_{1\%}$ conj$_{0\%}$ name$_{0\%}$
relr	187	30/74/33%	rel$_{36\%}$ relr$_{33\%}$ nobj$_{7\%}$ relpa$_{6\%}$ attr$_{3\%}$ pnct$_{3\%}$ vobj$_{2\%}$ subj$_{2\%}$ pobj$_{1\%}$ relelab$_{1\%}$ possd$_{1\%}$ dobj$_{1\%}$ conj$_{1\%}$ predo$_{1\%}$ quant$_{1\%}$ time$_{1\%}$ 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$_{0\%}$
relpa	17	29/100/29%	relr$_{65\%}$ relpa$_{29\%}$ rel$_{6\%}$
epi	24	29/67/33%	epi$_{33\%}$ nobj$_{13\%}$ mod$_{13\%}$ man$_{9\%}$ other$_{8\%}$ eval$_{8\%}$ pnct$_{5\%}$ subj$_{4\%}$ relr$_{1\%}$ part$_{1\%}$ pobj$_{1\%}$ attr$_{1\%}$ quant$_{1\%}$ modp$_{1\%}$ vobj$_{1\%}$
source	14	29/79/29%	source$_{29\%}$ pobj$_{22\%}$ subj$_{11\%}$ concom$_{7\%}$ man$_{7\%}$ other$_{7\%}$ mod$_{7\%}$ attr$_{5\%}$ exem$_{2\%}$ pnct$_{1\%}$ nobj$_{1\%}$ dobj$_{1\%}$ coord$_{1\%}$
inst	37	24/77/27%	inst$_{27\%}$ mod$_{16\%}$ man$_{8\%}$ loc$_{8\%}$ pobj$_{6\%}$ predo$_{5\%}$ possd$_{4\%}$ attr$_{4\%}$ pnct$_{3\%}$ conj$_{3\%}$ concom$_{3\%}$ scene$_{3\%}$ preds$_{3\%}$ cons$_{3\%}$ nobj$_{2\%}$ coord$_{1\%}$ appa$_{1\%}$ time$_{1\%}$ subj$_{0\%}$ dobj$_{0\%}$
scene	71	24/67/26%	scene$_{26\%}$ mod$_{24\%}$ attr$_{7\%}$ subj$_{5\%}$ nobj$_{4\%}$ add$_{3\%}$ contr$_{3\%}$ goal$_{3\%}$ loc$_{3\%}$ coord$_{3\%}$ pnct$_{2\%}$ vobj$_{2\%}$ preds$_{2\%}$ time$_{2\%}$ conj$_{2\%}$ part$_{1\%}$ man$_{1\%}$ other$_{1\%}$ inst$_{1\%}$ dobj$_{1\%}$ possd$_{1\%}$ namef$_{1\%}$ neg$_{1\%}$ relr$_{1\%}$ pobj$_{0\%}$ iter$_{0\%}$ agent$_{0\%}$ event$_{0\%}$
conc	23	22/65/22%	conc$_{22\%}$ contr$_{13\%}$ mod$_{13\%}$ prg$_{9\%}$ other$_{9\%}$ pobj$_{6\%}$ nobj$_{6\%}$ conj$_{5\%}$ attr$_{5\%}$ pnct$_{4\%}$ dobj$_{3\%}$ subj$_{2\%}$ possd$_{1\%}$ appr$_{1\%}$ coord$_{1\%}$
goal	69	22/66/26%	goal$_{26\%}$ pobj$_{21\%}$ mod$_{13\%}$ nobj$_{8\%}$ attr$_{8\%}$ subj$_{4\%}$ dobj$_{3\%}$ scene$_{3\%}$ man$_{3\%}$ pnct$_{2\%}$ fpredo$_{2\%}$ other$_{2\%}$ vobj$_{1\%}$ preds$_{1\%}$ time$_{1\%}$ coord$_{1\%}$ accom$_{1\%}$ conj$_{1\%}$ numm$_{0\%}$ namef$_{0\%}$ exem$_{0\%}$

