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
```

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

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

Subtypes: CDT1 DIM RULE.

CDT1
isa ANY
[418]
Deprecated CDT1 relations. Deprecated relations from the CDT1+2 treebanks.

Subtypes: CDT1ADJ CDT1COMP CDT1GAP.

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

Subtypes: DIM:LEVEL DIM:TYPE.

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

Subtypes: ALIGN ANA DISC MORPH ONTO SEM SYN.

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

Subtypes: FEAT REL.

RULE
isa ANY
[4]

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

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

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

2.1 Linguistic level dimension: DIM:LEVEL

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

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

DIM:LEVEL
isa DIM
[8]

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

Subtypes: ALIGN ANA DISC MORPH ONTO SEM SYN.

ALIGN
isa DIM:LEVEL
[15]

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

Subtypes: ALIGNREL.

ANA
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.

ONTO
isa DIM:LEVEL
[13]

Ontology level (long: ONTOLOGY). The ontological level includes relations between lexical elements construed as ontological units, as well as lexical features associated with ontological units.

Subtypes: ONTOCLASS.

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

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

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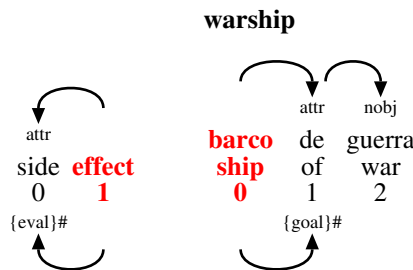
Subtypes: ALIGNREL ANAREL IDIOM LAND PRIM SEC SEMREL.

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

Subtypes: RuleIdiom.
Related types: +.
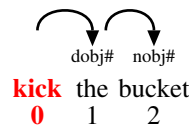
dobj# nobj#
kick the bucket
0 1 2

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
[397] used with semantic relations, not with syntactic relations.

warship

attr nobj
attr **barco** de guerra
side **effect** **ship** of war
0 **1** **0** 1 2
{eval}# {goal}#

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] annotated explicitly in the CDT treebanks, but play an important role in the underlying lin-
guistic 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]
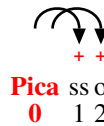
Adjunct relation (long: ADJUNCT). A primary adjunct relation. The relation is licensed by the adjunct, ie, the lexical entry of the adjunct specifies the adjunct relations licensed by the adjunct, along with the associated semantic interpretation mechanisms and selectional restrictions on the licensed 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
isa COMP RULE
[394]

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

Related types: cont dir dur ext hab loc prec succ time.
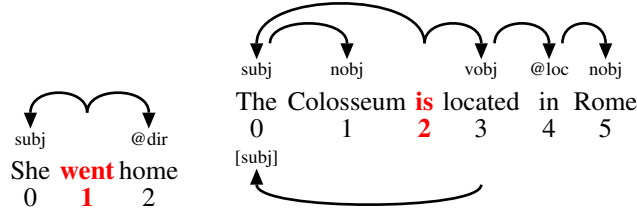
SEC *Secondary dependency relation* (long: SECONDARY). A secondary dependency relation. Intu-
isa REL itively, if a node functions as a dependent of more than one word (eg, in verbal chains, raising
[24] and control constructions, relatives, and elliptic coordinations), the dependency relation that
determines 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.
[392] Related types: SEC.
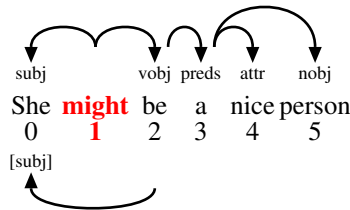
repl *Replacement in gapping coordination.* A relation that encodes a constituent in the first con-
isa SEC junct replaced by a gapping dependent. The relation goes from the head of the replaced
[34] constituent to the head of the gapping dependent. The extraction path for the gapping de-
pendent is 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-!CDT1-TOPIC.

SYN
isa DIM:LEVEL
[10]

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

Subtypes: SYNADJ SYNCOMP.

SYNADJ
isa ADJ SYN
[105]

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

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

SYNCOMP
isa COMP SYN
[77]

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

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

3.1 Complement relations: **SYNCOMP**

SYNCOMP
isa COMP SYN
[77]

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

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

@space
isa SYNCOMP
[86]

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

Related types: dir loc.

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

Figure 3.2: The relations matching SYNCOMP-!CDT1-TOPIC.
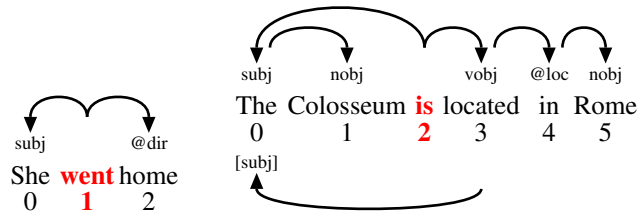
@time *Valency-bound time adverbial* (deprecated tobj). A valency bound time expression. Formerly
isa SYNCOMP analyzed as temporal object "tobj", but we have decided to provide a general mechanism (@)
[102] for converting adverbial relations into valency-bound relations instead.
    Related types: cont dur ext hab prec succ.
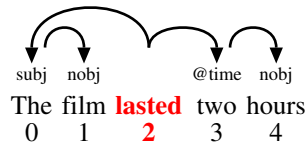
avobj *Adverbial object.*
isa SYNCOMP Related types: aobj part.
[94] $\text{Confusion}^{34}_{67.6\%/97.1\%/67.6\%\%}$: avobj$_{67.6\%}$ other$_{11.8\%}$ part$_{5.9\%}$ quant$_{5.9\%}$ aobj$_{2.9\%}$ loc$_{2.9\%}$ pobj$_{2.9\%}$.

11
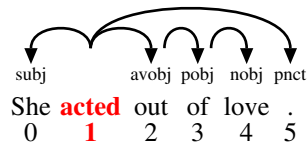
dobj *Direct object.* A direct object relation. In languages with case, the direct object is typically
isa SYNCOMP accusative-marked.
[82] Related types: iobj robj.

Confusion$_{93.8\%/98.3\%/94.5\%\%}^{726}$: dobj$_{94.5\%}$ nobj$_{1.7\%}$ pobj$_{1\%}$ robj$_{0.8\%}$ iobj$_{0.7\%}$ preds$_{0.3\%}$ goal$_{0.3\%}$ pnct$_{0.3\%}$ predo$_{0.1\%}$ dir$_{0.1\%}$ quant$_{0.1\%}$ vobj$_{0.1\%}$.
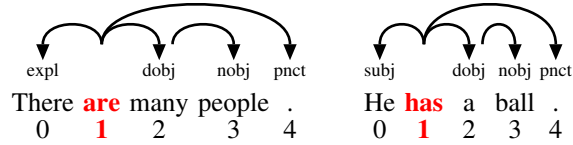
fobj *Filler object.* Filler objects are never annotated explicitly in the CDT annotation. In Discon-
isa SYNCOMP tinuous Grammar, a "filler" is a phonetically empty constituent which is licensed lexically
[95] by a "filler licensor" lexeme (eg, the relative verb in a relative construction acts as filler 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.
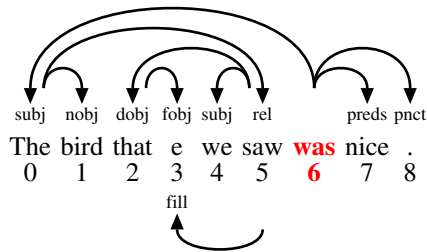
gobj *Genitive object.* If the genitve object is part of a NP with a deverbal nucleus, the following an-
isa SYNCOMP notation possibilities are available: gobj.subj{SEMROLE} gobj.dobj{SEMROLE} gobj.pobj{SEMROLE}
[84] gobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipi-
encer, experient, location.

Related types: SEMROLE attrg.
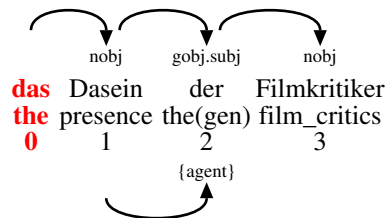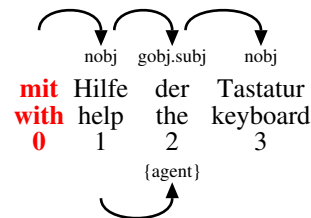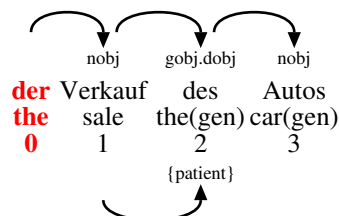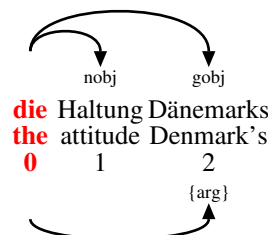
iobj *Indirect object.*

isa SYNCOMP Related types: dobj.

[85] $\text{Confusion}^{24}_{70.8\%/100\%/70.8\%\%}$: $\text{iobj}_{70.8\%}$ $\text{dobj}_{20.8\%}$ $\text{robj}_{8.3\%}$.

He **gave** her a kiss
0 **1** 2 3 4
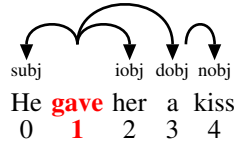
nobj *Nominal object.* If the nominal object is part of a NP with a deverbal nucleus, the following

isa SYNCOMP annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE} nobj.pobj{SEMROLE}

[92] nobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.

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

They joined the party.
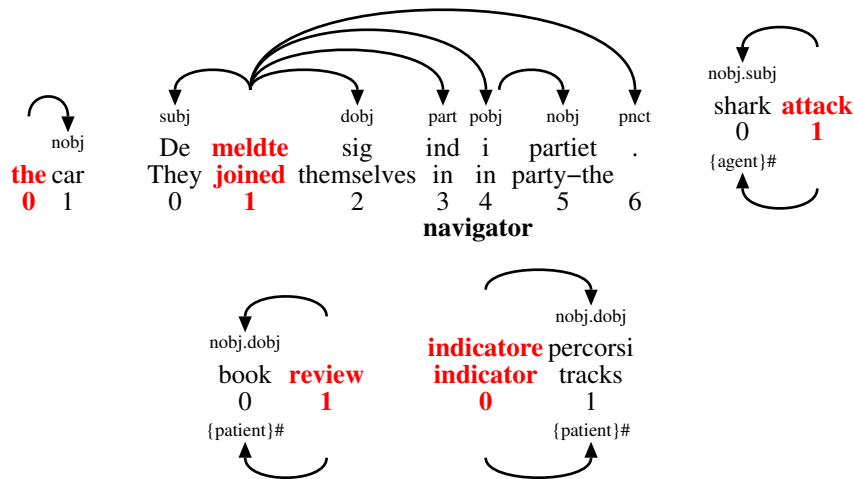
numa *Additive numeral complement.* An additive numeral complement relation. Numerals license

isa SYNCOMP one additive and one numeral complement, both optional. The numerical value associated

[96] with the expression is the value M * N + A, where M is the numerical value of the multiplicative complement, A is the numerical value of the additive complement, and N is the numerical value associated with the lexical numeral itself. Eg, "two hundred four" has value "2 * 100 + 4", "two hundred four thousand" has value "(2 * 100 + 4) * 1000", and "two hundred four thousand and twenty three" has value "(2 * 100 + 4) * 1000 + (20 + (3))".

Related types: numm.

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

13
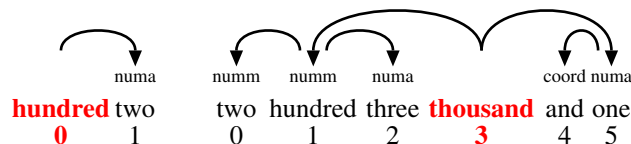
numm *Multiplicative numeral complement.* An multiplicative numeral complement relation. Nu-
isa SYNCOMP merals license one additive and one numeral complement, both optional. The numerical value
[97] associated with the expression is the value M * N + A, where M is the numerical value of the
multiplicative 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$_{100\%/100\%/100\%\%}^{12}$: numm$_{100\%}$.
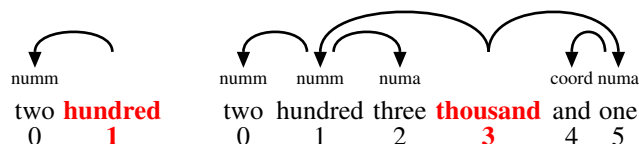
part *Verbal particle.* Verbal particle.
isa SYNCOMP Related types: avobj.
[98] Confusion$_{78.9\%/100\%/78.9\%\%}^{19}$: part$_{78.9\%}$ avobj$_{10.5\%}$ other$_{5.3\%}$ dir$_{5.3\%}$.

the fair two years ago
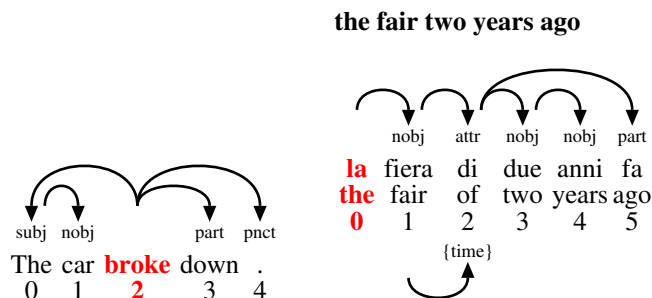
pobj *Prepositional object.* A prepositional object relation. The governor may be a verb, noun,
isa SYNCOMP adjective, adverbial, or another preposition. The preposition is analyzed as the head of the
[83] prepositional object itself. If the prepositional object is part of a deverbal NP (ie, an NP where
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", "experiencer",
"location").

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

meeting of ministers

the discovering of the gold

nobj	pobj.dobj	nobj
el descubrimiento	del	oro
the discovering	of–the	gold
0	1	2	3

{patient}

sale to minors

pobj.iobj	nobj
salg til	mindreårige
sale to	minors
0	1	2

{recipient}
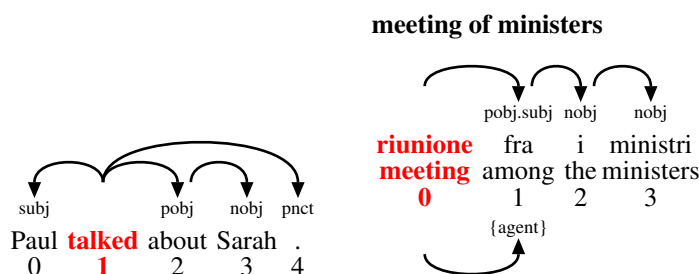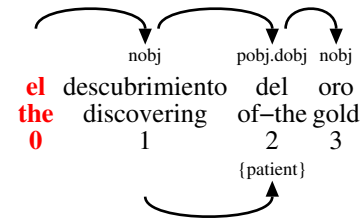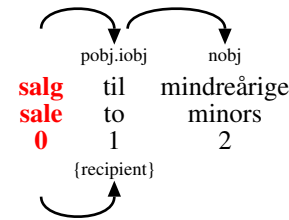
possd *Possessed complement.* The possessed complement in a possessive construction. Possession
isa SYNCOMP is understood in a syntactic sense as any construction with a clitic genitive marker, not nec-
[99] essarily as possession in a narrow semantic sense. A better name may be chosen for this
relation in the future.

Related types: "{"$PRIM"}" SEMROLE poss possr.
Confusion$_{95.6\%/96.5\%/98.1\%\%}^{240}$: possd$_{98.1\%}$ nobj$_{1.3\%}$ attr$_{0.4\%}$ pnct$_{0.2\%}$.

possd
my mother
0 1

{arg}

possd
Allan's car
0 1

{poss}

possd
bestyrelsens beslutning
the–board's decision
0 1

[subj]
{agent}

my car

nobj	possd
la mia	macchina
the my	car
0 1	2

{poss}

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.

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

predo *Object predicative.*
isa pred Related types: preds.
[89] Confusion$_{9.5\%/85.7\%/9.5\%\%}^{21}$: preds$_{57.1\%}$ inst$_{9.5\%}$ predo$_{9.5\%}$ vobj$_{9.5\%}$ attr$_{4.8\%}$ fpredo$_{4.8\%}$ dobj$_{4.8\%}$.
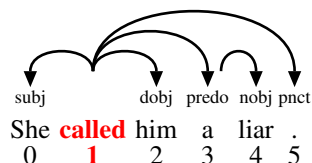
subj		dobj	predo	nobj	pnct
She	**called**	him	a	liar	.
0	**1**	2	3	4	5

preds *Subject predicative.*

isa pred Related types: predo.

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

<div align="center">

subj   nobj   preds   pnct

The house **is** green .
0   1   **2**   3   4

</div>
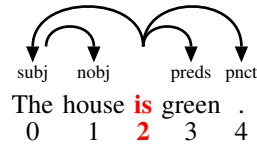
qobj *Quotational object.* A phrase or discourse segment functioning as directly quoted speech,

isa SYNCOMP typically by an attribution verb. Indirect speech is analyzed as "dobj" or "nobj".

[101] Related types: xpl.

Confusion$_{75\%/75\%/75\%\%}^{70}$: qobj$_{75\%}$ conj$_{7.1\%}$ coord$_{7.1\%}$ discmark$_{2.9\%}$ CONJ:add$_{2.1\%}$ TELIC:goal$_{1.4\%}$ CONJ:elab$_{1.4\%}$ CONST:rest$_{1.4\%}$ AGENTIVE:reas$_{1.4\%}$.

<div align="center">

pnct   subj   qobj   neg   vobj   dobj   time   pnct   pnct   subj   pnct

"   I   do   not   love   you   anymore   "   ,   she **said** .
0   1   2   3   4   5   6   7   8   9   **10**   11

[subj]

</div>
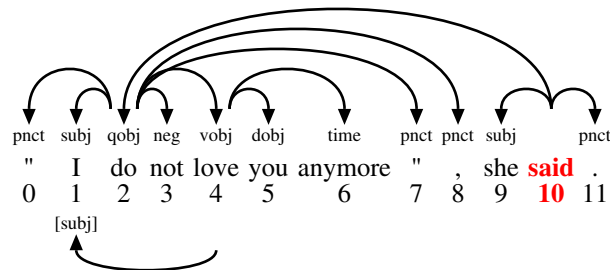
robj *Reflexive object.*

isa SYNCOMP Related types: dobj.

[91] Confusion$_{11.1\%/100\%/11.1\%\%}^{9}$: dobj$_{66.7\%}$ iobj$_{22.2\%}$ robj$_{11.1\%}$.

<div align="center">

He decided to walk.

subj   robj   pobj   nobj   vobj   pnct

Han **besluttede**   sig   for   at   gå   .
He   **decided**   himself   to   to   walk
0   **1**   2   3   4   5   6

[subj]

</div>
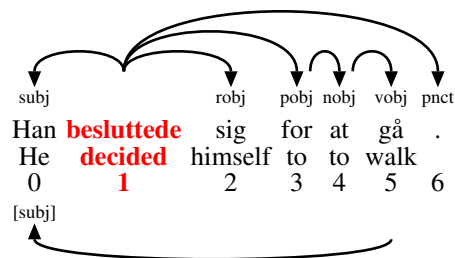
subj *Subject.* A subject relation. In languages with case, subjects are usually nominative-marked.

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

[80]

Subtypes: expl.
Related types: expl.
Confusion$_{98.5\%/99.3\%/98.7\%\%}^{1172}$: subj$_{98.7\%}$ nobj$_{0.4\%}$ expl$_{0.4\%}$ preds$_{0.2\%}$ attr$_{0.1\%}$ appr$_{0.1\%}$ correl$_{0.1\%}$ CONJ:elab$_{0\%}$.

<div align="center">

subj   dobj   pnct

We **like** them .
0   **1**   2   3

</div>
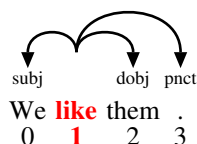
expl *Expletive subject.* An expletive subject relation. The expletive subject is typically a situational
isa subj place adverbial like "there" or time adverbial like "now", and is only possible for verbs that
[81] support the expletive alternation. The expletive alternation applies to all verbs that 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$_{91.7\%/100\%/91.7\%\%}^{60}$: expl$_{91.7\%}$ subj$_{8.3\%}$.

There **are** many people .
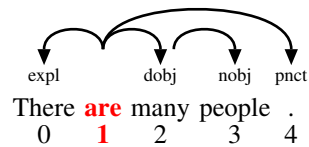
vobj *Verbal object.*
isa SYNCOMP Related types: "["\$PRIM"]".
[90] Confusion$_{91.6\%/98.5\%/92.6\%\%}^{895}$: vobj$_{92.6\%}$ preds$_{5.3\%}$ nobj$_{0.8\%}$ pnct$_{0.3\%}$ relr$_{0.2\%}$ predo$_{0.2\%}$ rel$_{0.1\%}$ conj$_{0.1\%}$ TIME:post$_{0.1\%}$
dobj$_{0.1\%}$ fpreds$_{0.1\%}$.

We **must** go now .
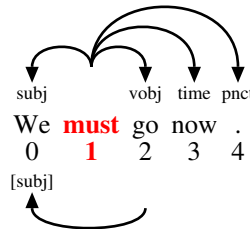
3.2 Non-adverbial adjunct relations: SYNADJ

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: ATTRIBUTION BACKGROUND CAUSE COMMENT COMPARISON CONDITION CONTRAST ELAB-
ORATION ENABLEMENT EVALUATION EXPLANATION MANNER MEANS SUMMARY TEMPORAL TOPIC
agent attribution background cause comment comparison conc concom cond condition cons contrast elaboration
enablement evaluation event exem explanation joint man manner means neg other prg quant resem source space
summary temporal time topic.

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
[117]

17

SYNADJ: syntactic adjunct
    ADVERB: adverbial
    app: apposition
        appa: parenthetic apposition (comma)
            xpl: explication
        appr: restrictive apposition (no comma)
    attrg: genitive attributive
    conj: conjunct relation
    coord: coordinator relation
    correl: correlative coordinator relation
    fpred: free predicative
        fpredo: free direct-object predicative
        fpreds: free subject predicative
    gapd: gapping dependent
        RuleGap: gapping dependent
    name: part of name
        namef: first name
        namel: last name
        title: person title
    pnct: punctuation
    rel: relative clause
        relelab: elaborating relative clause
        relpa: parenthetic relative clause
        relr: restrictive relative clause
    voc: vocative
    xtop: external topic with resuming pronoun

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

Subtypes: xpl.
Related types: appr xpl.
Confusion$^{27}_{88.9\%/88.9\%/100\%\%}$: appa$_{100\%}$.
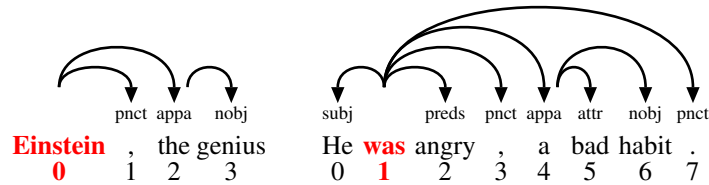
xpl *Explication.* Explication of an NP or VP.

isa appa   Related types: qobj.
  [130]   Confusion$^{18}_{88.9\%/100\%/88.9\%\%}$: xpl$_{88.9\%}$ conj$_{5.6\%}$ other$_{5.6\%}$.

18
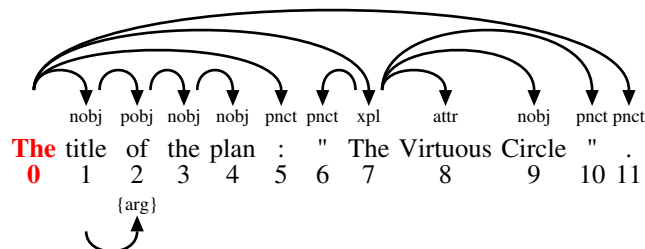
appr *Restrictive apposition (no comma).*

isa app Related types: appa.

[118] $\text{Confusion}^{36}_{88.9\%/94.4\%/88.9\%\%}$: $\text{appr}_{88.9\%}$ $\text{nobj}_{2.8\%}$ $\text{pnct}_{2.8\%}$ $\text{title}_{2.8\%}$ $\text{subj}_{2.8\%}$.
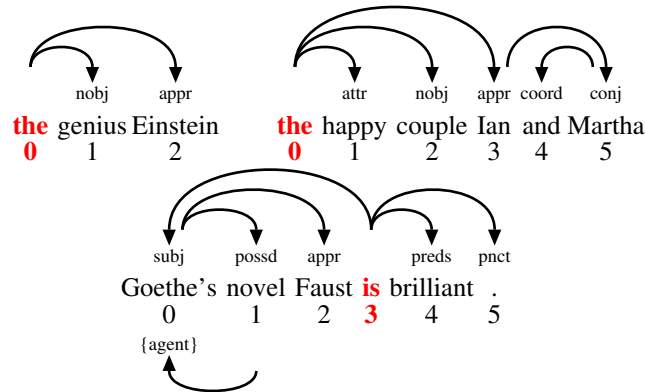
attrg *Genitive attributive.*

isa SYNADJ Related types: SEMROLE gobj.

[115]
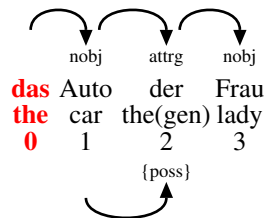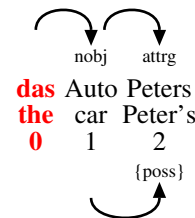
conj *Conjunct relation.* A dependency relation relating the conjuncts in a coordination. Secondary

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.

$\text{Confusion}^{552}_{92.1\%/93.2\%/94.7\%\%}$: $\text{conj}_{94.7\%}$ $\text{CONJ:add}_{1.4\%}$ $\text{qobj}_{0.9\%}$ $\text{nobj}_{0.5\%}$ $\text{attr}_{0.5\%}$ $\text{CONTR:sbj}_{0.4\%}$ $\text{CONTR:dir}_{0.4\%}$
$\text{CONST:rest}_{0.2\%}$ $\text{TELIC:cons.dir}_{0.2\%}$ $\text{coord}_{0.2\%}$ $\text{cause}_{0.2\%}$ $\text{vobj}_{0.2\%}$ $\text{xpl}_{0.2\%}$ $\text{pnct}_{0.1\%}$.
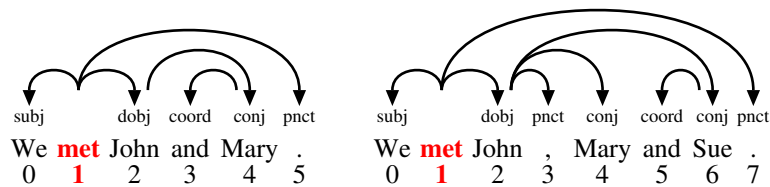
coord *Coordinator relation.* A dependency relation between a coordinating conjunction and a sec-

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.

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

We met John and Mary .
0 **1** 2 3 4 5

We met John , Mary and Sue .
0 **1** 2 3 4 5 6 7
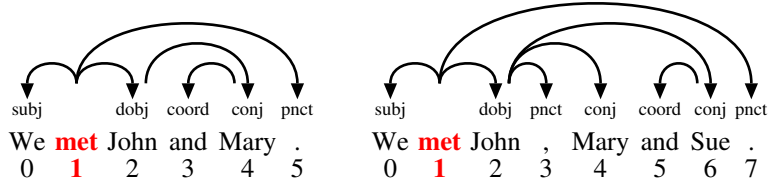
correl *Correlative coordinator relation.*

isa SYNADJ Related types: conj coord.

[108] Confusion$^9_{55.6\%/77.8\%/55.6\%\%}$: correl$_{55.6\%}$ add$_{11.1\%}$ other$_{11.1\%}$ focal$_{11.1\%}$ subj$_{11.1\%}$.

We met neither John , nor Mary .
0 **1** 2 3 4 5 6 7

We neither met John , nor Mary .
0 1 **2** 3 4 5 6 7
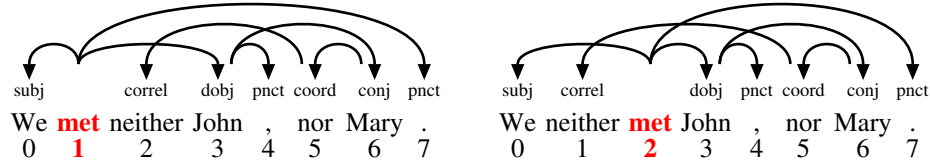
fpred *Free predicative.*

isa SYNADJ Subtypes: fpredo fpreds.

[111] Related types: fpredo fpreds.

fpredo *Free direct-object predicative.*

isa fpred Related types: fpreds man.

[113] Confusion$^6_{0\%/66.7\%/0\%\%}$: loc$_{33.3\%}$ goal$_{16.7\%}$ man$_{16.7\%}$ preds$_{16.7\%}$ predo$_{16.7\%}$.

He **drank** the coffee too hot .
0 **1** 2 3 4 5 6
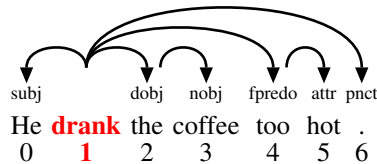
fpreds *Free subject predicative.*

isa fpred Related types: fpredo.

[112] Confusion$^3_{0\%/100\%/0\%\%}$: man$_{66.7\%}$ vobj$_{33.3\%}$.

Terrified she **walked** down the street .
0 1 **2** 3 4 5 6
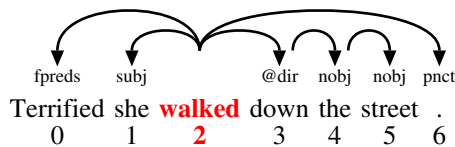
gapd *Gapping dependent* (long: GAPPING, deprecated GAP). A relation between a gapping dependent
isa SYNADJ in a secondary conjunct and the head of the first conjunct. In gapping coordinations, the sec-
[23] ondary conjuncts have an elided head, so the remaining material in the secondary conjuncts
is 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.
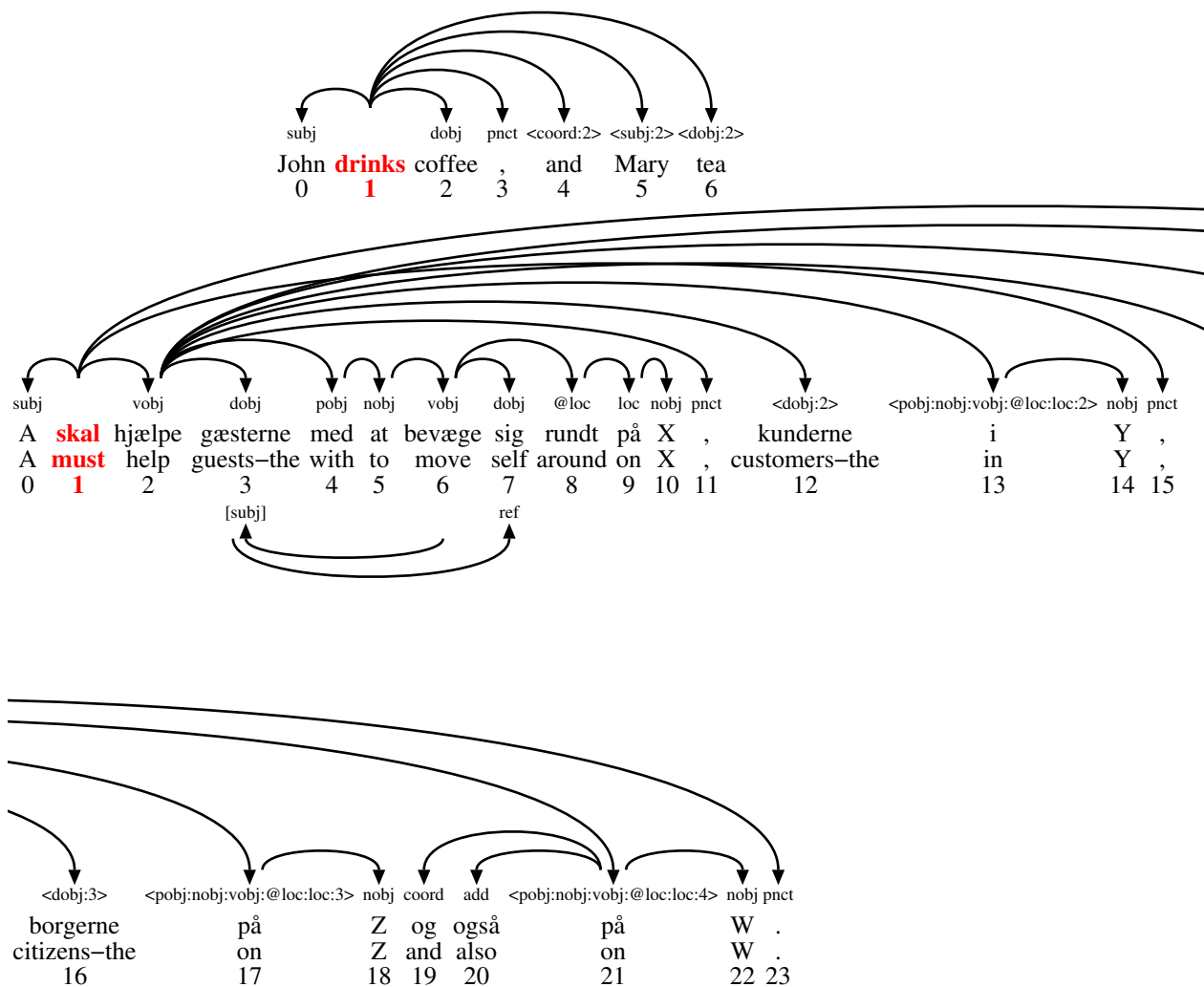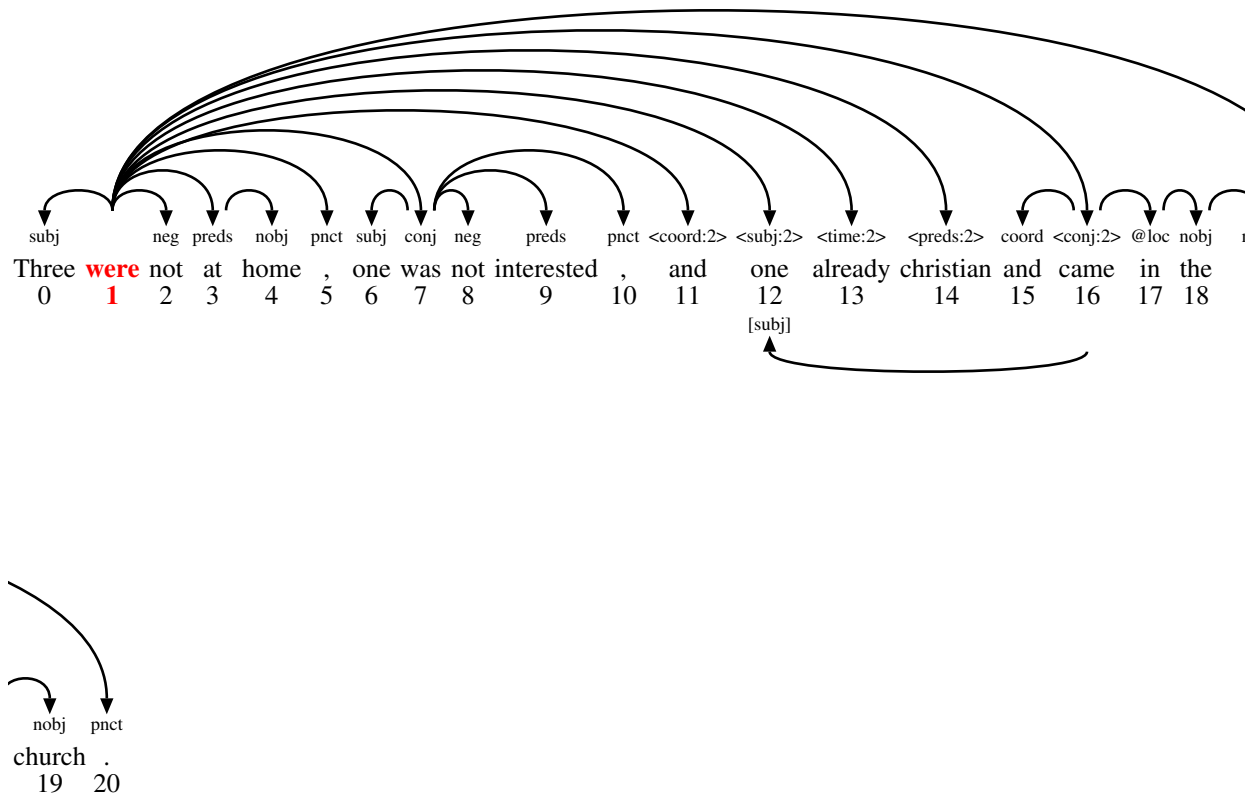
Sentence 1 dependency arcs: subj, dobj, pnct, <coord:2>, <subj:2>, <dobj:2>

John	drinks	coffee	,	and	Mary	tea
0	1	2	3	4	5	6

Sentence 2 dependency arcs: subj, vobj, dobj, pobj, nobj, vobj, dobj, @loc, loc, nobj, pnct, <dobj:2>, <pobj:nobj:vobj:@loc:loc:2>, nobj, pnct; lower arcs: [subj], ref

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

Sentence 3 dependency arcs: <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

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
[393] 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>	<dobj:1>	pnct
Peter	**likes**	dogs	,	and	Elizabeth	cats	.
0	**1**	2	3	4	5	6	7
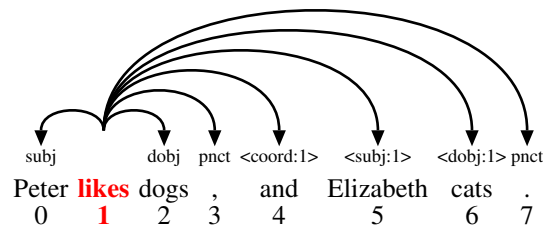
name *Part of name.* Part of a name.
isa SYNADJ Subtypes: namef namel title.
[124] $Confusion^{27}_{70.4\%/77.8\%/74.1\%\%}$: $name_{74.1\%}$ $nobj_{22.2\%}$ $attr_{3.7\%}$.

name	nobj		nobj	name
a Garrett	engine		**a** Citroen	X2
0 1	2		**0** 1	2
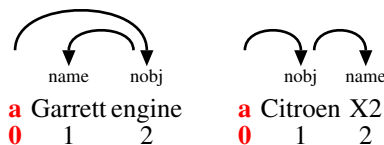
namef *First name.* A first name.

isa name Related types: namel title.

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

$$\overset{\displaystyle\frown}{\underset{\text{namef}}{}}$$

John **Travolta**
0   **1**
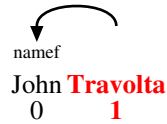
namel *Last name.* A second last name

isa name Related types: namef title.

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

namef   namel

Matthias Trautner **Kromann**
0   1   **2**
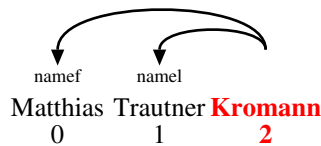
title *Person title.* A title in a name. If the title is determinated by an article, eg. the director Smith,

isa name the article is the head of the DP and the title and the name are dependents of the article,

[127] annotated as "nobj" and "appr", respectively.

Related types: namef namel.

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

title   nobj appr

Dr. **Zhivago**   **The** director Smith
0   **1**   **0**   1   2
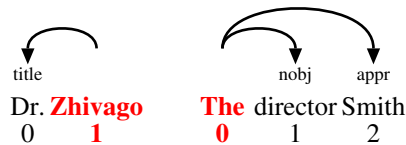
pnct *Punctuation.*

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

[109]

subj   dobj pnct conj coord conj pnct

We **met** John , Mary and Sue .
0 **1** 2 3 4 5 6 7
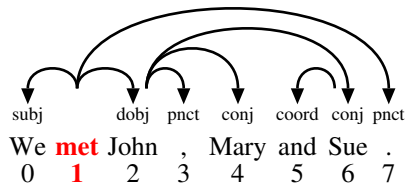
rel *Relative clause.* A relation between a relative clause and a relativized NP/VP. The finite verb

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.

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

the girl who lives **in** London
0 1 2 3 **4** 5

(arcs: nobj, subj, rel, nobj; ref)
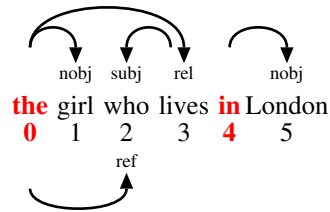
relelab *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da: hvilket,
isa rel it: il che, cosa che
[122] Related types: relpa relr.
Confusion$^{6}_{0\%/100\%/0\%\%}$: rel$_{66.7\%}$ relr$_{33.3\%}$.

She **left** , which really **upset** me .
0 **1** 2 3 4 **5** 6 7

(arcs: subj, pnct, subj, prg, dobj pnct; ref, releab)
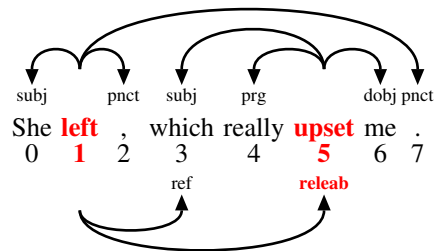
relpa *Parenthetic relative clause* (deprecated relp).
isa rel Related types: relelab relr.
[121] Confusion$^{17}_{29.4\%/100\%/29.4\%\%}$: relr$_{64.7\%}$ relpa$_{29.4\%}$ rel$_{5.9\%}$.

Consideration must be given to a higher degree to the **nature north of Bella Centre** , where **31 hectares in**
0 **1** **2** **3** **4** **5** **6** **7** **8** 9 **10** **11** **12** **13** **14** 15 16 **17** **18** **19**

(arcs: nobj, pnct, loc; ref)

all will **be exempt on environmental grounds** .
20 21 **22** **23** **24** **25** **26** 27

(arcs: relpa, pnct)
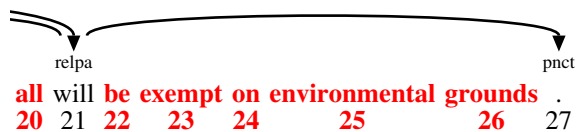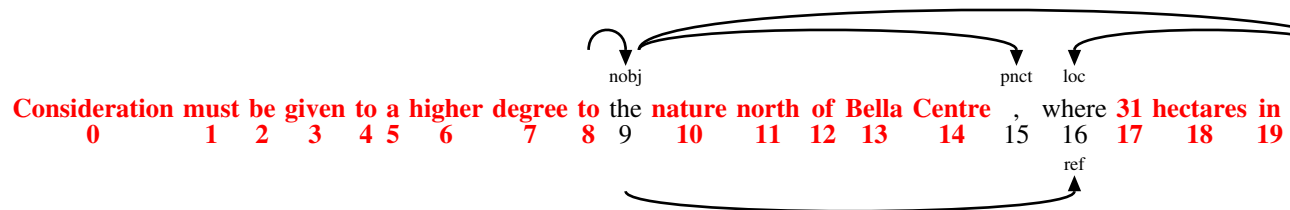
relr *Restrictive relative clause.*
isa rel Related types: relelab relpa.
[120] Confusion$^{145}_{37.2\%/93.8\%/40.7\%\%}$: rel$_{48.3\%}$ relr$_{40.7\%}$ relpa$_{7.6\%}$ relelab$_{1.4\%}$ vobj$_{1.4\%}$ attr$_{0.7\%}$.

The flower Mary bought **was** red .   The flower that bloomed **was** red .
0 1 2 3 **4** 5 6   0 1 2 3 **4** 5 6

(arcs left: subj, nobj, subj, relr, preds pnct; [dobj])
(arcs right: subj, nobj, subj, relr, preds pnct; ref)
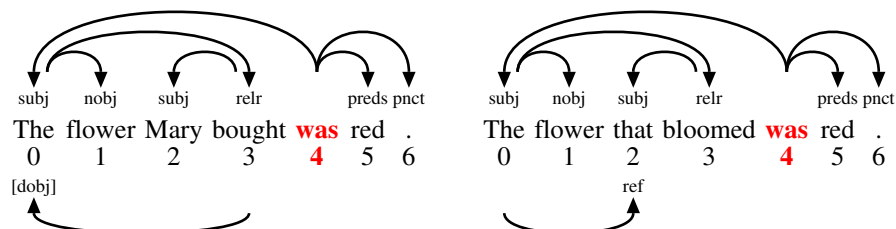
voc *Vocative.* Vocative specification. The person to whom the statement is directed.

isa SYNADJ [129] $\text{Confusion}^3_{100\%/100\%/100\%\%}$: $\text{voc}_{100\%}$.
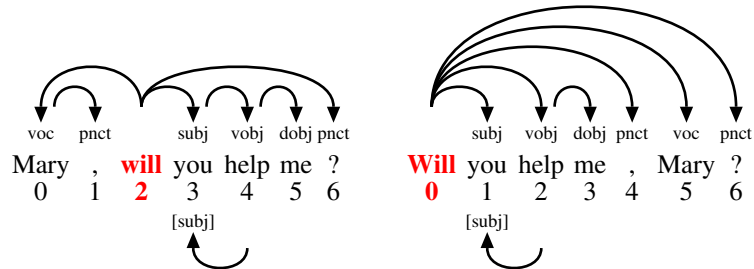
xtop *External topic with resuming pronoun.* An external topic is a sentence-initial NP whose only

isa SYNADJ [123] function is to provide the antecedent for a pronoun later in the sentence. Eg in "John, he is a nice person". Here "John" is the "xtop" of "is", and "he" is the subject of "is".

Related types: cons ref xtop.
$\text{Confusion}^4_{100\%/100\%/100\%\%}$: $\text{xtop}_{100\%}$.
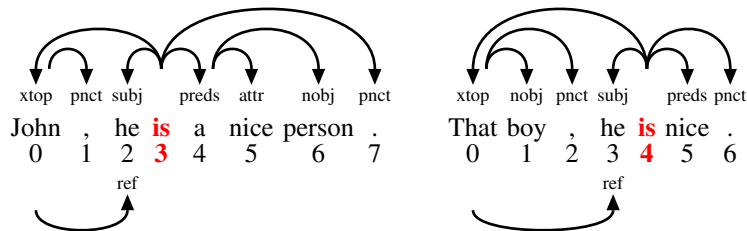
If you are having any problems, call me.
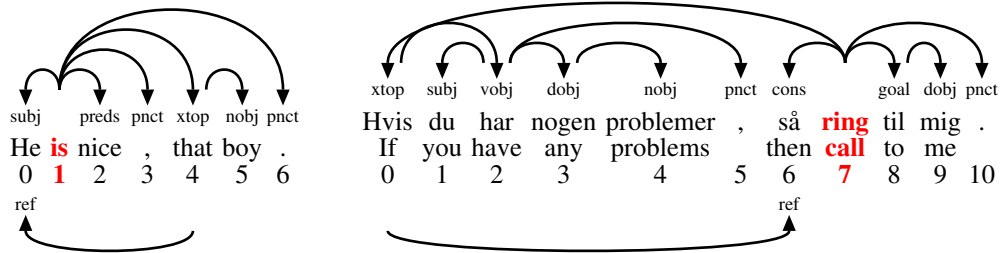
3.3   Adverbial adjunct relations: ADVERB

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

isa SYNADJ [141] Subtypes: ATTRIBUTION BACKGROUND CAUSE COMMENT COMPARISON CONDITION CONTRAST ELAB-
ORATION ENABLEMENT EVALUATION EXPLANATION MANNER MEANS SUMMARY TEMPORAL TOPIC
agent attribution background cause comment comparison conc concom cond condition cons contrast elaboration
enablement evaluation event exem explanation joint man manner means neg other prg quant resem source space
summary temporal time topic.

ATTRIBUTION *Inter-sentential elementary discourse unit.* Morten: RST pilot study

isa ADVERB [190] Subtypes: RuleAttr.

RuleAttr *Attribution* (long: (PRIM)"/ATTR"INTEGER). Specifies the person to whom the utterance is
isa ATTRIBUTION RULE attributed (ATTR or ATTR1, ATTR2, … when there is more than one person)
[400]

BACKGROUND *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[108]

CAUSE *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[102]

COMMENT *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[120]

COMPARISON *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[103]

CONDITION *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[104]

CONTRAST *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[114]

ELABORATION *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[109]

ENABLEMENT *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[106]

EVALUATION *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[110]

EXPLANATION *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[101]

MANNER *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[119]

MEANS *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[118]

SUMMARY *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[122]

TEMPORAL *Inter-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[111]

agent *Agent adverbial.* The passivized agent in passives.
isa ADVERB $\text{Confusion}^{27}_{0\%/100\%/0\%\%}$: $\text{CONST}_{18.5\%}$ $-_{14.8\%}$ $\text{SUBJ.agent}_{11.1\%}$ $\text{SOURCE}_{11.1\%}$ $\text{ABOUT}_{11.1\%}$ $\text{AGENT:MC}_{7.4\%}$
[170] $\text{AGENT}_{7.4\%}$ $\text{DERan:qualOTHER}_{7.4\%}$ $\text{LOC}_{3.7\%}$ $\text{ARG}_{3.7\%}$ $\text{GOAL}_{3.7\%}$.

subj nobj   preds agent nobj pnct
The house **was** painted by Eric .
0   1   **2**   3   4   5   6

attribution *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[172]

background *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[173]

cause *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB Subtypes: goal.
[175] $\text{Confusion}^{48}_{79.2\%/87.5\%/87.5\%\%}$: $\text{cause}_{87.5\%}$ $\text{attr}_{4.2\%}$ $\text{conj}_{2.1\%}$ $\text{time}_{2.1\%}$ $\text{cons}_{2.1\%}$ $\text{pobj}_{2.1\%}$.

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.
$\text{Confusion}^{1}_{0\%/100\%/0\%\%}$: $\text{arg}_{100\%}$.

subj · vobj · goal · vobj · dobj · pnct

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

[subj]
[subj]

subj · @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]

comment *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB

comparison *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB

conc *Concession adverbial.* Describes the concession of the event/action.
isa ADVERB $\text{Confusion}^{13}_{38.5\%/92.3\%/38.5\%\%}$: $\text{conc}_{38.5\%}$ $\text{contr}_{23.1\%}$ $\text{prg}_{15.4\%}$ $\text{other}_{15.4\%}$ $\text{attr}_{7.7\%}$.
[164]

subj · dobj · conc · subj · vobj · preds · possd · pnct

I **said** it though he is my brother .
0 · **1** · 2 · 3 · 4 · 5 · 6 · 7 · 8

{arg}

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

The agressor fled and/but got caught hours later.

subj · nobj · pnct · concom · vobj · time · avobj · pnct

El agresor **huyó** , siendo detenido horas después .
The agressor **fled** being caught hours after
0 · 1 · **2** · 3 · 4 · 5 · 6 · 7 · 8

[subj]
[subj]

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

isa ADVERB   Related types: pcond.

[163] $\text{Confusion}^{30}_{83.3\%/90\%/90\%\%}$: $\text{cond}_{90\%}$ $\text{nobj}_{3.3\%}$ $\text{man}_{3.3\%}$ $\text{time}_{3.3\%}$.
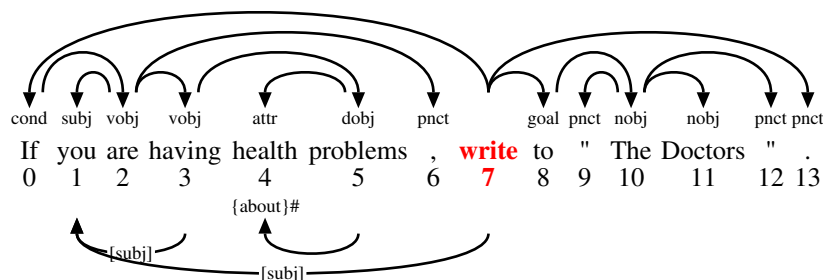
	cond	subj	vobj	vobj	attr	dobj	pnct		goal	pnct	nobj	nobj	pnct	pnct
	If	you	are	having	health	problems	,	**write**	to	"	The	Doctors	"	.
	0	1	2	3	4	5	6	**7**	8	9	10	11	12	13

{about}#

[subj]   [subj]

condition *Intra-sentential elementary discourse unit.* Morten: RST pilot study

isa ADVERB

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

isa ADVERB   Related types: xtop.

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

contrast *Intra-sentential elementary discourse unit.* Morten: RST pilot study

isa ADVERB

[178]   **elaboration** *Intra-sentential elementary discourse unit.* Morten: RST pilot study

isa ADVERB

[179]   **enablement** *Intra-sentential elementary discourse unit.* Morten: RST pilot study
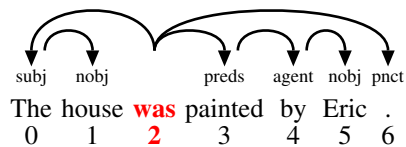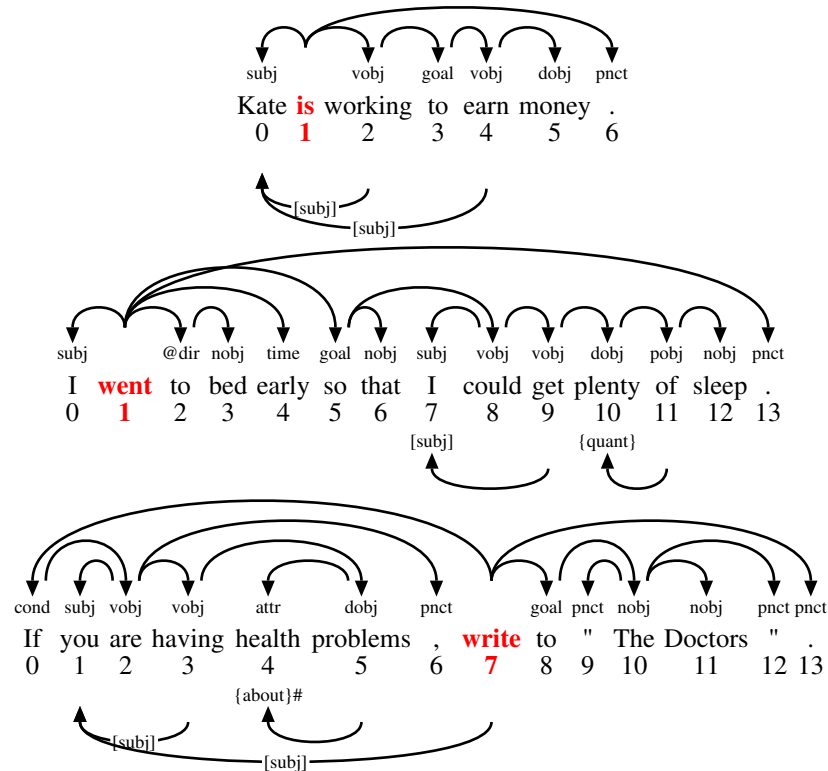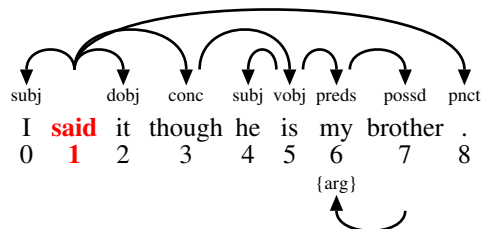
isa ADVERB

[180]   **evaluation** *Intra-sentential elementary discourse unit.* Morten: RST pilot study

isa ADVERB

[181]   **event** *Adverbial expressing an event.* Used when the adverbial in questions expresses an event

isa ADVERB   rather that time or place.

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

event	attr	nobj		subj	dobj	pnct		subj		iobj	attr	time		event	nobj		nobj	pnct
I	2.	sæt	**vandt**	han	15−6	.		He	**told**	us	last	Wednesday	at	the	meeting	.
0	1	2	**3**	4	5	6		0	**1**	2	3	4	5	6	7	8

exem *Example adverbial* (long: exemplification, deprecated ex). Exemplification; subordinated the object

isa ADVERB   which is added to a list.

[167] $\text{Confusion}^{14}_{71.4\%/78.6\%/92.9\%\%}$: $\text{exem}_{92.9\%}$ $\text{ex}_{7.1\%}$.
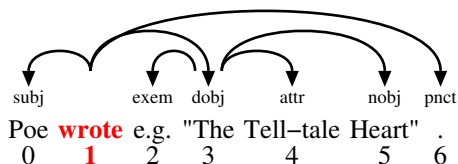
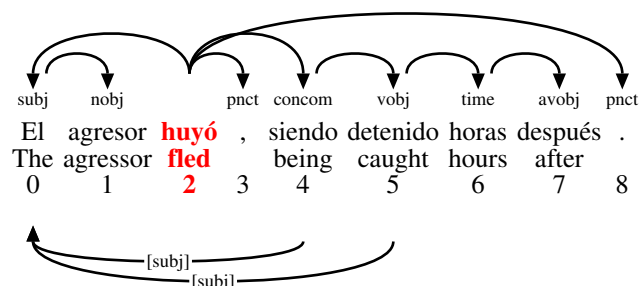|	subj		exem	dobj		attr		nobj	pnct
Poe	**wrote**	e.g.	"The	Tell−tale	Heart"	.
0	**1**	2	3	4	5	6

explanation *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[182]

joint *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[183]

man *Manner adverbial.* The way things are done
isa ADVERB   Subtypes: accom inst.
[157]   Related types: fpredo.
$Confusion^{106}_{55.7\%/88.7\%/61.3\%\%}$: $man_{61.3\%}$ $accom_{6.6\%}$ $attr_{3.8\%}$ $quant_{3.8\%}$ $other_{3.8\%}$ $time_{2.8\%}$ $inst_{2.8\%}$ $epi_{1.9\%}$ $fpreds_{1.9\%}$ $source_{0.9\%}$ $prg_{0.9\%}$ $dir_{0.9\%}$ $aobj_{0.9\%}$ $eval_{0.9\%}$ $cond_{0.9\%}$ $concom_{0.9\%}$ $scene_{0.9\%}$ $fpredo_{0.9\%}$ $goal_{0.9\%}$ $resem_{0.9\%}$ $pobj_{0.9\%}$.

subj   man   pnct
He **talks** slowly .
0   **1**   2   3
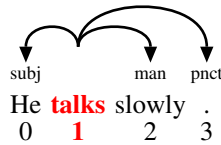
accom *Companionship adverbial* (deprecated comp). Companionship
isa man   Related types: man.
[158] $Confusion^{15}_{33.3\%/80\%/40\%\%}$: $man_{46.7\%}$ $accom_{40\%}$ $other_{6.7\%}$ $pobj_{6.7\%}$.

subj   nobj   accom nobj possd pnct
The husband **came** with his   wife   .
0   1   **2**   3   4   5   6
                                 {arg}
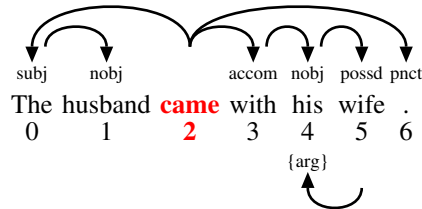
inst *Instrument adverbial.* Instrument/means
isa man   Related types: man.
[159] $Confusion^{2}_{0\%/100\%/0\%\%}$: $OTHER_{50\%}$ $DERav_{50\%}$.

subj   dobj nobj inst nobj nobj pnct
He **opened** the   door with the   key   .
0   **1**   2   3   4   5   6   7
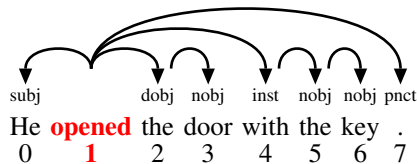
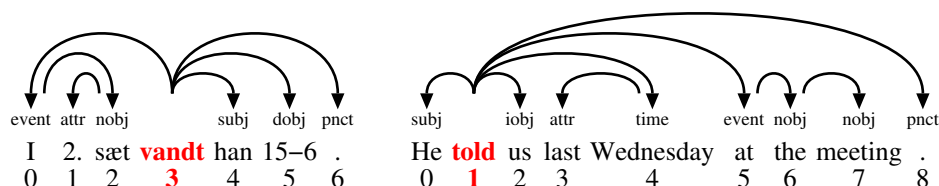**manner** *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[184]

means *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[185]

neg *Negation adverbial.* Negation of a verbal
isa ADVERB $Confusion^{105}_{94.3\%/98.1\%/96.2\%\%}$: $neg_{96.2\%}$ $add_{1\%}$ $time_{1\%}$ $coord_{1\%}$ $eval_{1\%}$.
[171]

It's never a problem.

She never lied

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
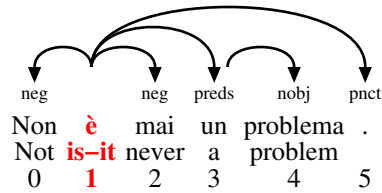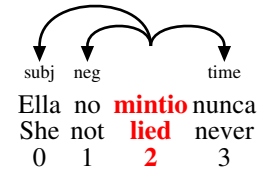
other *Other adverbial.* Unspecified adverbial relation.

isa ADVERB
[172]
Confusion$^8_{0\%/100\%/0\%\%}$: ARG$_{50\%}$ OTHER$_{25\%}$ −$_{12.5\%}$ GOAL$_{12.5\%}$.

pnct	other

Colosseum , Rome
0 1 2
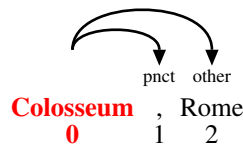
prg *Pragmatic adverbial* (long: pragmatic). Sentence level.

isa ADVERB
[142]
Subtypes: discmark epi eval focal scene.

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

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

isa prg
[147]
Related types: coord.

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

And I'm telling you...

discmark	dobj		subj	iobj	pnct

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

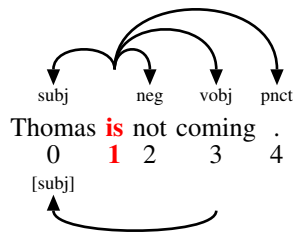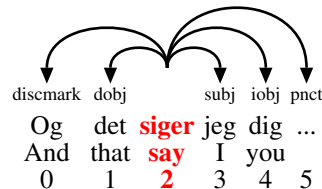**epi** *Epistemic adverbial* (long: epistemic). Regarding the level of truth in the expression

isa prg
[145]
Related types: eval.

Confusion$^{14}_{50\%/92.9\%/57.1\%\%}$: epi$_{57.1\%}$ man$_{14.3\%}$ other$_{14.3\%}$ eval$_{14.3\%}$.

epi	subj	preds	pnct

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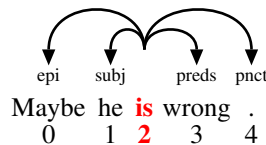
eval *Evaluation adverbial* (long: evaluation, deprecated evalatt). Evaluating and attitude adverbials

isa prg
[146]
Related types: epi.

Confusion$^5_{0\%/100\%/0\%\%}$: EVAL$_{40\%}$ MOD:eval]b$_{20\%}$ RESEM$_{20\%}$ LOC$_{20\%}$.

