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;

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

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

Chapter 2

Top-level relations: ANY

```
ANY: directed relation
    DIM: dimension
        DIM:LEVEL: dimension: linguistic level
        DIM:TYPE: dimension: relation type
            +: segment concatenation
            IDIOM: idiomatic relation
            PRIM: primary dependency relation
                ADJ: adjunct relation
                COMP: complement relation
            SEC: secondary dependency relation
```

Figure 2.1: The relations matching ANY-SYNTAX-MORPHOLOGY-DISCOURSE-ANAPHORA-SEMANTICS-ALIGNMENT-RULE.

ANY
[4]
Directed relation. An arbitrary directed relation between two tokens. The arrow goes from parent (head, governor, nucleus) to child (dependent, satellite).

Subtypes: DIM RULE.

DIM
isa ANY
[5]
Dimension (long: DIMENSION). A dimension in the hierarchy. Eg, linguistic level and relation type.

Subtypes: DIM:LEVEL DIM:TYPE.

DIM:LEVEL
isa DIM
[6]
Dimension: linguistic level. Dimension specifying the linguistic level of the relation. The classification of relations into linguistic levels is slightly arbitrary (there will be borderline cases where there is no single natural classification), and does not carry any deep linguistic significance. It is more a question about linguistic convention and research tradition than about any deep underlying difference between relations.

Subtypes: ALIGN ANA DISC MORPH SEM SYN.

DIM:TYPE
isa DIM
[7]
Dimension: relation type. Dimension specifying the type of the relation.

Subtypes: + IDIOM PRIM SEC.

+
isa DIM:TYPE
[30]
Segment concatenation (long: CONCATENATION). A concatenation relation between two adjacent segments. This relation is used if an indecomposable lexeme has mis-

takenly been segmented into two segments. Lexicalized complex expressions are instead marked as IDIOM relations with the "#" suffix.

Related types: IDIOM.

IDIOM
isa DIM:TYPE
[31]

Idiomatic relation. Idiomatic relation. Ie, relations between tokens in a complex lexicalized expression.

Subtypes: PRIM"#".

PRIM
isa DIM:TYPE
[24]

Primary dependency relation (long: PRIMARY). A primary dependency relation. Ie, a relation which specifies the primary head (the governor) of a token (the dependent).

Subtypes: ADJ COMP.

ADJ
isa PRIM
[26]

Adjunct relation (long: ADJUNCT). A primary adjunct relation. The relation is licensed by the adjunct, ie, the lexical entry of the adjunct specifies the permissible adjunct frames for the adjunct (ie, the permissible adjunct roles and the restrictions on the governor, eg, with respect to word class). In the compositional semantics, the adjunct acts as functor with the governor as argument.

Subtypes: DISCOTHER DISCPRAG DISCSEM SYNADJ.

COMP
isa PRIM
[25]

Complement relation (long: COMPLEMENT). A primary complement relation. The relation is licensed by the governor, ie, the lexical entry of the governor specifies the complement frames that it allows (the complement frame specifies the permissible complement roles, and the lexical restrictions on the complements, eg, with respect to word class). In the compositional semantics, the complements act as arguments with the governor as functor.

Subtypes: "@"adverb SYNCOMP.

SEC
isa DIM:TYPE
[27]

Secondary dependency relation (long: SECONDARY). A secondary dependency relation. Eg, the secondary dependency relation in filler-gap constructions such as relatives without a relative pronoun (the relativized noun is a secondary dependent of the relative verb), raising and control constructions, and elliptic coordinations.

Subtypes: "["PRIM"]" "{"SEM"}".

Chapter 3

Syntactic relations: SYNTAX

<div style="border:1px solid">

SYN: syntax level

</div>

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

SYN
isa DIM:LEVEL
[16]

Syntax level (long: SYNTAX). A relation at the syntactic level. Ie, a relation between two segments within a sentence, but not within a single word.

Subtypes: SYNADJ SYNCOMP.

3.1 Complement relations: SYNCOMP

SYNCOMP
isa COMP SYN
[71]

Syntactic complement.

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

@space
isa SYNCOMP
[80]

Valency-bound location/direction adverbial.

Related types: dir loc.
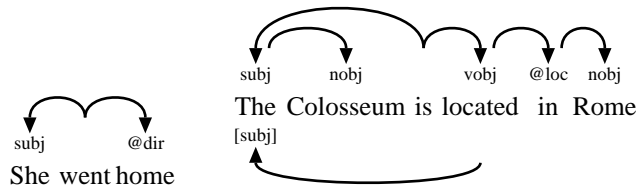
@time
isa SYNCOMP
[96]

Valency-bound time adverbial. A valency bound time expression. Formerly analyzed as locative object, but we have decided to provide a general mechanism (@) for converting adverbial relations into valency-bound relations.

Related types: cont dur ext hab prec succ.

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

Figure 3.2: The relations matching SYNCOMP.

aobj
isa SYNCOMP
[87]

Adjectival object. If the adverbial object is part of a NP which nucleus is deverbal, the following annotation possibilities are available: aobj.subj{SEMROLE} aobj.dobj{SEMROLE} aobj.pobj{SEMROLE} aobj.iobj{SEMROLE} The relevant semantic roles in this context are agent, patient, recipient, experient, location.

Related types: avobj.
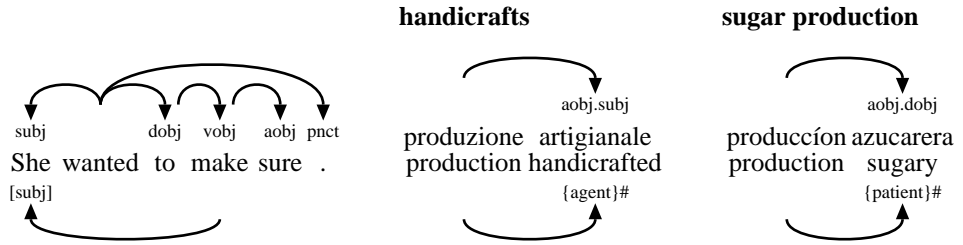
avobj
isa SYNCOMP
[88]

Adverbial object.
Related types: aobj part.

dobj
isa SYNCOMP
[76]

Direct object.

Related types: iobj robj.
Confusion$_1$: pnct$_{100\%}$.

expl	dobj	nobj	pnct
There are many people .			

subj	dobj	nobj	pnct
He has a ball .			

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

N/A

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

the presence of film critics

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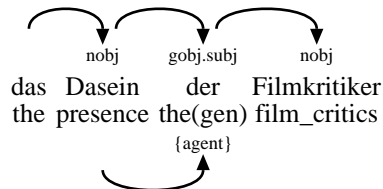
with help from the keyboard

nobj   gobj.subj   nobj
mit Hilfe   der   Tastatur
with help   the   keyboard
{agent}

the sale of the car

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

Denmark's attitude

nobj   gobj
die Haltung Dänemarks
the attitude Denmark's
{arg}
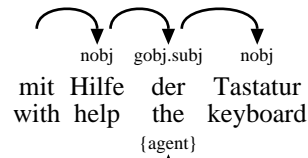
iobj *Indirect object.*
isa SYNCOMP Related types: dobj.
[79]

subj   iobj dobj nobj
He gave her a kiss
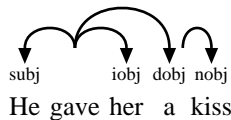
nobj *Nominal object.* If the nominal object is part of a NP which nucleus is deverbal, the
isa SYNCOMP following annotation possibilities are available: nobj.subj{SEMROLE} nobj.dobj{SEMROLE}
[86] nobj.pobj{SEMROLE} nobj.iobj{SEMROLE} The relevant semantic roles in this
context are agent, patient, recipient, experient, location.
Confusion$_1$: pnct$_{100\%}$.

They joined the party.

nobj
the car

subj · dobj · part · pobj · nobj · pnct

De meldte sig ind i partiet .
They joined themselves in in party−the

navigator **keyword**

nobj.subj
shark attack
{agent}#

nobj.dobj
book review
{patient}#

nobj.dobj
indicatore percorsi
indicator tracks
{patient}#

nobj
parola chiave
word key
{func}#

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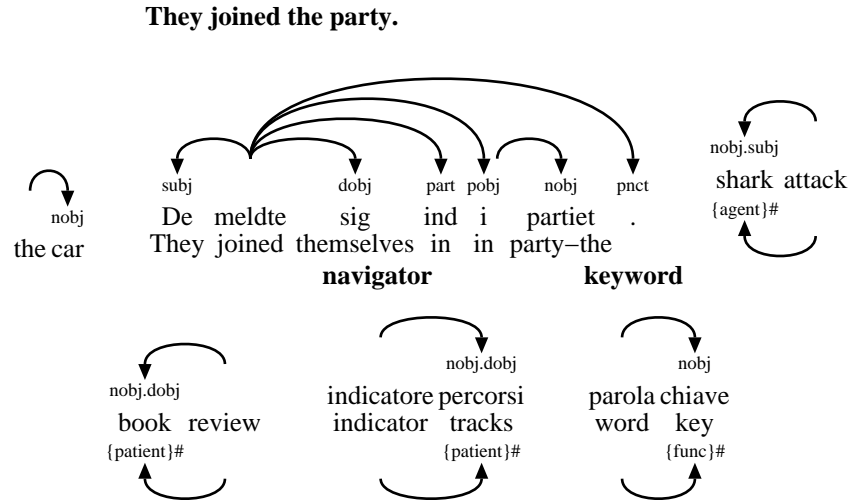
numa *Additive numeral complement.*
isa SYNCOMP Related types: numm.
[90]

numa
hundred two

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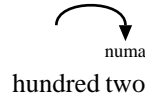
numm *Multiplicative numeral complement.*
isa SYNCOMP Related types: numa.
[91]

numm
two hundred

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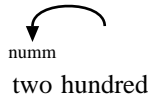
part *Verbal particle.* Verbal particle.
isa SYNCOMP Related types: avobj.
[92]

the fair two years ago

nobj · attr · nobj · nobj · part

la fiera di due anni fa
the fair of two years ago
{time}

subj nobj · part pnct
The car broke down .