numm	59	21/31/21%	$\text{nobj}_{26\%}$ $\text{numm}_{21\%}$ $\text{pnct}_{9\%}$ $\text{attr}_{8\%}$ $\text{subj}_{5\%}$ $\text{vobj}_{5\%}$ $\text{dobj}_{3\%}$ $\text{conj}_{3\%}$ $\text{pobj}_{3\%}$ $\text{resem}_{2\%}$ $\text{preds}_{2\%}$ $\text{coord}_{2\%}$ $\text{possd}_{2\%}$ $\text{time}_{1\%}$ $\text{namef}_{1\%}$ $\text{name}_{1\%}$ $\text{quant}_{1\%}$ $\text{focal}_{1\%}$ $\text{part}_{1\%}$ $\text{loc}_{1\%}$ $\text{concom}_{1\%}$ $\text{goal}_{0\%}$ $\text{cond}_{0\%}$ $\text{man}_{0\%}$ $\text{agent}_{0\%}$ $\text{possr}_{0\%}$ $\text{other}_{0\%}$ $\text{appr}_{0\%}$ $\text{appa}_{0\%}$ $\text{qobj}_{0\%}$ $\text{relr}_{0\%}$ $\text{prg}_{0\%}$ $\text{avobj}_{0\%}$ $\text{eval}_{0\%}$ $\text{title}_{0\%}$ $\text{predo}_{0\%}$
accom	28	18/63/21%	$\text{man}_{25\%}$ $\text{accom}_{21\%}$ $\text{nobj}_{11\%}$ $\text{attr}_{9\%}$ $\text{mod}_{7\%}$ $\text{coord}_{4\%}$ $\text{pnct}_{4\%}$ $\text{other}_{4\%}$ $\text{pobj}_{4\%}$ $\text{vobj}_{2\%}$ $\text{subj}_{2\%}$ $\text{goal}_{2\%}$ $\text{quant}_{1\%}$ $\text{neg}_{1\%}$ $\text{preds}_{1\%}$ $\text{conj}_{1\%}$
discmark	32	16/91/16%	$\text{coord}_{56\%}$ $\text{discmark}_{16\%}$ $\text{contr}_{13\%}$ $\text{add}_{9\%}$ $\text{qobj}_{6\%}$
iter	28	14/62/18%	$\text{time}_{43\%}$ $\text{iter}_{18\%}$ $\text{mod}_{11\%}$ $\text{other}_{7\%}$ $\text{vobj}_{5\%}$ $\text{attr}_{4\%}$ $\text{eval}_{4\%}$ $\text{nobj}_{2\%}$ $\text{dobj}_{1\%}$ $\text{relr}_{1\%}$ $\text{cause}_{1\%}$ $\text{name}_{1\%}$ $\text{scene}_{1\%}$ $\text{pobj}_{1\%}$ $\text{coord}_{0\%}$ $\text{quant}_{0\%}$ $\text{subj}_{0\%}$ $\text{appr}_{0\%}$
other	191	14/84/14%	$\text{mod}_{26\%}$ $\text{other}_{14\%}$ $\text{attr}_{10\%}$ $\text{loc}_{6\%}$ $\text{pobj}_{6\%}$ $\text{nobj}_{4\%}$ $\text{add}_{4\%}$ $\text{prg}_{3\%}$ $\text{list}_{2\%}$ $\text{quant}_{2\%}$ $\text{man}_{2\%}$ $\text{focal}_{2\%}$ $\text{avobj}_{2\%}$ $\text{pnct}_{2\%}$ $\text{time}_{1\%}$ $\text{iter}_{1\%}$ $\text{epi}_{1\%}$ $\text{dir}_{1\%}$ $\text{eval}_{1\%}$ $\text{conc}_{1\%}$ $\text{dobj}_{1\%}$ $\text{subj}_{1\%}$ $\text{preds}_{1\%}$ $\text{goal}_{1\%}$ $\text{part}_{1\%}$ $\text{conj}_{1\%}$ $\text{err}_{1\%}$ $\text{resem}_{1\%}$ $\text{xpl}_{1\%}$ $\text{source}_{1\%}$ $\text{contr}_{1\%}$ $\text{correl}_{1\%}$ $\text{scene}_{1\%}$ $\text{accom}_{1\%}$ $\text{coord}_{0\%}$ $\text{vobj}_{0\%}$ $\text{possd}_{0\%}$ $\text{cause}_{0\%}$ $\text{exem}_{0\%}$ $\text{name}_{0\%}$ $\text{numm}_{0\%}$ $\text{cond}_{0\%}$ $\text{qobj}_{0\%}$ $\text{appa}_{0\%}$ $\text{neg}_{0\%}$
resem	15	13/31/27%	$\text{resem}_{27\%}$ $\text{mod}_{13\%}$ $\text{pnct}_{9\%}$ $\text{numm}_{8\%}$ $\text{preds}_{7\%}$ $\text{man}_{7\%}$ $\text{other}_{7\%}$ $\text{nobj}_{6\%}$ $\text{dobj}_{4\%}$ $\text{subj}_{4\%}$ $\text{attr}_{3\%}$ $\text{vobj}_{3\%}$ $\text{possr}_{2\%}$ $\text{time}_{1\%}$ $\text{qobj}_{1\%}$
robj	11	9/100/9%	$\text{dobj}_{64\%}$ $\text{iobj}_{27\%}$ $\text{robj}_{9\%}$