```
  eval  pnct subj    preds pnct
However ,   I   am  fine   .
   0    1   2    3   4    5
```

```
 subj  nobj          eval   preds pnct
The weather is unfortunately bad   .
  0     1    2        3       4   5
```
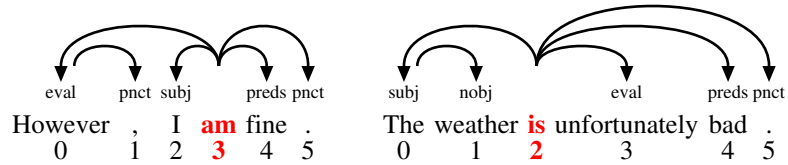
focal *Focalizer adverbial* (long: focalizator). Focalization of a noun

isa prg Related types: quant.

[143] $\text{Confusion}^{31}_{45.2\%/64.5\%/61.3\%\%}$: $\text{focal}_{61.3\%}$ $\text{attr}_{12.9\%}$ $\text{other}_{9.7\%}$ $\text{loc}_{6.5\%}$ $\text{aobj}_{3.2\%}$ $\text{correl}_{3.2\%}$ $\text{eval}_{3.2\%}$.

```
focal  subj        dobj pnct
Even  Italy imports pasta .
  0    1      2      3   4
```
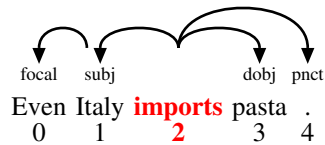
scene *Pragmatic condition and structural adverbial* (deprecated `prgcondpcondbgstruct`). Setting the

isa prg scene

[144] Subtypes: add contr elab.

Related types: cond.

$\text{Confusion}^{31}_{54.8\%/93.5\%/58.1\%\%}$: $\text{scene}_{58.1\%}$ $\text{add}_{6.5\%}$ $\text{goal}_{6.5\%}$ $\text{contr}_{6.5\%}$ $\text{loc}_{6.5\%}$ $\text{time}_{3.2\%}$ $\text{attr}_{3.2\%}$ $\text{man}_{3.2\%}$ $\text{other}_{3.2\%}$ $\text{inst}_{3.2\%}$.

```
coord subj      neg vobj  dobj  pnct scene subj   vobj pnct
But   I  have  not seen anything ,   if  anyone asks  .
 0    1   2     3   4      5      6   7    8     9    10
        [subj]
```