---
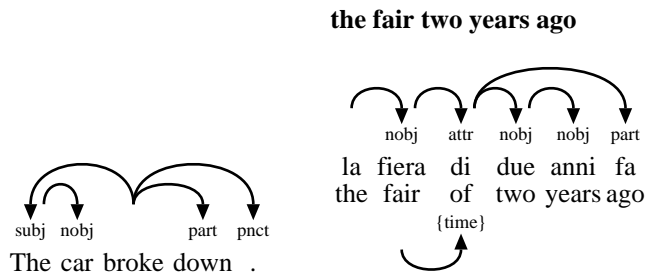
pobj *Prepositional object.* If the prepositional object is part of a NP which nucleus is
isa SYNCOMP deverbal, the following annotation possibilities are available: pobj.subj{SEMROLE}
[77] pobj.dobj{SEMROLE} pobj.pobj{SEMROLE} pobj.iobj{SEMROLE} The relevant
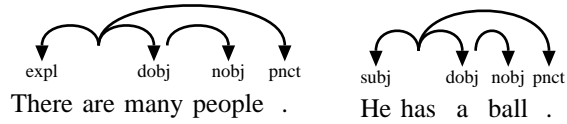semantic roles in this context are agent, patient, recipient, experient, location.
Related types: SEMROLE avobj.

meeting of ministers

riunione fra i ministri
meeting among the ministers
{agent}
pobj.subj nobj nobj

subj pobj nobj pnct
Paul talked about Sarah .

the discovering of the gold

el descrubrimiento del oro
the discovering of–the gold
{patient}
nobj pobj.dobj nobj

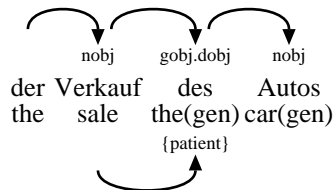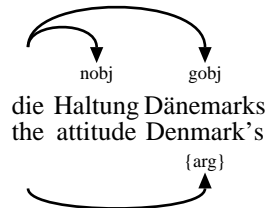**participation in the meeting**

deltagelse i mødet
participation in meeting–the
{location}
pobj.pobj nobj

sale to minors

salg til mindreårige
sale to minors
{recipient}
pobj.iobj nobj

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

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

possd
my mother
{arg}

possd
Allan's car
{poss}

possd
bestyrelsens beslutning
the–board's decision
[subj]
{agent}

my car

nobj possd
la mia macchina
the my car
{poss}

his car

possd nobj
el coche suyo
the car his
{poss}

a realization of them

nobj possd
una loro realizzazione
a their realization
[dobj]
{patient}

FLS' Spanish sister company

possd nobj attr
la consorella FLS spagnola
the sister_company FLS Spanish
{arg}

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

Related types: poss possd.

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

V–>predicative, P–>predicative

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

subj   dobj predo nobj pnct
She called him   a   liar .

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

subj   nobj   preds pnct
The house is green   .
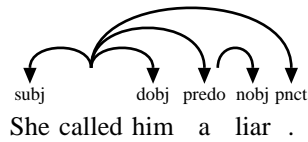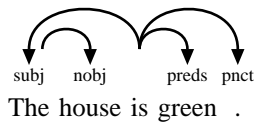
qobj *Quotational object.* A phrase or discourse segment functioning as directly quoted
isa SYNCOMP speech, typically by an attribution verb. Indirect speech is analyzed as "dobj" or
[95] "nobj".

Related types: xpl.

pnct subj qobj neg vobj dobj   dur   pnct pnct subj   pnct
"   I   do not love you anymore "   ,   she said .
[subj]
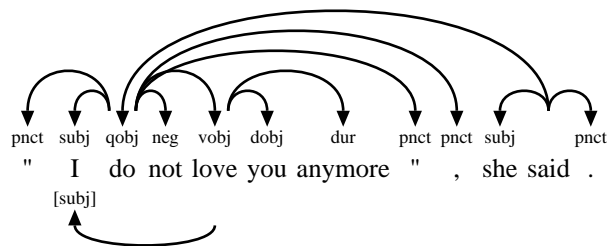
robj *Reflexive object.*
isa SYNCOMP Related types: dobj.
[85]

He decided to walk.

subj   robj   pobj nobj vobj pnct
Han besluttede   sig   for at   gå   .
He   decided himself to   to   walk
[subj]
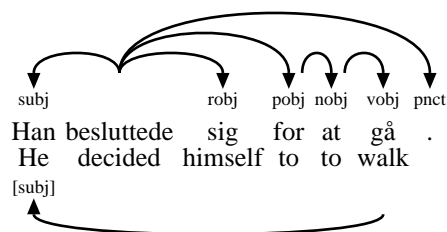
subj *Subject.* A subject relation.
isa SYNCOMP Subtypes: expl.
[74] Related types: expl.

subj   dobj pnct
We like them .
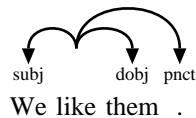
expl *Expletive subject.*
isa subj Related types: subj.
[75]

expl   dobj nobj pnct
There are many people .
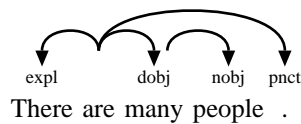
vobj *Verbal object.*
isa SYNCOMP Related types: "["$PRIM"]".
[84]

subj   vobj time pnct
We must go now .
[subj]
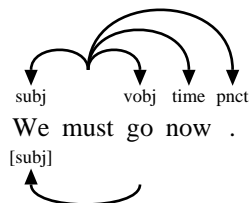
3.2 Adverbial adjunct relations: ADVERB

ADVERB *Adverbial* (deprecated other). V/N/P->adverbial
isa SYNADJ
[135] Subtypes: agent ben cause comp conc concom cond cons degr exem man neg other prg source space struct time.

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

subj nobj   vobj agent nobj pnct
The house was painted by Eric .
[subj]
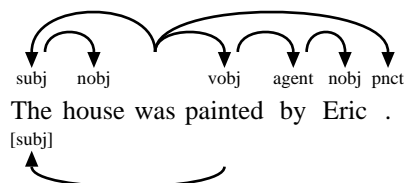
ben *Benefactive adverbial.* Free dative
isa ADVERB Related types: pobj.
[172]

```
ADVERB: adverbial
    agent: agent adverbial
    ben: benefactive adverbial
    cause: causation adverbial
        goal: goal adverbial
        reas: reason adverbial
    comp: comparison adverbial
    conc: concession adverbial
    concom:
    cond: condition adverbial
    cons: consequence adverbial
    degr: degree adverbial
    exem: example adverbial
    man: manner adverbial
        accom: companionship adverbial
        inst: instrument adverbial
    neg: negation adverbial
    other: other adverbial
    prg: pragmatic adverbial
        att: attitude adverbial
        discmark: sentence-initial discourse marker
        epi: epistemic adverbial
        eval: evaluation adverbial
        focal: focalizer adverbial
        pcond: pragmatic condition adverbial
    source: source attribution adverbial
    space: space adverbial
        dir: direction adverbial
        loc: location adverbial
    struct: text-structuring or connective adverbial
        add: additive adverbial
        bg: background adverbial
        contr: contrast adverbial
        elab: elaboration advebial
    time: time adverbial
        cont: contemporaneity adverbial
        dur: duration adverbial
        ext: extent/frequency adverbial
        hab: habituality adverb
        prec: precedence adverbial
        succ: succession adverbial
```

Figure 3.3: The relations matching ADVERB.
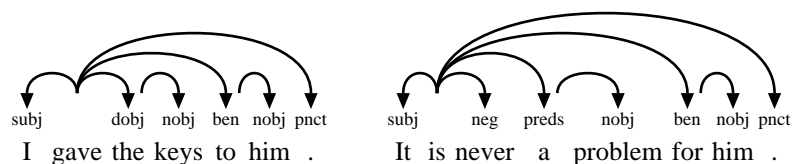
cause *Causation adverbial.* Causation adverbial. Describes why the event occurred.
isa ADVERB
    [161]   Subtypes: goal reas.

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

subj · vobj · goal · vobj · dobj · pnct

Kate is working to earn money .

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 .

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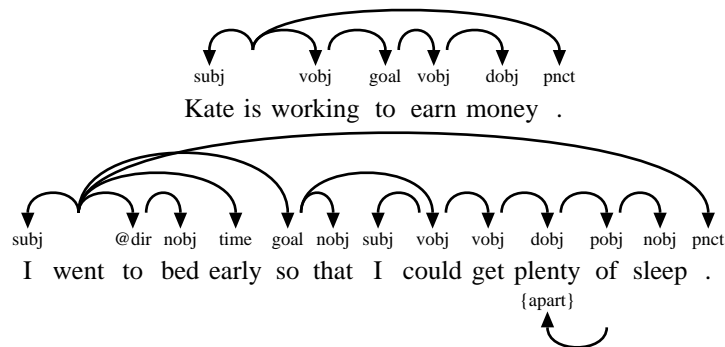
reas *Reason adverbial.* Describes the cause of the event/action.
isa cause Related types: goal.
[163]

subj · dobj · vobj · degr · aobj · pnct   reas · pnct · subj · nobj.dobj · attr · dobj · pnct

She wanted to make 100% sure . Therefore , she chose birth control pills .