prg	57	7/88/7%	$\text{mod}_{39\%}$ $\text{eval}_{14\%}$ $\text{other}_{9\%}$ $\text{prg}_{7\%}$ $\text{time}_{4\%}$ $\text{quant}_{4\%}$ $\text{conc}_{4\%}$ $\text{nobj}_{3\%}$ $\text{attr}_{3\%}$ $\text{subj}_{2\%}$ $\text{add}_{2\%}$ $\text{contr}_{2\%}$ $\text{elab}_{2\%}$ $\text{man}_{2\%}$ $\text{pnct}_{1\%}$ $\text{preds}_{1\%}$ $\text{vobj}_{1\%}$ $\text{pobj}_{1\%}$ $\text{relr}_{1\%}$ $\text{conj}_{1\%}$ $\text{coord}_{0\%}$ $\text{numm}_{0\%}$ $\text{modp}_{0\%}$
predo	29	7/68/7%	$\text{preds}_{42\%}$ $\text{vobj}_{11\%}$ $\text{predo}_{7\%}$ $\text{inst}_{7\%}$ $\text{nobj}_{7\%}$ $\text{attr}_{6\%}$ $\text{dobj}_{5\%}$ $\text{pnct}_{4\%}$ $\text{relr}_{3\%}$ $\text{fpredo}_{3\%}$ $\text{conj}_{2\%}$ $\text{appa}_{1\%}$ $\text{modp}_{1\%}$ $\text{coord}_{0\%}$ $\text{pobj}_{0\%}$ $\text{subj}_{0\%}$ $\text{numm}_{0\%}$
concom	15	7/29/7%	$\text{nobj}_{25\%}$ $\text{subj}_{11\%}$ $\text{source}_{7\%}$ $\text{concom}_{7\%}$ $\text{man}_{7\%}$ $\text{inst}_{7\%}$ $\text{conj}_{6\%}$ $\text{attr}_{5\%}$ $\text{pnct}_{4\%}$ $\text{coord}_{4\%}$ $\text{vobj}_{4\%}$ $\text{aobj}_{3\%}$ $\text{relr}_{2\%}$ $\text{numm}_{2\%}$ $\text{namef}_{2\%}$ $\text{dobj}_{1\%}$ $\text{possr}_{1\%}$ $\text{eval}_{1\%}$ $\text{pobj}_{1\%}$ $\text{time}_{1\%}$ $\text{preds}_{1\%}$ $\text{possd}_{1\%}$
rel	76	4/95/4%	$\text{relr}_{88\%}$ $\text{relelab}_{5\%}$ $\text{rel}_{4\%}$ $\text{relpa}_{1\%}$ $\text{vobj}_{1\%}$
mod	433	0/93/0%	$\text{attr}_{22\%}$ $\text{time}_{13\%}$ $\text{other}_{11\%}$ $\text{loc}_{10\%}$ $\text{man}_{7\%}$ $\text{prg}_{5\%}$ $\text{quant}_{5\%}$ $\text{scene}_{4\%}$ $\text{nobj}_{3\%}$ $\text{pobj}_{2\%}$ $\text{goal}_{2\%}$ $\text{eval}_{2\%}$ $\text{cons}_{2\%}$ $\text{inst}_{1\%}$ $\text{cause}_{1\%}$ $\text{fpreds}_{1\%}$ $\text{cond}_{1\%}$ $\text{event}_{1\%}$ $\text{exem}_{1\%}$ $\text{neg}_{1\%}$ $\text{iter}_{1\%}$ $\text{epi}_{1\%}$ $\text{conc}_{1\%}$ $\text{fpredo}_{1\%}$ $\text{modp}_{1\%}$ $\text{resem}_{1\%}$ $\text{correl}_{1\%}$ $\text{accom}_{1\%}$ $\text{focal}_{0\%}$ $\text{source}_{0\%}$ $\text{agent}_{0\%}$ $\text{mod}_{0\%}$
<xpl>	2	0/100/0%	$\text{xpl}_{100\%}$
comp	1	0/0/0%	$\text{conj}_{40\%}$ $\text{nobj}_{40\%}$ $\text{subj}_{20\%}$
degr	2	0/50/0%	$\text{quant}_{100\%}$
event	10	0/70/0%	$\text{mod}_{40\%}$ $\text{time}_{20\%}$ $\text{loc}_{20\%}$ $\text{nobj}_{9\%}$ $\text{attr}_{3\%}$ $\text{conj}_{2\%}$ $\text{scene}_{2\%}$ $\text{possd}_{2\%}$ $\text{subj}_{1\%}$ $\text{pnct}_{1\%}$ $\text{quant}_{1\%}$
fpredo	13	0/46/0%	$\text{loc}_{15\%}$ $\text{mod}_{15\%}$ $\text{preds}_{10\%}$ $\text{goal}_{10\%}$ $\text{nobj}_{8\%}$ $\text{predo}_{8\%}$ $\text{man}_{8\%}$ $\text{pnct}_{7\%}$ $\text{subj}_{5\%}$ $\text{time}_{4\%}$ $\text{attr}_{3\%}$ $\text{pobj}_{3\%}$ $\text{coord}_{2\%}$ $\text{cond}_{2\%}$ $\text{conj}_{1\%}$ $\text{vobj}_{1\%}$
fpreds	10	0/80/0%	$\text{mod}_{40\%}$ $\text{man}_{20\%}$ $\text{mods}_{20\%}$ $\text{nobj}_{10\%}$ $\text{vobj}_{10\%}$
list	8	0/88/0%	$\text{other}_{50\%}$ $\text{attr}_{25\%}$ $\text{pnct}_{13\%}$ $\text{xpl}_{13\%}$
lobj	11	0/100/0%	$\text{loc}_{91\%}$ $\text{time}_{9\%}$
mods	2	0/100/0%	$\text{fpreds}_{100\%}$
obl	3	0/100/0%	$\text{pobj}_{67\%}$ $\text{time}_{33\%}$