```
scene subj  vobj      time  pnct expl  dobj nobj pobj nobj pnct
As    I  mentioned earlier ,  there is  no doubt about it   .
 0    1     2        3      4   5   6   7   8     9   10  11
```
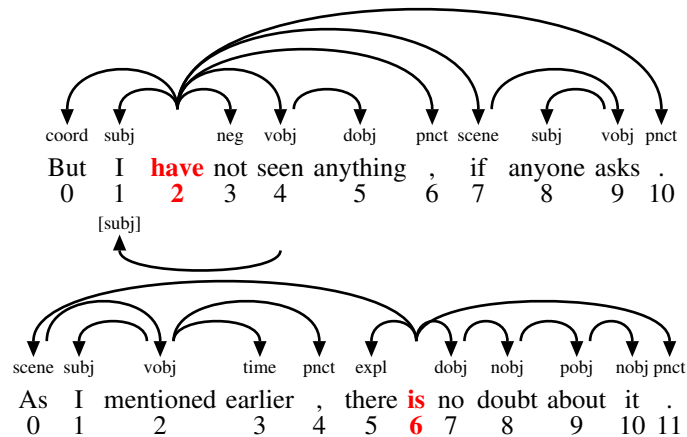
add *Additive adverbial* (long: additive). Additive information

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

[150]

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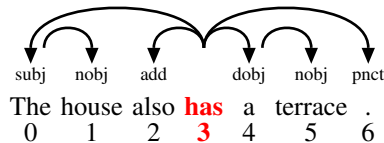
contr *Contrast adverbial* (long: contrast). Opposition

isa scene Related types: struct.

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

Instead of fruits , he **bought** two chocolate muffins .
0 1 2 3 4 **5** 6 7 8 9

Arc labels: contr pobj nobj pnct subj dobj attr nobj pnct

{const}#
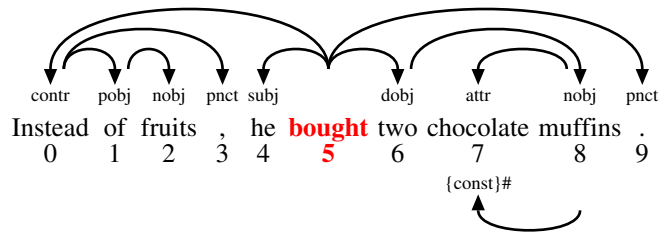
elab *Elaboration adverbial* (long: elaboration). More detailed description
isa scene Confusion$_{50\%/75\%/50\%\%}^{4}$: elab$_{50\%}$ prg$_{25\%}$ quant$_{25\%}$.
[149]

I **am** going to the place where I work best , i.e. the coffee shop .
0 **1** 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Arc labels: subj vobj @dir nobj nobj loc subj relr man pnct elab nobj attr nobj pnct

[subj] ref {goal}#
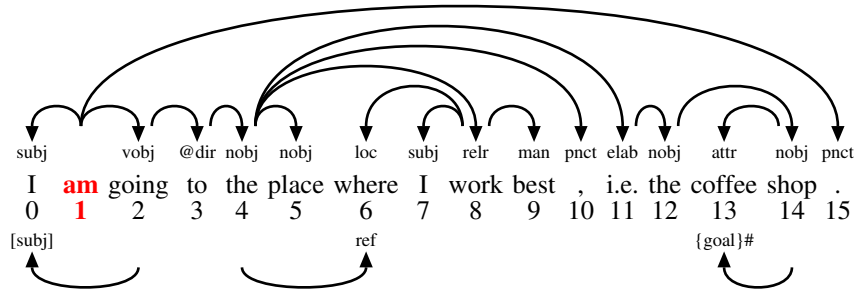
quant *Degree adverbial* (long: quantification, deprecated degr). Modifies the object or verbal by degree
isa ADVERB Related types: focal.
[169] Confusion$_{80.4\%/93.5\%/82.4\%\%}^{153}$: quant$_{82.4\%}$ attr$_{3.3\%}$ man$_{2.6\%}$ other$_{2.6\%}$ eval$_{2\%}$ prg$_{1.3\%}$ time$_{1.3\%}$ avobj$_{1.3\%}$ degr$_{1.3\%}$
nobj$_{0.7\%}$ elab$_{0.7\%}$ dobj$_{0.7\%}$.

Only two people **came** .
0 1 2 **3** 4

Arc labels: quant subj nobj pnct
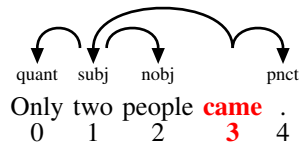
resem *Comparison adverbial* (deprecated comparecomp). Comparison
isa ADVERB Confusion$_{0\%/100\%/0\%\%}^{1}$: RESEM$_{100\%}$.
[165]

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

Arc labels: subj resem nobj nobj pnct
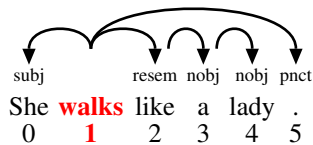
source *Source attribution adverbial.* Reference/source
isa ADVERB Confusion$_{0\%/100\%/0\%\%}^{12}$: SOURCE$_{66.7\%}$ $-_{16.7\%}$ CONST$_{8.3\%}$ LOC$_{8.3\%}$.
[166]

He **was** fired according to Anne .
0 **1** 2 3 4 5 6

Arc labels: subj preds source pobj nobj pnct
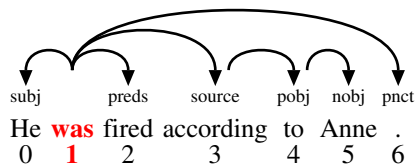
space *Space adverbial.* Space adverbials
isa ADVERB
[153] Subtypes: dir loc.

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

subj   dir   nobj
He **ran** towards her
0 **1** 2 3
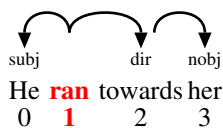
loc *Location adverbial.* Location
isa space Related types: dir.
[154] $\text{Confusion}^{30}_{0\%/100\%/0\%\%}$: $\text{LOC}_{76.7\%}$ $-_{6.7\%}$ $\text{GOAL}_{6.7\%}$ $\text{MOD:qual}_{3.3\%}$ $\text{DERnv}_{3.3\%}$ $\text{FORM}_{3.3\%}$.

dobj subj   loc   nobj
as we **say** in Denmark
0 1 **2** 3 4
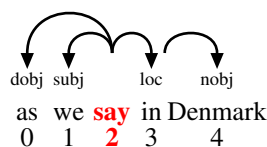
summary *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[186]

temporal *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[187]

time *Time adverbial.* Time relating adverbials
isa ADVERB Subtypes: iter.
[151] $\text{Confusion}^{11}_{0\%/100\%/0\%\%}$: $\text{TIME:MC}_{54.5\%}$ $-_{27.3\%}$ $\text{TIME}_{9.1\%}$ $\text{TIME:pre}_{9.1\%}$.

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
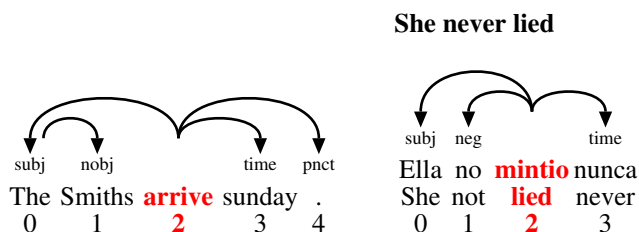
iter *Habituality adverb* (deprecated hab). Habitual; repeated habit
isa time Related types: dur ext.
[152] $\text{Confusion}^{21}_{19\%/81\%/23.8\%\%}$: $\text{time}_{57.1\%}$ $\text{iter}_{23.8\%}$ $\text{other}_{9.5\%}$ $\text{attr}_{4.8\%}$ $\text{eval}_{4.8\%}$.

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]
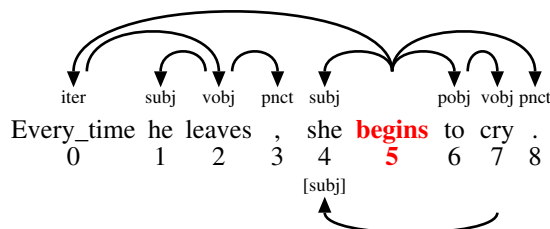
topic *Intra-sentential elementary discourse unit.* Morten: RST pilot study
isa ADVERB
[188]

ADVERB: adverbial
    ATTRIBUTION: inter-sentential elementary discourse unit
       RuleAttr: attribution
    BACKGROUND: inter-sentential elementary discourse unit
    CAUSE: inter-sentential elementary discourse unit
    COMMENT: inter-sentential elementary discourse unit
    COMPARISON: inter-sentential elementary discourse unit
    CONDITION: inter-sentential elementary discourse unit
    CONTRAST: inter-sentential elementary discourse unit
    ELABORATION: inter-sentential elementary discourse unit
    ENABLEMENT: inter-sentential elementary discourse unit
    EVALUATION: inter-sentential elementary discourse unit
    EXPLANATION: inter-sentential elementary discourse unit
    MANNER: inter-sentential elementary discourse unit
    MEANS: inter-sentential elementary discourse unit
    SUMMARY: inter-sentential elementary discourse unit
    TEMPORAL: inter-sentential elementary discourse unit
    agent: agent adverbial
    attribution: intra-sentential elementary discourse unit
    background: intra-sentential elementary discourse unit
    cause: intra-sentential elementary discourse unit
       goal: goal adverbial
    comment: intra-sentential elementary discourse unit
    comparison: intra-sentential elementary discourse unit
    conc: concession adverbial
    concom:
    cond: condition adverbial
    condition: intra-sentential elementary discourse unit
    cons: consequence adverbial
    contrast: intra-sentential elementary discourse unit
    elaboration: intra-sentential elementary discourse unit
    enablement: intra-sentential elementary discourse unit
    evaluation: intra-sentential elementary discourse unit
    event: Adverbial expressing an event
    exem: example adverbial
    explanation: intra-sentential elementary discourse unit
    joint: intra-sentential elementary discourse unit
    man: manner adverbial
       accom: companionship adverbial
       inst: instrument adverbial
    manner: intra-sentential elementary discourse unit
    means: intra-sentential elementary discourse unit
    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

Chapter 4

Morphological relations: MORPH

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

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

MORPH
isa DIM:LEVEL
[9]

Morphology level (long: MORPHOLOGY). The morphological level includes relations between two word segments within a single word, as well as lexical features associated with morphemes.

Subtypes: MORPHCOMP MORPHDERIV RuleMorph.

MORPHCOMP
isa MORPH
[297]

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
[296]

Derivational semantic relations. A semantic relation is created between a base and an affix

Subtypes: PREFIX SUFFIX.

RuleMorph
isa MORPH RULE
[396]

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
[297]

Compositional semantic relations. A semantic relation is created between two (or more) elements which could potentially be used as stems. (A compound contains at least two roots.)

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

_ABOUT
isa MORPHCOMP
[383]

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

35

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

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

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

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

</div>

_AGENT:MC *Noun-noun compound (agentive).* Non-head has an agentive meaning wrt. head.
isa MORPHCOMP
        [374]

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

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

</div>

_CONST *Noun-noun compound (constitutive).* Non-head has a constitutive meaning wrt. head.
isa MORPHCOMP
        [373]

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

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

</div>

_DOBJ.patient .
isa MORPHCOMP

_EVAL *Noun-noun compound (evaluative).* Non-head has an evaluative meaning wrt. head.
isa MORPHCOMP
        [381]

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

coche de lujo 'luksusbil'
0   1   2   3

</div>

_FUNC *Noun-noun compound (function).* Non-head has a functional/instrumental meaning wrt. head.
isa MORPHCOMP
        [376]

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

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

</div>

_GOAL *Noun-noun compound (goal).*
isa MORPHCOMP
        [377]

<div style="color:red; text-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
[379]

<p style="color:red; text-align:center">(position: loftlampe 'ceiling lamp' = lampe –loft/POS)
0   1   2   3 4 5   6</p>

_OTHER *Noun-noun compound (other).* If in doubt about the meaning relation between head and

isa MORPHCOMP non-head.
[384]

_POSS *Noun-noun compound (possession).* Non-head has a possessive meaning wrt. head.

isa MORPHCOMP
[378]

<p style="color:red; text-align:center">(possession: politibil = bil –politi/POSS
0   1 2 3   4</p>

_RESEM *Noun-noun compound (resemblance).* Denotations of head and non-head resemble each

isa MORPHCOMP other.
[382]

<p style="color:red; text-align:center">silla de tijeras 'saksestol' [klapstol], válvula de mariposa 'sommerfugleventil'
0 1 2   3   4   5 6 7   8</p>

_SOURCE *Noun-noun compound (origin).* Non-head has a meaning of origin wrt. head.

isa MORPHCOMP
[375]

<p style="color:red; text-align:center">(origin: rørsukker 'cane sugar' = sukker –rør/ORIGIN)
0   1   2   3 4 5   6</p>

_TIME:MC *Noun-noun compound (time).* Non-head has a temporal meaning wrt. head.

isa MORPHCOMP
[380]

<p style="color:red; text-align:center">(time: oktoberregn 'October rain' = regn –oktober/TIME)
0   1   2   3 4 5   6</p>

4.2   Derivational relations: MORPHDERIV

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

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

MORPHDERIV *Derivational semantic relations.* A semantic relation is created between a base and an affix

isa MORPH Subtypes: PREFIX SUFFIX.
[296]

PREFIX *Semantic relations appearing with prefixes.* A semantic relation is created between a base

isa MORPHDERIV and a prefix.
[299]

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.
[300]

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

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

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

4.2.1 Prefix relations: PREFIX

PREFIX
isa MORPHDERIV
[299]

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
[315]

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

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

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

_ITER
isa PREFIX
[314]

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

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

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

_MOD
isa PREFIX
[318]

Modification. Prefix conveys modification in a broad sense.

Subtypes: _MOD:eval _MOD:qual _MOD:quant.

_MOD:eval
isa _MOD
[320]

Evaluation (deprecated MOD:man). Prefix conveys evaluation

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

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

_MOD:qual
isa _MOD
[321]

Qualification (deprecated MOD:qual+MOD:rel+GRAD:qual). Prefix conveys qualification.

<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
[319]

<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
[310] Subtypes: _NEG:contr _NEG:priv _NEG:rev.

_NEG:contr *Contrast* (deprecated NEG:oppo). Prefix conveys contrast.
isa _NEG
[311]

<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
[312]

<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
[313]

<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
[322]

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

Confusion$_{0\%/100\%/0\%\%}^{29}$: loc$_{79.3\%}$ source$_{3.4\%}$ agent$_{3.4\%}$ agentDERna:rel.deono.loc$_{3.4\%}$ poss$_{3.4\%}$ eval$_{3.4\%}$ DERvn:locLOC:loc$_{3.4\%}$.

_SPACE:dir *Direction* (deprecated LOC:dir). Prefix expresses direction.
isa _SPACE
[304] Confusion$_{13\%/100\%/13\%\%}^{23}$: SPACE:dir$_{21.7\%}$ TELIC$_{21.7\%}$ $-_{17.4\%}$ LOC:dir$_{13\%}$ SPACE.dir$_{8.7\%}$ PRE:other$_{8.7\%}$ TELIC]m$_{4.3\%}$ SPACE:source$_{4.3\%}$.

<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
[303]

<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
[305]

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

_TELIC *Telic* (deprecated ASPEC:term+resul). Prefix conveys termination or result.
isa PREFIX
[316]

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

_TIME *Time.* Prefix conveys time in a broad sense.
isa PREFIX
[307] Subtypes: _TIME:post _TIME:pre.

_TIME:post *Temporal succession* (deprecated TIME:succ). Prefix conveys succession.
isa _TIME
[309]

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

_TIME:pre *Temporal precedence* (deprecated TIME:prec). Prefix conveys precedence.
isa _TIME
[308]

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

_TRANS *Transitivity.* Prefix conveys transitivity.
isa PREFIX
[317]

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

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.
[300]
 Subtypes: _AUG _DENUM _DER _DERan:qual _DERna _DERnn _DERv _DIMIN _PEJ.

_AUG *Augmentation.* Suffix conveys augmentation.
isa SUFFIX
[323]

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

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

_DENUM:apart *Adjective-partitive derivation* (deprecated DENUM:part). Suffix creates partitive numerals.
isa _DENUM
[371]

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

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

_DENUM:ord *Adjective-ordinal derivation.* Suffix creates ordinals.
isa _DENUM
[370]

_DENUM:quant *Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.
isa _DENUM
[372]

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

_DERadvv *Adverb-verb derivation.* Suffix triggers a derivation from an adverb to a verb
isa _DER
[330]

_DERav *Adjective-verb derivation* (deprecated §DER:av). Suffix triggers a derivation from an adjective
isa _DER to a verb.
[328]

_DERnv *Noun-verb derivation* (deprecated §DER:nvPRED). Suffix triggers a derivation from a noun to a
isa _DER verb.
[327]

_DERva *Verb-adjective derivation* (deprecated §DERV). Suffix creates deverbal adjectives in a broad
isa _DER sense.
[351]
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".
[352] Subtypes: _DERva:act.disp _DERva:act.epi.

_DERva:act.disp *Verb-adjective derivation (disposition)* (deprecated DEVERB:act.disp). Suffix creates active ad-
isa _DERva:act jectives with the meaning aspect "disposition".
[353]

"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".
[354]

"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.
[355]

_DERva:pas.deon *Verb-adjective derivation (passive deontic)* (deprecated DEVERB:pas.deon). Suffix creates passive
isa _DERva:pas adjectives with a deontic meaning.
[358]

"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".
[357]

"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.
[356]

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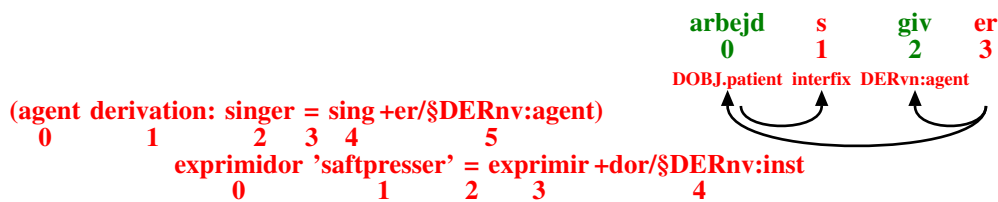0   1   2   3   4   5   6   7 8   9   10   11 12 13

blevet/er/bliver købt"
14   15

_DERvn *Verb-noun derivation* (deprecated PREDDEVERBN). Suffix creates deverbal nouns in a broad
isa _DER sense.
[331]
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.
[332]

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.
[334]

(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.
[333]

(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.
[337]

(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
[338]

_DERvn:patient *Verb-noun derivation (patient)* (deprecated PRED:result). Suffix creates deverbal nouns absorb-
isa _DERvn ing the patient role.
[335]

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

_DERvn:recip
isa _DERvn
[336]

Verb-noun derivation (recipient) (deprecated PRED:recip). Suffix creates deverbal nouns absorbing the recipient role

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

_DERvv
isa _DER
[329]

Verb-verb derivation (deprecated §DER:vv). Suffix triggers a derivation from a verb to another verb.

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

_DERan:qual
isa SUFFIX
[339]

Adjective derivation (deprecated QUAL). Suffix creates deadjectival nouns.

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

_DERna
isa SUFFIX
[359]

Noun-adjective derivation (deprecated DENOM). Suffix creates denominal adjectives in a broad sense.

Subtypes: _DERna:deono _DERna:disp _DERna:other _DERna:poss _DERna:rel _DERna:resem _DERna:telic.

_DERna:deono
isa _DERna
[361]

Noun-adjective derivation (naming) (deprecated DENOM:rel.deono). Suffix creates relational adjectives with the meaning of "naming".

Subtypes: _DERna:deono.loc _DERna:deono.pers.

Confusion$^1_{0\%/100\%/0\%\%}$: DERna:rel$_{100\%}$.

_DERna:deono.loc
isa _DERna:deono
[363]

Noun-adjective derivation (naming places) (deprecated DENOM:rel.deono.place). Suffix creates relational adjectives with the meaning of "naming" of places.

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

_DERna:deono.pers
isa _DERna:deono
[362]

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

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

_DERna:disp
isa _DERna
[366]

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

_DERna:other
isa _DERna
[368]

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

_DERna:poss
isa _DERna
[365]

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

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

_DERna:rel
isa _DERna
[360]

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

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

_DERna:resem
isa _DERna
[364]

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

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

Sancho Panza')
15   16

_DERna:telic
isa _DERna
[367]

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

Confusion$_{0\%/100\%/0\%\%}^{12}$: $-_{50\%}$ DERna:rel$_{33.3\%}$ DERna:telic$_{8.3\%}$ DERnvDERva:pas.epi$_{8.3\%}$.

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

_DERnn
isa SUFFIX
[340]

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
[341]

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

_DERnn:assoc *Noun-noun derivation (association)* (deprecated NOPRED:script). Suffix creates non-predicative
isa _DERnn nouns expressing a script/notion related to the original noun.
[348]

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

_DERnn:capac *Noun-noun derivation (capacity)* (deprecated NOPRED:capac). Suffix creates non-predicative
isa _DERnn nouns expressing a capacity.
[346]

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

_DERnn:cont *Noun-noun derivation (container)* (deprecated NOPRED:cont). Suffix creates non-predicative
isa _DERnn nouns expressing a container.
[343]

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

_DERnn:loc *Noun-noun derivation (location)* (deprecated NOPRED:loc). Suffix creates non-predicative nouns
isa _DERnn expressing a location.
[347]

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

_DERnn:other *Noun-noun derivation (other)* (deprecated NOPRED:other). If in doubt about the meaning con-
isa _DERnn veyed by the suffix
[349]

_DERnn:quant *Noun-noun derivation (quantification)* (deprecated NOPRED:set). Suffix creates non-predicative
isa _DERnn nouns expressing a quantification.
[345]

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

_DERnn:telic *Noun-noun derivation (telic)* (deprecated NOPRED:result). Suffix creates non-predicative nouns
isa _DERnn expressing a telic result.
[342]

(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.
[344]

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

_DERv (deprecated DEVERB).
isa SUFFIX
    [323]
_DIMIN *Diminution.* Suffix conveys diminution.
isa SUFFIX
    [324]

(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
    [325]

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

Chapter 5

Discourse relations: DISC

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

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

DISC
isa DIM:LEVEL
[11]

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

Subtypes: DISCOTHER DISCPRAG DISCSEM RuleDisc.

DISCOTHER
isa ADJ DISC
[244]

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
[294]

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.

$Confusion^{14}_{21.4\%/42.9\%/35.7\%\%}$: $CONJ:add_{42.9\%}$ $JOINT_{35.7\%}$ $SCENE_{7.1\%}$ $CONJ_{7.1\%}$ $CONST:exem_{7.1\%}$.

REP
isa DISCOTHER
[293]

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.

<p style="text-align:center;color:red;">Would you... (Would you marry me, Lisa?)
0   1   2   3   4   5   6</p>

SCENE
isa DISCOTHER
[292]

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

$Confusion^{26}_{84.6\%/84.6\%/96.2\%\%}$: $SCENE_{96.2\%}$ $JOINT_{3.8\%}$.

DISCPRAG
isa ADJ DISC
[243]

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
[242]

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
[395]

Syntactic discourse relation (long: "␣"(PRIM)). A primary syntactic relation that has been used as a discourse relation for stilistic purposes.

5.1   Functional relations: DISCFUNC

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

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

DISCPRAG
isa ADJ DISC
[243]

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
[279]

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
[287]

Consolidation (deprecated SUPPORT?). The dependent text segment consolidates or strengthens the governing segment.

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

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

CONSOL:inst *Instrumental* (deprecated CONSOL:enabl). An instrumental or helpful text segment. The de-
isa CONSOL pendent text segment is instrumental in helping reader or recipient to carry out the action
[289] mentioned in the governing segment; frequent in directive texts.

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

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

</div>

CONSOL:motiv *Motivation.* Motivation or encouragement. The dependent text segment motivates, stimu-
isa CONSOL lates or encourages reader or recipient to carry out the action mentioned in the governing
[290] segment.

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

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

</div>

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

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

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

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

</div>

DIREC *Directive act.* A directive act. The dependent text segment contains a directive act (order,
isa DISCPRAG command or request) somehow linked to the governing segment.
[280] Confusion$^3_{0\%/66.7\%/0\%\%}$: CONJ:elab$_{66.7\%}$ CONJ:seq$_{33.3\%}$.

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

e.g. imperatives
0   1

</div>

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

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

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

</div>

INTACT *Interaction signals.* The dependent text segment contains an interaction signal, i.e. a signal
isa DISCPRAG used to start, sustain or end a conversation.
[282] Subtypes: INTACT:attn INTACT:inter INTACT:start INTACT:stop.

INTACT:attn *Attention.* An attention signal. The dependent text segment contains an attention signal.
isa INTACT
[284]

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

INTACT:inter *Interruption.* An interruption signal. The dependent text segment contains an interruption
isa INTACT signal
[285]

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

INTACT:start *Start signal.* The dependent text segment contains a start signal.
isa INTACT
[283]

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

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

INTACT:stop *Stop.* The dependent text segment contains a conversation stop signal.
isa INTACT
[286]

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

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

Related types: answer.

5.2 Semantic relations: DISCSEM

DISCSEM *Semantic discourse relations.* The relations hold between the propositions of the governing
isa ADJ DISC and dependent text segments and are defined in semantic terms;
[242] Subtypes: AGENTIVE CONC COND CONJ CONST CONTR DISJ FORMAL TELIC TIME.

AGENTIVE *Cause relation (discourse).* The dependent segment expresses "bringing about" or cause in a
isa DISCSEM broad sense
[246] Subtypes: AGENTIVE:expl AGENTIVE:reas AGENTIVE:sbj.

Confusion$^5_{0\%/100\%/0\%\%}$: CONJ:elab$_{40\%}$ AGENTIVE:sbj$_{40\%}$ AGENTIVE:expl$_{20\%}$.

AGENTIVE:expl *Explanation relation in discourse.* An explanation relation. The dependent segment explains
isa AGENTIVE the governing segment. The relation is more general and elaborating than "reason".
[247]

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

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

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

AGENTIVE:reas
isa AGENTIVE
[248]

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$_{20\%/60\%/20\%\%}^{10}$: AGENTIVE:sbj$_{40\%}$ AGENTIVE:reas$_{20\%}$ CONJ:elab$_{20\%}$ CONJ:add$_{10\%}$ TELIC:cons.dir$_{10\%}$.

AGENTIVE:sbj
isa AGENTIVE
[249]

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$_{0\%/75\%/0\%\%}^{16}$: AGENTIVE:reas$_{25\%}$ CONJ:add$_{18.8\%}$ CONJ$_{12.5\%}$ CONJ:elab$_{12.5\%}$ AGENTIVE$_{12.5\%}$ CONSOL:source$_{12.5\%}$ AGENTIVE:expl$_{6.3\%}$.

CONC *Concession.* A concession relation. The dependent segment admits or acknowledges a fact
isa DISCSEM wrt N, which may however not have the expected consequence or effect.
[261]
Typical connectives: [en] Though, Although, However; [da] Skønt; Selvom; [it] Anche se; Sebbene.

Confusion$_{40\%/65\%/40\%}^{20}$: CONC$_{40\%}$ CONJ:add$_{25\%}$ CONTR$_{5\%}$ FORMAL:eval$_{5\%}$ subj$_{5\%}$ CONTR:sbj$_{5\%}$ CONJ$_{5\%}$ CONST:exem$_{5\%}$
conj$_{2.5\%}$ CONTR:prg$_{2.5\%}$.

COND *Condition.* A condition relation. The dependent segment expresses a condition for the reali-
isa DISCSEM sation of the content of the gonerning segment.
[262]
Typical connectives: [en] If, On the condition; [da] Hvis; I det tilfælde at; [it] A condizione che/di; Se.

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

CONJ *Conjunction.* The dependent text segment elaborates and expans knowledge of the content
isa DISCSEM of the governing text segment or adds a new subject somehow related to it
[267]
Subtypes: CONJ:add CONJ:elab CONJ:seq.

Confusion$_{10.4\%/54.2\%/18.8\%}^{48}$: CONJ:elab$_{35.4\%}$ CONJ:add$_{25\%}$ CONJ$_{18.8\%}$ AGENTIVE:sbj$_{4.2\%}$ TELIC:goal$_{2.1\%}$ TELIC:cons.sbj$_{2.1\%}$
FORMAL:eval$_{2.1\%}$ JOINT$_{2.1\%}$ CONSOL:source$_{2.1\%}$ TELIC:cons.dir$_{2.1\%}$ CONST:apart$_{2.1\%}$ CONC$_{2.1\%}$.

CONJ:add *Conjunction, addition.* An addition relation. The dependent text segment adds a new subject
isa CONJ somehow related to the governing text segment; in cases of uncertainty between add and
[268] 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$_{37.2\%/63.5\%/47.2\%}^{133}$: CONJ:add$_{47.2\%}$ CONJ:elab$_{13.5\%}$ CONJ$_{9\%}$ JOINT$_{4.5\%}$ conj$_{4.4\%}$ CONC$_{3.8\%}$ TELIC:cons.sbj$_{2.3\%}$
AGENTIVE:sbj$_{2.3\%}$ CONJ:seq$_{1.5\%}$ CONST:exem$_{1.5\%}$ CONST:apart$_{1.5\%}$ CONTR$_{0.8\%}$ TIME:pre$_{0.8\%}$ CONTR:prg$_{0.8\%}$
CONTR:sbj$_{0.8\%}$ COND$_{0.8\%}$ qobj$_{0.8\%}$ TELIC$_{0.8\%}$ TELIC:cons.dir$_{0.8\%}$ AGENTIVE:reas$_{0.8\%}$ DISJ:dir$_{0.8\%}$ vobj$_{0.8\%}$ CONTR:dir$_{0.3\%}$
.

CONJ:elab *Conjunction, elaboration* (deprecated ELAB:spec,ELAB:exp,CONST:elab). An elaboration relation.
isa CONJ The dependent text segment elaborates and expans knowledge of the content of the governing
[269] text segment; in cases of uncertainty between add and elab we do not specify the subtype

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

CONJ:seq *Conjunction, sequence.* A sequence relation. The dependent text segment is part of list or
isa CONJ sequence linked to the governing text segment as e.g. in recipes, sport results etc.
[270]
Confusion$_{61.5\%/92.3\%/69.2\%}^{13}$: CONJ:seq$_{69.2\%}$ CONJ:add$_{15.4\%}$ CONJ:elab$_{7.7\%}$ DIREC$_{7.7\%}$.

CONST *Constitutive elaboration relation.* The dependent segment adds more details regarding the
isa DISCSEM constitution of the governing segments or part(s) of it.
[254]
Subtypes: CONST:apart CONST:exem CONST:rest.

Confusion$_{0\%/100\%/0\%}^{39}$: const$_{66.7\%}$ agent$_{12.8\%}$ −$_{5.1\%}$ source$_{2.6\%}$ MOD:qual$_{2.6\%}$ arg$_{2.6\%}$ argloc$_{2.6\%}$ func$_{2.6\%}$ apart$_{2.6\%}$
.

CONST:apart *Part of relation.* A part-of relation. The dependent segment expresses a part of the governing
isa CONST segment or vice versa.
[256]
Typical connectives: [en] Including, Herein; [da] Herunder, Heri; [it] Incluso, Tra cui.

Confusion$_{16.7\%/58.3\%/25\%}^{12}$: CONJ:elab$_{25\%}$ CONST:apart$_{25\%}$ CONJ:add$_{16.7\%}$ CONST:exem$_{16.7\%}$ CONJ$_{8.3\%}$ nobj$_{8.3\%}$
.

CONST:exem *Exemplification.* A constitutive exemplification relation. The dependent segment gives ex-
isa CONST amples of elements or phenomena regarding the governing segment.
[255]
Typical connectives: [en] For example; [da] For eksempel; [it] Per esempio.

Confusion$^{17}_{29.4\%/70.6\%/47.1\%\%}$: CONST:exem$_{47.1\%}$ CONJ:add$_{11.8\%}$ CONST:apart$_{11.8\%}$ CONJ:elab$_{5.9\%}$ JOINT$_{5.9\%}$ CONST:rest$_{5.9\%}$ CONSOL:source$_{5.9\%}$ CONC$_{5.9\%}$.

CONST:rest
isa CONST
[257]

Restatement. A restatement relation. The dependent segment states the governing segment again in a different way

Typical connectives: [en] In other words, Or; [da] Dvs., Sagt på en anden måde; [it] Ossia, In altre parole, Cioè.
Confusion$^{11}_{22.7\%/59.1\%/25.8\%\%}$: CONJ:elab$_{27.3\%}$ CONST:rest$_{25.8\%}$ TELIC:cons.sbj$_{9.1\%}$ TELIC:cons.dir$_{9.1\%}$ CONST:exem$_{9.1\%}$ AGENTIVE:expl$_{9.1\%}$ conj$_{6.1\%}$ qobj$_{4.5\%}$.

CONTR
isa DISCSEM
[271]

Contrast. The dependent text segment expresses a contrast wrt the governing text segment.

Subtypes: CONTR:dir CONTR:sbj.