{patient}# {func}#

subj · reas · subj · vobj · vobj · pnct

John fell because he was pushed .
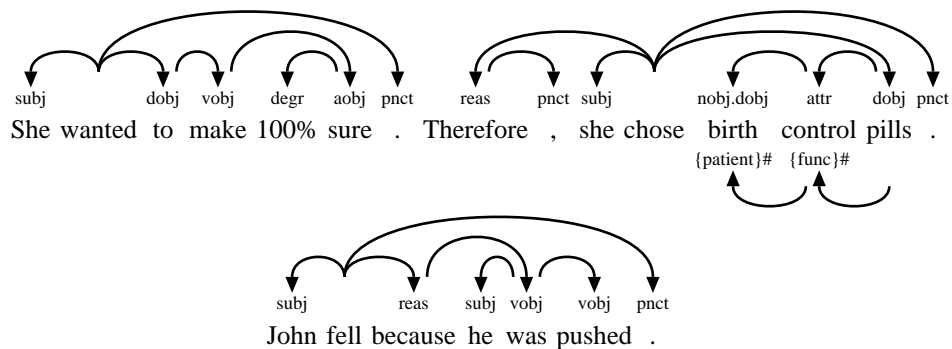
comp *Comparison adverbial* (deprecated compare). Comparison
isa ADVERB
[167]

subj · comp · nobj · nobj · pnct

She walks like a lady .
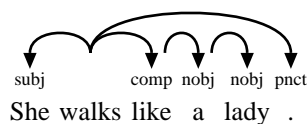
conc *Concession adverbial.* Describes the concession of the event/action.
isa ADVERB
[166]

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

I said it though he is my brother .

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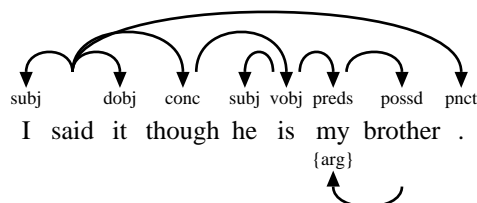
concom . Gerunds in Romance
isa ADVERB Related types: vobj.
[170]

14

The agressor fled and/but got caught hours later.

subj nobj pnct concom vobj succ avobj pnct
El agresor huyó , siendo detenido horas después .
The agressor fled being caught hours after

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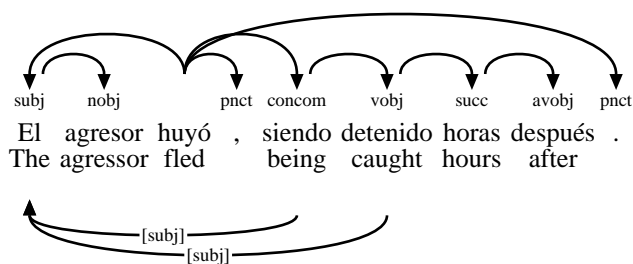
cond *Condition adverbial.* Describes the condition of the event/action.
isa ADVERB Related types: pcond.
[165]

cond subj vobj vobj attr dobj pnct ben pnct nobj nobj pnct pnct
If you are having health problems , write to " The Doctors " .
{about}#
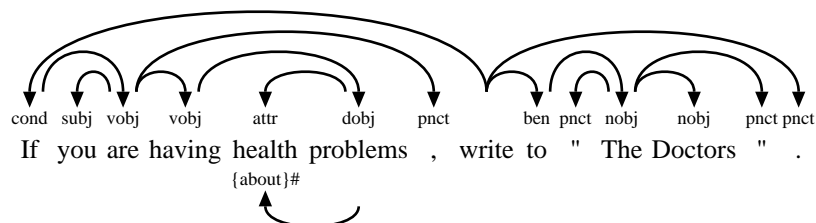
cons *Consequence adverbial.* Describes the consequence of the event/action.
isa ADVERB Related types: xtop.
[164]

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

degr subj nobj pnct
Only two people came .
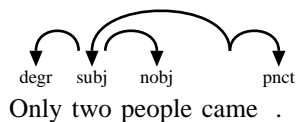
exem *Example adverbial* (deprecated ex). Exemplification; subordinated the object which is
isa ADVERB added to a list.
[169]

subj exem dobj attr nobj pnct
Poe wrote e.g. "The Tell–tale Heart" .
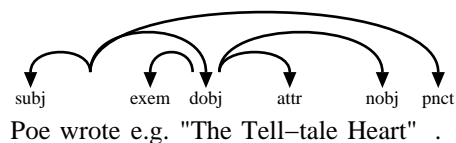
man *Manner adverbial.* The way things are done
isa ADVERB Subtypes: accom inst.
[158] Related types: fpredo.

subj man pnct
He talks slowly .
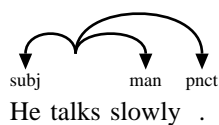
accom *Companionship adverbial* (deprecated `comp`). Companionship
isa man   Related types: man.
[159]

The husband came with his wife .

subj · nobj · accom · nobj · possd · pnct

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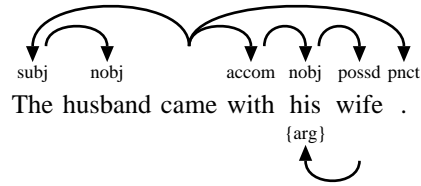
inst *Instrument adverbial.* Instrument/means
isa man   Related types: man.
[160]

He opened the door with the key .

subj · dobj · nobj · inst · nobj · nobj · pnct
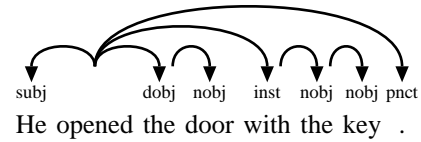
neg *Negation adverbial.* Negation of a verbal
isa ADVERB
[174]

It's never a problem.

Thomas is not coming .

subj · neg · vobj · pnct

[subj]

Non è mai un problema .
Not is–it never a problem

neg · neg · preds · nobj · pnct

She never lied

Ella no mintio nunca
She not lied never

subj · neg · time
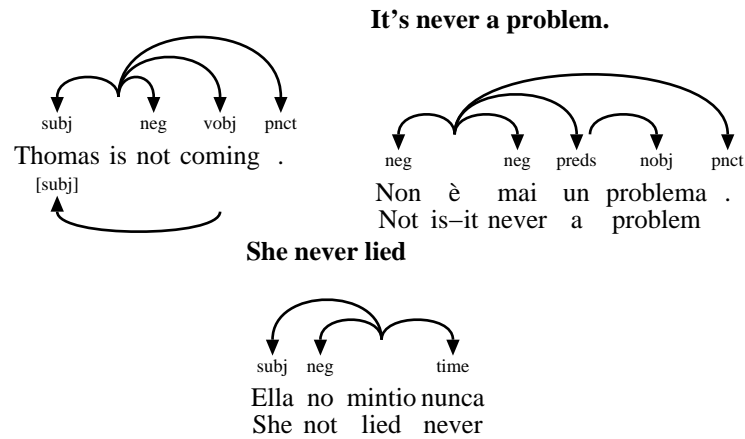
other *Other adverbial.*
isa ADVERB
[175]

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

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

The weather is unfortunately bad .

subj · nobj · att · preds · pnct

16
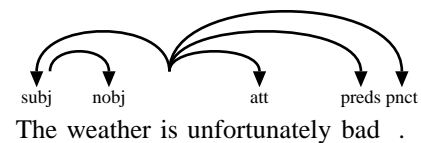
discmark *Sentence-initial discourse marker.* Discourse marker
isa prg   Related types: coord.
[142]

And I'm telling you...   **But I'm telling you...**

| discmark | dobj | | subj | iobj | pnct | | discmark | dobj | | subj | iobj | pnct |
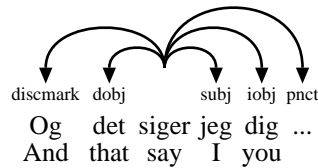
Og det siger jeg dig ...   Men det siger jeg dig ...
And that say I you   But that say I you
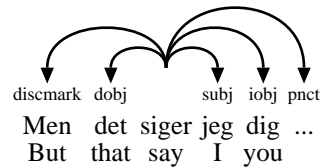
epi *Epistemic adverbial.* Regarding the level of truth in the expression
isa prg   Related types: att eval.
[139]

subj   epi   preds   pnct
He is maybe wrong .
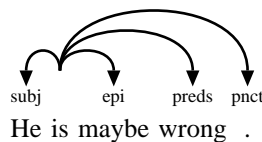
eval *Evaluation adverbial.* Evaluating adverbials
isa prg   Related types: att epi.
[141]

eval   pnct   subj   preds   pnct
However , I am fine .
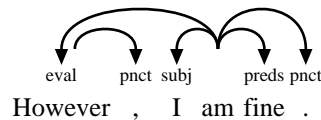
focal *Focalizer adverbial.* Focalization of a noun
isa prg   Related types: degr.
[137]

focal   subj   dobj   pnct
Even Italy imports pasta .
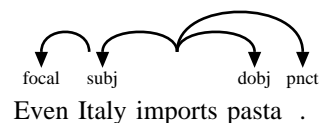
pcond *Pragmatic condition adverbial* (deprecated `prgcond`). Pragmatic condition
isa prg   Related types: cond.
[138]

coord subj   neg vobj   dobj   pnct pcond subj   vobj pnct
But I have not seen anything , if anyone asks .
[subj]
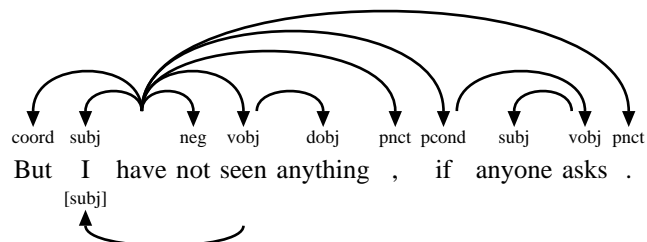
source *Source attribution adverbial.* Reference/source
isa ADVERB
[168]