possr	25	0/10/4%	nobj$_{28\%}$ subj$_{14\%}$ pnct$_{14\%}$ attr$_{6\%}$ pobj$_{5\%}$ possr$_{4\%}$ dobj$_{4\%}$ conj$_{3\%}$ time$_{2\%}$ vobj$_{2\%}$ preds$_{2\%}$ coord$_{2\%}$ possd$_{2\%}$ relr$_{1\%}$ aobj$_{1\%}$ neg$_{1\%}$ resem$_{1\%}$ name$_{1\%}$ loc$_{1\%}$ namef$_{1\%}$ numm$_{1\%}$ concom$_{1\%}$ appa$_{1\%}$ man$_{1\%}$ appr$_{0\%}$
relelab	6	0/100/0%	rel$_{67\%}$ relr$_{33\%}$
rep	1	0/100/0%	REP$_{100\%}$
tobj	2	0/100/0%	time$_{100\%}$

TOTAL	17047	65/81/68%	

B.2 Confusion table: semantics

R	N	A/A$_U$/A$_L$	Confusion list
recipient	7	57/100/57%	recipient$_{57\%}$ loc$_{14\%}$ patient$_{14\%}$ goal$_{14\%}$
goal	85	55/90/57%	goal$_{57\%}$ arg$_{15\%}$ func$_{6\%}$ loc$_{5\%}$ other$_{5\%}$ about$_{3\%}$ agent$_{2\%}$ patient$_{2\%}$ cause$_{1\%}$ resem$_{1\%}$ const$_{1\%}$ recipient$_{1\%}$ quant$_{1\%}$
time	31	55/69/71%	time$_{71\%}$ source$_{13\%}$ other$_{7\%}$ arg$_{7\%}$ about$_{1\%}$ patient$_{1\%}$ agent$_{1\%}$
const	51	53/92/55%	const$_{55\%}$ arg$_{20\%}$ source$_{6\%}$ form$_{4\%}$ poss$_{4\%}$ loc$_{2\%}$ func$_{2\%}$ elab$_{2\%}$ apart$_{2\%}$ class$_{2\%}$ goal$_{2\%}$
func	45	51/100/51%	func$_{51\%}$ arg$_{18\%}$ goal$_{11\%}$ loc$_{7\%}$ about$_{4\%}$ const$_{2\%}$ iden$_{2\%}$ patient$_{2\%}$ other$_{2\%}$
eval	2	50/50/50%	arg$_{50\%}$ eval$_{50\%}$
location	2	50/100/50%	loc$_{50\%}$ location$_{50\%}$
resem	2	50/100/50%	resem$_{50\%}$ goal$_{50\%}$
arg	232	47/87/50%	arg$_{50\%}$ agent$_{9\%}$ patient$_{8\%}$ goal$_{5\%}$ loc$_{5\%}$ const$_{4\%}$ about$_{4\%}$ func$_{3\%}$ source$_{3\%}$ other$_{3\%}$ poss$_{3\%}$ quant$_{1\%}$ time$_{1\%}$ eval$_{0\%}$ elab$_{0\%}$
loc	94	47/82/55%	loc$_{55\%}$ arg$_{11\%}$ source$_{7\%}$ goal$_{5\%}$ patient$_{4\%}$ func$_{3\%}$ other$_{3\%}$ poss$_{2\%}$ agent$_{2\%}$ elab$_{2\%}$ const$_{1\%}$ form$_{1\%}$ location$_{1\%}$ apart$_{1\%}$ recipient$_{1\%}$ about$_{1\%}$ quant$_{0\%}$
agent	84	45/80/50%	agent$_{50\%}$ arg$_{25\%}$ patient$_{8\%}$ experiencer$_{4\%}$ about$_{3\%}$ goal$_{2\%}$ source$_{2\%}$ loc$_{2\%}$ elab$_{2\%}$ quant$_{1\%}$ poss$_{1\%}$ time$_{0\%}$ other$_{0\%}$
patient	95	43/78/47%	patient$_{47\%}$ arg$_{20\%}$ about$_{10\%}$ agent$_{7\%}$ loc$_{4\%}$ poss$_{4\%}$ other$_{2\%}$ goal$_{2\%}$ quant$_{1\%}$ func$_{1\%}$ experiencer$_{1\%}$ recipient$_{1\%}$ time$_{0\%}$
experiencer	7	43/100/43%	experiencer$_{43\%}$ agent$_{43\%}$ patient$_{14\%}$
form	7	43/86/43%	form$_{43\%}$ const$_{29\%}$ loc$_{14\%}$ elab$_{14\%}$
apart	19	42/100/42%	quant$_{47\%}$ apart$_{42\%}$ loc$_{5\%}$ const$_{5\%}$
elab	12	42/50/50%	elab$_{50\%}$ loc$_{13\%}$ agent$_{13\%}$ const$_{8\%}$ form$_{8\%}$ arg$_{4\%}$ other$_{4\%}$
source	52	40/81/42%	source$_{42\%}$ arg$_{15\%}$ loc$_{14\%}$ time$_{8\%}$ const$_{6\%}$ other$_{6\%}$ agent$_{4\%}$ poss$_{4\%}$ quant$_{2\%}$
class	5	40/100/40%	class$_{40\%}$ other$_{40\%}$ const$_{20\%}$
poss	32	38/76/41%	poss$_{41\%}$ arg$_{18\%}$ patient$_{10\%}$ other$_{10\%}$ loc$_{6\%}$ const$_{6\%}$ source$_{6\%}$ agent$_{2\%}$
quant	27	37/82/37%	quant$_{37\%}$ apart$_{33\%}$ arg$_{7\%}$ patient$_{5\%}$ other$_{5\%}$ agent$_{4\%}$ source$_{4\%}$ goal$_{3\%}$ loc$_{2\%}$ about$_{1\%}$
about	39	33/87/33%	about$_{33\%}$ patient$_{24\%}$ arg$_{21\%}$ agent$_{6\%}$ goal$_{6\%}$ func$_{5\%}$ loc$_{3\%}$ other$_{1\%}$ quant$_{1\%}$ time$_{1\%}$