Confusion$^{4}_{0\%/100\%/0\%\%}$: CONJ:add$_{25\%}$ AGENTIVE:expl$_{25\%}$ CONTR:dir$_{25\%}$ CONC$_{25\%}$.

CONTR:dir
isa CONTR
[272]

Direct contrast. A direct contrast relation. The contrast lies between the governing and dependent text segment.

Typical connectives: [en] But, However; [da] Men, Derimod; [it] Ma, Invece.
Confusion$^{14}_{16.7\%/31\%/31\%\%}$: CONTR:dir$_{31\%}$ conj$_{20.2\%}$ CONTR:prg$_{10.7\%}$ CONTR$_{7.1\%}$ CONJ:elab$_{7.1\%}$ TELIC:cons.sbj$_{7.1\%}$ TELIC:cons.dir$_{7.1\%}$ CONTR:sbj$_{7.1\%}$ CONJ:add$_{2.4\%}$.

CONTR:sbj
isa CONTR
[273]

Subjective contrast (deprecated CONTR:prg). A subjective contrast relation. The contrast lies between an explicit and a subjectively inferred text segment.

Typical connectives: [en] But, However; [da] Men, Derimod; [it] Ma, Invece.
Confusion$^{12}_{19.4\%/48.6\%/31.9\%\%}$: CONTR:sbj$_{31.9\%}$ conj$_{13.9\%}$ CONJ:elab$_{8.3\%}$ CONTR:prg$_{8.3\%}$ CONJ:add$_{8.3\%}$ qobj$_{8.3\%}$ CONTR:dir$_{8.3\%}$ CONC$_{8.3\%}$ TELIC:cons.dir$_{4.2\%}$.

DISJ
isa DISCSEM
[274]

Disjunction. There is a disjunction relation between the governing and dependent text segment.

Subtypes: DISJ:dir DISJ:sbj.

DISJ:dir
isa DISJ
[275]

Direct disjunction. A direct disjunction relation. The disjunction lies between the governing and dependent text segment.

Typical connectives: [en] Or, Or else, Otherwise; [da] Eller, Ellers; [it] Oppure, Altrimenti.
Confusion$^{2}_{0\%/50\%/50\%\%}$: CONJ:add$_{50\%}$ DISJ:dir$_{50\%}$.

DISJ:sbj
isa DISJ
[276]

Subjective disjunction (deprecated DISJ:prg). An indirect or subjective disjunction relation. The disjunction lies between the dependent and a subjectively inferred text segment.

Typical connectives: [en] Or, Or else, Otherwise; [da] Eller, Ellers; [it] Oppure, Altrimenti.

FORMAL
isa DISCSEM
[258]

Formal description. The dependent segment describes the governing segment wrt its formal quale (form, dimension, colour, etc.). The governing segment may be a first-order or second-order entity.

Subtypes: FORMAL:descr FORMAL:eval.

FORMAL:descr
isa FORMAL
[259]

Neutral description (deprecated DESCR:qual). An objective and neutral description relation. The dependent segment expresses an objective and/or neutral description of the governing segment.

Confusion$^{5}_{20\%/40\%/20\%\%}$: CONJ:elab$_{60\%}$ conj$_{20\%}$ FORMAL:descr$_{20\%}$.

FORMAL:eval
isa FORMAL
[260]

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

$\text{Confusion}^{10}_{20\%/40\%/30\%\%}$: CONJ:elab$_{50\%}$ FORMAL:eval$_{30\%}$ CONJ$_{10\%}$ CONC$_{10\%}$.

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

$\text{Confusion}^{119}_{28.6\%/100\%/28.6\%\%}$: $-_{35.3\%}$ TELIC$_{28.6\%}$ PRE:other$_{10.1\%}$ TRANS$_{4.2\%}$ LOC:dir$_{4.2\%}$ PRE:otherDERva:pas.part$_{2.5\%}$
TELIC]t$_{2.5\%}$ MOD:qual$_{2.5\%}$ NEG:contr$_{0.8\%}$ ASPEC:resutl$_{0.8\%}$ TELIC]l$_{0.8\%}$ DERvn:core$_{0.8\%}$ MOD:eval$_{0.8\%}$
NEG:rev$_{0.8\%}$ dobj.patient$_{0.8\%}$ TELIC]kDERva.pas.part$_{0.8\%}$ SPACE:source$_{0.8\%}$ SPACE:sourceDERva:pas.part$_{0.8\%}$
ASPEC:result$_{0.8\%}$ NEG:priv$_{0.8\%}$.

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
[252] result wrt the governing segment.

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

$\text{Confusion}^{17}_{29.4\%/58.8\%/41.2\%\%}$: TELIC:cons.dir$_{41.2\%}$ TELIC:cons.sbj$_{11.8\%}$ CONJ:elab$_{8.8\%}$ CONST:rest$_{5.9\%}$ CONJ$_{5.9\%}$
CONJ:add$_{5.9\%}$ AGENTIVE:reas$_{5.9\%}$ CONTR:dir$_{5.9\%}$ conj$_{2.9\%}$ CONTR:sbj$_{2.9\%}$ qobj$_{2.9\%}$.

TELIC:cons.sbj *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
[253] behalf of the speaker.

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

$\text{Confusion}^{14}_{21.4\%/64.3\%/28.6\%\%}$: TELIC:cons.sbj$_{28.6\%}$ CONJ:add$_{21.4\%}$ CONJ:elab$_{14.3\%}$ TELIC:cons.dir$_{14.3\%}$ CONJ$_{7.1\%}$
CONST:rest$_{7.1\%}$ CONTR:dir$_{7.1\%}$.

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

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

$\text{Confusion}^{1}_{0\%/100\%/0\%\%}$: time$_{100\%}$.

TIME:cont *Contemporaneity* (deprecated nowincludesabolishedTIME:dur). A contemporaneity relation. The
isa TIME events of the two text segments occur simultaneously.
[264]
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.
[266] Typical connectives: [en] Later, Some time afterwards; [da] Senere, Nogen tid efter; [it] Dopo, Poco tempo dopo.

$\text{Confusion}^{3}_{66.7\%/100\%/66.7\%\%}$: TIME:post$_{66.7\%}$ TRANS$_{33.3\%}$.

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.
[265] Typical connectives: [en] Earlier, Some days before; [da] Før det, Forinden; [it] Prima, Tre giorni prima.

$\text{Confusion}^{4}_{50\%/100\%/50\%\%}$: TIME:pre$_{50\%}$ $-_{25\%}$ time$_{25\%}$.

Chapter 6

Anaphor relations: ANA

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

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

ANA
isa DIM:LEVEL
[14]

Anaphor level (long: ANAPHORA). The anaphor level includes relations between anaphors and their antecedents, as well as lexical features associated with anaphora.
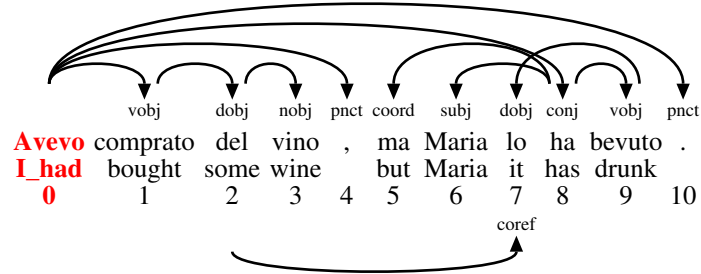
Subtypes: ANAREL anaphor.

ANAREL
isa ANA REL
[28]

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

anaphor
isa ANA
[207]

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

Subtypes: assoc coref.

assoc
isa anaphor
[217]

Associative anaphor. The anaphor designates an entity which is associated with the antecedent

Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.

Confusion$_{33.3\%/83.3\%/33.3\%\%}^{6}$: assoc-const$_{66.7\%}$ assoc$_{33.3\%}$.

coref
isa anaphor
[210]

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

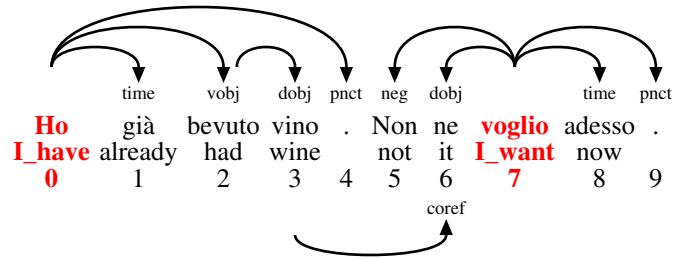Subtypes: coref-evol coref-iden coref-res coref-var ref.

Confusion$_{60.6\%/63.7\%/89.1\%\%}^{238}$: coref$_{89.1\%}$ coref-var$_{6.8\%}$ ref$_{1.3\%}$ coref-res$_{1.3\%}$ assoc-const$_{0.6\%}$ coref-iden$_{0.6\%}$ assoc-agentive.agent$_{0.4\%}$.
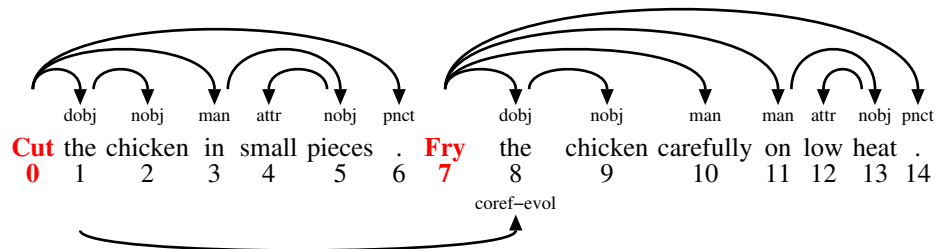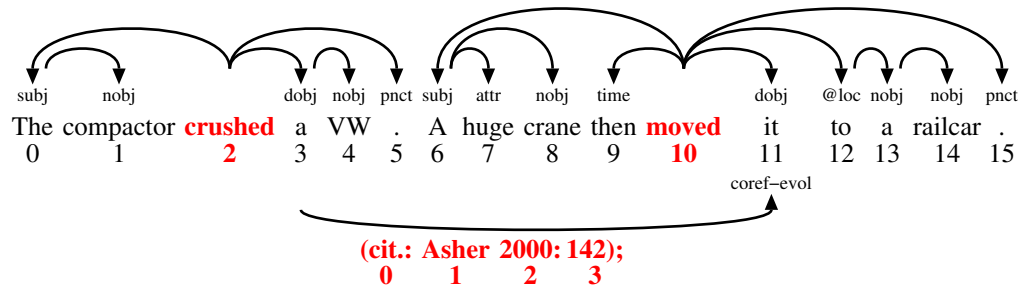
I had bought some wine but Maria has drunk it all.

	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-!CDT1-TOPIC.

coref
isa anaphor
[210]

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

Subtypes: coref-evol coref-iden coref-res coref-var ref.
$\text{Confusion}^{238}_{60.6\%/63.7\%/89.1\%\%}$: $\text{coref}_{89.1\%}$ $\text{coref-var}_{6.8\%}$ $\text{ref}_{1.3\%}$ $\text{coref-res}_{1.3\%}$ $\text{assoc-const}_{0.6\%}$ $\text{coref-iden}_{0.6\%}$ assoc-agentive.$\text{agent}_{0.4\%}$.

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

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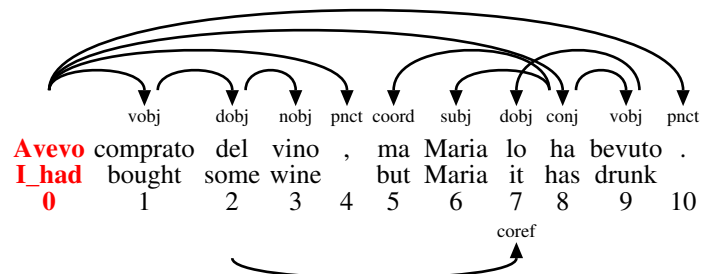
coref-evol *Evolving anaphor.* The anaphor refers to the same discourse referent as the antecedent, but
isa coref after it has undergone radical changes in its ontological status
[215] Confusion$_{0\%/100\%/0\%}^{1}$: coref-var$_{100\%}$.

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

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.

nobj · namef · appr · namef

...the genius Albert Einstein... ...Albert **Einstein...**
0 · 1 · 2 · 3 · 4 · **5**

coref–iden

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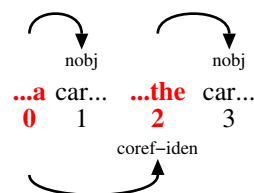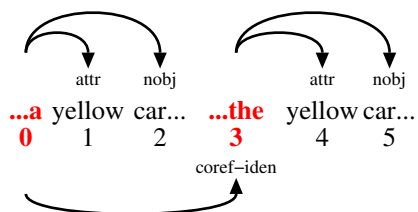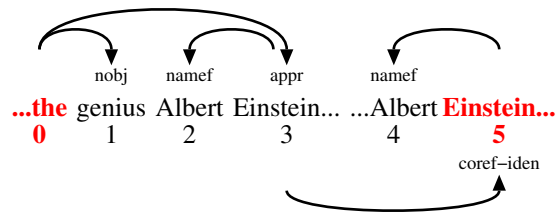
coref-res · *Resumptive anaphor* (deprecated nowincludescoref-res.cause). The anaphor summarises a sentence,
isa coref · clause or predicate
[213] · Subtypes: coref-res.prg.

Confusion$_{61.7\%/67.2\%/75\%\%}^{36}$: coref-res$_{75\%}$ coref-var$_{11.1\%}$ coref$_{8.3\%}$ assoc-telic$_{2.8\%}$ ref$_{2.8\%}$.

subj nobj · loc · nobj possd pnct · subj · nobj · quant · dobj pnct

Two cars **collided** outside my house . The collision really **shocked** me .
0 · 1 · **2** · 3 · 4 · 5 · 6 · 7 · 8 · 9 · **10** · 11 12

{poss} · coref–res

subj nobj · loc · nobj possd pnct · subj · nobj · quant · dobj pnct

Two cars **collided** outside my house . The accident really **shocked** me .
0 · 1 · **2** · 3 · 4 · 5 · 6 · 7 · 8 · 9 · **10** · 11 12

{poss} · coref–res

subj nobj · loc · nobj possd pnct · subj · quant · dobj pnct

Two cars **collided** outside my house . It really **shocked** me .
0 · 1 · **2** · 3 · 4 · 5 · 6 · 7 · 8 · **9** · 10 11

{poss} · coref–res

---

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
[214]

pnct subj · vobj preds · time · pnct pnct · subj · nobj · quant · dobj pnct

" I **shall** be back tomorrow . " The threat really **shocked** me .
0 · 1 · **2** · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · **11** · 12 13

[subj] · coref–res.prg

60

The first diagram shows dependency parses:

"I shall be back tomorrow." The promise really pleased me.
with coref-res.prg

"I shall be back tomorrow." The warning really shocked me.
with coref-res.prg
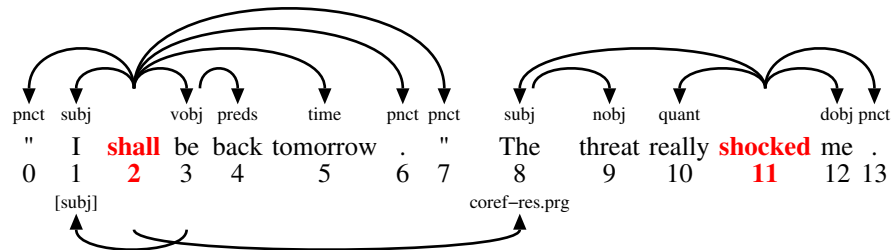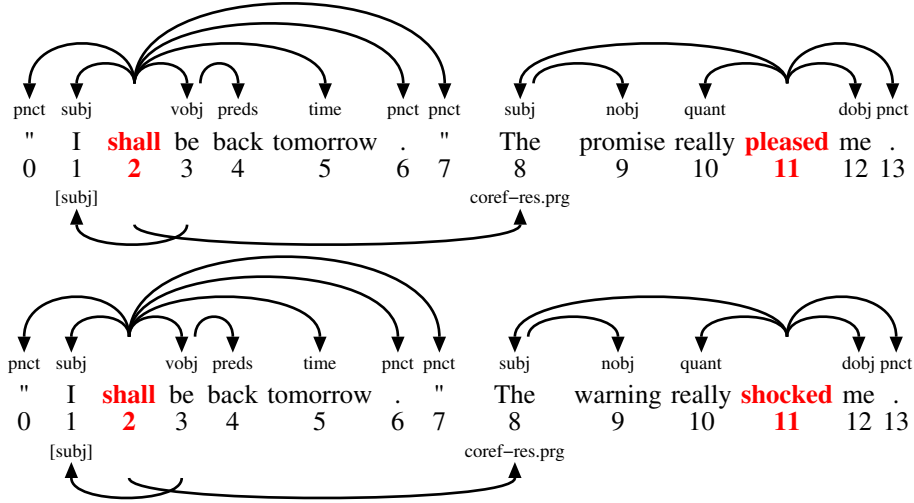
coref-var *Coreferential NP with lexical variety.* The anaphor designates the same entity as the antecedent; the lexical noun and/or attributives or other modifiers are different from those of the antecedent

isa coref

[212]

Confusion$_{58.7\%/71.5\%/73.4\%\%}^{146}$: coref-var$_{73.4\%}$ coref$_{11.3\%}$ coref-iden$_{7.1\%}$ assoc-const$_{4.1\%}$ coref-res$_{2.7\%}$ coref-evol$_{0.7\%}$ assoc-agentive$_{0.7\%}$.

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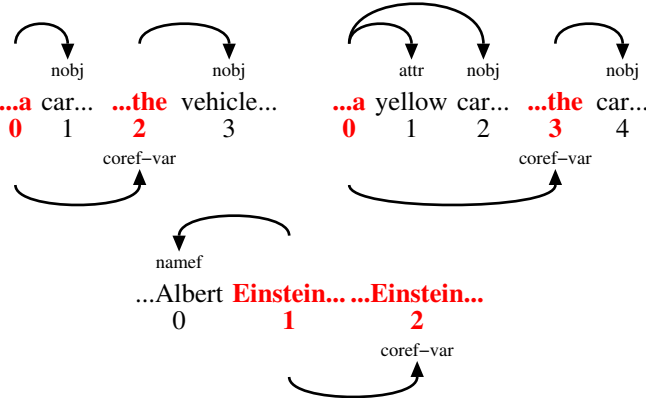
ref *Syntactically determined coreference* (long: _). Syntactically determined coreference (e.g. relative pronouns, external topics). In the DG theory, "ref" is a shorthand for the label "[fobj]" with reversed direction of the arc, ie, a secondary filler object. It is typically used in relative clauses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

isa SEC coref

[208]

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

the car that John bought yesterday was yellow
with ref

61
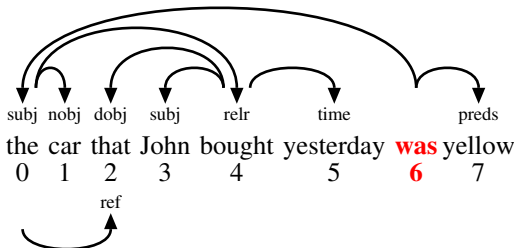
6.2 Associative anaphor relations: assoc

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

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

assoc
isa anaphor
[217]

Associative anaphor. The anaphor designates an entity which is associated with the antecedent

Subtypes: assoc-OTHER assoc-QUALIA assoc-SEMROLE.

Confusion$^{6}_{33.3\%/83.3\%/33.3\%\%}$: assoc-const$_{66.7\%}$ assoc$_{33.3\%}$.

assoc-OTHER
isa assoc
[236]

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
[239]

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$^{2}_{100\%/100\%/100\%\%}$: assoc-event$_{100\%}$.
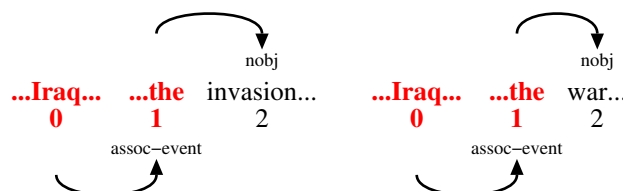
assoc-loc
isa assoc-OTHER
[237]

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

$\text{Confusion}^2_{0\%/100\%/0\%\%}$: assoc-const$_{100\%}$.
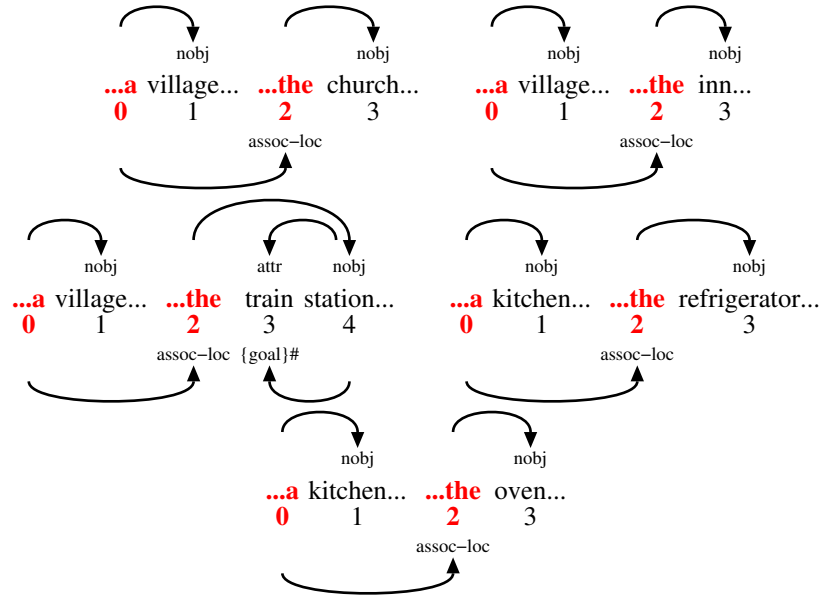
assoc-time
isa assoc-OTHER
[238]

Associative anaphor (time). The antecedent is a predicate or predicative noun, a time indication or a more general narrative frame, the anaphor expresses a point in time linked to it
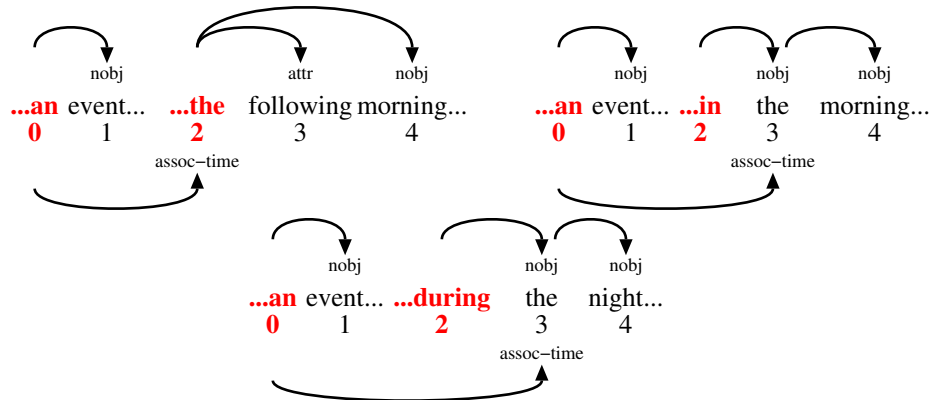
assoc-QUALIA
isa assoc
[218]

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

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

assoc-agentive
isa assoc-QUALIA
[221]

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

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

assoc-agentive.agent
isa assoc-agentive
[222]
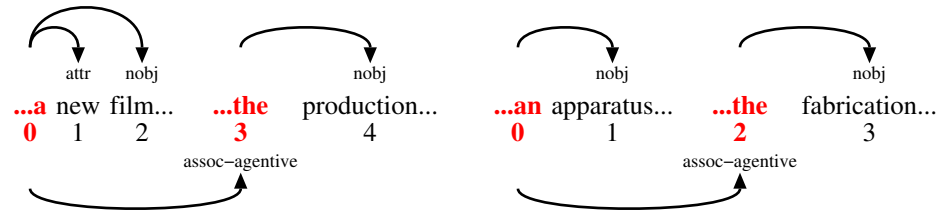
Associative anaphor (agentive-agent). The anaphor plays the semantic role of agent wrt the "bringing about" of the antecedent

Related types: assoc-agentive.inst.

Confusion$_{0\%/66.7\%/0\%\%}^{3}$: assoc-telic$_{66.7\%}$ coref$_{33.3\%}$.

assoc-agentive.inst
isa assoc-agentive
[223]
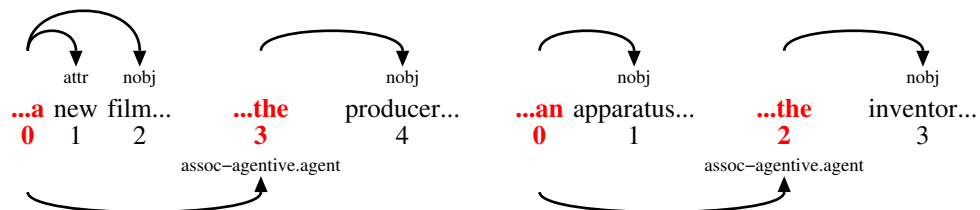
Associative anaphor (agentive-inst). The anaphor plays the semantic role of instrument wrt the "bringing about" of the antecedent

Related types: assoc-agentive.agent.

assoc-const
isa assoc-QUALIA
[219]
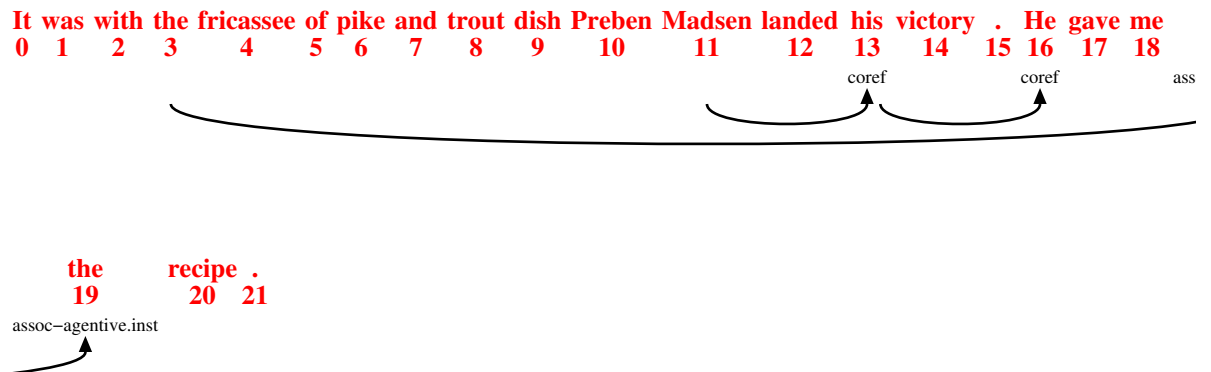
Associative anaphor (constitutive). The anaphor is associated with the antecedent wrt its constitutive quale (parts, elements, material, etc.)

Confusion$_{47.6\%/71.4\%/59.5\%\%}^{42}$: assoc-const$_{59.5\%}$ coref-var$_{14.3\%}$ assoc$_{9.5\%}$ assoc-telic$_{4.8\%}$ coref$_{4.8\%}$ assoc-loc$_{4.8\%}$ coref-iden$_{2.4\%}$.
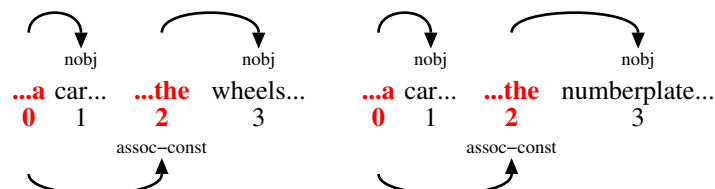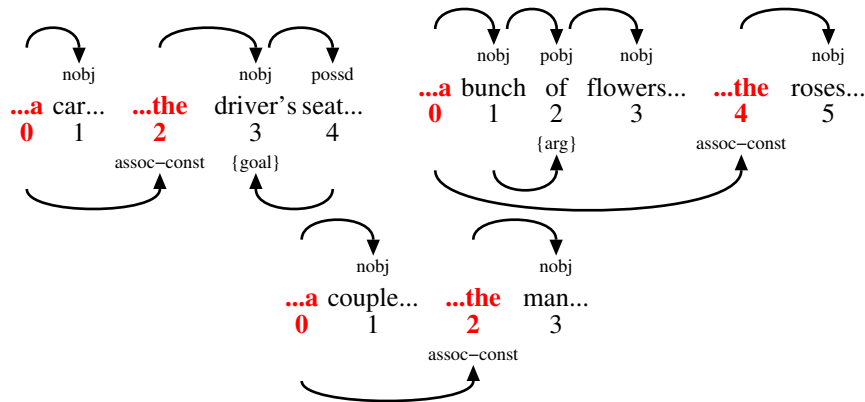
I have bought a bottle of wine. Do you want some of it?
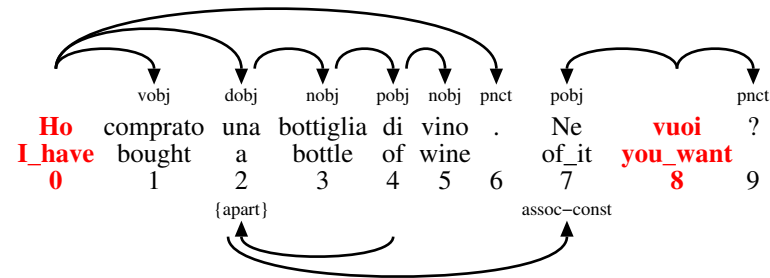
assoc-formal *Associative anaphor (formal).* The anaphor is associated with the antecedent wrt its formal
isa assoc-QUALIA quale (shape, dimension, colour, etc.)
[220] $\text{Confusion}^1_{100\%/100\%/100\%\%}$: assoc-formal$_{100\%}$.
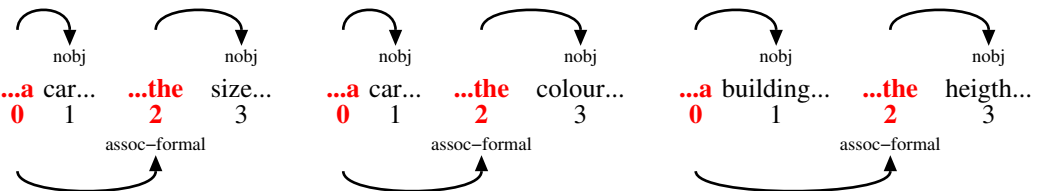
assoc-telic *Associative anaphor (telic)* (deprecated assoc-scope?). *The anaphor is associated with antecedent*
isa assoc-QUALIA wrt its telic quale (purpose, function, result, consequence etc.)
[224] Subtypes: assoc-telic.agent assoc-telic.exper assoc-telic.inst assoc-telic.patient assoc-telic.rec.
$\text{Confusion}^{25}_{40\%/76\%/56\%\%}$: assoc-telic$_{56\%}$ assoc-agentive.agent$_{8\%}$ assoc-telic.patient$_{8\%}$ assoc-const$_{8\%}$ assoc-telic.agent$_{8\%}$
coref-iden$_{4\%}$ assoc-telic.inst$_{4\%}$ coref-res$_{4\%}$.
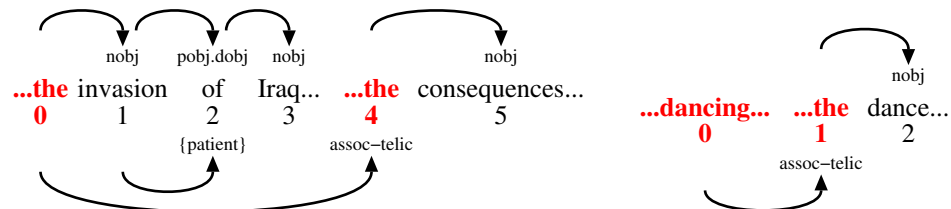
assoc-telic.agent *Associative anaphor (telic-agent).* The anaphor plays the semantic role of agent wrt the telic
isa assoc-telic quale of the antecedent (NB: the precise analysis of the semantic role will depend on the
[225] inferred predicate)
$\text{Confusion}^2_{0\%/100\%/0\%\%}$: assoc-telic$_{100\%}$.
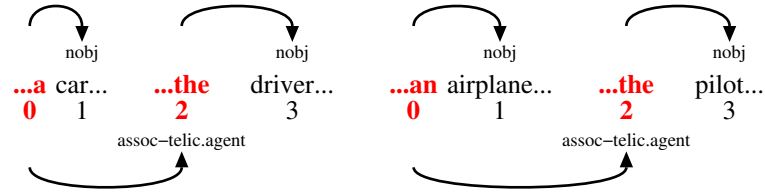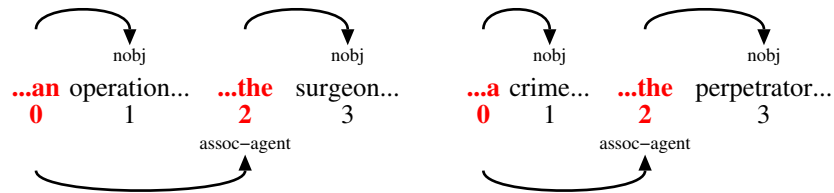
assoc-telic.exper
isa assoc-telic
[228]

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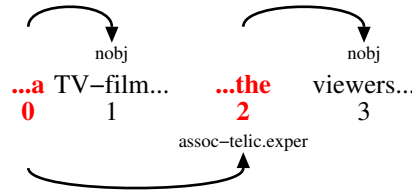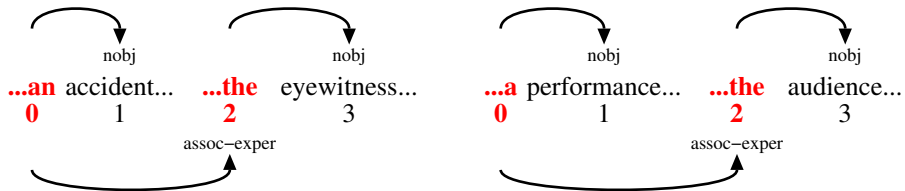

assoc-telic.inst
isa assoc-telic
[229]

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

$\text{Confusion}^1_{0\%/100\%/0\%\%}$: assoc-telic$_{100\%}$.
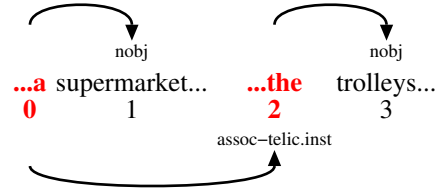
assoc-telic.patient
isa assoc-telic
[226]

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)

$\text{Confusion}^2_{0\%/100\%/0\%\%}$: assoc-telic$_{100\%}$.
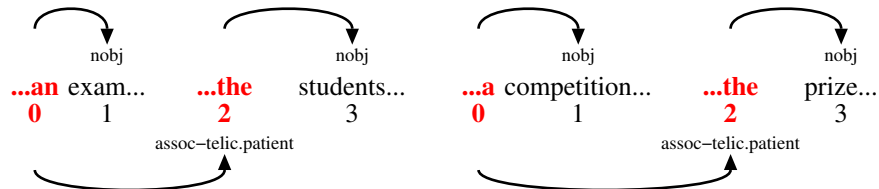
assoc-telic.rec
isa assoc-telic
[227]

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

assoc−telic.rec
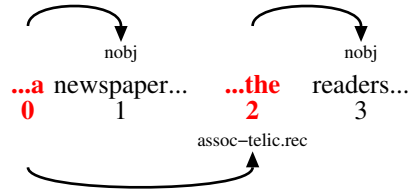
assoc-SEMROLE *Associative anaphor wrt. semantic role.* The antecedent is a predicate or predicative noun,
isa assoc and the anaphor designates an entity or individual that plays a semantic role wrt the an-
[230] tecedent predication

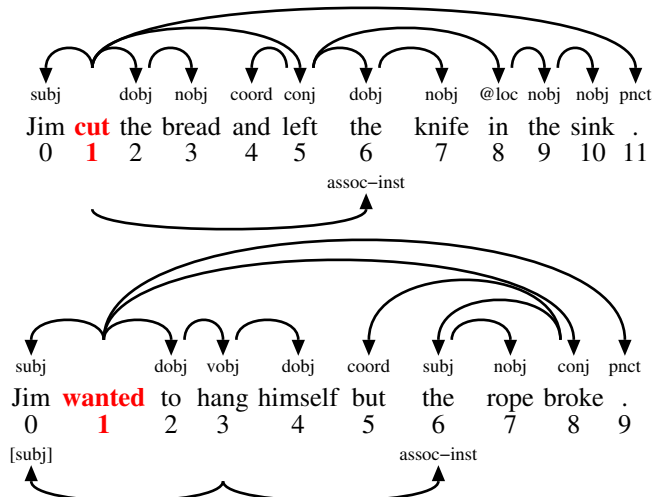Subtypes: assoc-agent assoc-exper assoc-inst assoc-patient assoc-rec.

assoc-agent *Associative anaphor (agent).* The antecedent is a predicate or predicative noun, and the
isa assoc-SEMROLE anaphor is the semantic agent
[231]

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

assoc−agent   assoc−agent

assoc-exper *Associative anaphor (experiencer).* The antecedent is a predicate or predicative noun, and the
isa assoc-SEMROLE anaphor is the semantic experiencer
[234]

...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.
[235]

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

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
[232]
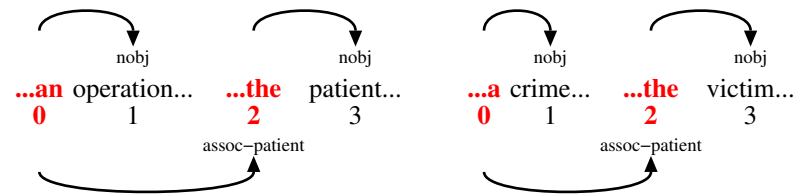
assoc-rec *Associative anaphor (recipient).* The antecedent is a predicate or predicative noun, and the
isa assoc-SEMROLE anaphor is the semantic recipient
[233]
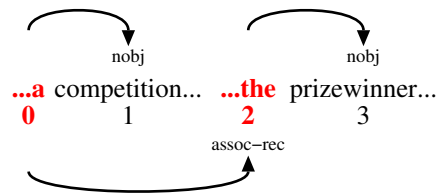
Chapter 7

Semantic relations: SEM

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

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

SEM
isa DIM:LEVEL
[12]

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

Subtypes: SEMREL.

SEMREL
isa REL SEM
[29]

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

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

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

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

nobj		nobj	nobj	attr		nobj	attr	nobj
a	meeting	**between**	the	directors	in	Spain	in	2002
0	1	**2**	3	4	5	6	7	8
					{location}		{time}	

{agent}
pobj.subj

	possd	
my	mother	
0	1	
{arg}		

	possd	
Allan's	car	
0	1	
{poss}		

"his car""

"my car"

possd	
bestyrelsens	beslutning
the−board's	decision
0	1

[subj]
{agent}

nobj	possd	
la	mia	macchina
the	my	car
0	1	2
	{poss}	

possd	nobj	
el	coche	suyo
the	car	his
0	1	2
	{poss}	

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

nobj	pobj.dobj	nobj	
el	descubrimiento	del	oro
the	discovering	of−the	gold
0	1	2	3
		{patient}	

QUALIA
isa SEMREL
[30]

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

Subtypes: agentive const formal resemblance telic.

{about}
isa SEMREL
[62]

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

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

attr	
abortion	**law**
0	**1**
{about}#	

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

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

$\text{Confusion}^{19}_{42.1\%/100\%/42.1\%\%}$: {quant}$_{47.4\%}$ {apart}$_{42.1\%}$ {loc}$_{5.3\%}$ {const}$_{5.3\%}$.
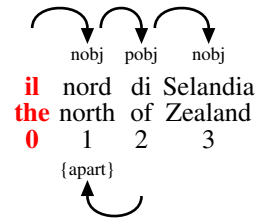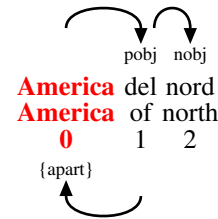
{arg} . Used in noun phrases with relational nouns.
isa SEMREL $\text{Confusion}^{189}_{55\%/94.7\%/56.6\%\%}$: {arg}$_{56.6\%}$ {agent}$_{9\%}$ {patient}$_{5.3\%}$ {const}$_{4.8\%}$ {func}$_{4.2\%}$ {goal}$_{4.2\%}$ {loc}$_{3.7\%}$ {source}$_{3.7\%}$
[68]   {about}$_{3.2\%}$ {poss}$_{2.6\%}$ {other}$_{1.6\%}$ {quant}$_{0.5\%}$ {time}$_{0.5\%}$.
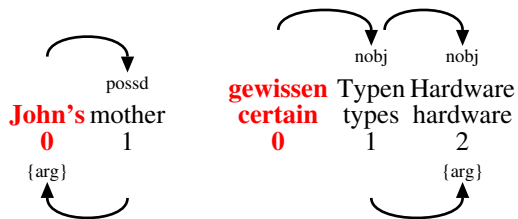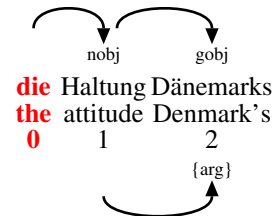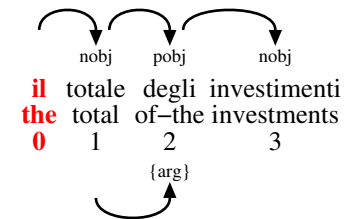
{cause} . Used in noun phrases where the modifier is the person or object that performs the non-
isa SEMREL   volitional action indicated by the head.
[53] $\text{Confusion}^{1}_{0\%/100\%/0\%\%}$: {goal}$_{100\%}$.

muerte por hambre
death by starvation
0 1 2

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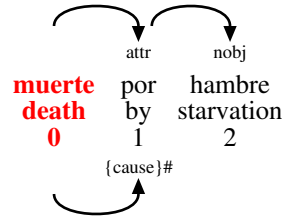
{class} . Used in noun phrases where the modifier indicates the super type or classification of the
isa SEMREL head. Please note that the modifier is the semantic head of the NP in opposition to the main
[64] part of the other semantic roles.

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

the city of London
0 1 2 3
{class}

la zona di Kalvebodkilerne
the zone of Kalvebodkilerne
0 1 2 3
{class}
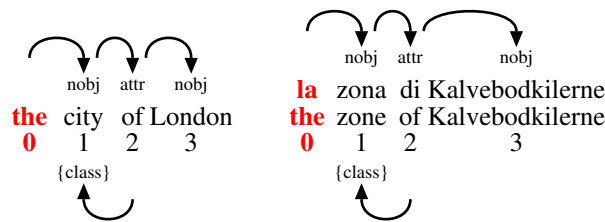
{const} . Used in noun phrases that expresses a part-whole or whole-part relation between the mod-
isa SEMREL ifier and the head or where the modifier denotes the material of or an essential constituent of
[49] the head.

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

plastic lighter

mechero de plástico
lighter of plastic
0 1 2
{const}#

church **tower**
0 **1**
{const}#
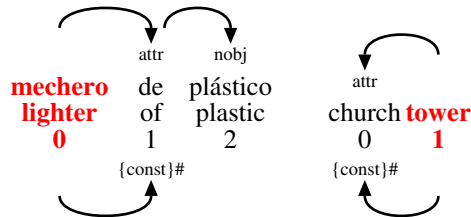
{elab} .
isa SEMREL Related types: modp.
[48] Confusion$^7_{71.4\%/85.7\%/85.7\%\%}$: {elab}$_{85.7\%}$ {loc}$_{14.3\%}$.

{eval} . Used in noun phrases where there is a descriptive or evaluative relation between the mod-
isa SEMREL ifier and the head.
[60] Confusion$^1_{100\%/100\%/100\%\%}$: {eval}$_{100\%}$.

side **effect**
0 **1**
{eval}#
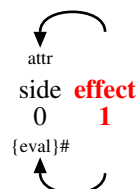
{event} . Used in noun phrases where the modifier denotes an event rather than a location or temporal
isa SEMREL relation. Often used in connection with predicative head nouns.
[59] Related types: {loc} {time}.

$$\text{deltagelse} \quad \text{i} \quad \text{mødet}$$

	pobj.pobj	nobj
deltagelse	i	mødet
participation	in	meeting–the
0	1	2

{event}

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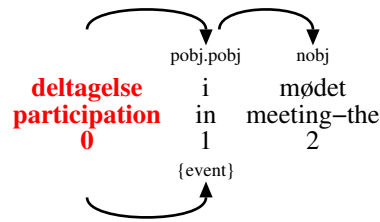
Confusion$^{7}_{42.9\%/100\%/42.9\%\%}$: {experiencer}$_{42.9\%}$ {agent}$_{42.9\%}$ {patient}$_{14.3\%}$.

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

baking powder   **country ham in julienne strips**

	attr	nobj			attr	nobj
levadura	en	polvo		**landskinke**	i	julienne
yeast	in	powder		**country_ham**	in	julienne
0	1	2		**0**	1	2

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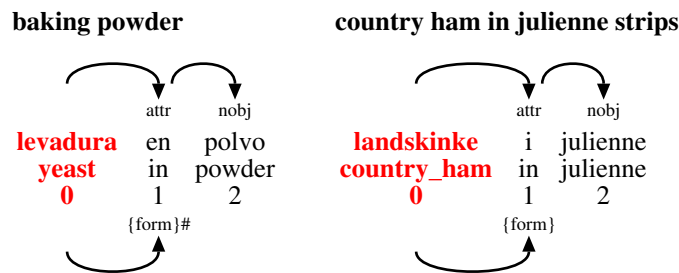
{func} . Used in noun phrases where the satellite determinates the instrumental function of the
isa SEMREL nucleus.
[55] Confusion$^{45}_{51.1\%/100\%/51.1\%\%}$: {func}$_{51.1\%}$ {arg}$_{17.8\%}$ {goal}$_{11.1\%}$ {loc}$_{6.7\%}$ {about}$_{4.4\%}$ {const}$_{2.2\%}$ {iden}$_{2.2\%}$ {patient}$_{2.2\%}$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

attr	
wind	**mill**
0	**1**

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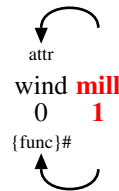
{goal} . Used in noun phrases where the satellite determinates the goal or the intention for which
isa SEMREL the nucleus is destinated.
[54] Confusion$^{71}_{64.8\%/98.6\%/66.2\%\%}$: {goal}$_{66.2\%}$ {arg}$_{11.3\%}$ {func}$_{7\%}$ {loc}$_{2.8\%}$ {about}$_{2.8\%}$ {cause}$_{1.4\%}$ {const}$_{1.4\%}$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

nobj.dobj	attr		attr
birth	control	**pills**	police	**station**
0	1	**2**	0	**1**

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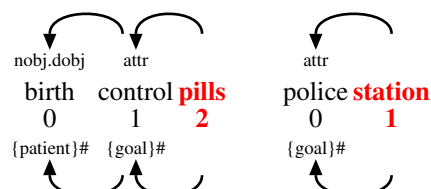
{iden}
isa SEMREL
[67]
. Used in noun phrases where the satellite indicates the identity of the nucleus. In this case it is also possible to equate the satellite to the nucleus i.e. that the nucleus represents the super type of the satellite.

Related types: {class}.
Confusion$_{0\%/100\%/0\%\%}^{1}$: {func}$_{100\%}$.
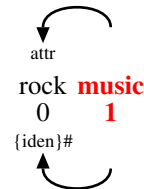
{location}
isa SEMREL
[73]
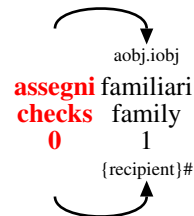*The location where something is situated or happens.* Used in noun phrases where there is a deverbal relation between the nucleus and the satellite. Often realized as a prepositional object

Confusion$_{50\%/100\%/50\%\%}^{2}$: {loc}$_{50\%}$ {location}$_{50\%}$.
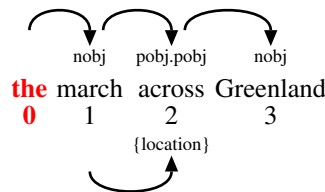
{loc}
isa SEMREL
[57]
(deprecated {pos}). Used in noun phrases where the satellite indicates the location of the position or the location of nucleus.

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

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

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

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

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

bread producer

$$\text{produttore} \quad \underset{\text{of}}{\overset{\text{pobj.dobj}}{\text{di}}} \quad \underset{\text{bread}}{\overset{\text{nobj}}{\text{pane}}}$$

producer | di | pane
0 | 1 | 2
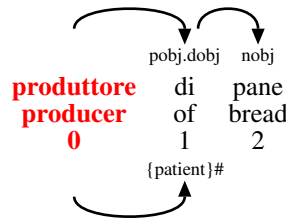
{patient}#

{poss} . Used in noun phrases where there is a possession relation between the nucleus and the
isa SEMREL satellite. Often the satelitte is the owner or possessor of the nucleus.

[56] $\text{Confusion}^{27}_{44.4\%/88.9\%/48.1\%\%}$: {poss}$_{48.1\%}$ {arg}$_{18.5\%}$ {other}$_{11.1\%}$ {loc}$_{7.4\%}$ {const}$_{7.4\%}$ {patient}$_{3.7\%}$ {source}$_{3.7\%}$.

attr
police **car**
0 **1**

{poss}#
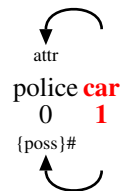
{quant} . Used in noun phrases where the satellite indicates the quantity in numbers or another
isa SEMREL countable unit of the nucleus.

[65] $\text{Confusion}^{21}_{47.6\%/95.2\%/47.6\%\%}$: {quant}$_{47.6\%}$ {apart}$_{42.9\%}$ {arg}$_{4.8\%}$ {other}$_{4.8\%}$.

women | attr of | nobj 40
0 | 1 | 2

{quant}

a 240 meter long bridge
quant nobj attr nobj
0 1 2 3 4
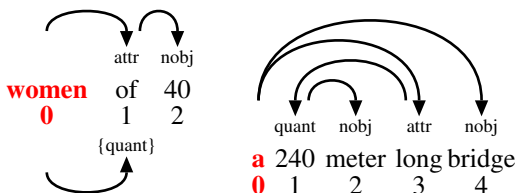
{recipient} *The receiver of something.* Used in noun phrases where there is a deverbal relation between
isa SEMREL the nucleus and the satellite. Often realized as an indirect object

[72] $\text{Confusion}^{7}_{57.1\%/100\%/57.1\%\%}$: {recipient}$_{57.1\%}$ {loc}$_{14.3\%}$ {patient}$_{14.3\%}$ {goal}$_{14.3\%}$.

child benefits

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

{recipient}#

child maintenance

aobj.iobj
assegni familiari
checks family
0 | 1

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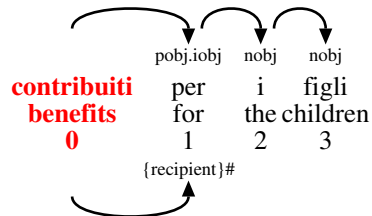
{resem} . Used in noun phrases where there is a resemblance between the nucleus and the satellite.
isa SEMREL $\text{Confusion}^{2}_{50\%/100\%/50\%\%}$: {resem}$_{50\%}$ {goal}$_{50\%}$.
[61]

folding chair   **spring cabbage**

attr   nobj   attr

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

{resem}#   {resem}#
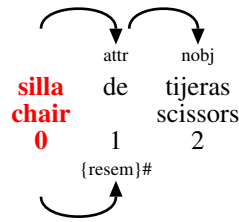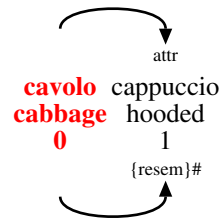
{source} (deprecated {origin}). Used in noun phrases where the satellite is the source from which the
isa SEMREL nucleus derives or is deduced.

[52] $\text{Confusion}^{44}_{47.7\%/88.6\%/50\%\%}$: {source}$_{50\%}$ {loc}$_{15.9\%}$ {arg}$_{15.9\%}$ {const}$_{6.8\%}$ {time}$_{6.8\%}$ {agent}$_{2.3\%}$ {poss}$_{2.3\%}$.

attr   attr

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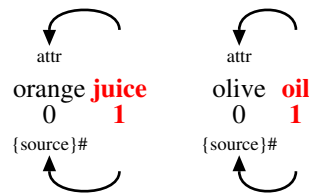
{source}#   {source}#

{time} . Used in noun phrases where the satellite indicates some kind of temporal aspect of the
isa SEMREL nucleus.

[58]   Related types: {event}.

$\text{Confusion}^{28}_{64.3\%/78.6\%/82.1\%\%}$: {time}$_{82.1\%}$ {source}$_{10.7\%}$ {arg}$_{3.6\%}$ {other}$_{3.6\%}$.

attr

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

{time}#

7.1   Qualia relations: QUALIA

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

Figure 7.2: The relations matching QUALIA-!CDT1.

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

[30]

Subtypes: agentive const formal resemblance telic.

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

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

Confusion$^{38}_{0\%/100\%/0\%\%}$: CONST$_{68.4\%}$ $-_{7.9\%}$ ABOUT$_{7.9\%}$ GOAL$_{5.3\%}$ ARG$_{5.3\%}$ MOD:qual$_{2.6\%}$ SOURCE$_{2.6\%}$.

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

Subtypes: location.

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

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

Subtypes: ""QUALIA.

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

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

Subtypes: about.

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

Confusion$^{34}_{0\%/100\%/0\%\%}$: ABOUT$_{41.2\%}$ ARG$_{20.6\%}$ AGENT:MCPRE:other$_{8.8\%}$ OTHER$_{5.9\%}$ DERvn:coreDOBJ.patient$_{5.9\%}$ ABOUT]k$_{5.9\%}$ PRE:other$_{5.9\%}$ $-_{2.9\%}$ FORM$_{2.9\%}$.

7.2 Thematic role relations: SEMROLE

Figure 7.3: The relations matching SEMROLE-!CDT1.

Chapter 8

Word alignment relations: ALIGN

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

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

ALIGN
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
[413]

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
[414]
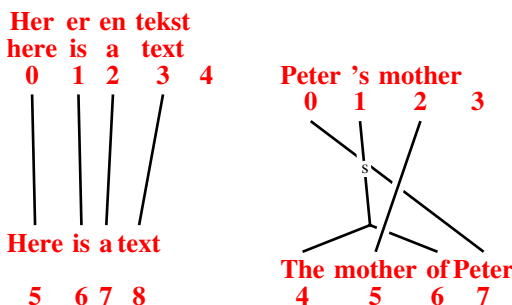
Fuzzy word alignment (long: fuzzy). A semantically fuzzy word alignment.

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-!CDT1-TOPIC.

RULE
isa ANY
[4]

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

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

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

""QUALIA
isa RULE resemblance
[45]

Resemblance wrt. $qualia relation.

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

RuleAttr *Attribution* (long: (PRIM)"/ATTR"INTEGER). Specifies the person to whom the utterance is
isa ATTRIBUTION RULE attributed (ATTR or ATTR1, ATTR2, ... when there is more than one person)
[400]

RuleAttrD *Down-dependent in attribution* (long: DISC"*"). The dependent in the relation is one step
isa RULE further down in the attribution chain
[402]

RuleAttrH *Down-head in attribution* (long: "*"DISC). The head in the relation is one step further down in
isa RULE the attribution chain
[401]

RuleDisc *Syntactic discourse relation* (long: "_"(PRIM)). A primary syntactic relation that has been used
isa DISC RULE as a discourse relation for stilistic purposes.
[395]

RuleExpConn *Explicit connector* (long: PRIM"/"CONNECTOR). The discourse relation has explicit connector
isa RULE $CONNECTOR
[403]

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
[393] 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 *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
[397] used with semantic relations, not with syntactic relations.
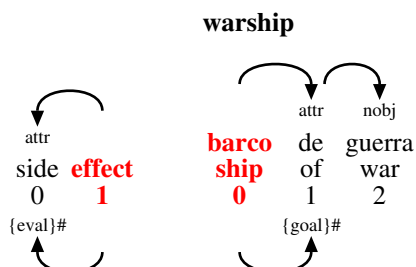
RuleImpConn
isa RULE
[404]

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

RuleMorph
isa MORPH RULE
[396]

Syntactic morphlogy relation (long: "_"(PRIM)). A primary syntactic relation that has been used as a morphology relation for stilistic purposes.

RuleOblAdv
isa COMP RULE
[394]

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.
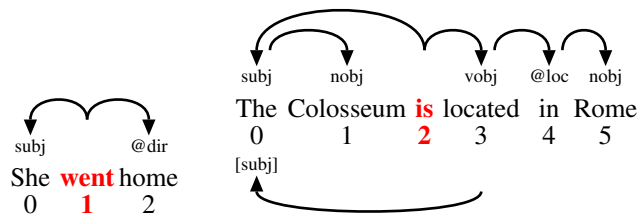
RuleOr
isa RULE
[389]

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
[390]

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
[392]

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

Related types: SEC.
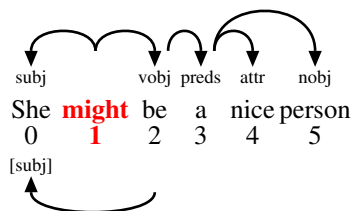
Chapter 10

Ontological relations: ONTO

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

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

ONTO
isa DIM:LEVEL
[13]

Ontology level (long: ONTOLOGY). The ontological level includes relations between lexical elements construed as ontological units, as well as lexical features associated with ontological units.

Subtypes: ONTOCLASS.

ONTOCLASS
isa FEAT ONTO
[483]

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
[484]

Ontological entity.

Subtypes: _abstract _concrete.

_abstract
isa _top
[485]

Abstract entity.

_concrete
isa _top
[486]

Concrete entity.

Chapter 11

Deprecated relations from DDT: CDT1

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

Figure 11.1: The relations matching CDT1.

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

CDT1ADJ *Deprecated CDT1 adjunct relations.* Deprecated adjunct relations from the CDT1+2 tree-
isa CDT1 SYNADJ
[420]

banks.

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.
[425]