17

subj vobj source pobj nobj nobj pnct
Adam got fired according to the contract .
[subj]
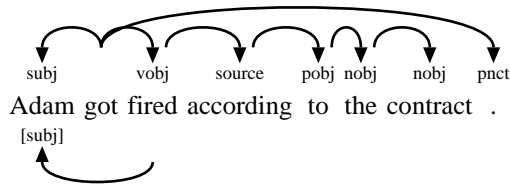
space *Space adverbial.* Space adverbials
isa ADVERB
[155] Subtypes: dir loc.

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

expl dobj attr nobj dir nobj pobj nobj pnct
There is a long way from Japan to Germany .
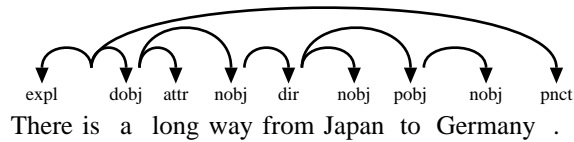
loc *Location adverbial.* Location
isa space
[156] Related types: dir.

dobj subj loc nobj
as we say in Denmark
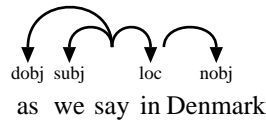
struct *Text-structuring or connective adverbial.* Connectives and text structuring adver-
isa ADVERB bials
[143] Subtypes: add bg contr elab.
Related types: bg contr.

struct subj vobj prec pnct expl dobj nobj pobj nobj pnct
As I mentioned earlier , there is no doubt about it .
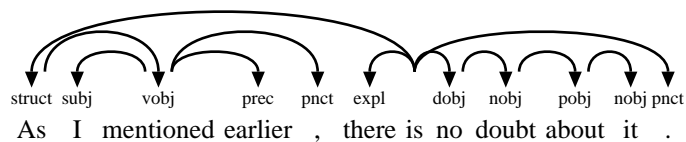
add *Additive adverbial.* Additive information
isa struct
[147]

subj nobj add dobj nobj pnct
The house has also a garage .
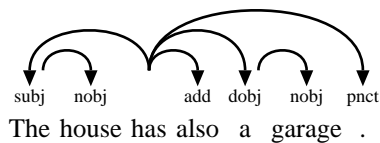
bg *Background adverbial.* Background information
isa struct Related types: struct.
[144]

bg nobj nobj possd pnct subj nobj neg vobj iobj dobj pnct

Regarding the man's whereabouts , the police could not tell us anything .

{arg} [subj]
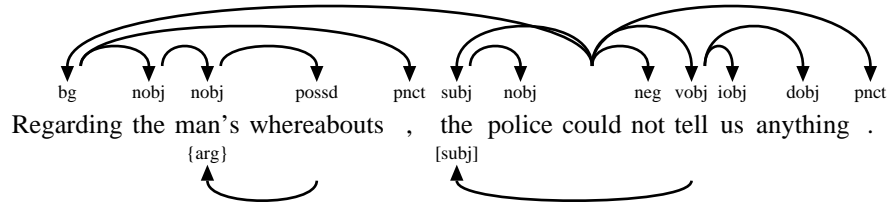
contr *Contrast adverbial.* Opposition
isa struct Related types: struct.
[145]

contr pobj nobj pnct subj dobj attr nobj pnct

Instead of fruits , he bought two chocolate muffins .

{const}#
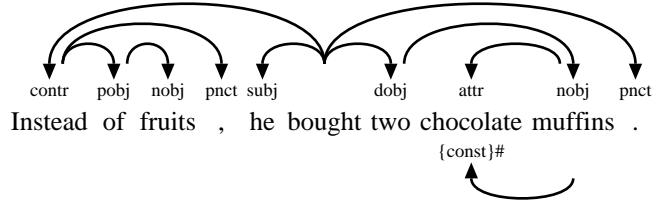
elab *Elaboration advebial.* More detailed description
isa struct
[146]

subj vobj @dir nobj nobj loc subj relr man pnct elab nobj attr nobj pnct

I am going to the place where I work best , i.e. the coffee shop .

[subj] ref {func}#
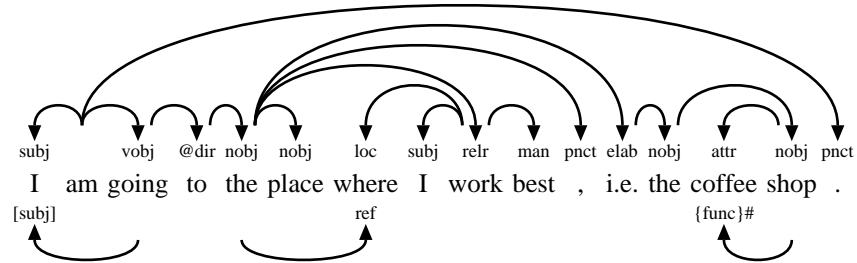
time *Time adverbial.* Time relating adverbials
isa ADVERB Subtypes: cont dur ext hab prec succ.
[148]

She never lied

subj nobj time pnct

The Smiths arrive sunday .

subj neg time

Ella no mintio nunca
She not lied never
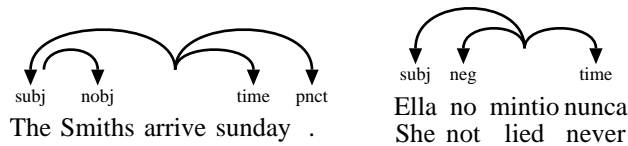
cont *Contemporaneity adverbial.* Contemporaneity
isa time Related types: time.
[152]

subj vobj pnct cont subj vobj dobj pnct

I was eating , when you called me .

[subj]

19
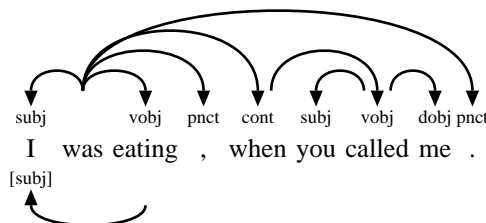
dur *Duration adverbial.* Duration
isa time   Related types: ext hab.
[149]

subj nobj   vobj dur nobj aobj pnct

The dog was barking all night long .

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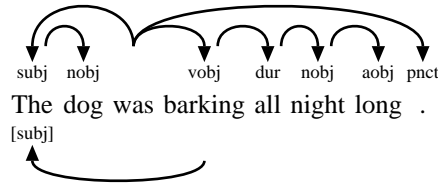
ext *Extent/frequency adverbial* (deprecated freq). Frequency; extention
isa time   Related types: dur hab.
[154]

subj   dobj ext nobj pnct

He called her seven times .
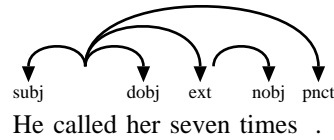
hab *Habituality adverb.* Habitual; repeated habit
isa time   Related types: dur ext.
[153]

hab   subj vobj pnct subj   pobj vobj pnct

Every_time he leaves , she begins to cry .

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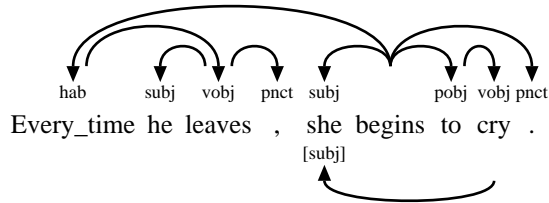
prec *Precedence adverbial.* Precedence
isa time
[150]

prec subj vobj pnct expl   degr dobj loc nobj nobj pnct

Before she arrived , there were only men in the room .

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

prec subj vobj pnct expl   degr dobj loc nobj nobj pnct

After she left , there were only men in the room .

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

Figure 3.4: The relations matching SYNADJ-ADVERB.

3.3 Other adjunct relations: SYNADJ

SYNADJ
isa ADJ SYN
[72]

Syntactic adjunct.

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

GAP
isa SYNADJ
[28]

Gapping dependent (long: GAPPING). A relation between a gapping dependent in a secondary conjunct and the head of the first conjunct. In gapping coordinations, the secondary conjuncts have an elided head, so the remaining material in the secondary conjuncts is instead analyzed as gapping dependents of the head of the first conjunct. In the final CDT annotation, the annotation of gapping dependents will eventually be used to insert a phonetically empty head for the gapped conjuncts, and the gapping dependents will be attached to this gapped head.