R	N	A/A$_U$/A$_L$	Confusion list
other	38	22/69/22%	other$_{22\%}$ arg$_{17\%}$ goal$_{11\%}$ poss$_{9\%}$ loc$_{8\%}$ source$_{8\%}$ time$_{6\%}$ class$_{5\%}$ patient$_{4\%}$ quant$_{3\%}$ func$_{3\%}$ elab$_{1\%}$ about$_{1\%}$ agent$_{1\%}$
cause	1	0/100/0%	goal$_{100\%}$
iden	1	0/100/0%	func$_{100\%}$
TOTAL	970	45/84/49%	

B.3 Confusion table: discourse

R	N	A/A$_U$/A$_L$	Confusion list
ANSW	1	100/100/100%	ANSW$_{100\%}$
SCENE	11	91/91/100%	SCENE$_{100\%}$
AGENTIVE:expl	9	67/100/67%	AGENTIVE:expl$_{67\%}$ CONTR$_{11\%}$ AGENTIVE:reas$_{11\%}$ CONST:rest$_{11\%}$
CONJ:seq	13	62/92/69%	CONJ:seq$_{69\%}$ CONJ:add$_{15\%}$ CONJ:elab$_{8\%}$ DIREC$_{8\%}$
COND	1	50/50/50%	conj$_{50\%}$ COND$_{50\%}$
CONST:exem	12	50/92/58%	CONST:exem$_{58\%}$ CONST:apart$_{17\%}$ JOINT$_{8\%}$ CONST:rest$_{8\%}$ CONC$_{8\%}$
CONTR:sbj	6	44/61/44%	CONTR:sbj$_{44\%}$ conj$_{22\%}$ CONTR:prg$_{17\%}$ CONJ:add$_{17\%}$
CONJ:add	103	44/65/55%	CONJ:add$_{55\%}$ CONJ:elab$_{15\%}$ conj$_{7\%}$ JOINT$_{6\%}$ AGENTIVE:sbj$_{3\%}$ CONC$_{3\%}$ CONJ:seq$_{2\%}$ TELIC:cons.sbj$_{2\%}$ CONST:apart$_{2\%}$ CONTR:dir$_{1\%}$ CONJ$_{1\%}$ CONTR:prg$_{1\%}$ CONTR:sbj$_{1\%}$ DISJ:dir$_{1\%}$ vobj$_{1\%}$
CONC	16	44/63/44%	CONC$_{44\%}$ CONJ:add$_{19\%}$ CONJ:elab$_{6\%}$ FORMAL:eval$_{6\%}$ subj$_{6\%}$ CONJ$_{6\%}$ CONST:exem$_{6\%}$ conj$_{3\%}$ CONTR:prg$_{3\%}$
TELIC:cons.dir	10	43/58/63%	TELIC:cons.dir$_{63\%}$ AGENTIVE:reas$_{10\%}$ CONTR:dir$_{10\%}$ conj$_{7\%}$ CONJ:elab$_{5\%}$ qobj$_{5\%}$
TELIC:cons.sbj	11	36/73/36%	TELIC:cons.sbj$_{36\%}$ CONJ:add$_{18\%}$ CONJ:elab$_{18\%}$ CONST:rest$_{18\%}$ CONTR:dir$_{9\%}$
AGENTIVE:reas	9	33/78/33%	AGENTIVE:reas$_{33\%}$ AGENTIVE:sbj$_{33\%}$ CONJ:elab$_{11\%}$ AGENTIVE:expl$_{11\%}$ TELIC:cons.dir$_{11\%}$
FORMAL:descr	3	33/67/33%	CONJ:elab$_{67\%}$ FORMAL:descr$_{33\%}$
CONJ:elab	76	30/53/46%	CONJ:elab$_{46\%}$ CONJ:add$_{20\%}$ FORMAL:eval$_{5\%}$ CONST:apart$_{4\%}$ FORMAL:descr$_{3\%}$ TELIC:cons.sbj$_{3\%}$ CONST:rest$_{3\%}$ CONST:elab$_{3\%}$ subj$_{3\%}$ DIREC$_{3\%}$ CONJ:seq$_{1\%}$ CONTR:prg$_{1\%}$ CONC$_{1\%}$ AGENTIVE:sbj$_{1\%}$ CONJ$_{1\%}$ AGENTIVE:reas$_{1\%}$ qobj$_{1\%}$ TELIC:cons.dir$_{1\%}$
FORMAL:eval	8	25/50/38%	CONJ:elab$_{50\%}$ FORMAL:eval$_{38\%}$ CONC$_{13\%}$
CONTR:dir	12	19/36/36%	CONTR:dir$_{36\%}$ conj$_{24\%}$ CONTR:prg$_{13\%}$ CONJ:add$_{11\%}$ TELIC:cons.sbj$_{8\%}$ TELIC:cons.dir$_{8\%}$
CONST:apart	11	18/55/27%	CONJ:elab$_{27\%}$ CONST:apart$_{27\%}$ CONJ:add$_{18\%}$ CONST:exem$_{18\%}$ nobj$_{9\%}$
CONST:rest	10	15/65/18%	CONJ:elab$_{20\%}$ TELIC:cons.sbj$_{20\%}$ CONST:rest$_{18\%}$ CONST:elab$_{10\%}$ AGENTIVE:expl$_{10\%}$ CONST:exem$_{10\%}$ conj$_{7\%}$ qobj$_{5\%}$
JOINT	8	13/50/13%	CONJ:add$_{75\%}$ JOINT$_{13\%}$ CONST:exem$_{13\%}$
AGENTIVE:sbj	9	0/78/0%	CONJ:add$_{33\%}$ AGENTIVE:reas$_{33\%}$ CONSOL:source$_{22\%}$ CONJ:elab$_{11\%}$
CONJ	3	0/33/0%	CONJ:add$_{33\%}$ CONJ:elab$_{33\%}$ CONC$_{33\%}$