```
        subj      err   pred
       He   is  been old
       0    1    2    3
```
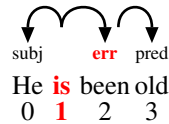
list *Deprecated list element..* Deprecated list element. Used when two or more phrases form
isa CDT1ADJ a unit, but the internal structure is hard to analyze with the existing set of relations (eg,
[424] addresses, phone numbers, etc). The secondary elements are analyzed as list adjuncts of the
first element.


```
        name    list  pnct  mod    list
       4  Privet Drive  ,  Little Whinging
       0   1     2    3    4      5
```
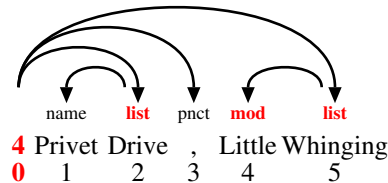
mod *Modifier/adverbial.* Deprecated name for adverbials
isa CDT1ADJ
[444] Subtypes: modo modp modr.

modo *Object-oriented modifier.* Deprecated name for object-oriented modifiers
isa mod
[447]

modp *Parenthetic modifier.* Deprecated name for parenthetic modifiers
isa mod
[446] Related types: {elab}.

modr *Restrictive modifier.* Deprecated name for restrictive modifiers
isa mod
[445]

mods .
isa CDT1ADJ
[423]

obl .
isa CDT1ADJ
[426]

rep .
isa CDT1ADJ
[427]

CDT1COMP *Deprecated CDT1 complement relations.* Deprecated complement relations from the CDT1+2
isa CDT1 SYNCOMP treebanks.
[419]
Subtypes: lobj tobj.

lobj *Deprecated locative object..* Deprecated locative object.
isa CDT1COMP
[422]


```
        subj     lobj
       He  lives here
       0    1    2
```
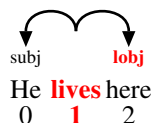
tobj *Deprecated temporal object..* Deprecated temporal object.
isa CDT1COMP
[423]


```
      subj        tobj  nobj
   It  lasted  two hours
   0     1      2    3
```
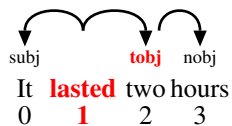
CDT1GAP *Deprecated CDT1 gap relations.* Deprecated gapping relations from the CDT1+2 treebanks.
isa CDT1 gapd
[421]

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

<avobj> .
isa CDT1GAP
[442]
<dobj> .
isa CDT1GAP
[431]
<lobj> .
isa CDT1GAP
[425]
<mod> .
isa CDT1GAP
[420]
<nobj> .
isa CDT1GAP
[433]
<pobj:nobj> .
isa CDT1GAP
[441]
<pobj> .
isa CDT1GAP
[421]
<possd> .
isa CDT1GAP
[427]
<pred> .
isa CDT1GAP
[430]
<qobj> .
isa CDT1GAP
[428]
<subj:pobj> .
isa CDT1GAP
[440]
<subj> .
isa CDT1GAP
[432]
<vobj> .
isa CDT1GAP
[437]
<xpl> .
isa CDT1GAP
[439]

Chapter 12

Relations misplaced outside the ANY hierarchy

MISPLACED: misplaced relation
_interfix:

Figure 12.1: 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 .
[301]

Chapter 13

Annotation topics:: **TOPIC**

Figure 13.1: The relations matching TOPIC-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
```

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

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

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

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

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

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

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

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

The relations matching SYNCOMP-!CDT1-TOPIC.

```
SYNADJ: syntactic adjunct
    ADVERB: adverbial
    app: apposition
        appa: parenthetic apposition (comma)
            xpl: explication
        appr: restrictive apposition (no comma)
    attrg: genitive attributive
    conj: conjunct relation
    coord: coordinator relation
    correl: correlative coordinator relation
    fpred: free predicative
        fpredo: free direct-object predicative
        fpreds: free subject predicative
    gapd: gapping dependent
        RuleGap: gapping dependent
    name: part of name
        namef: first name
        namel: last name
        title: person title
    pnct: punctuation
    rel: relative clause
        relelab: elaborating relative clause
        relpa: parenthetic relative clause
        relr: restrictive relative clause
    voc: vocative
    xtop: external topic with resuming pronoun
```

The relations matching SYNADJ-!CDT1-!ADVERB-TOPIC.

ADVERB: adverbial
    ATTRIBUTION: inter-sentential elementary discourse unit
        RuleAttr: attribution
    BACKGROUND: inter-sentential elementary discourse unit
    CAUSE: inter-sentential elementary discourse unit
    COMMENT: inter-sentential elementary discourse unit
    COMPARISON: inter-sentential elementary discourse unit
    CONDITION: inter-sentential elementary discourse unit
    CONTRAST: inter-sentential elementary discourse unit
    ELABORATION: inter-sentential elementary discourse unit
    ENABLEMENT: inter-sentential elementary discourse unit
    EVALUATION: inter-sentential elementary discourse unit
    EXPLANATION: inter-sentential elementary discourse unit
    MANNER: inter-sentential elementary discourse unit
    MEANS: inter-sentential elementary discourse unit
    SUMMARY: inter-sentential elementary discourse unit
    TEMPORAL: inter-sentential elementary discourse unit
    agent: agent adverbial
    attribution: intra-sentential elementary discourse unit
    background: intra-sentential elementary discourse unit
    cause: intra-sentential elementary discourse unit
        goal: goal adverbial
    comment: intra-sentential elementary discourse unit
    comparison: intra-sentential elementary discourse unit
    conc: concession adverbial
    concom:
    cond: condition adverbial
    condition: intra-sentential elementary discourse unit
    cons: consequence adverbial
    contrast: intra-sentential elementary discourse unit
    elaboration: intra-sentential elementary discourse unit
    enablement: intra-sentential elementary discourse unit
    evaluation: intra-sentential elementary discourse unit
    event: Adverbial expressing an event
    exem: example adverbial
    explanation: intra-sentential elementary discourse unit
    joint: intra-sentential elementary discourse unit
    man: manner adverbial
        accom: companionship adverbial
        inst: instrument adverbial
    manner: intra-sentential elementary discourse unit
    means: intra-sentential elementary discourse unit
    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

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The relations matching ADVERB-!CDT1-TOPIC.

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

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

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

The relations matching MORPHCOMP-!CDT1-TOPIC.

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

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

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

The relations matching PREFIX-!CDT1-TOPIC.

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

The relations matching SUFFIX-!CDT1-TOPIC.

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

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

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

The relations matching DISCFUNC-!CDT1-TOPIC.

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

The relations matching DISCSEM-!CDT1-TOPIC.

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

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

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

The relations matching coref-!CDT1-TOPIC.

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

The relations matching assoc-!CDT1-TOPIC.

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

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

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

The relations matching QUALIA-!CDT1.

The relations matching SEMROLE-!CDT1.

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

The relations matching ALIGN-!CDT1-TOPIC.

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

The relations matching RULE-!CDT1-TOPIC.

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

The relations matching ONTO-!CDT1-TOPIC.

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

The relations matching CDT1.

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

The relations matching -ANY.

Appendix B

Agreement and confusion tables

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

- *Relation name R:* the name of the relation.

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

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

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

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

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

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

B.1   Confusion table: syntax

R	N	$A/A_U/A_L$	Confusion list
att	1	100/100/100%	$att_{100\%}$
namel	8	100/100/100%	$namel_{100\%}$
numm	12	100/100/100%	$numm_{100\%}$
voc	3	100/100/100%	$voc_{100\%}$
xtop	4	100/100/100%	$xtop_{100\%}$
subj	1172	99/99/99%	$subj_{99\%}$ $nobj_{0\%}$ $expl_{0\%}$ $preds_{0\%}$ $attr_{0\%}$ $appr_{0\%}$ $correl_{0\%}$ $CONJ{:}elab_{0\%}$
namef	146	98/98/100%	$namef_{100\%}$
possd	240	96/97/98%	$possd_{98\%}$ $nobj_{1\%}$ $attr_{0\%}$ $pnct_{0\%}$

nobj	2782	95/98/96%	$nobj_{96\%}$ $attr_{1\%}$ $dobj_{0\%}$ $aobj_{0\%}$ $vobj_{0\%}$ $preds_{0\%}$ $name_{0\%}$ $time_{0\%}$ $subj_{0\%}$ $pobj_{0\%}$ $conj_{0\%}$ $pnct_{0\%}$ $possd_{0\%}$ $other_{0\%}$ $title_{0\%}$ $loc_{0\%}$ $numa_{0\%}$ $quant_{0\%}$ $cond_{0\%}$ $appr_{0\%}$
neg	105	94/98/96%	$neg_{96\%}$ $add_{1\%}$ $time_{1\%}$ $coord_{1\%}$ $eval_{1\%}$
dobj	726	94/98/95%	$dobj_{95\%}$ $nobj_{2\%}$ $pobj_{1\%}$ $robj_{1\%}$ $iobj_{1\%}$ $preds_{0\%}$ $goal_{0\%}$ $pnct_{0\%}$ $predo_{0\%}$ $dir_{0\%}$ $quant_{0\%}$ $vobj_{0\%}$
pnct	1799	93/93/99%	$pnct_{99\%}$ $nobj_{0\%}$ $vobj_{0\%}$ $dobj_{0\%}$ $conj_{0\%}$ $attr_{0\%}$ $possd_{0\%}$ $appr_{0\%}$
conj	552	92/93/95%	$conj_{95\%}$ $CONJ:add_{1\%}$ $qobj_{1\%}$ $nobj_{1\%}$ $attr_{1\%}$ $CONTR:sbj_{0\%}$ $CONTR:dir_{0\%}$ $CONST:rest_{0\%}$ $TELIC:cons.dir_{0\%}$ $coord_{0\%}$ $cause_{0\%}$ $vobj_{0\%}$ $xpl_{0\%}$ $pnct_{0\%}$
coord	400	92/97/93%	$coord_{93\%}$ $discmark_{5\%}$ $qobj_{1\%}$ $contr_{1\%}$ $conj_{0\%}$ $neg_{0\%}$
expl	60	92/100/92%	$expl_{92\%}$ $subj_{8\%}$
vobj	895	92/99/93%	$vobj_{93\%}$ $preds_{5\%}$ $nobj_{1\%}$ $pnct_{0\%}$ $relr_{0\%}$ $predo_{0\%}$ $rel_{0\%}$ $conj_{0\%}$ $TIME:post_{0\%}$ $dobj_{0\%}$ $fpreds_{0\%}$
appa	27	89/89/100%	$appa_{100\%}$
appr	36	89/94/89%	$appr_{89\%}$ $nobj_{3\%}$ $pnct_{3\%}$ $title_{3\%}$ $subj_{3\%}$
xpl	18	89/100/89%	$xpl_{89\%}$ $conj_{6\%}$ $other_{6\%}$
title	30	87/90/87%	$title_{87\%}$ $nobj_{10\%}$ $appr_{3\%}$
cond	30	83/90/90%	$cond_{90\%}$ $nobj_{3\%}$ $man_{3\%}$ $time_{3\%}$
quant	153	80/94/82%	$quant_{82\%}$ $attr_{3\%}$ $man_{3\%}$ $other_{3\%}$ $eval_{2\%}$ $prg_{1\%}$ $time_{1\%}$ $avobj_{1\%}$ $degr_{1\%}$ $nobj_{1\%}$ $elab_{1\%}$ $dobj_{1\%}$
numa	5	80/100/80%	$numa_{80\%}$ $nobj_{20\%}$
cause	48	79/88/88%	$cause_{88\%}$ $attr_{4\%}$ $conj_{2\%}$ $time_{2\%}$ $cons_{2\%}$ $pobj_{2\%}$
part	19	79/100/79%	$part_{79\%}$ $avobj_{11\%}$ $other_{5\%}$ $dir_{5\%}$
preds	430	79/99/79%	$preds_{79\%}$ $vobj_{11\%}$ $predo_{3\%}$ $loc_{3\%}$ $nobj_{1\%}$ $time_{1\%}$ $dobj_{1\%}$ $subj_{1\%}$ $aobj_{1\%}$ $pobj_{1\%}$ $fpredo_{0\%}$ $inst_{0\%}$ $resem_{0\%}$
pobj	588	79/94/79%	$pobj_{79\%}$ $attr_{8\%}$ $goal_{2\%}$ $other_{2\%}$ $dir_{2\%}$ $agent_{1\%}$ $dobj_{1\%}$ $loc_{1\%}$ $nobj_{1\%}$ $source_{1\%}$ $preds_{0\%}$ $inst_{0\%}$ $avobj_{0\%}$ $man_{0\%}$ $cause_{0\%}$ $accom_{0\%}$
attr	987	78/90/82%	$attr_{82\%}$ $pobj_{5\%}$ $nobj_{4\%}$ $loc_{2\%}$ $other_{2\%}$ $time_{1\%}$ $aobj_{1\%}$ $quant_{1\%}$ $focal_{0\%}$ $goal_{0\%}$ $man_{0\%}$ $conj_{0\%}$ $cause_{0\%}$ $prg_{0\%}$ $relr_{0\%}$ $predo_{0\%}$ $dir_{0\%}$ $pnct_{0\%}$ $iter_{0\%}$ $conc_{0\%}$ $name_{0\%}$ $scene_{0\%}$ $subj_{0\%}$ $possd_{0\%}$ $inst_{0\%}$ $agent_{0\%}$
qobj	70	75/75/75%	$qobj_{75\%}$ $conj_{7\%}$ $coord_{7\%}$ $discmark_{3\%}$ $CONJ:add_{2\%}$ $TELIC:goal_{1\%}$ $CONJ:elab_{1\%}$ $CONST:rest_{1\%}$ $AGENTIVE:reas_{1\%}$
add	59	75/100/75%	$add_{75\%}$ $other_{12\%}$ $discmark_{5\%}$ $scene_{3\%}$ $prg_{2\%}$ $correl_{2\%}$ $neg_{2\%}$
time	245	74/90/79%	$time_{79\%}$ $attr_{5\%}$ $iter_{5\%}$ $nobj_{2\%}$ $preds_{1\%}$ $cons_{1\%}$ $man_{1\%}$ $prg_{1\%}$ $quant_{1\%}$ $event_{1\%}$ $cause_{0\%}$ $neg_{0\%}$ $eval_{0\%}$ $cond_{0\%}$ $scene_{0\%}$ $loc_{0\%}$ $other_{0\%}$
exem	14	71/79/93%	$exem_{93\%}$ $ex_{7\%}$
iobj	24	71/100/71%	$iobj_{71\%}$ $dobj_{21\%}$ $robj_{8\%}$
name	27	70/78/74%	$name_{74\%}$ $nobj_{22\%}$ $attr_{4\%}$
avobj	34	68/97/68%	$avobj_{68\%}$ $other_{12\%}$ $part_{6\%}$ $quant_{6\%}$ $aobj_{3\%}$ $loc_{3\%}$ $pobj_{3\%}$
eval	47	57/94/60%	$eval_{60\%}$ $prg_{15\%}$ $quant_{6\%}$ $epi_{4\%}$ $other_{4\%}$ $iter_{2\%}$ $time_{2\%}$ $focal_{2\%}$ $man_{2\%}$ $neg_{2\%}$

man	106	56/89/61%	$man_{61\%}$ $accom_{7\%}$ $attr_{4\%}$ $quant_{4\%}$ $other_{4\%}$ $time_{3\%}$ $inst_{3\%}$ $epi_{2\%}$ $fpreds_{2\%}$ $source_{1\%}$ $prg_{1\%}$ $dir_{1\%}$ $aobj_{1\%}$ $eval_{1\%}$ $cond_{1\%}$ $concom_{1\%}$ $scene_{1\%}$ $fpredo_{1\%}$ $goal_{1\%}$ $resem_{1\%}$ $pobj_{1\%}$
correl	9	56/78/56%	$correl_{56\%}$ $add_{11\%}$ $other_{11\%}$ $focal_{11\%}$ $subj_{11\%}$
scene	31	55/94/58%	$scene_{58\%}$ $add_{7\%}$ $goal_{7\%}$ $contr_{7\%}$ $loc_{7\%}$ $time_{3\%}$ $attr_{3\%}$ $man_{3\%}$ $other_{3\%}$ $inst_{3\%}$
loc	218	54/93/56%	$loc_{56\%}$ $dir_{13\%}$ $attr_{9\%}$ $preds_{6\%}$ $other_{6\%}$ $pobj_{3\%}$ $inst_{1\%}$ $nobj_{1\%}$ $scene_{1\%}$ $focal_{1\%}$ $event_{1\%}$ $fpredo_{1\%}$ $time_{1\%}$ $avobj_{1\%}$
cons	14	50/86/64%	$cons_{64\%}$ $time_{21\%}$ $inst_{7\%}$ $cause_{7\%}$
elab	4	50/75/50%	$elab_{50\%}$ $prg_{25\%}$ $quant_{25\%}$
epi	14	50/93/57%	$epi_{57\%}$ $man_{14\%}$ $other_{14\%}$ $eval_{14\%}$
focal	31	45/65/61%	$focal_{61\%}$ $attr_{13\%}$ $other_{10\%}$ $loc_{7\%}$ $aobj_{3\%}$ $correl_{3\%}$ $eval_{3\%}$
contr	22	41/100/41%	$contr_{41\%}$ $discmark_{18\%}$ $conc_{14\%}$ $coord_{9\%}$ $scene_{9\%}$ $prg_{5\%}$ $other_{5\%}$
dir	74	41/96/41%	$dir_{41\%}$ $loc_{39\%}$ $pobj_{12\%}$ $other_{3\%}$ $man_{1\%}$ $part_{1\%}$ $attr_{1\%}$ $dobj_{1\%}$
agent	15	40/100/40%	$pobj_{53\%}$ $agent_{40\%}$ $attr_{7\%}$
aobj	31	39/71/39%	$aobj_{39\%}$ $nobj_{23\%}$ $attr_{23\%}$ $preds_{7\%}$ $man_{3\%}$ $avobj_{3\%}$ $focal_{3\%}$
conc	13	39/92/39%	$conc_{39\%}$ $contr_{23\%}$ $prg_{15\%}$ $other_{15\%}$ $attr_{8\%}$
relr	145	37/94/41%	$rel_{48\%}$ $relr_{41\%}$ $relpa_{8\%}$ $relelab_{1\%}$ $vobj_{1\%}$ $attr_{1\%}$
source	11	36/100/36%	$source_{36\%}$ $pobj_{27\%}$ $other_{18\%}$ $concom_{9\%}$ $man_{9\%}$
inst	25	36/88/40%	$inst_{40\%}$ $man_{12\%}$ $loc_{12\%}$ $predo_{8\%}$ $pobj_{8\%}$ $concom_{4\%}$ $scene_{4\%}$ $preds_{4\%}$ $attr_{4\%}$ $cons_{4\%}$
goal	43	35/86/42%	$goal_{42\%}$ $pobj_{33\%}$ $attr_{9\%}$ $scene_{5\%}$ $dobj_{5\%}$ $man_{2\%}$ $other_{2\%}$ $fpredo_{2\%}$
accom	15	33/80/40%	$man_{47\%}$ $accom_{40\%}$ $other_{7\%}$ $pobj_{7\%}$
resem	6	33/33/67%	$resem_{67\%}$ $man_{17\%}$ $preds_{17\%}$
relpa	17	29/100/29%	$relr_{65\%}$ $relpa_{29\%}$ $rel_{6\%}$
concom	4	25/100/25%	$source_{25\%}$ $concom_{25\%}$ $man_{25\%}$ $inst_{25\%}$
other	115	23/91/23%	$other_{23\%}$ $attr_{14\%}$ $loc_{10\%}$ $pobj_{10\%}$ $add_{6\%}$ $prg_{4\%}$ $avobj_{4\%}$ $quant_{4\%}$ $man_{4\%}$ $nobj_{3\%}$ $focal_{3\%}$ $epi_{2\%}$ $source_{2\%}$ $dir_{2\%}$ $eval_{2\%}$ $iter_{2\%}$ $conc_{2\%}$ $time_{1\%}$ $contr_{1\%}$ $correl_{1\%}$ $part_{1\%}$ $scene_{1\%}$ $goal_{1\%}$ $accom_{1\%}$ $xpl_{1\%}$
iter	21	19/81/24%	$time_{57\%}$ $iter_{24\%}$ $other_{10\%}$ $attr_{5\%}$ $eval_{5\%}$
discmark	32	16/91/16%	$coord_{56\%}$ $discmark_{16\%}$ $contr_{13\%}$ $add_{9\%}$ $qobj_{6\%}$
prg	27	15/100/15%	$eval_{26\%}$ $other_{19\%}$ $prg_{15\%}$ $conc_{7\%}$ $time_{7\%}$ $quant_{7\%}$ $add_{4\%}$ $elab_{4\%}$ $attr_{4\%}$ $man_{4\%}$ $contr_{4\%}$
robj	9	11/100/11%	$dobj_{67\%}$ $iobj_{22\%}$ $robj_{11\%}$
predo	21	10/86/10%	$preds_{57\%}$ $inst_{10\%}$ $predo_{10\%}$ $vobj_{10\%}$ $attr_{5\%}$ $fpredo_{5\%}$ $dobj_{5\%}$
rel	79	4/95/4%	$relr_{89\%}$ $relelab_{5\%}$ $rel_{4\%}$ $relpa_{1\%}$ $vobj_{1\%}$
degr	2	0/50/0%	$quant_{100\%}$
event	4	0/75/0%	$time_{50\%}$ $loc_{50\%}$
ex	1	0/100/0%	$exem_{100\%}$
fpredo	6	0/67/0%	$loc_{33\%}$ $goal_{17\%}$ $man_{17\%}$ $preds_{17\%}$ $predo_{17\%}$
fpreds	3	0/100/0%	$man_{67\%}$ $vobj_{33\%}$
relelab	6	0/100/0%	$rel_{67\%}$ $relr_{33\%}$