Subtypes: "<"PRIM...":"INTEGER">".
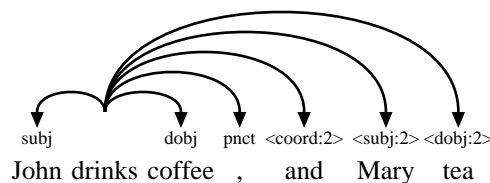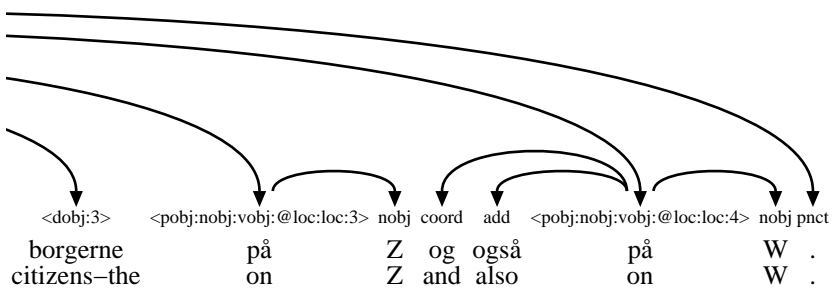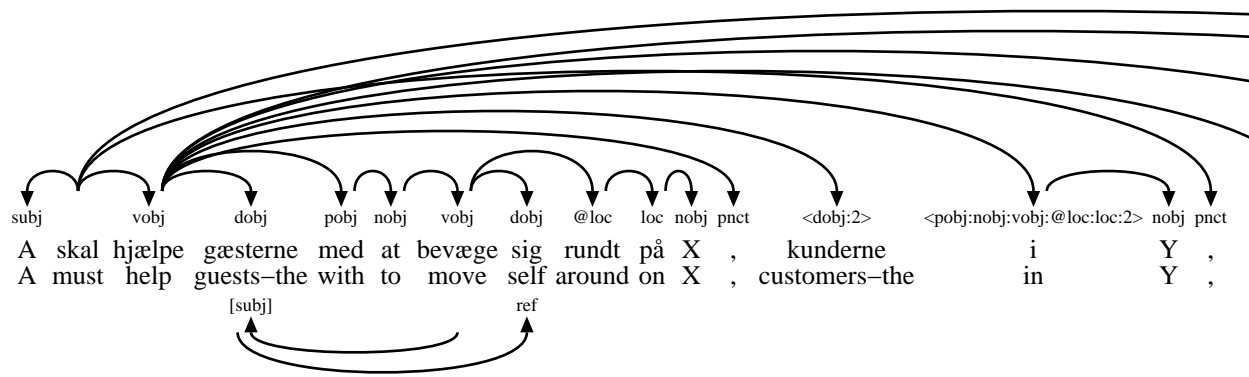
subj   dobj   pnct <coord:2> <subj:2> <dobj:2>
John drinks coffee ,   and   Mary   tea

subj vobj dobj pobj nobj vobj dobj @loc loc nobj pnct <dobj:2> <pobj:nobj:vobj:@loc:loc:2> nobj pnct

A skal hjælpe gæsterne med at bevæge sig rundt på X , kunderne i Y ,
A must help guests–the with to move self around on X , customers–the in Y ,

[subj] ref

<dobj:3> <pobj:nobj:vobj:@loc:loc:3> nobj coord add <pobj:nobj:vobj:@loc:loc:4> nobj pnct

borgerne på Z og også på W .
citizens–the on Z and also on W .

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

subj dobj pnct <coord:2> <subj:2> pnct

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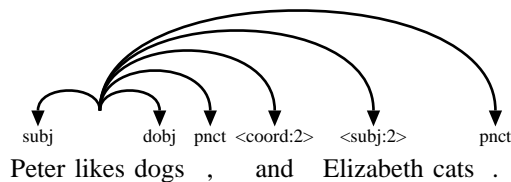
app *Apposition.* An appositional relation between two phrases, typically NPs. The head
isa SYNADJ of the first NP in the apposition is always analyzed as the head of the second NP.
[110]   Subtypes: appa appr.

Related types: appa appr.

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

pnct appa nobj   subj preds pnct appa attr nobj pnct

Einstein , the genius   He was angry , a bad habit .

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

22

The title of the plan : " The Virtuous Circle " .

nobj pobj nobj nobj pnct xpl attr nobj pnct pnct

pnct

appr *Restrictive apposition (no comma).*
isa app Related types: appa.
[112]

the genius Einstein

nobj appr

the happy couple Ian and Martha

attr nobj appr coord conj

Goethe's novel Faust is brilliant .

subj possd appr preds pnct

{agent}

attr *Attributive* (deprecated `attrdattrr`). An attributive relation, typically between an ad-
isa SYNADJ jective and a noun/determiner. In Germanic languages, adjectives are assumed to
[108] modify the determiner (because of the strong/weak congruence between determiner
and adjective), or the noun if no determiner is present; in Romance languages,
adjectives are assumed to modify the noun even if there is a determiner, and the
determiner is only analyzed as the head if no noun is present (eg, in partitive con-
structions). The only exception to this rule is when the adjective and the noun form
a compound, in which case the adjective is always analyzed as a "attr#" dependent
of the lexical noun in both Germanic and Romance languages, even if a determiner
is present.

Related types: SEMROLE attrg pobj.

new books

attr

the new book

attr nobj

the new red book

attr attr nobj

a nice , varm , friendly welcome

attr pnct attr pnct attr nobj

warship

barco de guerra
ship of war

attr nobj

{func}#

the three wonderful books

nobj attr nobj

a house built of bricks

nobj attr pobj nobj

23

the parliamentary groups **vanilla sugar**

nobj	attr		attr
i	gruppi parlamentari		zucchero vanigliato
the	groups parliamentary		sugar vanillarized
	{func}#		{const}#

una bella giornata
a beautiful day — attr nobj

a meeting between the directors in Spain in 2002
nobj pobj.subj nobj nobj attr nobj attr nobj
{agent} {location} {time}

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

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

nobj	attrg	nobj		nobj	attrg
das	Auto	der	Frau	das	Auto Peters
the	car	the(gen)	lady	the	car Peter's
	{poss}				{poss}

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

Related types: coord correl.

subj		dobj	coord	conj	pnct
We	met	John	and	Mary	.

subj		dobj	pnct	conj	coord	conj	pnct
We	met	John	,	Mary	and	Sue	.
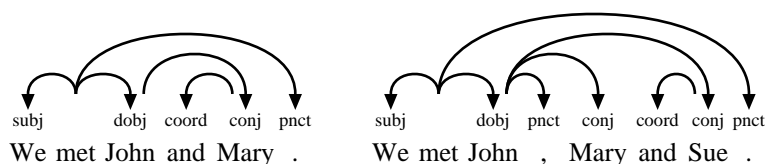
coord *Coordinator relation.* A dependency relation between a coordinating conjunction
isa SYNADJ and a secondary conjunct. The coordinator is analyzed as a dependent of the sec-
[101] ondary conjunct. Secondary conjuncts are in turn analyzed as "conj"-dependents of
the first conjunct.

Related types: conj correl discmark.

subj		dobj	coord	conj	pnct
We	met	John	and	Mary	.

subj		dobj	pnct	conj	coord	conj	pnct
We	met	John	,	Mary	and	Sue	.
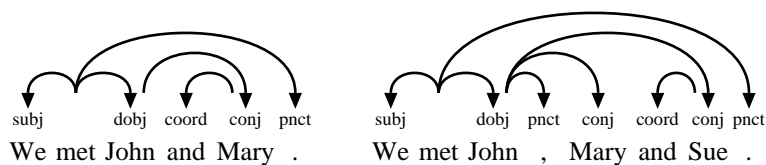
correl *Correlative coordinator relation.*
isa SYNADJ Related types: conj coord.
[102]

We met neither John , nor Mary .
subj correl dobj pnct coord conj pnct

We neither met John , nor Mary .
subj correl dobj pnct coord conj pnct
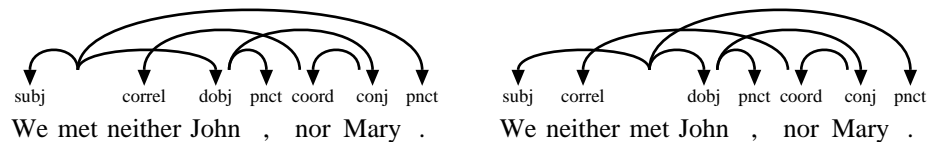
fpred *Free predicative.*
isa SYNADJ Subtypes: fpredo fpreds.
[105] Related types: fpredo fpreds.

V−>free predicative

fpredo *Free direct-object predicative.*
isa fpred Related types: fpreds man.
[107]
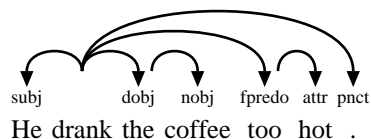
He drank the coffee too hot .
subj dobj nobj fpredo attr pnct

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

Terrified she walked down the street .
fpreds subj @dir nobj nobj pnct
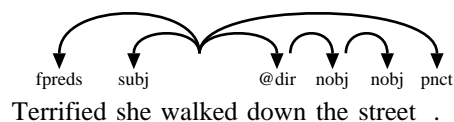
mod *Modifier/adverbial.* Deprecated name for adverbials
isa SYNADJ
[130] Subtypes: modp.

modp *Parenthetic modifier.* Deprecated name for parenthetic modifiers
isa mod
[132]

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

a Garrett engine
name nobj

a Citroen X2
nobj name
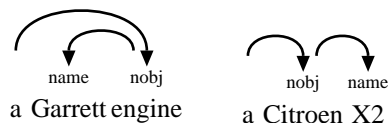
namef *First name.* A first name.
isa name Related types: namel title.
[119]

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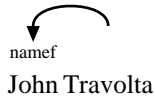
namel *Last name.* A second last name
isa name   Related types: namef title.
[120]

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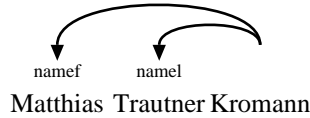
title *Person title.* A title in a name. If the is the title is determinated by an article, eg.
isa name   the director Smith, the title must be annotated as "nobj" and the name as "appr".
[121]   Related types: namef namel.