CONSOL:source	2	0/100/0%	AGENTIVE:sbj$_{100\%}$
CONST:elab	3	0/100/0%	CONJ:elab$_{67\%}$ CONST:rest$_{33\%}$
CONTR	1	0/100/0%	AGENTIVE:expl$_{100\%}$
CONTR:prg	7	0/14/0%	conj$_{29\%}$ CONTR:dir$_{21\%}$ CONTR:sbj$_{14\%}$ CONJ:add$_{14\%}$ CONJ:elab$_{14\%}$ CONC$_{7\%}$
DIREC	3	0/67/0%	CONJ:elab$_{67\%}$ CONJ:seq$_{33\%}$
DISJ:dir	1	0/100/0%	CONJ:add$_{100\%}$
TOTAL	359	36/64/46%	

B.4 Confusion table: anaphora

R	N	A/A$_U$/A$_L$	Confusion list
assoc-event	3	100/100/100%	assoc-event$_{100\%}$
assoc-formal	1	100/100/100%	assoc-formal$_{100\%}$
assoc-loc	5	100/100/100%	assoc-loc$_{100\%}$
ref	63	100/100/100%	ref$_{100\%}$
coref	141	84/85/92%	coref$_{92\%}$ coref-var$_{4\%}$ coref-iden$_{2\%}$ coref-res$_{1\%}$ assoc$_{1\%}$ assoc-const$_{0\%}$
coref-iden	52	77/83/81%	coref-iden$_{81\%}$ coref-var$_{10\%}$ coref$_{3\%}$ assoc-const$_{2\%}$ coref-res$_{2\%}$ coref coref-iden$_{2\%}$
assoc-telic	24	71/88/83%	assoc-telic$_{83\%}$ assoc-const$_{8\%}$ coref-res$_{4\%}$ assoc-agentive$_{4\%}$
coref-var	97	71/79/79%	coref-var$_{79\%}$ coref$_{6\%}$ coref-iden$_{6\%}$ assoc-const$_{4\%}$ coref-res$_{3\%}$ coref-evol$_{1\%}$ assoc$_{1\%}$
coref-res	25	65/73/72%	coref-res$_{72\%}$ coref-var$_{12\%}$ assoc-telic$_{4\%}$ coref-iden$_{4\%}$ coref$_{4\%}$ coref-res.prg$_{4\%}$
assoc-const	39	59/77/67%	assoc-const$_{67\%}$ coref-var$_{10\%}$ assoc$_{10\%}$ assoc-telic$_{5\%}$ coref-iden$_{3\%}$ coref$_{3\%}$ assoc-agentive$_{3\%}$
assoc	9	39/83/39%	assoc-const$_{44\%}$ assoc$_{39\%}$ coref-var$_{11\%}$ coref$_{6\%}$
assoc-agentive	4	25/50/50%	assoc-agentive$_{50\%}$ assoc-telic$_{25\%}$ assoc-const$_{25\%}$
coref coref-iden	1	0/100/0%	coref-iden$_{100\%}$
coref-evol	1	0/100/0%	coref-var$_{100\%}$
coref-res.prg	1	0/0/0%	coref-res$_{100\%}$
TOTAL	466	77/84/84%	