TOTAL   12970   85/95/88%

B.2 Confusion table: semantics

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

TOTAL   802   54/93/57%

B.3 Confusion table: discourse

R	N	$A/A_U/A_L$	Confusion list
ANSW	1	100/100/100%	$\text{ANSW}_{100\%}$
SCENE	26	85/85/96%	$\text{SCENE}_{96\%}$ $\text{JOINT}_{4\%}$
AGENTIVE:expl	11	64/100/64%	$\text{AGENTIVE:expl}_{64\%}$ $\text{CONTR}_{9\%}$ $\text{AGENTIVE}_{9\%}$ $\text{CONST:rest}_{9\%}$ $\text{AGENTIVE:sbj}_{9\%}$

CONJ:seq	13	62/92/69%	CONJ:seq$_{69\%}$ CONJ:add$_{15\%}$ CONJ:elab$_{8\%}$ DIREC$_{8\%}$
CONC	20	40/65/40%	CONC$_{40\%}$ CONJ:add$_{25\%}$ CONTR$_{5\%}$ FORMAL:eval$_{5\%}$ subj$_{5\%}$ CONTR:sbj$_{5\%}$ CONJ$_{5\%}$ CONST:exem$_{5\%}$ conj$_{3\%}$ CONTR:prg$_{3\%}$
CONJ:add	133	37/64/47%	CONJ:add$_{47\%}$ CONJ:elab$_{14\%}$ CONJ$_{9\%}$ JOINT$_{5\%}$ conj$_{4\%}$ CONC$_{4\%}$ TELIC:cons.sbj$_{2\%}$ AGENTIVE:sbj$_{2\%}$ CONJ:seq$_{2\%}$ CONST:exem$_{2\%}$ CONST:apart$_{2\%}$ CONTR$_{1\%}$ TIME:pre$_{1\%}$ CONTR:prg$_{1\%}$ CONTR:sbj$_{1\%}$ COND$_{1\%}$ qobj$_{1\%}$ TELIC$_{1\%}$ TELIC:cons.dir$_{1\%}$ AGENTIVE:reas$_{1\%}$ DISJ:dir$_{1\%}$ vobj$_{1\%}$ CONTR:dir$_{0\%}$
CONST:exem	17	29/71/47%	CONST:exem$_{47\%}$ CONJ:add$_{12\%}$ CONST:apart$_{12\%}$ CONJ:elab$_{6\%}$ JOINT$_{6\%}$ CONST:rest$_{6\%}$ CONSOL:source$_{6\%}$ CONC$_{6\%}$
TELIC:cons.dir	17	29/59/41%	TELIC:cons.dir$_{41\%}$ TELIC:cons.sbj$_{12\%}$ CONJ:elab$_{9\%}$ CONST:rest$_{6\%}$ CONJ$_{6\%}$ CONJ:add$_{6\%}$ AGENTIVE:reas$_{6\%}$ CONTR:dir$_{6\%}$ conj$_{3\%}$ CONTR:sbj$_{3\%}$ qobj$_{3\%}$
CONJ:elab	110	23/53/34%	CONJ:elab$_{34\%}$ CONJ:add$_{16\%}$ CONJ$_{16\%}$ FORMAL:eval$_{5\%}$ FORMAL:descr$_{3\%}$ CONST:rest$_{3\%}$ CONST:apart$_{3\%}$ qobj$_{2\%}$ TELIC:cons.sbj$_{2\%}$ AGENTIVE$_{2\%}$ AGENTIVE:sbj$_{2\%}$ subj$_{2\%}$ AGENTIVE:reas$_{2\%}$ DIREC$_{2\%}$ CONSOL$_{2\%}$ TELIC:cons.dir$_{1\%}$ CONJ:seq$_{1\%}$ CONTR:sbj$_{1\%}$ CONTR:prg$_{1\%}$ CONST:exem$_{1\%}$ CONTR:dir$_{1\%}$ CONST:elab$_{1\%}$
CONST:rest	11	23/59/26%	CONJ:elab$_{27\%}$ CONST:rest$_{26\%}$ TELIC:cons.sbj$_{9\%}$ TELIC:cons.dir$_{9\%}$ CONST:exem$_{9\%}$ AGENTIVE:expl$_{9\%}$ conj$_{6\%}$ qobj$_{5\%}$
JOINT	14	21/43/36%	CONJ:add$_{43\%}$ JOINT$_{36\%}$ SCENE$_{7\%}$ CONJ$_{7\%}$ CONST:exem$_{7\%}$
TELIC:cons.sbj	14	21/64/29%	TELIC:cons.sbj$_{29\%}$ CONJ:add$_{21\%}$ CONJ:elab$_{14\%}$ TELIC:cons.dir$_{14\%}$ CONJ$_{7\%}$ CONST:rest$_{7\%}$ CONTR:dir$_{7\%}$
AGENTIVE:reas	10	20/60/20%	AGENTIVE:sbj$_{40\%}$ AGENTIVE:reas$_{20\%}$ CONJ:elab$_{20\%}$ CONJ:add$_{10\%}$ TELIC:cons.dir$_{10\%}$
CONSOL:source	5	20/60/20%	AGENTIVE:sbj$_{40\%}$ CONJ$_{20\%}$ CONSOL:source$_{20\%}$ CONST:exem$_{20\%}$
FORMAL:descr	5	20/40/20%	CONJ:elab$_{60\%}$ conj$_{20\%}$ FORMAL:descr$_{20\%}$
FORMAL:eval	10	20/40/30%	CONJ:elab$_{50\%}$ FORMAL:eval$_{30\%}$ CONJ$_{10\%}$ CONC$_{10\%}$
CONTR:sbj	12	19/49/32%	CONTR:sbj$_{32\%}$ conj$_{14\%}$ CONJ:elab$_{8\%}$ CONTR:prg$_{8\%}$ CONJ:add$_{8\%}$ qobj$_{8\%}$ CONTR:dir$_{8\%}$ CONC$_{8\%}$ TELIC:cons.dir$_{4\%}$
CONST:apart	12	17/58/25%	CONJ:elab$_{25\%}$ CONST:apart$_{25\%}$ CONJ:add$_{17\%}$ CONST:exem$_{17\%}$ CONJ$_{8\%}$ nobj$_{8\%}$
CONTR:dir	14	17/31/31%	CONTR:dir$_{31\%}$ conj$_{20\%}$ CONTR:prg$_{11\%}$ CONTR$_{7\%}$ CONJ:elab$_{7\%}$ TELIC:cons.sbj$_{7\%}$ TELIC:cons.dir$_{7\%}$ CONTR:sbj$_{7\%}$ CONJ:add$_{2\%}$
CONJ	48	10/54/19%	CONJ:elab$_{35\%}$ CONJ:add$_{25\%}$ CONJ$_{19\%}$ AGENTIVE:sbj$_{4\%}$ TELIC:goal$_{2\%}$ TELIC:cons.sbj$_{2\%}$ FORMAL:eval$_{2\%}$ JOINT$_{2\%}$ CONSOL:source$_{2\%}$ TELIC:cons.dir$_{2\%}$ CONST:apart$_{2\%}$ CONC$_{2\%}$
AGENTIVE	5	0/100/0%	CONJ:elab$_{40\%}$ AGENTIVE:sbj$_{40\%}$ AGENTIVE:expl$_{20\%}$
AGENTIVE:sbj	16	0/75/0%	AGENTIVE:reas$_{25\%}$ CONJ:add$_{19\%}$ CONJ$_{13\%}$ CONJ:elab$_{13\%}$ AGENTIVE$_{13\%}$ CONSOL:source$_{13\%}$ AGENTIVE:expl$_{6\%}$

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

B.4 Confusion table: anaphora

R	N	A/A$_U$/A$_L$	Confusion list
assoc-event	2	100/100/100%	assoc-event$_{100\%}$
assoc-formal	1	100/100/100%	assoc-formal$_{100\%}$
ref	70	90/91/94%	ref$_{94\%}$ coref$_{4\%}$ coref-res$_{1\%}$
coref-iden	62	73/81/77%	coref-iden$_{77\%}$ coref-var$_{17\%}$ coref$_{3\%}$ assoc-telic$_{2\%}$ assoc-const$_{2\%}$
coref-res	36	62/67/75%	coref-res$_{75\%}$ coref-var$_{11\%}$ coref$_{8\%}$ assoc-telic$_{3\%}$ ref$_{3\%}$
coref	238	61/64/89%	coref$_{89\%}$ coref-var$_{7\%}$ ref$_{1\%}$ coref-res$_{1\%}$ assoc-const$_{1\%}$ coref-iden$_{1\%}$ assoc-agentive.agent$_{0\%}$
coref-var	146	59/72/73%	coref-var$_{73\%}$ coref$_{11\%}$ coref-iden$_{7\%}$ assoc-const$_{4\%}$ coref-res$_{3\%}$ coref-evol$_{1\%}$ assoc-agentive$_{1\%}$
assoc-agentive	2	50/100/50%	coref-var$_{50\%}$ assoc-agentive$_{50\%}$
assoc-const	42	48/71/60%	assoc-const$_{60\%}$ coref-var$_{14\%}$ assoc$_{10\%}$ assoc-telic$_{5\%}$ coref$_{5\%}$ assoc-loc$_{5\%}$ coref-iden$_{2\%}$
assoc-telic	25	40/76/56%	assoc-telic$_{56\%}$ assoc-agentive.agent$_{8\%}$ assoc-telic.patient$_{8\%}$ assoc-const$_{8\%}$ assoc-telic.agent$_{8\%}$ coref-iden$_{4\%}$ assoc-telic.inst$_{4\%}$ coref-res$_{4\%}$
assoc	6	33/83/33%	assoc-const$_{67\%}$ assoc$_{33\%}$
assoc-agentive.agent	3	0/67/0%	assoc-telic$_{67\%}$ coref$_{33\%}$
assoc-loc	2	0/100/0%	assoc-const$_{100\%}$
assoc-telic.agent	2	0/100/0%	assoc-telic$_{100\%}$
assoc-telic.inst	1	0/100/0%	assoc-telic$_{100\%}$
assoc-telic.patient	2	0/100/0%	assoc-telic$_{100\%}$
coref-evol	1	0/100/0%	coref-var$_{100\%}$
TOTAL	641	62/72/79%	

B.5 Confusion table: morphology

R	N	A/A$_U$/A$_L$	Confusion list
NEG:contr	23	74/100/74%	NEG:contr$_{74\%}$ $-_{13\%}$ NEG:priv$_{4\%}$ MOD:eval$_{4\%}$ TELIC$_{4\%}$

DER:aa	3	67/100/67%	DER:aa$_{67\%}$ $-_{33\%}$
TIME:post	3	67/100/67%	TIME:post$_{67\%}$ TRANS$_{33\%}$
DERvn:agent	99	65/100/65%	DERvn:agent$_{65\%}$ $-_{19\%}$ DERvn:core$_{4\%}$ DERnn:agent$_{3\%}$ OTHER$_{1\%}$ DERvn:core DERnn:agent$_{1\%}$ DERvn:agent ns$_{1\%}$ DERvn:exper$_{1\%}$ DERva:act$_{1\%}$ DERvn:recip$_{1\%}$ DERvn:patient$_{1\%}$ SUBJ.agent$_{1\%}$ DERvn:inst$_{1\%}$
DERan:qual	65	63/100/63%	DERan:qual$_{63\%}$ $-_{31\%}$ DERnn:loc$_{2\%}$ DERna:rel.deono.loc$_{2\%}$ DEran:qual$_{2\%}$ DERnn:agent$_{2\%}$
DERav	24	54/100/54%	DERav$_{54\%}$ $-_{42\%}$ inst$_{4\%}$
DERnn:agent	32	53/100/53%	DERnn:agent$_{53\%}$ $-_{31\%}$ DERvn:agent$_{9\%}$ DERan:qual$_{3\%}$ DERna:rel.deono.loc$_{3\%}$
DERvn:loc	6	50/100/50%	DERvn:loc$_{50\%}$ $-_{33\%}$ DERvn:patient TELIC$_{17\%}$
TIME:pre	4	50/100/50%	TIME:pre$_{50\%}$ $-_{25\%}$ time$_{25\%}$
MOD:qual	39	46/100/46%	MOD:qual$_{46\%}$ $-_{15\%}$ TELIC$_{8\%}$ OTHER$_{5\%}$ MOD:eval$_{5\%}$ MOD:quant$_{5\%}$ CONST$_{3\%}$ const$_{3\%}$ loc$_{3\%}$ SOURCE$_{3\%}$ DERnv PRE:other$_{3\%}$ GOAL$_{3\%}$
DERvn:core	279	44/100/44%	DERvn:core$_{44\%}$ $-_{29\%}$ DERvn:patient$_{17\%}$ DERvn:other$_{3\%}$ DERvn:agent$_{1\%}$ DErvn:core$_{1\%}$ DERvn.core$_{1\%}$ DERav DERvn:patient$_{1\%}$ DERnv$_{1\%}$ DErvn:patient$_{1\%}$ TELIC]l DERvn:patient$_{0\%}$ DERav DERva:patient$_{0\%}$ TELIC$_{0\%}$ DERnv DERvn:patient$_{0\%}$ DERvn:patient LOC:loc$_{0\%}$ TELIC]n DERvn:patient$_{0\%}$ TELIC DERvn:patient$_{0\%}$ PRE:other DERvn:patient$_{0\%}$ DERnn:other$_{0\%}$
MOD:eval	14	43/100/43%	MOD:eval$_{43\%}$ MOD:qual$_{14\%}$ NEG:contr$_{7\%}$ MOD:quant$_{7\%}$ $-_{7\%}$ DERvn:core eval$_{7\%}$ TELIC$_{7\%}$ FORM$_{7\%}$
ITER	5	40/100/40%	$-_{40\%}$ ITER$_{40\%}$ PRE:other DERva:pas.part$_{20\%}$
DERna:poss	11	36/100/36%	DERna:poss$_{36\%}$ DERna:rel.norm$_{27\%}$ $-_{18\%}$ DERna:disp$_{18\%}$
DERnn:assoc	12	33/100/33%	$-_{42\%}$ DERnn:assoc$_{33\%}$ DERnv PRE:other DERvn:agent$_{8\%}$ DERnn:loc$_{8\%}$ ARG$_{8\%}$
DERva:pas.part	54	33/100/33%	$-_{48\%}$ DERva:pas.part$_{33\%}$ DERnv$_{4\%}$ DERva:act$_{4\%}$ DERnv NEG:priv$_{2\%}$ DERna:disp$_{2\%}$ LOC:loc$_{2\%}$ DERvn:patient$_{2\%}$ DERvn:pas.part$_{2\%}$ DERva$_{2\%}$
DERnv	127	33/100/33%	$-_{58\%}$ DERnv$_{33\%}$ DERvn:core$_{2\%}$ DERva:pas.part$_{2\%}$ func$_{2\%}$ OTHER$_{1\%}$ arg$_{1\%}$ loc$_{1\%}$ type$_{1\%}$ SOURCE$_{1\%}$
DERva:act	62	32/100/32%	$-_{52\%}$ DERva:act$_{32\%}$ DERva:pas.part$_{3\%}$ DEVERB:rel.norm$_{3\%}$ DERvn:agent$_{2\%}$ DERva:pas.epi$_{2\%}$ TRANS$_{2\%}$ DERvn:other DERna:rel$_{2\%}$ func$_{2\%}$ DERva$_{2\%}$
MOD:quant	41	29/100/29%	$-_{54\%}$ MOD:quant$_{29\%}$ MOD:qual$_{5\%}$ QUANT$_{5\%}$ DENUM:ord$_{2\%}$ MOD:quant]l$_{2\%}$ MOD:eval$_{2\%}$
TELIC	119	29/100/29%	$-_{35\%}$ TELIC$_{29\%}$ PRE:other$_{10\%}$ TRANS$_{4\%}$ LOC:dir$_{4\%}$ PRE:other DERva:pas.part$_{3\%}$ TELIC]t$_{3\%}$ MOD:qual$_{3\%}$ NEG:contr$_{1\%}$ ASPEC:resutl$_{1\%}$ TELIC]l$_{1\%}$ DERvn:core$_{1\%}$ MOD:eval$_{1\%}$ NEG:rev$_{1\%}$ dobj.patient$_{1\%}$ TELIC]k DERva.pas.part$_{1\%}$ SPACE:source$_{1\%}$ SPACE:source DERva:pas.part$_{1\%}$ ASPEC:result$_{1\%}$ NEG:priv$_{1\%}$
NEG:priv	8	25/100/25%	$-_{38\%}$ NEG:priv$_{25\%}$ NEG:contr$_{13\%}$ ABOUT$_{13\%}$ TELIC$_{13\%}$

DERvn:patient	94	20/100/20%	DERvn:core$_{49\%}$ $-_{20\%}$ DERvn:patient$_{20\%}$ DERvn:core TRANS$_{3\%}$ DERvn:inst$_{3\%}$ DERvn:core AS-PEC:TRANS$_{1\%}$ DERvn:other$_{1\%}$ DERvn:agent$_{1\%}$ DERva:pas.part$_{1\%}$
DERna:other	6	17/100/17%	$-_{50\%}$ func$_{17\%}$ ABOUT$_{17\%}$ DERna:other$_{17\%}$
LOC:dir	23	13/100/13%	SPACE:dir$_{22\%}$ TELIC$_{22\%}$ $-_{17\%}$ LOC:dir$_{13\%}$ SPACE.dir$_{9\%}$ PRE:other$_{9\%}$ TELIC]m$_{4\%}$ SPACE:source$_{4\%}$
AGENT	8	13/100/13%	SUBJ.agent]l$_{38\%}$ agent$_{25\%}$ DERvn:core LOC:dir subj.agent func$_{13\%}$ PRE:other]t$_{13\%}$ AGENT$_{13\%}$
OTHER	69	9/100/9%	$-_{28\%}$ func$_{15\%}$ arg$_{9\%}$ OTHER$_{9\%}$ iden$_{6\%}$ about$_{3\%}$ poss$_{3\%}$ MOD:qual$_{3\%}$ other$_{3\%}$ type$_{3\%}$ type type$_{1\%}$ type DERvn:core$_{1\%}$ DERvn:agent arg$_{1\%}$ iden DERnn:assoc DERvn:agent$_{1\%}$ DERvn:agent$_{1\%}$ DERna:rel.norm arg$_{1\%}$ dobj.patient DERvn:core$_{1\%}$ DERnv$_{1\%}$ DERna:rel.norm MOD:qual$_{1\%}$ type DERnn:agent$_{1\%}$ inst$_{1\%}$ class$_{1\%}$ apart$_{1\%}$ FORM$_{1\%}$
TRANS	53	6/100/6%	$-_{60\%}$ TELIC$_{9\%}$ TELIC]t$_{9\%}$ TRANS$_{6\%}$ PRE:other$_{6\%}$ TELIC DERva:pas.part$_{4\%}$ DERva:act$_{2\%}$ TIME:post$_{2\%}$ PRE:other]g$_{2\%}$
DERna:rel.norm	67	2/100/2%	$-_{49\%}$ DERna:rel$_{37\%}$ DERna:poss$_{5\%}$ DERva:rel$_{3\%}$ DErna:rel$_{2\%}$ DERan:rel DERav DERvn:core$_{2\%}$ DERna:rel.norm$_{2\%}$ ARG DERna:rel$_{2\%}$

–	732	0/100/0%	$DERvn:core_{11\%}$ $DERnv_{10\%}$ $TELIC_{6\%}$ $DERna:rel.deono.loc_{6\%}$ $DERna:rel.norm_{5\%}$ $DERva:act_{4\%}$ $TRANS_{4\%}$ $DERva:pas.part_{4\%}$ $MOD:quant_{3\%}$ $DERan:qual_{3\%}$ $DERvn:patient_{3\%}$ $OTHER_{3\%}$ $DERvn:agent_{3\%}$ $DERnn:other_{2\%}$ $PRE:other_{2\%}$ $DERav_{1\%}$ $DERnn:agent_{1\%}$ $LOC:loc_{1\%}$ $DERna:rel_{1\%}$ $DOBJ.patient_{1\%}$ $DERna:resem_{1\%}$ $DERvn:other_{1\%}$ func $DERvn:core_{1\%}$ $DENOM:eff_{1\%}$ $MOD:qual_{1\%}$ $DERnn:assoc_{1\%}$ func $DERnn:capac_{1\%}$ $func_{1\%}$ $DERna:disp_{1\%}$ $poss_{1\%}$ $agent_{1\%}$ $LOC:dir_{1\%}$ $SPACE:loc_{1\%}$ $NEG:contr_{0\%}$ TRANS $DERva:act_{0\%}$ $DERna:other_{0\%}$ $time_{0\%}$ DERvn:core LOC:dir$_{0\%}$ $TELIC]n_{0\%}$ $const_{0\%}$ $NEG:priv_{0\%}$ $GOAL_{0\%}$ DE-$NUM:ord_{0\%}$ DERvn:core $TRANS_{0\%}$ $loc_{0\%}$ $DERva:pas.epi_{0\%}$ $CONST_{0\%}$ $DERna:poss_{0\%}$ $SPACE:dir_{0\%}$ $DERnn:loc_{0\%}$ $ARG_{0\%}$ $ABOUT_{0\%}$ $source_{0\%}$ $DERvn:loc_{0\%}$ $ITER_{0\%}$ $DERna:telic_{0\%}$ TELIC $DERvn:core_{0\%}$ LOC:loc $DERvn:core_{0\%}$ $agent.subj_{0\%}$ DERvn:core $TELIC_{0\%}$ $PRED:Core_{0\%}$ DERva:act $DERvn:core_{0\%}$ about LOC:dir $DERvn:core_{0\%}$ DERvn:core $SPACE:source_{0\%}$ $QUANT_{0\%}$ agent $func_{0\%}$ $SOURCE_{0\%}$ NEG:contr $DERvn:core_{0\%}$ $DER:aa_{0\%}$ DERnv $DERvn:core_{0\%}$ DERan:qual $ARG_{0\%}$ DERav $TRANS]g_{0\%}$ $arg_{0\%}$ DERvn:agent $LOC:loc_{0\%}$ $TIME:pre_{0\%}$ $DERaa_{0\%}$ $NOPRED:core_{0\%}$ DERvn:core $func_{0\%}$ source $DERan:qual_{0\%}$ DE-$Rav]g_{0\%}$ DOBJ.patient $FORM_{0\%}$ $type_{0\%}$ resem $DERva:pas.part_{0\%}$ MOD:qual $DERvn:core_{0\%}$ GOAL $SUBJ.agent_{0\%}$ $DErva:pas.part_{0\%}$ $NEG:rev_{0\%}$ DERvn:core $MOD:qual_{0\%}$ $tei.2>_{0\%}$ $PRED:reult_{0\%}$ $DERvv_{0\%}$ TIME:pre $DERva:act_{0\%}$ DERvn:core NEG:rev $TELIC_{0\%}$ poss $DERvn:core_{0\%}$ DEV-$ERV:act.pure_{0\%}$ DERvn:core $LOC:loc_{0\%}$ $TIME:time_{0\%}$ $iden_{0\%}$ $SPACE:source_{0\%}$ DERvn:core $MOD:quant_{0\%}$ DERvn:patient $TRANS_{0\%}$ const $DERvn:agent_{0\%}$ $DERva:act.epi_{0\%}$ DERnv $DERva:act_{0\%}$ $DERvn_{0\%}$ DERnv TELIC $DERvn:core_{0\%}$ func $func_{0\%}$ $func.dobj_{0\%}$ DERva:act PRE:other$_{0\%}$ func $NEG:contr_{0\%}$ poss $type_{0\%}$ arg $DERvn:agent_{0\%}$ DERvn:patient func $DERvn:agent_{0\%}$ DERvn:agent $OTHER_{0\%}$ $DERna:rel.deono.pers_{0\%}$ $MOD:eval_{0\%}$ DERvn:other $TELIC_{0\%}$ $about_{0\%}$ DERnv $DERva:pas.epi_{0\%}$ func DERvn:agent $DERnv_{0\%}$ DERvn:patient $TELIC_{0\%}$ $other_{0\%}$ arg DERan:qual $DERvn:loc_{0\%}$ $AGENT:MC_{0\%}$ $DEVERB:act:pure_{0\%}$ $DENUM:apart_{0\%}$ $ASPEC:result_{0\%}$ resem $DERvn:other_{0\%}$ NEG:priv $DERna:rel.norm_{0\%}$ DERvn:agent $DERnn:assoc_{0\%}$ TELIC $DERvn:patient_{0\%}$ DERva:pas.part $TRANS_{0\%}$ $FORM_{0\%}$
ABOUT	39	0/100/0%	$about_{36\%}$ $func_{18\%}$ $arg_{8\%}$ $const_{8\%}$ $agent_{8\%}$ $-_{5\%}$ func $time_{3\%}$ func arg $DERvn:patient_{3\%}$ dobj.patient $DERvn:patient_{3\%}$ $NEG:priv_{3\%}$ DERvn:agent $dobj.patient_{3\%}$ $DERna:other_{3\%}$ $subj.agent_{3\%}$
ABOUT]k	2	0/100/0%	$about_{100\%}$
AGENT:MC	3	0/100/0%	$agent_{67\%}$ $-_{33\%}$

AGENT:MC DERna:rel PRE:other	1	0/100/0%	MOD:qual DERna:rel.norm$_{100\%}$
AGENT:MC MOD:qual DERna:rel	1	0/100/0%	DERna:rel.norm about$_{100\%}$
AGENT:MC PRE:other	3	0/100/0%	about$_{100\%}$
AGENT:MC PRE:other DERna:rel	1	0/100/0%	DERna:rel.norm about$_{100\%}$
ARG	55	0/100/0%	arg$_{47\%}$ func$_{15\%}$ about$_{13\%}$ other$_{7\%}$ $-_{4\%}$ const$_{4\%}$ about DERvn:core$_{2\%}$ DERnn:assoc$_{2\%}$ const LOC:dir$_{2\%}$ TELIC MOD:qual$_{2\%}$ agent$_{2\%}$ about DERvn:core TELIC$_{2\%}$
ARG DERna:rel	1	0/100/0%	DERna:rel.norm$_{100\%}$
ARG]m	1	0/100/0%	poss$_{100\%}$
ASPEC:core NEG:priv	3	0/100/0%	DERvn:core MOD:eval$_{100\%}$
ASPEC:other	1	0/100/0%	PRE:other$_{100\%}$
ASPEC:result	5	0/100/0%	$-_{20\%}$ PRE:other$_{20\%}$ TELIC$_{20\%}$ TELIC]g$_{20\%}$ TELIC DERva:pas.part$_{20\%}$
ASPEC:resutl	1	0/100/0%	TELIC$_{100\%}$
CONST	39	0/100/0%	const$_{67\%}$ agent$_{13\%}$ $-_{5\%}$ source$_{3\%}$ MOD:qual$_{3\%}$ arg$_{3\%}$ arg loc$_{3\%}$ func$_{3\%}$ apart$_{3\%}$
CONST]p	1	0/100/0%	const DERvn:agent DERnv$_{100\%}$
DENOM:eff	12	0/100/0%	$-_{50\%}$ DERna:rel$_{33\%}$ DERna:telic$_{8\%}$ DERnv DERva:pas.epi$_{8\%}$
DENOM:rel.deono	1	0/100/0%	DERna:rel$_{100\%}$
DENUM:apart	1	0/100/0%	$-_{100\%}$
DENUM:ord	5	0/100/0%	$-_{60\%}$ MOD:quant$_{20\%}$ QUANT$_{20\%}$
DERaa	1	0/100/0%	$-_{100\%}$
DERan:qual ARG	1	0/100/0%	$-_{100\%}$
DERan:qual OTHER	2	0/100/0%	agent$_{100\%}$
DERan:rel DERav DERvn:core	1	0/100/0%	DERna:rel.norm$_{100\%}$
DERav DERva:patient	1	0/100/0%	DERvn:core$_{100\%}$
DERav DERvn:patient	2	0/100/0%	DERvn:core$_{100\%}$
DERav TRANS]g	1	0/100/0%	$-_{100\%}$
DERav]g	1	0/100/0%	$-_{100\%}$
DERna:deono.loc	4	0/100/0%	DERna:rel.deono.loc$_{100\%}$
DERna:deono.pers	1	0/100/0%	const DERna:rel.norm$_{100\%}$
DERna:deono.pers MOD:qual	1	0/100/0%	DERna:rel.deono.pers about$_{100\%}$
DERna:disp	10	0/100/0%	$-_{40\%}$ DERna:rel$_{30\%}$ DERna:poss$_{20\%}$ DERva:pas.part$_{10\%}$
DERna:other DERvn:patient	1	0/100/0%	DERvn:core OTHER$_{100\%}$

DERna:rel	45	0/100/0%	DERna:rel.norm$_{56\%}$ $-_{18\%}$ DENOM:eff$_{9\%}$ DERna:disp$_{7\%}$ DERna:rel.norm DENOM:rel.place$_{4\%}$ DERna:rel.norm DERnn:assoc$_{2\%}$ DERna:rel.deono.loc$_{2\%}$ DENOM:rel.deono$_{2\%}$
DERna:rel DERan:qual	1	0/100/0%	DERna:rel.norm DER:aa$_{100\%}$
DERna:rel.deono.loc	49	0/100/0%	$-_{84\%}$ DERna:deono.loc$_{8\%}$ DERan:qual$_{2\%}$ DERnn:deono.loc$_{2\%}$ DERnn:agent$_{2\%}$ DERna:rel$_{2\%}$
DERna:rel.deono.pers	1	0/100/0%	$-_{100\%}$
DERna:rel.deono.pers DERna:rel.norm about	1	0/100/0%	DERva:deono.pers PRE:other$_{100\%}$
DERna:rel.deono.pers about	1	0/100/0%	DERna:deono.pers MOD:qual$_{100\%}$
DERna:rel.norm DENOM:rel.place	3	0/100/0%	DERna:rel$_{67\%}$ DERnn:assoc DERna:rel$_{33\%}$
DERna:rel.norm DER:aa	1	0/100/0%	DERna:rel DERan:qual$_{100\%}$
DERna:rel.norm DERnn:assoc	1	0/100/0%	DERna:rel$_{100\%}$
DERna:rel.norm MOD:qual	2	0/100/0%	OTHER$_{50\%}$ DErna:rel PRE:other$_{50\%}$
DERna:rel.norm about	3	0/100/0%	AGENT:MC MOD:qual DERna:rel$_{33\%}$ PRE:other$_{33\%}$ AGENT:MC PRE:other DERna:rel$_{33\%}$
DERna:rel.norm arg	1	0/100/0%	OTHER$_{100\%}$
DERna:rel.norm func	1	0/100/0%	DERva:act.epi GOAL$_{100\%}$
DERna:resem	6	0/100/0%	$-_{100\%}$
DERna:telic	3	0/100/0%	$-_{67\%}$ DENOM:eff$_{33\%}$
DERnn:agent func	1	0/100/0%	GOAL$_{100\%}$
DERnn:assoc DERna:rel	1	0/100/0%	DERna:rel.norm DENOM:rel.place$_{100\%}$
DERnn:assoc MOD:quant	1	0/100/0%	DERvn:patient OTHER$_{100\%}$
DERnn:deono.loc	1	0/100/0%	DERna:rel.deono.loc$_{100\%}$
DERnn:loc	4	0/100/0%	$-_{50\%}$ DERan:qual$_{25\%}$ DERnn:assoc$_{25\%}$
DERnn:other	16	0/100/0%	$-_{94\%}$ DERvn:core$_{6\%}$
DERnn:other SOURCE	1	0/100/0%	agent DERnn:quant$_{100\%}$
DERnv DERva:act	1	0/100/0%	$-_{100\%}$
DERnv DERva:pas.epi	2	0/100/0%	$-_{50\%}$ DENOM:eff$_{50\%}$
DERnv DERvn:core	1	0/100/0%	$-_{100\%}$
DERnv DERvn:patient	1	0/100/0%	DERvn:core$_{100\%}$
DERnv NEG:priv	1	0/100/0%	DERva:pas.part$_{100\%}$
DERnv NEG:priv DERvn:patient	1	0/100/0%	DERvn:core TELIC$_{100\%}$

DERnv PRE:other	1	0/100/0%	$\text{MOD:qual}_{100\%}$
DERnv PRE:other DERvn:agent	1	0/100/0%	$\text{DERnn:assoc}_{100\%}$
DERnv SPACE:loc	1	0/100/0%	$\text{LOC:loc}_{100\%}$
DERnv TELIC DERvn:core	1	0/100/0%	$-_{100\%}$
DERnv inst	1	0/100/0%	$\text{DOBJ.patient}_{100\%}$
DERva	2	0/100/0%	$\text{DERva:act}_{50\%}$ $\text{DERva:pas.part}_{50\%}$
DERva:act DERvn:core	1	0/100/0%	$-_{100\%}$
DERva:act PRE:other	1	0/100/0%	$-_{100\%}$
DERva:act.epi	1	0/100/0%	$-_{100\%}$
DERva:act.epi GOAL	1	0/100/0%	$\text{DERna:rel.norm func}_{100\%}$
DERva:deono.pers PRE:other	1	0/100/0%	$\text{DERna:rel.deono.pers DERna:rel.norm about}_{100\%}$
DERva:pas.epi	3	0/100/0%	$-_{67\%}$ $\text{DERva:act}_{33\%}$
DERva:pas.part PRE:other	2	0/100/0%	$\text{MOD:qual DERva:act}_{50\%}$ $\text{LOC:loc DERnv}_{50\%}$
DERva:pas.part TRANS	1	0/100/0%	$-_{100\%}$
DERva:rel	2	0/100/0%	$\text{DERna:rel.norm}_{100\%}$
DERvn	1	0/100/0%	$-_{100\%}$
DERvn PRE:other	1	0/100/0%	$\text{DERvn:core LOC:loc}_{100\%}$
DERvn.core	2	0/100/0%	$\text{DERvn:core}_{100\%}$
DERvn:agent DERnn:assoc	1	0/100/0%	$-_{100\%}$
DERvn:agent DOBJ.patient	1	0/100/0%	$\text{DERvn:exper}_{100\%}$
DERvn:agent LOC:loc	1	0/100/0%	$-_{100\%}$
DERvn:agent OTHER	2	0/100/0%	$-_{50\%}$ $\text{DERvn:exper}_{50\%}$
DERvn:agent agent DERan:qual	1	0/100/0%	$\text{DERvn:other CONST}_{100\%}$
DERvn:agent arg	1	0/100/0%	$\text{OTHER}_{100\%}$
DERvn:agent dobj.patient	1	0/100/0%	$\text{ABOUT}_{100\%}$
DERvn:agent ns	1	0/100/0%	$\text{DERvn:agent}_{100\%}$
DERvn:core ASPEC:TRANS	1	0/100/0%	$\text{DERvn:patient}_{100\%}$
DERvn:core DERnn:agent	1	0/100/0%	$\text{DERvn:agent}_{100\%}$
DERvn:core DOBJ.patient	2	0/100/0%	$\text{about}_{100\%}$
DERvn:core IOBJ.exper	1	0/100/0%	$\text{DERvn:patient iobj.recipient}_{100\%}$
DERvn:core LOC:dir	4	0/100/0%	$-_{75\%}$ $\text{SPACE:dir DERvn:patient}_{25\%}$