Dr. Zhivago
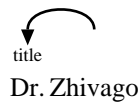
pnct *Punctuation.*
isa SYNADJ   Confusion$_2$: nobj$_{50\%}$ dobj$_{50\%}$.
[103]

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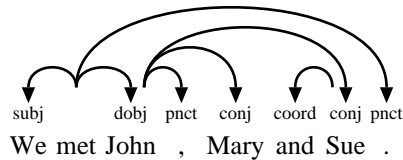
rel *Relative clause.* A relation between a relative clause and a relativized NP/VP. The
isa SYNADJ   finite verb in the relative clause is analyzed as a "rel" dependent of the head of the
[113]   relativized NP/VP (ie, the determiner if present, otherwise the noun). If there is a
relative pronoun, it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

the five girls who meet (each other)   the boy and the girl who meet
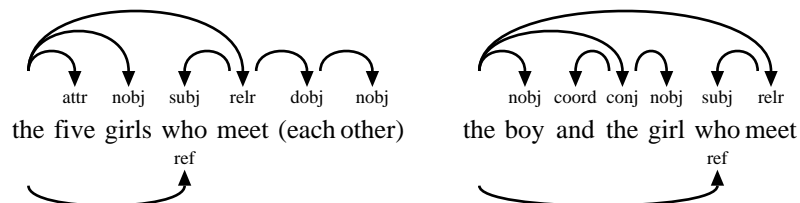
relelab *Elaborating relative clause.* Ledsætning med sætningsantecedent i hovedsætning; da:
isa rel   hvilket, it: il che, cosa che
[116]   Related types: relpa relr.

26

relpa *Parenthetic relative clause.*
isa rel Related types: relelab relr.
[115]
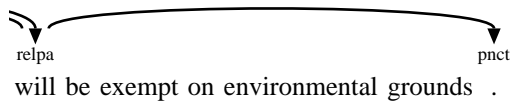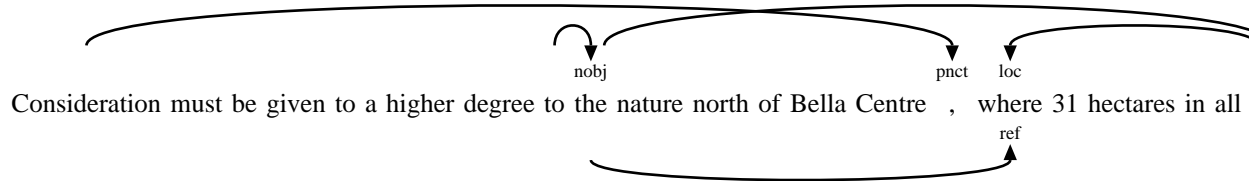
Consideration must be given to a higher degree to the nature north of Bella Centre , where 31 hectares in all

will be exempt on environmental grounds .

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

The part of the Amager Commons , which has not become a part of Ørestaden is to be preserved .
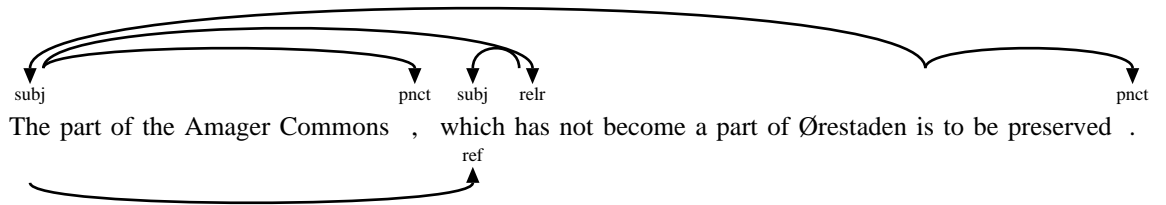
voc *Vocative.* Vocative specification. The person to whom the statement is directed.
isa SYNADJ
[123]

Mary , will you help me ?   Will you help me , Mary ?
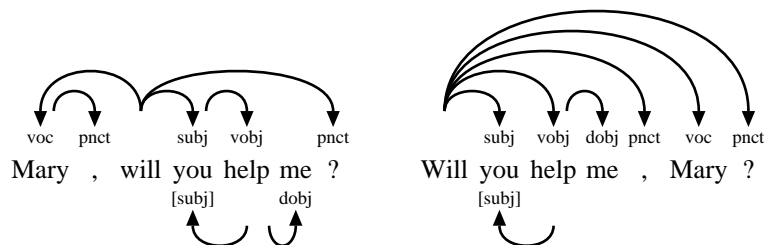
xtop *External topic with resuming pronoun.* An external topic is a sentence-initial NP
isa SYNADJ whose only function is to provide the antecedent for a pronoun later in the sentence.
[117] Eg in "John, he is a nice person". Here "John" is the "xtop" of "is", and "he" is the
subject of "is".
Related types: cons ref xtop.

xtop pnct subj preds attr nobj pnct
John , he is a nice person .
ref

xtop nobj pnct subj preds pnct
That boy , he is nice .
ref
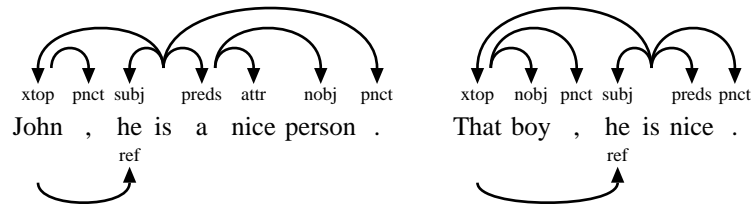
If you are having any problems, call me.

subj preds pnct xtop nobj pnct
He is nice , that boy .
ref

xtop subj vobj dobj nobj pnct cons ben dobj pnct
Hvis du har nogen problemer , så ring til mig .
If you have any problems then call to me
ref
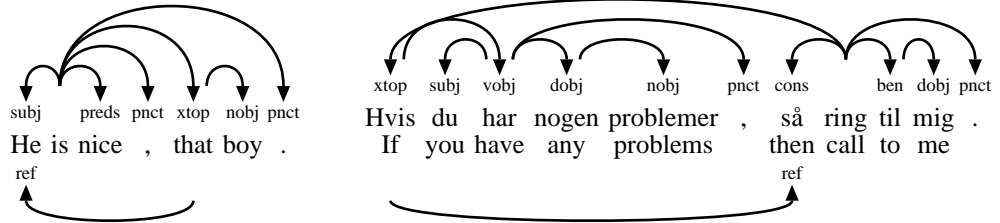
Chapter 4

Morphological relations: MORPHOLOGY

```
MORPH: morphology level
    "§"PRIM: morphology specification
```

Figure 4.1: The relations matching MORPHOLOGY-MORPHCOMP-MORPHDERIV.

MORPH
isa DIM:LEVEL
[15]

Morphology level (long: MORPHOLOGY). A relation at the morphological level. Ie, a relation between two word segments within a single word.

Subtypes: "§"PRIM MORPHCOMP MORPHDERIV.

"§"PRIM
isa MORPH RULE
[363]

Morphology specification.

4.1 Compositional relations: MORPHCOMP

```
MORPHCOMP: compositional semantic relations
    ABOUT: noun-noun compound (about)
    AGENT: noun-noun compound (agentive)
    CONST: noun-noun compound (constitutive)
    EVAL: noun-noun compound (evaluative)
    FUNC: noun-noun compound (function)
    ORIGIN: noun-noun compound (origin)
    OTHER: noun-noun compound (other)
    POS: noun-noun compound (position)
    POSS: noun-noun compound (possession)
    RESEM: noun-noun compound (resemblance)
    TIME:MC: noun-noun compound (time)
```

Figure 4.2: The relations matching MORPHCOMP.

MORPHCOMP
isa MORPH
[258]

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 CONST EVAL FUNC ORIGIN OTHER POS POSS RESEM TIME:MC.

ABOUT
isa MORPHCOMP
[350]

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

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

AGENT
isa MORPHCOMP
[342]

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

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

CONST
isa MORPHCOMP
[341]

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

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

EVAL
isa MORPHCOMP
[348]

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

coche de lujo 'luksusbil'

FUNC
isa MORPHCOMP
[344]

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

(function: krigsskib 'war ship' = skib –[krig]s/FUNC)

ORIGIN
isa MORPHCOMP
[343]

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

(origin: rørsukker 'cane sugar' = sukker –rør/ORIGIN)

OTHER
isa MORPHCOMP
[351]

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

POS
isa MORPHCOMP
[346]

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

(position: loftlampe 'ceiling lamp' = lampe –loft/POS)

POSS
isa MORPHCOMP
[345]

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

(possession: politibil = bil –politi/POSS

RESEM
isa MORPHCOMP
[349]

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

silla de tijeras 'saksestol' [klapstol], válvula de mariposa 'sommerfugleventil'

TIME:MC
isa MORPHCOMP
[347]

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

(time: oktoberregn 'October rain' = regn –oktober/TIME)

4.2 Derivational relations: MORPHDERIV

MORPHDERIV: derivational semantic relations

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

MORPHDERIV
isa MORPH
[257]

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

Subtypes: PREFIX SUFFIX.