B.5 Confusion table: morphology

R	N	A/A$_U$/A$_L$	Confusion list
DERan:qual	2	100/100/100%	DERan:qual$_{100\%}$
TIME:pre	1	100/100/100%	TIME:pre$_{100\%}$
DERva:act	5	80/100/80%	DERva:act$_{80\%}$ −$_{20\%}$
DERav	4	75/100/75%	DERav$_{75\%}$ −$_{25\%}$
NEG:contr	3	67/100/67%	NEG:contr$_{67\%}$ NEG:priv$_{33\%}$
DER:aa	2	50/100/50%	−$_{50\%}$ DER:aa$_{50\%}$
DERna:disp	2	50/100/50%	DERna:disp$_{50\%}$ DERna:rel$_{50\%}$
DERvn:core	42	50/100/50%	DERvn:core$_{50\%}$ −$_{31\%}$ DERvn:patient$_{14\%}$ DERnv$_{2\%}$ TELIC DERvn:patient$_{2\%}$

MOD:qual	6	50/100/50%	$\text{MOD:qual}_{50\%}$ $\text{const}_{17\%}$ $\text{loc}_{17\%}$ $\text{MOD:quant}_{17\%}$
MOD:quant	4	50/100/50%	$\text{MOD:quant}_{50\%}$ $\text{MOD:qual}_{25\%}$ $\text{QUANT}_{25\%}$
DERnn:agent	7	43/100/43%	$-_{43\%}$ $\text{DERnn:agent}_{43\%}$ $\text{DERna:rel.deono.loc}_{14\%}$
DERva:pas.part	8	38/100/38%	$-_{50\%}$ $\text{DERva:pas.part}_{38\%}$ $\text{DERnv}_{13\%}$
DERnv	12	33/100/33%	$-_{50\%}$ $\text{DERnv}_{33\%}$ $\text{DERva:pas.part}_{8\%}$ $\text{DERvn:core}_{8\%}$
DERvn:agent	9	33/100/33%	$-_{67\%}$ $\text{DERvn:agent}_{33\%}$
LOC:dir	3	33/100/33%	$-_{33\%}$ $\text{TELIC}_{33\%}$ $\text{LOC:dir}_{33\%}$
TELIC	12	25/100/25%	$-_{58\%}$ $\text{TELIC}_{25\%}$ $\text{TRANS}_{8\%}$ $\text{LOC:dir}_{8\%}$
about	4	25/100/25%	$\text{ABOUT}_{75\%}$ $\text{about}_{25\%}$
TRANS	5	20/100/20%	$-_{60\%}$ $\text{TRANS}_{20\%}$ $\text{TELIC}_{20\%}$
DERvn:patient	8	13/100/13%	$\text{DERvn:core}_{75\%}$ $-_{13\%}$ $\text{DERvn:patient}_{13\%}$
func	19	11/100/11%	$\text{GOAL}_{68\%}$ $-_{11\%}$ $\text{func}_{11\%}$ $\text{QUANT}_{5\%}$ $\text{ABOUT}_{5\%}$
–	81	0/100/0%	$\text{DERvn:core}_{16\%}$ $\text{TELIC}_{9\%}$ $\text{DERvn:agent}_{7\%}$ $\text{DERnv}_{7\%}$ $\text{DERna:rel.norm}_{6\%}$ $\text{DERva:pas.part}_{5\%}$ $\text{TRANS}_{4\%}$ $\text{DERnn:agent}_{4\%}$ $\text{DERna:rel}_{4\%}$ $\text{const}_{3\%}$ func $\text{DERvn:core}_{3\%}$ $\text{ABOUT}_{3\%}$ $\text{SPACE:loc}_{3\%}$ $\text{func}_{3\%}$ DERvn:agent $\text{LOC:loc}_{1\%}$ $\text{DERaa}_{1\%}$ $\text{DERva:act}_{1\%}$ $\text{iden}_{1\%}$ $\text{DERvn:patient}_{1\%}$ $\text{LOC:dir}_{1\%}$ DERvn:core $\text{LOC:dir}_{1\%}$ $\text{DERva:act.epi}_{1\%}$ $\text{SPACE:dir}_{1\%}$ $\text{DERav}_{1\%}$ $\text{SOURCE}_{1\%}$ DERnv TELIC $\text{DERvn:core}_{1\%}$ func $\text{func}_{1\%}$ $\text{DERva:pas.epi}_{1\%}$ $\text{DER:aa}_{1\%}$ $\text{DERvn:other}_{1\%}$ DERvn:patient func $\text{DERvn:agent}_{1\%}$ $\text{ARG}_{1\%}$ $\text{DERna:rel.deono.loc}_{1\%}$ DERan:qual $\text{ARG}_{1\%}$ DERvn:core $\text{LOC:loc}_{1\%}$
ABOUT	10	0/100/0%	$\text{about}_{30\%}$ $-_{20\%}$ $\text{arg}_{20\%}$ DERvn:agent $\text{dobj.patient}_{10\%}$ $\text{func}_{10\%}$ func arg $\text{DERvn:patient}_{10\%}$
AGENT	1	0/100/0%	$\text{agent}_{100\%}$
AGENT:MC	1	0/100/0%	$\text{agent}_{100\%}$
ARG	5	0/100/0%	$\text{arg}_{80\%}$ $-_{20\%}$
CONST	2	0/100/0%	$\text{const}_{100\%}$
DERaa	1	0/100/0%	$-_{100\%}$
DERan:qual ARG	1	0/100/0%	$-_{100\%}$
DERna:rel	4	0/100/0%	$-_{75\%}$ $\text{DERna:disp}_{25\%}$
DERna:rel.deono.loc	2	0/100/0%	$-_{50\%}$ $\text{DERnn:agent}_{50\%}$
DERna:rel.norm	5	0/100/0%	$-_{100\%}$
DERna:rel.norm DENOM:rel.place	1	0/100/0%	DERnn:assoc $\text{DERna:rel}_{100\%}$
DERnn:agent func	1	0/100/0%	$\text{GOAL}_{100\%}$
DERnn:assoc DERna:rel	1	0/100/0%	DERna:rel.norm $\text{DENOM:rel.place}_{100\%}$
DERnv TELIC DERvn:core	1	0/100/0%	$-_{100\%}$
DERva:act.epi	1	0/100/0%	$-_{100\%}$
DERva:pas.epi	1	0/100/0%	$-_{100\%}$
DERvn:agent LOC:loc	1	0/100/0%	$-_{100\%}$
DERvn:agent dobj.patient	1	0/100/0%	$\text{ABOUT}_{100\%}$
DERvn:core LOC:dir	1	0/100/0%	$-_{100\%}$