DERvn:core LOC:dir subj.agent func	1	0/100/0%	AGENT$_{100\%}$
DERvn:core LOC:loc	2	0/100/0%	$-_{50\%}$ DERvn PRE:other$_{50\%}$
DERvn:core MOD:eval	3	0/100/0%	ASPEC:core NEG:priv$_{100\%}$
DERvn:core MOD:qual	3	0/100/0%	PRE:other$_{67\%}$ $-_{33\%}$
DERvn:core MOD:qual]	1	0/100/0%	func about$_{100\%}$
DERvn:core MOD:quant	1	0/100/0%	$-_{100\%}$
DERvn:core NEG:rev TELIC	1	0/100/0%	$-_{100\%}$
DERvn:core OTHER	1	0/100/0%	DERna:other DERvn:patient$_{100\%}$
DERvn:core PRE:other	1	0/100/0%	TRANS DERvn:patient$_{100\%}$
DERvn:core SPACE:source	1	0/100/0%	$-_{100\%}$
DERvn:core SUBJ.agent	1	0/100/0%	arg.subj DERvn:patient DERnn:assoc DERvn:agent$_{100\%}$
DERvn:core TELIC	6	0/100/0%	PRE:other DERvn:patient$_{50\%}$ $-_{17\%}$ DERvn:other$_{17\%}$ DERnv NEG:priv DERvn:patient$_{17\%}$
DERvn:core TRANS	5	0/100/0%	DERvn:patient$_{60\%}$ $-_{40\%}$
DERvn:core agent	1	0/100/0%	GOAL$_{100\%}$
DERvn:core arg	1	0/100/0%	GOAL$_{100\%}$
DERvn:core dobj.patient	2	0/100/0%	DERvn:other GOAL$_{100\%}$
DERvn:core dobj.recip DERvn:core	2	0/100/0%	DERvn:patient DOBJ.patient$_{100\%}$
DERvn:core eval	2	0/100/0%	DERvn:patient MOD:eval$_{50\%}$ MOD:eval$_{50\%}$
DERvn:core func	2	0/100/0%	$-_{50\%}$ DERvn:other MOD:qual$_{50\%}$
DERvn:core iobj.recipient	7	0/100/0%	DERvn:patient GOAL$_{100\%}$
DERvn:core subj.agent	1	0/100/0%	DERvn:other ABOUT$_{100\%}$
DERvn:exper	3	0/100/0%	DERvn:agent DOBJ.patient$_{33\%}$ DERvn:agent OTHER$_{33\%}$ DERvn:agent$_{33\%}$
DERvn:inst	4	0/100/0%	DERvn:patient$_{75\%}$ DERvn:agent$_{25\%}$
DERvn:loc LOC:loc	1	0/100/0%	LOC$_{100\%}$
DERvn:other	15	0/100/0%	DERvn:core$_{47\%}$ $-_{40\%}$ DERvn:patient$_{7\%}$ DERvn:core TELIC$_{7\%}$
DERvn:other ABOUT	1	0/100/0%	DERvn:core subj.agent$_{100\%}$

DERvn:other CONST	1	0/100/0%	DERvn:agent agent DERan:qual$_{100\%}$
DERvn:other DERna:rel	1	0/100/0%	DERva:act$_{100\%}$
DERvn:other GOAL	2	0/100/0%	DERvn:core dobj.patient$_{100\%}$
DERvn:other MOD:qual	1	0/100/0%	DERvn:core func$_{100\%}$
DERvn:other TELIC	1	0/100/0%	$-_{100\%}$
DERvn:other]s pobj.other	3	0/100/0%	func DERvn:agent agent DERan:qual$_{100\%}$
DERvn:pas.part	1	0/100/0%	DERva:pas.part$_{100\%}$
DERvn:patient ABOUT	1	0/100/0%	arg DERvn:core TRANS$_{100\%}$
DERvn:patient AGENT	1	0/100/0%	TELIC]g DERvn:core$_{100\%}$
DERvn:patient ARG	1	0/100/0%	pobj:dobj DERvn:core$_{100\%}$
DERvn:patient ARG]m	1	0/100/0%	poss about DERvn:agent TELIC$_{100\%}$
DERvn:patient DOBJ.patient	2	0/100/0%	DERvn:core dobj.recip DERvn:core$_{100\%}$
DERvn:patient GOAL	12	0/100/0%	DERvn:core iobj.recipient$_{58\%}$ func DERvn:agent$_{42\%}$
DERvn:patient LOC:loc	1	0/100/0%	DERvn:core$_{100\%}$
DERvn:patient MOD:eval	1	0/100/0%	DERvn:core eval$_{100\%}$
DERvn:patient OTHER	1	0/100/0%	DERnn:assoc MOD:quant$_{100\%}$
DERvn:patient PRE:other	1	0/100/0%	SPEC:term DERvn:core$_{100\%}$
DERvn:patient TELIC	3	0/100/0%	$-_{33\%}$ DERvn:loc$_{33\%}$ NEG:priv DERvn:core$_{33\%}$
DERvn:patient TELIC]n GOAL	1	0/100/0%	dobj.patient DERvn:core$_{100\%}$
DERvn:patient TRANS	1	0/100/0%	$-_{100\%}$
DERvn:patient about DERvn:core	1	0/100/0%	TELIC ARG$_{100\%}$
DERvn:patient func DERvn:agent	1	0/100/0%	$-_{100\%}$
DERvn:patient iobj.recipient	1	0/100/0%	DERvn:core IOBJ.exper$_{100\%}$
DERvn:recip	2	0/100/0%	DOBJ.patient$_{50\%}$ DERvn:agent$_{50\%}$
DERvn:recip TELIC	1	0/100/0%	PRE:other DERva:pas.part$_{100\%}$
DERvv	2	0/100/0%	$-_{50\%}$ PRE:other$_{50\%}$
DEVERB:act:pure	1	0/100/0%	$-_{100\%}$

DEVERB:rel.norm	2	0/100/0%	DERva:act$_{100\%}$
DEVERV:act.pure	1	0/100/0%	$-_{100\%}$
DEran:qual	1	0/100/0%	DERan:qual$_{100\%}$
DErna:rel	1	0/100/0%	DERna:rel.norm$_{100\%}$
DErna:rel PRE:other	1	0/100/0%	DERna:rel.norm MOD:qual$_{100\%}$
DErva:pas.part	1	0/100/0%	$-_{100\%}$
DErvn:core	2	0/100/0%	DERvn:core$_{100\%}$
DErvn:patient	2	0/100/0%	DERvn:core$_{100\%}$
DOBJ.patient	26	0/100/0%	dobj.patient$_{65\%}$ $-_{27\%}$ DERvn:recip$_{4\%}$ DERnv inst$_{4\%}$
DOBJ.patient FORM	1	0/100/0%	$-_{100\%}$
DOBJ.patient]l	2	0/100/0%	dobj.patient arg DERan:qual DERvn:loc$_{50\%}$ dobj.patient DERan:qual$_{50\%}$
EVAL	3	0/100/0%	eval$_{67\%}$ LOC:loc$_{33\%}$
FORM	11	0/100/0%	type DERvn:core$_{18\%}$ OTHER$_{9\%}$ form$_{9\%}$ MOD:eval$_{9\%}$ func const DERvn:core$_{9\%}$ $-_{9\%}$ func DERvn:patient DERvn:core$_{9\%}$ loc$_{9\%}$ const const$_{9\%}$ about$_{9\%}$
FUNC	1	0/100/0%	iden$_{100\%}$
FUNC]FUNC	1	0/100/0%	const type$_{100\%}$
GOAL	109	0/100/0%	func$_{53\%}$ func DERvn:core$_{7\%}$ arg$_{4\%}$ func DERvn:agent$_{4\%}$ $-_{3\%}$ poss$_{3\%}$ iden$_{2\%}$ const$_{2\%}$ loc$_{2\%}$ type DERvn:core$_{1\%}$ loc MOD:qual$_{1\%}$ func time func DERnn:other$_{1\%}$ func MOD:qual$_{1\%}$ type DERvn:agent$_{1\%}$ LOC:loc$_{1\%}$ other$_{1\%}$ arg DERvn:loc DERan:qual$_{1\%}$ type$_{1\%}$ about DERvn:core$_{1\%}$ DERvn:core agent$_{1\%}$ dobj.patient$_{1\%}$ func.dobj$_{1\%}$ func loc$_{1\%}$ func DERav$_{1\%}$ MOD:qual$_{1\%}$ arg.patient DERnn:agent$_{1\%}$ func DERan:qual$_{1\%}$ DERvn:core arg$_{1\%}$ DERnn:agent func$_{1\%}$ func DERvn:loc$_{1\%}$ agent$_{1\%}$ func iden$_{1\%}$
GOAL SOURCE	1	0/100/0%	MOD:qual arg$_{100\%}$
GOAL SUBJ.agent	1	0/100/0%	$-_{100\%}$
GOAL]k	1	0/100/0%	func$_{100\%}$
GOAL]m	1	0/100/0%	func$_{100\%}$
GOAL]t	1	0/100/0%	func loc$_{100\%}$
GOAl	1	0/100/0%	func$_{100\%}$
IDEN	4	0/100/0%	func$_{75\%}$ iden$_{25\%}$
IDEN]k	1	0/100/0%	func$_{100\%}$
LOC	29	0/100/0%	loc$_{79\%}$ source$_{3\%}$ agent$_{3\%}$ agent DERna:rel.deono.loc$_{3\%}$ poss$_{3\%}$ eval$_{3\%}$ DERvn:loc LOC:loc$_{3\%}$
LOC:dir DERav	1	0/100/0%	TELIC]t DERva:pas.part$_{100\%}$
LOC:loc	21	0/100/0%	$-_{38\%}$ SPACE:loc$_{33\%}$ PRE:other$_{10\%}$ DERva:pas.part$_{5\%}$ EVAL$_{5\%}$ DERnv SPACE:loc$_{5\%}$ GOAL$_{5\%}$
LOC:loc DERnv	1	0/100/0%	DERva:pas.part PRE:other$_{100\%}$
LOC:loc DERvn:core	2	0/100/0%	$-_{100\%}$
LOC:loc LOC:loc	1	0/100/0%	SPACE:loc MOD:qual$_{100\%}$
MOD:eval LOC:dir	1	0/100/0%	TELIC]l DERva:act$_{100\%}$
MOD:eval]b	1	0/100/0%	eval$_{100\%}$
MOD:qual DERna:rel.norm	1	0/100/0%	AGENT:MC DERna:rel PRE:other$_{100\%}$

MOD:qual DERva:act	1	0/100/0%	DERva:pas.part PRE:other$_{100\%}$
MOD:qual DERvn:core	1	0/100/0%	$-_{100\%}$
MOD:qual DERvn:recip	1	0/100/0%	TIME:time$_{100\%}$
MOD:qual arg	1	0/100/0%	GOAL SOURCE$_{100\%}$
MOD:qual poss DERvn:agent	1	0/100/0%	OTHER MOD:eval$_{100\%}$
MOD:quant DERvn:core TELIC	1	0/100/0%	QUANT$_{100\%}$
MOD:quant]l	1	0/100/0%	MOD:quant$_{100\%}$
NEG:contr DERvn:core	1	0/100/0%	$-_{100\%}$
NEG:priv DERna:rel.norm	1	0/100/0%	$-_{100\%}$
NEG:priv DERvn:core	1	0/100/0%	DERvn:patient TELIC$_{100\%}$
NEG:priv TIME:pre	1	0/100/0%	TIME:pre]s NEG:contr$_{100\%}$
NEG:rev	2	0/100/0%	$-_{50\%}$ TELIC$_{50\%}$
NEG:rev TRANS	1	0/100/0%	PRE:other$_{100\%}$
NOPRED:core	1	0/100/0%	$-_{100\%}$
OTHER FUNC	1	0/100/0%	const add type$_{100\%}$
OTHER MOD:eval	1	0/100/0%	MOD:qual poss DERvn:agent$_{100\%}$
OTHER OTHER	1	0/100/0%	type inst$_{100\%}$
POS:dir	1	0/100/0%	PRE:other$_{100\%}$
PRE:other	45	0/100/0%	$-_{31\%}$ TELIC$_{27\%}$ TRANS$_{7\%}$ LOC:loc$_{4\%}$ DERvn:core MOD:qual$_{4\%}$ about$_{4\%}$ LOC:dir$_{4\%}$ TELIC DERvn:core$_{2\%}$ DERna:rel.norm about$_{2\%}$ ASPEC:result$_{2\%}$ ASPEC:other$_{2\%}$ NEG:rev TRANS$_{2\%}$ POS:dir$_{2\%}$ DERvv$_{2\%}$ func$_{2\%}$
PRE:other ARG	1	0/100/0%	func DERvn:agent LOC:loc$_{100\%}$
PRE:other DERva:pas.part	6	0/100/0%	TELIC$_{50\%}$ ITER$_{17\%}$ DERvn:recip TELIC$_{17\%}$ TELIC DEVERB:act:pure$_{17\%}$
PRE:other DERvn:patient	4	0/100/0%	DERvn:core TELIC$_{75\%}$ DERvn:core$_{25\%}$
PRE:other DOBJ.patient	1	0/100/0%	func.dobj DERvn:core TELIC$_{100\%}$
PRE:other MOD:qual	2	0/100/0%	type DERvn:core$_{100\%}$
PRE:other]g	1	0/100/0%	TRANS$_{100\%}$
PRE:other]t	1	0/100/0%	AGENT$_{100\%}$
PRED:Core	1	0/100/0%	$-_{100\%}$
PRED:reult	1	0/100/0%	$-_{100\%}$
QUANT	6	0/100/0%	MOD:quant$_{33\%}$ DENUM:ord$_{17\%}$ $-_{17\%}$ func$_{17\%}$ MOD:quant DERvn:core TELIC$_{17\%}$
RESEM	2	0/100/0%	resem$_{50\%}$ eval$_{50\%}$

SOURCE	18	0/100/0%	$\text{source}_{44\%}$ $\text{agent}_{17\%}$ $\text{type}_{11\%}$ $\text{MOD:qual}_{6\%}$ $\text{DERnv}_{6\%}$ $-_{6\%}$ $\text{const}_{6\%}$ $\text{poss}_{6\%}$
SPACE.dir	2	0/100/0%	$\text{LOC:dir}_{100\%}$
SPACE:dir	7	0/100/0%	$\text{LOC:dir}_{71\%}$ $-_{29\%}$
SPACE:dir DERvn:patient	1	0/100/0%	DERvn:core $\text{LOC:dir}_{100\%}$
SPACE:loc	11	0/100/0%	$\text{LOC:loc}_{64\%}$ $-_{36\%}$
SPACE:loc ARG	1	0/100/0%	func.iobj $\text{MOD:qual}_{100\%}$
SPACE:loc MOD:qual	1	0/100/0%	LOC:loc $\text{LOC:loc}_{100\%}$
SPACE:source	3	0/100/0%	$-_{33\%}$ $\text{TELIC}_{33\%}$ $\text{LOC:dir}_{33\%}$
SPACE:source DERva:pas.part	1	0/100/0%	$\text{TELIC}_{100\%}$
SPEC:term DERvn:core	1	0/100/0%	DERvn:patient $\text{PRE:other}_{100\%}$
SUBJ.agent	10	0/100/0%	$\text{subj.agent}_{60\%}$ $\text{agent}_{30\%}$ $\text{DERvn:agent}_{10\%}$
SUBJ.agent]l	3	0/100/0%	$\text{AGENT}_{100\%}$
SUBJ.patient	1	0/100/0%	subj.agent $\text{DERvn:patient}_{100\%}$
TELIC ARG	1	0/100/0%	DERvn:patient about $\text{DERvn:core}_{100\%}$
TELIC DERva:pas.part	4	0/100/0%	$\text{TRANS}_{50\%}$ $\text{ASPEC:result}_{25\%}$ $\text{func}_{25\%}$
TELIC DERvn:agent CAUSE	1	0/100/0%	agent DERvn:core $\text{MOD:eval}_{100\%}$
TELIC DERvn:core	4	0/100/0%	$-_{50\%}$ $\text{PRE:other}_{25\%}$ TELIC]n $\text{DERvn:patient}_{25\%}$
TELIC DERvn:patient	2	0/100/0%	$-_{50\%}$ $\text{DERvn:core}_{50\%}$
TELIC DEVERB:act:pure	1	0/100/0%	PRE:other $\text{DERva:pas.part}_{100\%}$
TELIC MOD:qual	1	0/100/0%	$\text{ARG}_{100\%}$
TELIC]g	1	0/100/0%	$\text{ASPEC:result}_{100\%}$
TELIC]g DERvn:core	1	0/100/0%	DERvn:patient $\text{AGENT}_{100\%}$
TELIC]k DERva.pas.part	1	0/100/0%	$\text{TELIC}_{100\%}$
TELIC]l	1	0/100/0%	$\text{TELIC}_{100\%}$
TELIC]l DERva:act	1	0/100/0%	MOD:eval $\text{LOC:dir}_{100\%}$
TELIC]l DERvn:patient	1	0/100/0%	$\text{DERvn:core}_{100\%}$
TELIC]l DERvn:patient TIME:MC	1	0/100/0%	type DERvn:core TELIC $\text{DERvn:core}_{100\%}$
TELIC]l GOAL	2	0/100/0%	func DERvn:core $\text{TELIC}_{50\%}$ func $\text{DERvn:core}_{50\%}$
TELIC]m	1	0/100/0%	$\text{LOC:dir}_{100\%}$
TELIC]n	3	0/100/0%	$-_{100\%}$
TELIC]n DERvn:patient	2	0/100/0%	TELIC $\text{DERvn:core}_{50\%}$ $\text{DERvn:core}_{50\%}$
TELIC]n GOAL	3	0/100/0%	func $\text{DERvn:core}_{100\%}$

TELIC]t	8	0/100/0%	$\text{TRANS}_{63\%}$ $\text{TELIC}_{38\%}$
TELIC]t DERva:pas.part	1	0/100/0%	LOC:dir $\text{DERav}_{100\%}$
TIME	1	0/100/0%	$\text{time}_{100\%}$
TIME:MC	6	0/100/0%	$\text{time}_{100\%}$
TIME:pre DERva:act	1	0/100/0%	$-_{100\%}$
TIME:pre]s NEG:contr	1	0/100/0%	NEG:priv $\text{TIME:pre}_{100\%}$
TIME:time	2	0/100/0%	$-_{50\%}$ MOD:qual $\text{DERvn:recip}_{50\%}$
TRANS DERva:act	3	0/100/0%	$-_{100\%}$
TRANS DERvn:patient	1	0/100/0%	DERvn:core $\text{PRE:other}_{100\%}$
about	34	0/100/0%	$\text{ABOUT}_{41\%}$ $\text{ARG}_{21\%}$ AGENT:MC $\text{PRE:other}_{9\%}$ $\text{OTHER}_{6\%}$ DERvn:core $\text{DOBJ.patient}_{6\%}$ $\text{ABOUT]k}_{6\%}$ $\text{PRE:other}_{6\%}$ $-_{3\%}$ $\text{FORM}_{3\%}$
about DERvn:core	2	0/100/0%	$\text{ARG}_{50\%}$ $\text{GOAL}_{50\%}$
about DERvn:core TELIC	1	0/100/0%	$\text{ARG}_{100\%}$
about LOC:dir DERvn:core	1	0/100/0%	$-_{100\%}$
agent	27	0/100/0%	$\text{CONST}_{19\%}$ $-_{15\%}$ $\text{SUBJ.agent}_{11\%}$ $\text{SOURCE}_{11\%}$ $\text{ABOUT}_{11\%}$ $\text{AGENT:MC}_{7\%}$ $\text{AGENT}_{7\%}$ DERan:qual $\text{OTHER}_{7\%}$ $\text{LOC}_{4\%}$ $\text{ARG}_{4\%}$ $\text{GOAL}_{4\%}$
agent DERna:rel.deono.loc	1	0/100/0%	$\text{LOC}_{100\%}$
agent DERnn:quant	1	0/100/0%	DERnn:other $\text{SOURCE}_{100\%}$
agent DERvn:core MOD:eval	1	0/100/0%	TELIC DERvn:agent $\text{CAUSE}_{100\%}$
agent func	1	0/100/0%	$-_{100\%}$
agent.subj	1	0/100/0%	$-_{100\%}$
apart	2	0/100/0%	$\text{OTHER}_{50\%}$ $\text{CONST}_{50\%}$
arg	43	0/100/0%	$\text{ARG}_{61\%}$ $\text{OTHER}_{14\%}$ $\text{GOAL}_{9\%}$ $\text{ABOUT}_{7\%}$ $\text{goal}_{2\%}$ $-_{2\%}$ $\text{DERnv}_{2\%}$ $\text{CONST}_{2\%}$
arg DERan:qual DERvn:loc	1	0/100/0%	$-_{100\%}$
arg DERvn:agent	1	0/100/0%	$-_{100\%}$
arg DERvn:core TRANS	1	0/100/0%	DERvn:patient $\text{ABOUT}_{100\%}$
arg DERvn:loc DERan:qual	1	0/100/0%	$\text{GOAL}_{100\%}$
arg loc	1	0/100/0%	$\text{CONST}_{100\%}$
arg.patient	1	0/100/0%	$\text{GOAL}_{100\%}$
arg.subj DERnn:agent	1	0/100/0%	DERvn:core $\text{SUBJ.agent}_{100\%}$
arg.subj DERvn:patient DERnn:assoc DERvn:agent			

class	1	0/100/0%	OTHER$_{100\%}$
const	38	0/100/0%	CONST$_{68\%}$ −$_{8\%}$ ABOUT$_{8\%}$ GOAL$_{5\%}$ ARG$_{5\%}$ MOD:qual$_{3\%}$ SOURCE$_{3\%}$
const DERna:rel.norm	1	0/100/0%	DERna:deono.pers$_{100\%}$
const DERvn:agent	1	0/100/0%	−$_{100\%}$
const DERvn:agent DERnv	1	0/100/0%	CONST]p$_{100\%}$
const LOC:dir	1	0/100/0%	ARG$_{100\%}$
const add type	1	0/100/0%	OTHER FUNC$_{100\%}$
const const	1	0/100/0%	FORM$_{100\%}$
const type	1	0/100/0%	FUNC]FUNC$_{100\%}$
dobj.patient	19	0/100/0%	DOBJ.patient$_{90\%}$ TELIC$_{5\%}$ GOAL$_{5\%}$
dobj.patient DERan:qual	1	0/100/0%	DOBJ.patient]l$_{100\%}$
dobj.patient DERvn:core	2	0/100/0%	DERvn:patient TELIC]n GOAL$_{50\%}$ OTHER$_{50\%}$
dobj.patient DERvn:patient	1	0/100/0%	ABOUT$_{100\%}$
dobj.patient arg DERan:qual DERvn:loc	1	0/100/0%	DOBJ.patient]l$_{100\%}$
eval	5	0/100/0%	EVAL$_{40\%}$ MOD:eval]b$_{20\%}$ RESEM$_{20\%}$ LOC$_{20\%}$
form	1	0/100/0%	FORM$_{100\%}$
func	103	0/100/0%	GOAL$_{56\%}$ OTHER$_{10\%}$ ARG$_{8\%}$ ABOUT$_{7\%}$ −$_{5\%}$ IDEN$_{3\%}$ DERnv$_{2\%}$ GOAL]m$_{1\%}$ DERva:act$_{1\%}$ PRE:other$_{1\%}$ IDEN]k$_{1\%}$ TELIC DERva:pas.part$_{1\%}$ GOAl$_{1\%}$ CONST$_{1\%}$ GOAL]k$_{1\%}$ QUANT$_{1\%}$ DERna:other$_{1\%}$
func DERan:qual	1	0/100/0%	GOAL$_{100\%}$
func DERav	1	0/100/0%	GOAL$_{100\%}$
func DERnn:capac	5	0/100/0%	−$_{100\%}$
func DERvn:agent	9	0/100/0%	DERvn:patient GOAL$_{56\%}$ GOAL$_{44\%}$
func DERvn:agent DERnv	1	0/100/0%	−$_{100\%}$
func DERvn:agent LOC:loc	1	0/100/0%	PRE:other ARG$_{100\%}$
func DERvn:agent agent DERan:qual	3	0/100/0%	DERvn:other]s pobj.other$_{100\%}$
func DERvn:core	18	0/100/0%	GOAL$_{44\%}$ −$_{33\%}$ TELIC]n GOAL$_{17\%}$ TELIC]l GOAL$_{6\%}$
func DERvn:core TELIC	1	0/100/0%	TELIC]l GOAL$_{100\%}$
func DERvn:loc	1	0/100/0%	GOAL$_{100\%}$
func DERvn:patient DERvn:core	1	0/100/0%	FORM$_{100\%}$
func MOD:qual	1	0/100/0%	GOAL$_{100\%}$
func NEG:contr	1	0/100/0%	−$_{100\%}$
func about	1	0/100/0%	DERvn:core MOD:qual]$_{100\%}$

func arg DERvn:patient	1	0/100/0%	$ABOUT_{100\%}$	
func const DERvn:core	1	0/100/0%	$FORM_{100\%}$	
func func	1	0/100/0%	$-_{100\%}$	
func iden	1	0/100/0%	$GOAL_{100\%}$	
func loc	2	0/100/0%	$GOAL_{50\%}$ $GOAL]t_{50\%}$	
func time	1	0/100/0%	$ABOUT_{100\%}$	
func time func DERnn:other	1	0/100/0%	$GOAL_{100\%}$	
func.dobj	2	0/100/0%	$-_{50\%}$ $GOAL_{50\%}$	
func.dobj DERvn:core TELIC	1	0/100/0%	PRE:other $DOBJ.patient_{100\%}$	
func.iobj MOD:qual	1	0/100/0%	SPACE:loc $ARG_{100\%}$	
goal	1	0/100/0%	$arg_{100\%}$	
iden	9	0/100/0%	$OTHER_{44\%}$ $GOAL_{22\%}$ $-_{11\%}$ $IDEN_{11\%}$ $FUNC_{11\%}$	
iden DERnn:assoc DERvn:agent	1	0/100/0%	$OTHER_{100\%}$	
inst	2	0/100/0%	$OTHER_{50\%}$ $DERav_{50\%}$	
loc	30	0/100/0%	$LOC_{77\%}$ $-_{7\%}$ $GOAL_{7\%}$ $MOD:qual_{3\%}$ $DERnv_{3\%}$ $FORM_{3\%}$	
loc MOD:qual	1	0/100/0%	$GOAL_{100\%}$	
other	8	0/100/0%	$ARG_{50\%}$ $OTHER_{25\%}$ $-_{13\%}$ $GOAL_{13\%}$	
pobj:dobj DERvn:core	1	0/100/0%	DERvn:patient $ARG_{100\%}$	
poss	12	0/100/0%	$-_{33\%}$ $GOAL_{25\%}$ $OTHER_{17\%}$ $ARG]m_{8\%}$ $LOC_{8\%}$ $SOURCE_{8\%}$	
poss DERvn:core	1	0/100/0%	$-_{100\%}$	
poss about DERvn:agent TELIC	1	0/100/0%	DERvn:patient $ARG]m_{100\%}$	
poss type	1	0/100/0%	$-_{100\%}$	
resem	1	0/100/0%	$RESEM_{100\%}$	
resem DERva:pas.part	1	0/100/0%	$-_{100\%}$	
resem DERvn:other	1	0/100/0%	$-_{100\%}$	
source	12	0/100/0%	$SOURCE_{67\%}$ $-_{17\%}$ $CONST_{8\%}$ $LOC_{8\%}$	
source DE- Ran:qual	1	0/100/0%	$-_{100\%}$	
subj.agent	7	0/100/0%	$SUBJ.agent_{86\%}$ $ABOUT_{14\%}$	
subj.agent DERvn:patient	1	0/100/0%	$SUBJ.patient_{100\%}$	
tei.2>	1	0/100/0%	$-_{100\%}$	
time	11	0/100/0%	$TIME:MC_{55\%}$ $-_{27\%}$ $TIME_{9\%}$ $TIME:pre_{9\%}$	
type	7	0/100/0%	$OTHER_{29\%}$ $SOURCE_{29\%}$ $-_{14\%}$ $DERnv_{14\%}$ $GOAL_{14\%}$	
type DERnn:agent	1	0/100/0%	$OTHER_{100\%}$	
type DERvn:agent	1	0/100/0%	$GOAL_{100\%}$	

type DERvn:core	6	0/100/0%	PRE:other MOD:qual$_{33\%}$ FORM$_{33\%}$ OTHER$_{17\%}$ GOAL$_{17\%}$
type DERvn:core TELIC DERvn:core	1	0/100/0%	TELIC]l DERvn:patient TIME:MC$_{100\%}$
type inst	1	0/100/0%	OTHER OTHER$_{100\%}$
type type	1	0/100/0%	OTHER$_{100\%}$

| TOTAL | 3513 | 14/100/14% | |

B.6 Confusion table: morphology-no-null

R	N	A/A$_U$/A$_L$	Confusion list
DER:aa	2	100/100/100%	DER:aa$_{100\%}$
DERav	14	93/100/93%	DERav$_{93\%}$ inst$_{7\%}$
DERan:qual	45	91/100/91%	DERan:qual$_{91\%}$ DERnn:loc$_{2\%}$ DERna:rel.deono.loc$_{2\%}$ DEran:qual$_{2\%}$ DERnn:agent$_{2\%}$
NEG:contr	20	85/100/85%	NEG:contr$_{85\%}$ NEG:priv$_{5\%}$ MOD:eval$_{5\%}$ TELIC$_{5\%}$
DERvn:agent	80	80/100/80%	DERvn:agent$_{80\%}$ DERvn:core$_{5\%}$ DERnn:agent$_{4\%}$ OTHER$_{1\%}$ DERvn:core DERnn:agent$_{1\%}$ DERvn:agent ns$_{1\%}$ DERvn:exper$_{1\%}$ DERva:act$_{1\%}$ DERvn:recip$_{1\%}$ DERvn:patient$_{1\%}$ SUBJ.agent$_{1\%}$ DERvn:inst$_{1\%}$
DERnv	53	79/100/79%	DERnv$_{79\%}$ DERvn:core$_{4\%}$ DERva:pas.part$_{4\%}$ func$_{4\%}$ OTHER$_{2\%}$ arg$_{2\%}$ loc$_{2\%}$ type$_{2\%}$ SOURCE$_{2\%}$
DERnn:agent	22	77/100/77%	DERnn:agent$_{77\%}$ DERvn:agent$_{14\%}$ DERan:qual$_{5\%}$ DERna:rel.deono.loc$_{5\%}$
DERvn:loc	4	75/100/75%	DERvn:loc$_{75\%}$ DERvn:patient TELIC$_{25\%}$
DERva:act	30	67/100/67%	DERva:act$_{67\%}$ DERva:pas.part$_{7\%}$ DEVERB:rel.norm$_{7\%}$ TRANS$_{3\%}$ DERva:pas.epi$_{3\%}$ DERvn:other DERna:rel$_{3\%}$ func$_{3\%}$ DERvn:agent$_{3\%}$ DERva$_{3\%}$
ITER	3	67/100/67%	ITER$_{67\%}$ PRE:other DERva:pas.part$_{33\%}$
TIME:post	3	67/100/67%	TIME:post$_{67\%}$ TRANS$_{33\%}$
TIME:pre	3	67/100/67%	TIME:pre$_{67\%}$ time$_{33\%}$
DERva:pas.part	28	64/100/64%	DERva:pas.part$_{64\%}$ DERva:act$_{7\%}$ DERnv$_{7\%}$ LOC:loc$_{4\%}$ DERnv NEG:priv$_{4\%}$ DERvn:patient$_{4\%}$ DERva$_{4\%}$ DERvn:pas.part$_{4\%}$ DERna:disp$_{4\%}$
MOD:quant	19	63/100/63%	MOD:quant$_{63\%}$ MOD:qual$_{11\%}$ QUANT$_{11\%}$ DE-NUM:ord$_{5\%}$ MOD:quant]l$_{5\%}$ MOD:eval$_{5\%}$
DERvn:core	198	62/100/62%	DERvn:core$_{62\%}$ DERvn:patient$_{23\%}$ DERvn:other$_{4\%}$ DERvn:agent$_{2\%}$ DErvn:core$_{1\%}$ DERvn.core$_{1\%}$ DERav DERvn:patient$_{1\%}$ DERnv$_{1\%}$ DErvn:patient$_{1\%}$ TELIC]l DERvn:patient$_{1\%}$ DERav DERva:patient$_{1\%}$ TELIC$_{1\%}$ DERnv DERvn:patient$_{1\%}$ DERvn:patient LOC:loc$_{1\%}$ TELIC]n DERvn:patient$_{1\%}$ TELIC DERvn:patient$_{1\%}$ PRE:other DERvn:patient$_{1\%}$ DERnn:other$_{1\%}$
DERnn:assoc	7	57/100/57%	DERnn:assoc$_{57\%}$ DERnv PRE:other DERvn:agent$_{14\%}$ DERnn:loc$_{14\%}$ ARG$_{14\%}$
MOD:qual	33	55/100/55%	MOD:qual$_{55\%}$ TELIC$_{9\%}$ OTHER$_{6\%}$ MOD:eval$_{6\%}$ MOD:quant$_{6\%}$ CONST$_{3\%}$ const$_{3\%}$ loc$_{3\%}$ SOURCE$_{3\%}$ DERnv PRE:other$_{3\%}$ GOAL$_{3\%}$