4.2.1 Prefix relations: PREFIX

PREFIX
isa MORPHDERIV
[260]

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

Subtypes: ASPEC GRAD LOC MOD NEG PRE:other TIME§ TRANS.

ASPEC
isa PREFIX
[277]

Aspectual dimension. Prefix conveys an asepctual dimension in a broad sense.

Subtypes: ASPEC:cause ASPEC:iter ASPEC:reflex ASPEC:resul ASPEC:rev ASPEC:term.

ASPEC:cause
isa ASPEC
[280]

Causation. Prefix conveys causation.

(causative: acallar 'silence' = callar –a/ASPEC:cause)

ASPEC:iter
isa ASPEC
[279]

Iteration. Prefix conveys iteration.

(iterative: redefine = define –re/ASPEC:iter)

ASPEC:reflex
isa ASPEC
[281]

Reflexivity. Prefix conveys reflexivity.

```
┌─────────────────────────────────────────────────────────────┐
│                                                             │
│   PREFIX: semantic relations appearing with prefixes         │
│       ASPEC: aspectual dimension                             │
│           ASPEC:cause: causation                             │
│           ASPEC:iter: iteration                              │
│           ASPEC:reflex: reflexivity                          │
│           ASPEC:resul: result                                │
│           ASPEC:rev: reversion                               │
│           ASPEC:term: termination                            │
│       GRAD: graduation                                       │
│           GRAD:qual: quality                                 │
│           GRAD:size: size                                    │
│       LOC: location                                          │
│           LOC:dir: direction                                 │
│           LOC:pos: position                                  │
│           LOC:proce: origin                                  │
│       MOD: modification                                      │
│           MOD:cuant: quantification                          │
│           MOD:man: manner                                    │
│           MOD:qual: qualification                            │
│       NEG: negation                                          │
│           NEG:oppo: opposition                               │
│           NEG:priv: privation                                │
│       PRE:other: other prefix relation                       │
│       TIME§: time                                            │
│       TRANS: transitivity                                    │
│                                                             │
│                                                             │
└─────────────────────────────────────────────────────────────┘
```

Figure 4.4: The relations matching PREFIX.

(reflexive: autopilot = pilot –auto/ASPEC:reflex)

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

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

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

GRAD *Graduation.* Prefix conveys graduation in a broad sense.
  isa PREFIX   Subtypes: GRAD:qual GRAD:size.
    [274]
GRAD:qual *Quality.* Prefix conveys quality.
  isa GRAD
    [276]

32

(quality: supercomputer = computer –super/GRAD:qual)

GRAD:size *Size.* Prefix conveys size.
isa GRAD
[275]

(size/quantity: minibar = bar –mini/GRAD:size)

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

LOC:dir *Direction.* Prefix expresses direction.
isa LOC
[265]

(direction/origin: deverbal = verbal –de/LOC:dir)

LOC:pos *Position.* Prefix expresses position.
isa LOC
[264]

(position: intramural = mural –intra/LOC:pos)

LOC:proce *Origin.* Prefix conveys origin.
isa LOC
[266]

(origin: extraer: = traer –ex/LOC:proce)

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

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

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

MOD:man *Manner.* Prefix conveys manner.
isa MOD
[287]

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

MOD:qual *Qualification.* Prefix conveys qualification.
isa MOD
[288]

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

NEG *Negation.* Prefix conveys negation in a broad sense.
isa PREFIX
[271] Subtypes: NEG:oppo NEG:priv.

NEG:oppo *Opposition.* Prefix conveys opposition.
isa NEG
[272]

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

NEG:priv *Privation.* Prefix conveys privation.
isa NEG
[273]

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

PRE:other *Other prefix relation.* If in doubt about the meaning conveyed by the prefix
isa PREFIX
[289]

TIMES *Time.* Prefix conveys time in a broad sense.
isa PREFIX
[268]

TRANS *Transitivity.* Prefix conveys transitivity.
isa PREFIX
[284]

(transitivising: påsejle 'collide': sejle –på/TRANS)

4.2.2 Suffix relations: SUFFIX

SUFFIX *Semantic relations appearing with suffixes.* A semantic relation is created between
isa MORPHDERIV a base and a suffix.
[261]
Subtypes: AUG DENOM DENUM DER DEV DEVN DIMIN NOPRED PEJ QUAL.

AUG *Augmentation.* Suffix conveys augmentation.
isa SUFFIX
[290]

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

DENOM *Noun-adjective derivation.* Suffix creates denominal adjectives in a broad sense.
isa SUFFIX
[326] Subtypes: DENOM:disp DENOM:eff DENOM:other DENOM:poss DENOM:rel DENOM:resem.

DENOM:disp *Noun-adjective derivation (disposition).* Suffix creates denominal adjectives that
isa DENOM express disposition.
[334]

"que tiene afición por N" (mujeriego – "que afición por las mujeres" 'kvindeglad/som er glad for kvinder')

DENOM:eff *Noun-adjective derivation (effect).* Suffix creates denominal adjectives that express
isa DENOM an effect.
[335]

"que causa simpatía" (simpático – "que causa simpatía" 'sympatisk/som vækker sympati')

DENOM:other *Noun-adjective derivation (other).* If in doubt about the meaning conveyed by the
isa DENOM suffix
[336]

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

"que posee/tiene/lleva N" (barbudo – "que lleva barba" 'skægget/som bærer skæg')

DENOM:rel isa DENOM [327]	*Noun-adjective derivation (relational).* Suffix creates denominal adjectives with a relational meaning. Subtypes: DENOM:rel.deono DENOM:rel.norm.
DENOM:rel.deono isa DENOM:rel [329]	*Noun-adjective derivation (naming).* Suffix creates relational adjectives with the meaning of "naming". Subtypes: DENOM:rel.deono.pers DENOM:rel.deono.place.
DENOM:rel.deono.pers isa DENOM:rel.deono [330]	*Noun-adjective derivation (naming persons).* Suffix creates relational adjectives with the meaning of "naming" persons.

Cervantino 'som har at gøre med Cervantes'

DENOM:rel.deono.place isa DENOM:rel.deono [331]	*Noun-adjective derivation (naming places).* Suffix creates relational adjectives with the meaning of "naming" of places.

Madrileño 'som har at gøre med/kommer fra Madrid'

DENOM:rel.norm isa DENOM:rel [328]	*Noun-adjective derivation (normal).* Suffix creates relational adjectives with a "normal" meaning aspect.

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

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

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

DENUM isa SUFFIX [337]	*Adjective-numeral derivation.* Suffix creates denumeral adjectives in a broad sense. Subtypes: DENUM:mult DENUM:ord DENUM:part.
DENUM:mult isa DENUM [340]	*Adjective-multiplicative derivation.* Suffix creates multiplicative numerals.

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

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

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

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

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

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

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

(adjective–>verb derivation: darken = dark +en/DER:av)

DER:nv *Noun-verb derivation.* Suffix triggers a derivation from a noun to a verb.
isa DER
[294]

(noun–>verb derivation: salar 'to salt' = sal +ar/DER:nv)

DER:vv *Verb-verb derivation.* Suffix triggers a derivation from a verb to another verb.
isa DER
[296]

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

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

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

DEVA:act *Verb-adjective derivation (active)* (long: DEVERB:act.pure). Suffix creates active adjec-
isa DEVA tives.
[319]
Subtypes: DEVA:act.disp DEVA:act.poten DEVA:pas.

DEVA:act.disp *Verb-adjective derivation (pure)* (long: DEVERB:act.disp). Suffix creates active adjec-
isa DEVA:act tives with the meaning aspect "pure".
[320]

"que V" (conmovedor − "que conmueve" 'gribende/der griber')

DEVA:act.poten *Verb-adjective derivation (disposition)* (long: DEVERB:act.poten). Suffix creates active
isa DEVA:act adjectives with the meaning aspect "disposition".
[321]

"que suele V, que tiende a V" (adulón − "que suele adular, que tiende a adular" 'smigre/som plejer eller har

tendens til at være krybende

36

DEVA:pas
isa DEVA:act
[322]

Verb-adjective derivation (potentiality) (long: DEVERB:pas). Suffix creates active adjectives with the meaning aspect "potentiality".

Subtypes: DEVA:pas.deon DEVA:pas.poten.

(deverbal adjective: transportable = transport +able/DEVERB:pas.poten)

DEVA:pas.deon
isa DEVA:pas
[325]

Verb-adjective derivation (passive potentiality) (long: DEVERB:pas.deon). Suffix creates passive adjectives with the meaning aspect "potentiality".

"que puede {ser PP/Vse}" (transportable – "máquina que puede {ser transportada/transportarse}

'transportabel/maskine som kan blive transporteret/transporteres

DEVA:pas.poten
isa DEVA:pas
[324]

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

"que {ha sido/está/es} PP" (comprado – "hombre que {ha sido/está/es} comprado 'mand som er blevet/er/bliver

købt"

DEVA:pas.part
isa DEVA
[323]

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

DEVN
isa SUFFIX
[297]

Verb-noun derivation (long: DEVERBN, deprecated PRED). Suffix creates deverbal nouns in a broad sense.