DERvn:core	1	0/100/0%	$-_{100\%}$
LOC:loc			
DERvn:core agent	1	0/100/0%	GOAL$_{100\%}$
DERvn:core arg	1	0/100/0%	GOAL$_{100\%}$
DERvn:core eval	1	0/100/0%	MOD:eval$_{100\%}$
DERvn:other	1	0/100/0%	$-_{100\%}$
DERvn:patient	1	0/100/0%	$-_{100\%}$
func DERvn:agent			
DOBJ.patient	1	0/100/0%	dobj.patient$_{100\%}$
FUNC	1	0/100/0%	iden$_{100\%}$
GOAL	19	0/100/0%	func$_{68\%}$ iden$_{11\%}$ DERvn:core agent$_{5\%}$ DERnn:agent func$_{5\%}$ const$_{5\%}$ DERvn:core arg$_{5\%}$
GOAL SOURCE	1	0/100/0%	MOD:qual arg$_{100\%}$
LOC	2	0/100/0%	loc$_{100\%}$
MOD:eval	1	0/100/0%	DERvn:core eval$_{100\%}$
MOD:qual arg	1	0/100/0%	GOAL SOURCE$_{100\%}$
NEG:priv	1	0/100/0%	NEG:contr$_{100\%}$
QUANT	2	0/100/0%	func$_{50\%}$ MOD:quant$_{50\%}$
SOURCE	1	0/100/0%	$-_{100\%}$
SPACE:dir	1	0/100/0%	$-_{100\%}$
SPACE:loc	2	0/100/0%	$-_{100\%}$
SUBJ.agent	4	0/100/0%	subj.agent$_{100\%}$
TELIC	1	0/100/0%	DERvn:core$_{100\%}$
DERvn:patient			
TIME:MC	2	0/100/0%	time$_{100\%}$
agent	2	0/100/0%	AGENT:MC$_{50\%}$ AGENT$_{50\%}$
arg	6	0/100/0%	ARG$_{67\%}$ ABOUT$_{33\%}$
const	6	0/100/0%	$-_{33\%}$ CONST$_{33\%}$ MOD:qual$_{17\%}$ GOAL$_{17\%}$
dobj.patient	1	0/100/0%	DOBJ.patient$_{100\%}$
func DERvn:core	2	0/100/0%	$-_{100\%}$
func arg	1	0/100/0%	ABOUT$_{100\%}$
DERvn:patient			
func func	1	0/100/0%	$-_{100\%}$
iden	4	0/100/0%	GOAL$_{50\%}$ $-_{25\%}$ FUNC$_{25\%}$
loc	3	0/100/0%	LOC$_{67\%}$ MOD:qual$_{33\%}$
subj.agent	4	0/100/0%	SUBJ.agent$_{100\%}$
time	2	0/100/0%	TIME:MC$_{100\%}$

TOTAL	358	17/100/17%

B.6 Confusion table: alignment

R	N	A/A$_U$/A$_L$	Confusion list
TOTAL	0	0/0/0%	

Appendix C

Annotation status

C.1 All texts

	alignment	discourse	morphology	postag	status	syntax
none	950	2038	2162		911	
auto				1774	65	
outdated-final	536				824	
first	45	79	103	1	1	132
discussed	132	194	1		94	
final	112		54	536	297	

C.2 da texts

	discourse	morphology	postag	syntax
none	421	463		
auto				
outdated-final				453
first	29	61	1	8
discussed	86	1		7
final		11	535	68

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	65
outdated-final				371

first	40		30
discussed			1
final		1	69

C.5 es texts

	discourse	morphology	postag	syntax
none	386	341		341
auto			413	
outdated-final				
first	2	30		
discussed	25			1
final		42		71

C.6 it texts

	discourse	morphology	postag	syntax
none	330	411		244
auto			412	
outdated-final				
first		5		38
discussed	83			77
final			1	57

C.7 da-de texts

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

C.8 da-en texts

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

C.9 da-es texts

	alignment	morphology	syntax
none	331		

	alignment	morphology	status	syntax
auto				
outdated-final				
first			2	
discussed	39			
final	43			2

C.10 da-it texts

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

Appendix D

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