MOD:eval	13	46/100/46%	MOD:eval$_{46\%}$ MOD:qual$_{15\%}$ NEG:contr$_{8\%}$ DERvn:core eval$_{8\%}$ MOD:quant$_{8\%}$ FORM$_{8\%}$ TELIC$_{8\%}$
DERna:poss	9	44/100/44%	DERna:poss$_{44\%}$ DERna:rel.norm$_{33\%}$ DERna:disp$_{22\%}$
TELIC	77	44/100/44%	TELIC$_{44\%}$ PRE:other$_{16\%}$ TRANS$_{7\%}$ LOC:dir$_{7\%}$ PRE:other DERva:pas.part$_{4\%}$ TELIC]t$_{4\%}$ MOD:qual$_{4\%}$ NEG:contr$_{1\%}$ ASPEC:resutl$_{1\%}$ TELIC]l$_{1\%}$ DERvn:core$_{1\%}$ MOD:eval$_{1\%}$ NEG:rev$_{1\%}$ dobj.patient$_{1\%}$ TELIC]k DERva.pas.part$_{1\%}$ SPACE:source$_{1\%}$ SPACE:source DERva:pas.part$_{1\%}$ ASPEC:result$_{1\%}$ NEG:priv$_{1\%}$
NEG:priv	5	40/100/40%	NEG:priv$_{40\%}$ NEG:contr$_{20\%}$ ABOUT$_{20\%}$ TELIC$_{20\%}$
DERna:other	3	33/100/33%	func$_{33\%}$ ABOUT$_{33\%}$ DERna:other$_{33\%}$
DERvn:patient	75	25/100/25%	DERvn:core$_{61\%}$ DERvn:patient$_{25\%}$ DERvn:core TRANS$_{4\%}$ DERvn:inst$_{4\%}$ DERva:pas.part$_{1\%}$ DERvn:core ASPEC:TRANS$_{1\%}$ DERvn:other$_{1\%}$ DERvn:agent$_{1\%}$
LOC:dir	19	16/100/16%	SPACE:dir$_{26\%}$ TELIC$_{26\%}$ LOC:dir$_{16\%}$ SPACE.dir$_{11\%}$ PRE:other$_{11\%}$ TELIC]m$_{5\%}$ SPACE:source$_{5\%}$
TRANS	21	14/100/14%	TELIC$_{24\%}$ TELIC]t$_{24\%}$ TRANS$_{14\%}$ PRE:other$_{14\%}$ TELIC DERva:pas.part$_{10\%}$ DERva:act$_{5\%}$ TIME:post$_{5\%}$ PRE:other]g$_{5\%}$
AGENT	8	13/100/13%	SUBJ.agent]l$_{38\%}$ agent$_{25\%}$ DERvn:core LOC:dir subj.agent func$_{13\%}$ PRE:other]t$_{13\%}$ AGENT$_{13\%}$
OTHER	50	12/100/12%	func$_{20\%}$ arg$_{12\%}$ OTHER$_{12\%}$ iden$_{8\%}$ about$_{4\%}$ poss$_{4\%}$ MOD:qual$_{4\%}$ other$_{4\%}$ type$_{4\%}$ type type$_{2\%}$ type DERvn:core$_{2\%}$ DERvn:agent arg$_{2\%}$ iden DERnn:assoc DERvn:agent$_{2\%}$ DERvn:agent$_{2\%}$ DERna:rel.norm arg$_{2\%}$ dobj.patient DERvn:core$_{2\%}$ DERnv$_{2\%}$ DERna:rel.norm MOD:qual$_{2\%}$ type DERnn:agent$_{2\%}$ inst$_{2\%}$ class$_{2\%}$ apart$_{2\%}$ FORM$_{2\%}$
DERna:rel.norm	34	3/100/3%	DERna:rel$_{74\%}$ DERna:poss$_{9\%}$ DERva:rel$_{6\%}$ DERna:rel.norm$_{3\%}$ DErna:rel$_{3\%}$ DERan:rel DERav DERvn:core$_{3\%}$ ARG DERna:rel$_{3\%}$
ABOUT	37	0/100/0%	about$_{38\%}$ func$_{19\%}$ arg$_{8\%}$ const$_{8\%}$ agent$_{8\%}$ func time$_{3\%}$ func arg DERvn:patient$_{3\%}$ dobj.patient DERvn:patient$_{3\%}$ NEG:priv$_{3\%}$ DERvn:agent dobj.patient$_{3\%}$ DERna:other$_{3\%}$ subj.agent$_{3\%}$
ABOUT]k	2	0/100/0%	about$_{100\%}$
AGENT:MC	2	0/100/0%	agent$_{100\%}$
AGENT:MC DERna:rel PRE:other	1	0/100/0%	MOD:qual DERna:rel.norm$_{100\%}$
AGENT:MC MOD:qual DERna:rel	1	0/100/0%	DERna:rel.norm about$_{100\%}$
AGENT:MC PRE:other	3	0/100/0%	about$_{100\%}$
AGENT:MC PRE:other DERna:rel	1	0/100/0%	DERna:rel.norm about$_{100\%}$
ARG	53	0/100/0%	arg$_{49\%}$ func$_{15\%}$ about$_{13\%}$ other$_{8\%}$ const$_{4\%}$ about DERvn:core$_{2\%}$ DERnn:assoc$_{2\%}$ const LOC:dir$_{2\%}$ TELIC MOD:qual$_{2\%}$ agent$_{2\%}$ about DERvn:core TELIC$_{2\%}$

ARG DERna:rel	1	0/100/0%	DERna:rel.norm$_{100\%}$
ARG]m	1	0/100/0%	poss$_{100\%}$
ASPEC:core NEG:priv	3	0/100/0%	DERvn:core MOD:eval$_{100\%}$
ASPEC:other	1	0/100/0%	PRE:other$_{100\%}$
ASPEC:result	4	0/100/0%	PRE:other$_{25\%}$ TELIC$_{25\%}$ TELIC]g$_{25\%}$ TELIC DERva:pas.part$_{25\%}$
ASPEC:resutl	1	0/100/0%	TELIC$_{100\%}$
CONST	37	0/100/0%	const$_{70\%}$ agent$_{14\%}$ source$_{3\%}$ MOD:qual$_{3\%}$ arg$_{3\%}$ arg loc$_{3\%}$ func$_{3\%}$ apart$_{3\%}$
CONST]p	1	0/100/0%	const DERvn:agent DERnv$_{100\%}$
DENOM:eff	6	0/100/0%	DERna:rel$_{67\%}$ DERna:telic$_{17\%}$ DERnv DERva:pas.epi$_{17\%}$
DENOM:rel.deono	1	0/100/0%	DERna:rel$_{100\%}$
DENUM:ord	2	0/100/0%	MOD:quant$_{50\%}$ QUANT$_{50\%}$
DERan:qual OTHER	2	0/100/0%	agent$_{100\%}$
DERan:rel DERav DERvn:core	1	0/100/0%	DERna:rel.norm$_{100\%}$
DERav DERva:patient	1	0/100/0%	DERvn:core$_{100\%}$
DERav DERvn:patient	2	0/100/0%	DERvn:core$_{100\%}$
DERna:deono.loc	4	0/100/0%	DERna:rel.deono.loc$_{100\%}$
DERna:deono.pers	1	0/100/0%	const DERna:rel.norm$_{100\%}$
DERna:deono.pers MOD:qual	1	0/100/0%	DERna:rel.deono.pers about$_{100\%}$
DERna:disp	6	0/100/0%	DERna:rel$_{50\%}$ DERna:poss$_{33\%}$ DERva:pas.part$_{17\%}$
DERna:other DERvn:patient	1	0/100/0%	DERvn:core OTHER$_{100\%}$
DERna:rel	37	0/100/0%	DERna:rel.norm$_{68\%}$ DENOM:eff$_{11\%}$ DERna:disp$_{8\%}$ DERna:rel.norm DENOM:rel.place$_{5\%}$ DERna:rel.norm DERnn:assoc$_{3\%}$ DERna:rel.deono.loc$_{3\%}$ DENOM:rel.deono$_{3\%}$
DERna:rel DERan:qual	1	0/100/0%	DERna:rel.norm DER:aa$_{100\%}$
DERna:rel.deono.loc	8	0/100/0%	DERna:deono.loc$_{50\%}$ DERan:qual$_{13\%}$ DERnn:deono.loc$_{13\%}$ DERnn:agent$_{13\%}$ DERna:rel$_{13\%}$
DERna:rel.deono.pers DERna:rel.norm about	1	0/100/0%	DERva:deono.pers PRE:other$_{100\%}$
DERna:rel.deono.pers about	1	0/100/0%	DERna:deono.pers MOD:qual$_{100\%}$
DERna:rel.norm DENOM:rel.place	3	0/100/0%	DERna:rel$_{67\%}$ DERnn:assoc DERna:rel$_{33\%}$
DERna:rel.norm DER:aa	1	0/100/0%	DERna:rel DERan:qual$_{100\%}$
DERna:rel.norm DERnn:assoc	1	0/100/0%	DERna:rel$_{100\%}$
DERna:rel.norm MOD:qual	2	0/100/0%	OTHER$_{50\%}$ DErna:rel PRE:other$_{50\%}$

DERna:rel.norm about	3	0/100/0%	AGENT:MC MOD:qual DERna:rel$_{33\%}$ PRE:other$_{33\%}$ AGENT:MC PRE:other DERna:rel$_{33\%}$
DERna:rel.norm arg	1	0/100/0%	OTHER$_{100\%}$
DERna:rel.norm func	1	0/100/0%	DERva:act.epi GOAL$_{100\%}$
DERna:telic	1	0/100/0%	DENOM:eff$_{100\%}$
DERnn:agent func	1	0/100/0%	GOAL$_{100\%}$
DERnn:assoc DERna:rel	1	0/100/0%	DERna:rel.norm DENOM:rel.place$_{100\%}$
DERnn:assoc MOD:quant	1	0/100/0%	DERvn:patient OTHER$_{100\%}$
DERnn:deono.loc	1	0/100/0%	DERna:rel.deono.loc$_{100\%}$
DERnn:loc	2	0/100/0%	DERan:qual$_{50\%}$ DERnn:assoc$_{50\%}$
DERnn:other	1	0/100/0%	DERvn:core$_{100\%}$
DERnn:other SOURCE	1	0/100/0%	agent DERnn:quant$_{100\%}$
DERnv DERva:pas.epi	1	0/100/0%	DENOM:eff$_{100\%}$
DERnv DERvn:patient	1	0/100/0%	DERvn:core$_{100\%}$
DERnv NEG:priv	1	0/100/0%	DERva:pas.part$_{100\%}$
DERnv NEG:priv DERvn:patient	1	0/100/0%	DERvn:core TELIC$_{100\%}$
DERnv PRE:other	1	0/100/0%	MOD:qual$_{100\%}$
DERnv PRE:other DERvn:agent	1	0/100/0%	DERnn:assoc$_{100\%}$
DERnv SPACE:loc	1	0/100/0%	LOC:loc$_{100\%}$
DERnv inst	1	0/100/0%	DOBJ.patient$_{100\%}$
DERva	2	0/100/0%	DERva:act$_{50\%}$ DERva:pas.part$_{50\%}$
DERva:act.epi GOAL	1	0/100/0%	DERna:rel.norm func$_{100\%}$
DERva:deono.pers PRE:other	1	0/100/0%	DERna:rel.deono.pers DERna:rel.norm about$_{100\%}$
DERva:pas.epi	1	0/100/0%	DERva:act$_{100\%}$
DERva:pas.part PRE:other	2	0/100/0%	MOD:qual DERva:act$_{50\%}$ LOC:loc DERnv$_{50\%}$
DERva:rel	2	0/100/0%	DERna:rel.norm$_{100\%}$
DERvn PRE:other	1	0/100/0%	DERvn:core LOC:loc$_{100\%}$
DERvn.core	2	0/100/0%	DERvn:core$_{100\%}$
DERvn:agent DOBJ.patient	1	0/100/0%	DERvn:exper$_{100\%}$
DERvn:agent OTHER	1	0/100/0%	DERvn:exper$_{100\%}$
DERvn:agent agent DERan:qual	1	0/100/0%	DERvn:other CONST$_{100\%}$
DERvn:agent arg	1	0/100/0%	OTHER$_{100\%}$
DERvn:agent dobj.patient	1	0/100/0%	ABOUT$_{100\%}$
DERvn:agent ns	1	0/100/0%	DERvn:agent$_{100\%}$

DERvn:core AS-PEC:TRANS	1	0/100/0%	DERvn:patient$_{100\%}$
DERvn:core DERnn:agent	1	0/100/0%	DERvn:agent$_{100\%}$
DERvn:core DOBJ.patient	2	0/100/0%	about$_{100\%}$
DERvn:core IOBJ.exper	1	0/100/0%	DERvn:patient iobj.recipient$_{100\%}$
DERvn:core LOC:dir	1	0/100/0%	SPACE:dir DERvn:patient$_{100\%}$
DERvn:core LOC:dir subj.agent func	1	0/100/0%	AGENT$_{100\%}$
DERvn:core LOC:loc	1	0/100/0%	DERvn PRE:other$_{100\%}$
DERvn:core MOD:eval	3	0/100/0%	ASPEC:core NEG:priv$_{100\%}$
DERvn:core MOD:qual	2	0/100/0%	PRE:other$_{100\%}$
DERvn:core MOD:qual]	1	0/100/0%	func about$_{100\%}$
DERvn:core OTHER	1	0/100/0%	DERna:other DERvn:patient$_{100\%}$
DERvn:core PRE:other	1	0/100/0%	TRANS DERvn:patient$_{100\%}$
DERvn:core SUBJ.agent	1	0/100/0%	arg.subj DERvn:patient DERnn:assoc DERvn:agent$_{100\%}$
DERvn:core TELIC	5	0/100/0%	PRE:other DERvn:patient$_{60\%}$ DERvn:other$_{20\%}$ DERnv NEG:priv DERvn:patient$_{20\%}$
DERvn:core TRANS	3	0/100/0%	DERvn:patient$_{100\%}$
DERvn:core agent	1	0/100/0%	GOAL$_{100\%}$
DERvn:core arg	1	0/100/0%	GOAL$_{100\%}$
DERvn:core dobj.patient	2	0/100/0%	DERvn:other GOAL$_{100\%}$
DERvn:core dobj.recip DERvn:core	2	0/100/0%	DERvn:patient DOBJ.patient$_{100\%}$
DERvn:core eval	2	0/100/0%	DERvn:patient MOD:eval$_{50\%}$ MOD:eval$_{50\%}$
DERvn:core func	1	0/100/0%	DERvn:other MOD:qual$_{100\%}$
DERvn:core iobj.recipient	7	0/100/0%	DERvn:patient GOAL$_{100\%}$
DERvn:core subj.agent	1	0/100/0%	DERvn:other ABOUT$_{100\%}$
DERvn:exper	3	0/100/0%	DERvn:agent DOBJ.patient$_{33\%}$ DERvn:agent OTHER$_{33\%}$ DERvn:agent$_{33\%}$
DERvn:inst	4	0/100/0%	DERvn:patient$_{75\%}$ DERvn:agent$_{25\%}$
DERvn:loc LOC:loc	1	0/100/0%	LOC$_{100\%}$

DERvn:other	9	0/100/0%	DERvn:core$_{78\%}$ DERvn:patient$_{11\%}$ DERvn:core TELIC$_{11\%}$
DERvn:other ABOUT	1	0/100/0%	DERvn:core subj.agent$_{100\%}$
DERvn:other CONST	1	0/100/0%	DERvn:agent agent DERan:qual$_{100\%}$
DERvn:other DERna:rel	1	0/100/0%	DERva:act$_{100\%}$
DERvn:other GOAL	2	0/100/0%	DERvn:core dobj.patient$_{100\%}$
DERvn:other MOD:qual	1	0/100/0%	DERvn:core func$_{100\%}$
DERvn:other]s pobj.other	3	0/100/0%	func DERvn:agent agent DERan:qual$_{100\%}$
DERvn:pas.part	1	0/100/0%	DERva:pas.part$_{100\%}$
DERvn:patient ABOUT	1	0/100/0%	arg DERvn:core TRANS$_{100\%}$
DERvn:patient AGENT	1	0/100/0%	TELIC]g DERvn:core$_{100\%}$
DERvn:patient ARG	1	0/100/0%	pobj:dobj DERvn:core$_{100\%}$
DERvn:patient ARG]m	1	0/100/0%	poss about DERvn:agent TELIC$_{100\%}$
DERvn:patient DOBJ.patient	2	0/100/0%	DERvn:core dobj.recip DERvn:core$_{100\%}$
DERvn:patient GOAL	12	0/100/0%	DERvn:core iobj.recipient$_{58\%}$ func DERvn:agent$_{42\%}$
DERvn:patient LOC:loc	1	0/100/0%	DERvn:core$_{100\%}$
DERvn:patient MOD:eval	1	0/100/0%	DERvn:core eval$_{100\%}$
DERvn:patient OTHER	1	0/100/0%	DERnn:assoc MOD:quant$_{100\%}$
DERvn:patient PRE:other	1	0/100/0%	SPEC:term DERvn:core$_{100\%}$
DERvn:patient TELIC	2	0/100/0%	DERvn:loc$_{50\%}$ NEG:priv DERvn:core$_{50\%}$
DERvn:patient TELIC]n GOAL	1	0/100/0%	dobj.patient DERvn:core$_{100\%}$
DERvn:patient about DERvn:core	1	0/100/0%	TELIC ARG$_{100\%}$
DERvn:patient iobj.recipient	1	0/100/0%	DERvn:core IOBJ.exper$_{100\%}$
DERvn:recip	2	0/100/0%	DOBJ.patient$_{50\%}$ DERvn:agent$_{50\%}$
DERvn:recip TELIC	1	0/100/0%	PRE:other DERva:pas.part$_{100\%}$
DERvv	1	0/100/0%	PRE:other$_{100\%}$
DEVERB:rel.norm	2	0/100/0%	DERva:act$_{100\%}$
DEran:qual	1	0/100/0%	DERan:qual$_{100\%}$
DErna:rel	1	0/100/0%	DERna:rel.norm$_{100\%}$

DERna:rel PRE:other	1	0/100/0%	DERna:rel.norm MOD:qual$_{100\%}$
DERvn:core	2	0/100/0%	DERvn:core$_{100\%}$
DERvn:patient	2	0/100/0%	DERvn:core$_{100\%}$
DOBJ.patient	19	0/100/0%	dobj.patient$_{90\%}$ DERvn:recip$_{5\%}$ DERnv inst$_{5\%}$
DOBJ.patient]l	2	0/100/0%	dobj.patient arg DERan:qual DERvn:loc$_{50\%}$ dobj.patient DERan:qual$_{50\%}$
EVAL	3	0/100/0%	eval$_{67\%}$ LOC:loc$_{33\%}$
FORM	10	0/100/0%	type DERvn:core$_{20\%}$ OTHER$_{10\%}$ form$_{10\%}$ MOD:eval$_{10\%}$ func const DERvn:core$_{10\%}$ func DERvn:patient DERvn:core$_{10\%}$ loc$_{10\%}$ const const$_{10\%}$ about$_{10\%}$
FUNC	1	0/100/0%	iden$_{100\%}$
FUNC]FUNC	1	0/100/0%	const type$_{100\%}$
GOAL	106	0/100/0%	func$_{55\%}$ func DERvn:core$_{8\%}$ arg$_{4\%}$ func DERvn:agent$_{4\%}$ poss$_{3\%}$ iden$_{2\%}$ const$_{2\%}$ loc$_{2\%}$ about DERvn:core$_{1\%}$ DERvn:core agent$_{1\%}$ type DERvn:core$_{1\%}$ loc MOD:qual$_{1\%}$ func time func DERnn:other$_{1\%}$ dobj.patient$_{1\%}$ func MOD:qual$_{1\%}$ func.dobj$_{1\%}$ type DERvn:agent$_{1\%}$ func DERav$_{1\%}$ func loc$_{1\%}$ MOD:qual$_{1\%}$ DERvn:core arg$_{1\%}$ func DERan:qual$_{1\%}$ arg.patient DERnn:agent$_{1\%}$ LOC:loc$_{1\%}$ DERnn:agent func$_{1\%}$ other$_{1\%}$ arg DERvn:loc DERan:qual$_{1\%}$ agent$_{1\%}$ func DERvn:loc$_{1\%}$ type$_{1\%}$ func iden$_{1\%}$
GOAL SOURCE	1	0/100/0%	MOD:qual arg$_{100\%}$
GOAL]k	1	0/100/0%	func$_{100\%}$
GOAL]m	1	0/100/0%	func$_{100\%}$
GOAL]t	1	0/100/0%	func loc$_{100\%}$
GOAl	1	0/100/0%	func$_{100\%}$
IDEN	4	0/100/0%	func$_{75\%}$ iden$_{25\%}$
IDEN]k	1	0/100/0%	func$_{100\%}$
LOC	29	0/100/0%	loc$_{79\%}$ source$_{3\%}$ agent$_{3\%}$ agent DERna:rel.deono.loc$_{3\%}$ poss$_{3\%}$ eval$_{3\%}$ DERvn:loc LOC:loc$_{3\%}$
LOC:dir DERav	1	0/100/0%	TELIC]t DERva:pas.part$_{100\%}$
LOC:loc	13	0/100/0%	SPACE:loc$_{54\%}$ PRE:other$_{15\%}$ DERva:pas.part$_{8\%}$ EVAL$_{8\%}$ DERnv SPACE:loc$_{8\%}$ GOAL$_{8\%}$
LOC:loc DERnv	1	0/100/0%	DERva:pas.part PRE:other$_{100\%}$
LOC:loc LOC:loc	1	0/100/0%	SPACE:loc MOD:qual$_{100\%}$
MOD:eval LOC:dir	1	0/100/0%	TELIC]l DERva:act$_{100\%}$
MOD:eval]b	1	0/100/0%	eval$_{100\%}$
MOD:qual DERna:rel.norm	1	0/100/0%	AGENT:MC DERna:rel PRE:other$_{100\%}$
MOD:qual DERva:act	1	0/100/0%	DERva:pas.part PRE:other$_{100\%}$
MOD:qual DERvn:recip	1	0/100/0%	TIME:time$_{100\%}$
MOD:qual arg	1	0/100/0%	GOAL SOURCE$_{100\%}$
MOD:qual poss DERvn:agent	1	0/100/0%	OTHER MOD:eval$_{100\%}$
MOD:quant DERvn:core TELIC	1	0/100/0%	QUANT$_{100\%}$
MOD:quant]l	1	0/100/0%	MOD:quant$_{100\%}$

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NEG:priv DERvn:core	1	0/100/0%	DERvn:patient TELIC$_{100\%}$
NEG:priv TIME:pre	1	0/100/0%	TIME:pre]s NEG:contr$_{100\%}$
NEG:rev	1	0/100/0%	TELIC$_{100\%}$
NEG:rev TRANS	1	0/100/0%	PRE:other$_{100\%}$
OTHER FUNC	1	0/100/0%	const add type$_{100\%}$
OTHER MOD:eval	1	0/100/0%	MOD:qual poss DERvn:agent$_{100\%}$
OTHER OTHER	1	0/100/0%	type inst$_{100\%}$
POS:dir	1	0/100/0%	PRE:other$_{100\%}$
PRE:other	31	0/100/0%	TELIC$_{39\%}$ TRANS$_{10\%}$ LOC:loc$_{7\%}$ DERvn:core MOD:qual$_{7\%}$ about$_{7\%}$ LOC:dir$_{7\%}$ TELIC DERvn:core$_{3\%}$ DERna:rel.norm about$_{3\%}$ ASPEC:result$_{3\%}$ ASPEC:other$_{3\%}$ NEG:rev TRANS$_{3\%}$ POS:dir$_{3\%}$ DERvv$_{3\%}$ func$_{3\%}$
PRE:other ARG	1	0/100/0%	func DERvn:agent LOC:loc$_{100\%}$
PRE:other DERva:pas.part	6	0/100/0%	TELIC$_{50\%}$ ITER$_{17\%}$ DERvn:recip TELIC$_{17\%}$ TELIC DEVERB:act:pure$_{17\%}$
PRE:other DERvn:patient	4	0/100/0%	DERvn:core TELIC$_{75\%}$ DERvn:core$_{25\%}$
PRE:other DOBJ.patient	1	0/100/0%	func.dobj DERvn:core TELIC$_{100\%}$
PRE:other MOD:qual	2	0/100/0%	type DERvn:core$_{100\%}$
PRE:other]g	1	0/100/0%	TRANS$_{100\%}$
PRE:other]t	1	0/100/0%	AGENT$_{100\%}$
QUANT	5	0/100/0%	MOD:quant$_{40\%}$ DENUM:ord$_{20\%}$ func$_{20\%}$ MOD:quant DERvn:core TELIC$_{20\%}$
RESEM	2	0/100/0%	resem$_{50\%}$ eval$_{50\%}$
SOURCE	17	0/100/0%	source$_{47\%}$ agent$_{18\%}$ type$_{12\%}$ MOD:qual$_{6\%}$ DERnv$_{6\%}$ const$_{6\%}$ poss$_{6\%}$
SPACE.dir	2	0/100/0%	LOC:dir$_{100\%}$
SPACE:dir	5	0/100/0%	LOC:dir$_{100\%}$
SPACE:dir DERvn:patient	1	0/100/0%	DERvn:core LOC:dir$_{100\%}$
SPACE:loc	7	0/100/0%	LOC:loc$_{100\%}$
SPACE:loc ARG	1	0/100/0%	func.iobj MOD:qual$_{100\%}$
SPACE:loc MOD:qual	1	0/100/0%	LOC:loc LOC:loc$_{100\%}$
SPACE:source	2	0/100/0%	TELIC$_{50\%}$ LOC:dir$_{50\%}$
SPACE:source DERva:pas.part	1	0/100/0%	TELIC$_{100\%}$
SPEC:term DERvn:core	1	0/100/0%	DERvn:patient PRE:other$_{100\%}$
SUBJ.agent	10	0/100/0%	subj.agent$_{60\%}$ agent$_{30\%}$ DERvn:agent$_{10\%}$
SUBJ.agent]l	3	0/100/0%	AGENT$_{100\%}$
SUBJ.patient	1	0/100/0%	subj.agent DERvn:patient$_{100\%}$
TELIC ARG	1	0/100/0%	DERvn:patient about DERvn:core$_{100\%}$
TELIC DERva:pas.part	4	0/100/0%	TRANS$_{50\%}$ ASPEC:result$_{25\%}$ func$_{25\%}$

TELIC DERvn:agent CAUSE	1	0/100/0%	agent DERvn:core MOD:eval$_{100\%}$
TELIC DERvn:core	2	0/100/0%	PRE:other$_{50\%}$ TELIC]n DERvn:patient$_{50\%}$
TELIC DERvn:patient	1	0/100/0%	DERvn:core$_{100\%}$
TELIC DE-VERB:act:pure	1	0/100/0%	PRE:other DERva:pas.part$_{100\%}$
TELIC MOD:qual	1	0/100/0%	ARG$_{100\%}$
TELIC]g	1	0/100/0%	ASPEC:result$_{100\%}$
TELIC]g DERvn:core	1	0/100/0%	DERvn:patient AGENT$_{100\%}$
TELIC]k DERva.pas.part	1	0/100/0%	TELIC$_{100\%}$
TELIC]l	1	0/100/0%	TELIC$_{100\%}$
TELIC]l DERva:act	1	0/100/0%	MOD:eval LOC:dir$_{100\%}$
TELIC]l DERvn:patient	1	0/100/0%	DERvn:core$_{100\%}$
TELIC]l DERvn:patient TIME:MC	1	0/100/0%	type DERvn:core TELIC DERvn:core$_{100\%}$
TELIC]l GOAL	2	0/100/0%	func DERvn:core TELIC$_{50\%}$ func DERvn:core$_{50\%}$
TELIC]m	1	0/100/0%	LOC:dir$_{100\%}$
TELIC]n DERvn:patient	2	0/100/0%	TELIC DERvn:core$_{50\%}$ DERvn:core$_{50\%}$
TELIC]n GOAL	3	0/100/0%	func DERvn:core$_{100\%}$
TELIC]t	8	0/100/0%	TRANS$_{63\%}$ TELIC$_{38\%}$
TELIC]t DERva:pas.part	1	0/100/0%	LOC:dir DERav$_{100\%}$
TIME	1	0/100/0%	time$_{100\%}$
TIME:MC	6	0/100/0%	time$_{100\%}$
TIME:pre]s NEG:contr	1	0/100/0%	NEG:priv TIME:pre$_{100\%}$
TIME:time	1	0/100/0%	MOD:qual DERvn:recip$_{100\%}$
TRANS DERvn:patient	1	0/100/0%	DERvn:core PRE:other$_{100\%}$
about	33	0/100/0%	ABOUT$_{42\%}$ ARG$_{21\%}$ AGENT:MC PRE:other$_{9\%}$ OTHER$_{6\%}$ DERvn:core DOBJ.patient$_{6\%}$ ABOUT]k$_{6\%}$ PRE:other$_{6\%}$ FORM$_{3\%}$
about DERvn:core	2	0/100/0%	ARG$_{50\%}$ GOAL$_{50\%}$
about DERvn:core TELIC	1	0/100/0%	ARG$_{100\%}$
agent	23	0/100/0%	CONST$_{22\%}$ SUBJ.agent$_{13\%}$ SOURCE$_{13\%}$ ABOUT$_{13\%}$ AGENT:MC$_{9\%}$ AGENT$_{9\%}$ DERan:qual OTHER$_{9\%}$ LOC$_{4\%}$ ARG$_{4\%}$ GOAL$_{4\%}$
agent DERna:rel.deono.loc	1	0/100/0%	LOC$_{100\%}$

agent DERnn:quant	1	0/100/0%	DERnn:other SOURCE$_{100\%}$
agent DERvn:core MOD:eval	1	0/100/0%	TELIC DERvn:agent CAUSE$_{100\%}$
apart	2	0/100/0%	OTHER$_{50\%}$ CONST$_{50\%}$
arg	42	0/100/0%	ARG$_{62\%}$ OTHER$_{14\%}$ GOAL$_{10\%}$ ABOUT$_{7\%}$ goal$_{2\%}$ DERnv$_{2\%}$ CONST$_{2\%}$
arg DERvn:core TRANS	1	0/100/0%	DERvn:patient ABOUT$_{100\%}$
arg DERvn:loc DERan:qual	1	0/100/0%	GOAL$_{100\%}$
arg loc	1	0/100/0%	CONST$_{100\%}$
arg.patient DERnn:agent	1	0/100/0%	GOAL$_{100\%}$
arg.subj DERvn:patient DERnn:assoc DERvn:agent	1	0/100/0%	DERvn:core SUBJ.agent$_{100\%}$
class	1	0/100/0%	OTHER$_{100\%}$
const	35	0/100/0%	CONST$_{74\%}$ ABOUT$_{9\%}$ GOAL$_{6\%}$ ARG$_{6\%}$ MOD:qual$_{3\%}$ SOURCE$_{3\%}$
const DERna:rel.norm	1	0/100/0%	DERna:deono.pers$_{100\%}$
const DERvn:agent DERnv	1	0/100/0%	CONST]p$_{100\%}$
const LOC:dir	1	0/100/0%	ARG$_{100\%}$
const add type	1	0/100/0%	OTHER FUNC$_{100\%}$
const const	1	0/100/0%	FORM$_{100\%}$
const type	1	0/100/0%	FUNC]FUNC$_{100\%}$
dobj.patient	19	0/100/0%	DOBJ.patient$_{90\%}$ TELIC$_{5\%}$ GOAL$_{5\%}$
dobj.patient DERan:qual	1	0/100/0%	DOBJ.patient]l$_{100\%}$
dobj.patient DERvn:core	2	0/100/0%	DERvn:patient TELIC]n GOAL$_{50\%}$ OTHER$_{50\%}$
dobj.patient DERvn:patient	1	0/100/0%	ABOUT$_{100\%}$
dobj.patient arg DERan:qual DERvn:loc	1	0/100/0%	DOBJ.patient]l$_{100\%}$
eval	5	0/100/0%	EVAL$_{40\%}$ MOD:eval]b$_{20\%}$ RESEM$_{20\%}$ LOC$_{20\%}$
form	1	0/100/0%	FORM$_{100\%}$
func	98	0/100/0%	GOAL$_{59\%}$ OTHER$_{10\%}$ ARG$_{8\%}$ ABOUT$_{7\%}$ IDEN$_{3\%}$ DERnv$_{2\%}$ GOAL]m$_{1\%}$ GOAl$_{1\%}$ CONST$_{1\%}$ DERva:act$_{1\%}$ GOAL]k$_{1\%}$ PRE:other$_{1\%}$ IDEN]k$_{1\%}$ QUANT$_{1\%}$ DERna:other$_{1\%}$ TELIC DERva:pas.part$_{1\%}$
func DERan:qual	1	0/100/0%	GOAL$_{100\%}$
func DERav	1	0/100/0%	GOAL$_{100\%}$
func DERvn:agent	9	0/100/0%	DERvn:patient GOAL$_{56\%}$ GOAL$_{44\%}$
func DERvn:agent LOC:loc	1	0/100/0%	PRE:other ARG$_{100\%}$

func DERvn:agent agent DERan:qual	3	0/100/0%	DERvn:other]s pobj.other$_{100\%}$
func DERvn:core	12	0/100/0%	GOAL$_{67\%}$ TELIC]n GOAL$_{25\%}$ TELIC]l GOAL$_{8\%}$
func DERvn:core TELIC	1	0/100/0%	TELIC]l GOAL$_{100\%}$
func DERvn:loc	1	0/100/0%	GOAL$_{100\%}$
func DERvn:patient DERvn:core	1	0/100/0%	FORM$_{100\%}$
func MOD:qual	1	0/100/0%	GOAL$_{100\%}$
func about	1	0/100/0%	DERvn:core MOD:qual]$_{100\%}$
func arg DERvn:patient	1	0/100/0%	ABOUT$_{100\%}$
func const DERvn:core	1	0/100/0%	FORM$_{100\%}$
func iden	1	0/100/0%	GOAL$_{100\%}$
func loc	2	0/100/0%	GOAL$_{50\%}$ GOAL]t$_{50\%}$
func time	1	0/100/0%	ABOUT$_{100\%}$
func time func DERnn:other	1	0/100/0%	GOAL$_{100\%}$
func.dobj	1	0/100/0%	GOAL$_{100\%}$
func.dobj DERvn:core TELIC	1	0/100/0%	PRE:other DOBJ.patient$_{100\%}$
func.iobj MOD:qual	1	0/100/0%	SPACE:loc ARG$_{100\%}$
goal	1	0/100/0%	arg$_{100\%}$
iden	8	0/100/0%	OTHER$_{50\%}$ GOAL$_{25\%}$ IDEN$_{13\%}$ FUNC$_{13\%}$
iden DERnn:assoc DERvn:agent	1	0/100/0%	OTHER$_{100\%}$
inst	2	0/100/0%	OTHER$_{50\%}$ DERav$_{50\%}$
loc	28	0/100/0%	LOC$_{82\%}$ GOAL$_{7\%}$ MOD:qual$_{4\%}$ DERnv$_{4\%}$ FORM$_{4\%}$
loc MOD:qual	1	0/100/0%	GOAL$_{100\%}$
other	7	0/100/0%	ARG$_{57\%}$ OTHER$_{29\%}$ GOAL$_{14\%}$
pobj:dobj DERvn:core	1	0/100/0%	DERvn:patient ARG$_{100\%}$
poss	8	0/100/0%	GOAL$_{38\%}$ OTHER$_{25\%}$ ARG]m$_{13\%}$ LOC$_{13\%}$ SOURCE$_{13\%}$
poss about DERvn:agent TELIC	1	0/100/0%	DERvn:patient ARG]m$_{100\%}$
resem	1	0/100/0%	RESEM$_{100\%}$
source	10	0/100/0%	SOURCE$_{80\%}$ CONST$_{10\%}$ LOC$_{10\%}$
subj.agent	7	0/100/0%	SUBJ.agent$_{86\%}$ ABOUT$_{14\%}$
subj.agent DERvn:patient	1	0/100/0%	SUBJ.patient$_{100\%}$
time	8	0/100/0%	TIME:MC$_{75\%}$ TIME$_{13\%}$ TIME:pre$_{13\%}$
type	6	0/100/0%	OTHER$_{33\%}$ SOURCE$_{33\%}$ DERnv$_{17\%}$ GOAL$_{17\%}$
type DERnn:agent	1	0/100/0%	OTHER$_{100\%}$
type DERvn:agent	1	0/100/0%	GOAL$_{100\%}$

type DERvn:core	6	0/100/0%	PRE:other MOD:qual$_{33\%}$ FORM$_{33\%}$ OTHER$_{17\%}$ GOAL$_{17\%}$
type DERvn:core TELIC DERvn:core	1	0/100/0%	TELIC]l DERvn:patient TIME:MC$_{100\%}$
type inst	1	0/100/0%	OTHER OTHER$_{100\%}$
type type	1	0/100/0%	OTHER$_{100\%}$

TOTAL   2049   23/100/23%

B.7 Confusion table: alignment

R	N	A/A$_U$/A$_L$	Confusion list

TOTAL   0   0/0/0%

Appendix C

Annotation status

C.1 All texts

	alignment	discourse	morphology	postag	status	syntax
none	950	1690	1985		911	
auto				1774	65	
outdated-final	536				372	
first	45	38	52	1	1	129
discussed	132	86			89	
final	112	507	283	536	757	

C.2 da texts

	discourse	morphology	postag	syntax
none	183	290		
auto				
outdated-final				1
first	2	6	1	5
discussed	12			3
final	340	240	535	527

C.3 de texts

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

C.4 en texts

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

first	22			30
discussed				1
final	72	1		69

C.5 es texts

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

C.6 it texts

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

C.7 da-de texts

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

C.8 da-en texts

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

C.9 da-es texts

	alignment	discourse	morphology	syntax
none	331			

	alignment	discourse	morphology	status	syntax
auto					
outdated-final					
first			1	2	
discussed		39			
final		43			2

C.10 da-it texts

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

Appendix D

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