Subtypes: DEVN:agent DEVN:core DEVN:exper DEVN:inst DEVN:loc DEVN:other DEVN:recip DEVN:result.

DEVN:agent
isa DEVN
[298]

Verb-noun derivation (agent). Suffix creates deverbal nouns absorbing the agent role.

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

DEVN:core
isa DEVN
[300]

Verb-noun derivation (core). Suffix creates deverbal nouns expressing a nominalized version of the situation denoted by the original verb.

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

DEVN:exper
isa DEVN
[299]

Verb-noun derivation (experiencer). Suffix creates deverbal nouns absorbing the experiencer role.

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

DEVN:inst
isa DEVN
[304]

Verb-noun derivation (instrument). Suffix creates deverbal nouns expressing the instrument related to the meaning of the original noun.

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

DEVN:loc
isa DEVN
[303]

Verb-noun derivation (location). Suffix creates deverbal nouns expressing the location related to the meaning of the original noun.

(locative derivation: comedor 'spisestue' = comer +dor/PRED:loc)

DEVN:other
isa DEVN
[305]

Verb-noun derivation (other). If in doubt about the meaning conveyed by the suffix

DEVN:recip
isa DEVN
[302]

Verb-noun derivation (recipient). Suffix creates deverbal nouns absorbing the recipient role

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

DEVN:result
isa DEVN
[301]

Verb-noun derivation (patient). Suffix creates deverbal nouns absorbing the patient role.

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

DIMIN
isa SUFFIX
[291]

Diminution. Suffix conveys diminution.

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

NOPRED
isa SUFFIX
[307]

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

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

NOPRED:agent
isa NOPRED
[308]

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

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

NOPRED:capac
isa NOPRED
[313]

Noun-noun derivation (capacity). Suffix creates non-predicative nouns expressing a capacity.

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

NOPRED:cont
isa NOPRED
[310]

Noun-noun derivation (container). Suffix creates non-predicative nouns expressing a container.

(container derivation: azucarero 'sugar bowl' = azucar +ero/NOPRED:cont)

NOPRED:loc
isa NOPRED
[314]

Noun-noun derivation (location). Suffix creates non-predicative nouns expressing a location.

(locative derivation: arenal 'sandet strækning' = arena +al/NOPRED:loc)

NOPRED:other
isa NOPRED
[316]

Noun-noun derivation (other). If in doubt about the meaning conveyed by the suffix

NOPRED:result
isa NOPRED
[309]

Noun-noun derivation (result). Suffix creates non-predicative nouns expressing a result.

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

NOPRED:script
isa NOPRED
[315]

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

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

NOPRED:set
isa NOPRED
[312]

Noun-noun derivation (set). Suffix creates non-predicative nouns expressing a set.

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

NOPRED:temp
isa NOPRED
[311]

Noun-noun derivation (temporal). Suffix creates non-predicative nouns expressing a temporal aspect.

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

PEJ
isa SUFFIX
[292]

Pejoration. Suffix conveys a pejorative sense.

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

QUAL
isa SUFFIX
[306]

Adjective derivation. Suffix creates deadjectival nouns.

(deadjectival noun: bitterness = bitter +ness/QUAL)

SUFFIX: semantic relations appearing with suffixes
    AUG: augmentation
    DENOM: noun-adjective derivation
        DENOM:disp: noun-adjective derivation (disposition)
        DENOM:eff: noun-adjective derivation (effect)
        DENOM:other: noun-adjective derivation (other)
        DENOM:poss: noun-adjective derivation (possession)
        DENOM:rel: noun-adjective derivation (relational)
            DENOM:rel.deono: noun-adjective derivation (naming)
                DENOM:rel.deono.pers: noun-adjective derivation (naming persons)
                DENOM:rel.deono.place: noun-adjective derivation (naming places)
            DENOM:rel.norm: noun-adjective derivation (normal)
        DENOM:resem: noun-adjective derivation (resemblance)
    DENUM: adjective-numeral derivation
        DENUM:mult: adjective-multiplicative derivation
        DENUM:ord: adjective-ordinal derivation
        DENUM:part: adjective-partitive derivation
    DER: verb derivation
        DER:av: adjective-verb derivation
        DER:nv: noun-verb derivation
        DER:vv: verb-verb derivation
    DEV:
    DEVA: verb-adjective derivation
        DEVA:act: verb-adjective derivation (active)
            DEVA:act.disp: verb-adjective derivation (pure)
            DEVA:act.poten: verb-adjective derivation (disposition)
            DEVA:pas: verb-adjective derivation (potentiality)
                DEVA:pas.deon: verb-adjective derivation (passive potentiality)
                DEVA:pas.poten: verb-adjective derivation (passive participles)
            DEVA:pas.part: verb-adjective derivation (passive)
    DEVN: verb-noun derivation
        DEVN:agent: verb-noun derivation (agent)
        DEVN:core: verb-noun derivation (core)
        DEVN:exper: verb-noun derivation (experiencer)
        DEVN:inst: verb-noun derivation (instrument)
        DEVN:loc: verb-noun derivation (location)
        DEVN:other: verb-noun derivation (other)
        DEVN:recip: verb-noun derivation (recipient)
        DEVN:result: verb-noun derivation (patient)
    DIMIN: diminution
    NOPRED: noun-noun derivation
        NOPRED:agent: noun-noun derivation (agent)
        NOPRED:capac: noun-noun derivation (capacity)
        NOPRED:cont: noun-noun derivation (container)
        NOPRED:loc: noun-noun derivation (location)
        NOPRED:other: noun-noun derivation (other)
        NOPRED:result: noun-noun derivation (result)
        NOPRED:script: noun-noun derivation (script)
        NOPRED:set: noun-noun derivation (set)
        NOPRED:temp: noun-noun derivation (temporal)
    PEJ: pejoration
    QUAL: adjective derivation

Figure 4.5: The relations matching SUFFIX.

Chapter 5

Discourse relations: **DISCOURSE**

DISC: discourse level
    "¤"PRIM: discourse specification
    DISCOTHER:
        JOINT: no clear relation
        PREP: preparation
        REP: repaired

Figure 5.1: The relations matching DISCOURSE-DISCFUNC-DISCSEM.

DISC
isa DIM:LEVEL
[17]

Discourse level (long: DISCOURSE). A relation at the discourse level. Ie, a relation between segments in different sentences or clauses.

Subtypes: "¤"PRIM DISCOTHER DISCPRAG DISCSEM.

"¤"PRIM
isa DISC RULE
[362]

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

DISCOTHER
isa ADJ DISC
[207]

.

Subtypes: JOINT PREP REP.

JOINT
isa DISCOTHER
[255]

No clear relation. The dependent text segment adds a completely new content without any clear discourse relation to the governing segment

Confusion$_4$: CONJ$_{50\%}$ JOINT$_{50\%}$.

PREP
isa DISCOTHER
[253]

Preparation (deprecated STRUCT:prep). Dependent text segment "prepares" for the following and governing text, e.g. headings, titles

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

REP
isa DISCOTHER
[254]

Repaired (deprecated STRUCT:rep). Dependent text segment is interrupted and unfinished and "repaired" by the following and governing text segments, which completes it

```
┌─────────────────────────────────────────────────────────────────┐
│  DISCPRAG: pragmatic and illocutionary discourse relations      │
│      ANSW: answer                                                │
│      CONSOL: consolidation                                       │
│          CONSOL:enabl: enablement                                │
│          CONSOL:just: justification                              │
│          CONSOL:motiv: motivation                                │
│      DESCR: description/evaluation                                │
│          DESCR:eval: positive/negative evaluation                │
│          DESCR:qual: neutral description                         │
│      DIREC: directive act                                        │
│      EXPR: expressive act                                        │
│      INTACT: interactional signals                               │
│          INTACT:attn: attention                                  │
│          INTACT:inter: interruption                              │
│      QUEST: question                                             │
│                                                                  │
│                                                                  │
└─────────────────────────────────────────────────────────────────┘
```

Figure 5.2: The relations matching DISCFUNC.

5.1 Functional relations: DISCFUNC

DISCPRAG
isa ADJ DISC
[206]

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

Subtypes: ANSW CONSOL DESCR DIREC EXPR INTACT QUEST.

ANSW
isa DISCPRAG
[239]

Answer. Governing text segment contains question or problem, dependent text segment answer or solution

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

CONSOL
isa DISCPRAG
[248]

Consolidation (deprecated SUPPORT?).

Subtypes: CONSOL:enabl CONSOL:just CONSOL:motiv.

CONSOL:enabl
isa CONSOL
[250]

Enablement. S enables reader or recipient to carry out the action mentioned in N; frequent in directive texts

CONSOL:just
isa CONSOL
[249]

Justification (deprecated JUST). S justifies N wrt its content (reason for mentioning it or sim.) thereby strengthening it argumentatively

Confusion$_2$: ELAB:exp$_{50\%}$ CAUSE:reas$_{25\%}$ CAUSE:expl$_{25\%}$.

[da] Fordi, Eftersom

CONSOL:motiv
isa CONSOL
[251]

Motivation. S motivates reader or recipient to carry out the action mentioned in N

Confusion$_1$: CAUSE:expl$_{100\%}$.

DESCR
isa DISCPRAG
[245]

Description/evaluation. S expresses description or evaluation of N

Subtypes: DESCR:eval DESCR:qual.

DESCR:eval
isa DESCR
[246]

Positive/negative evaluation. S expresses a personal and/or subjective positive or negative description of N

Confusion$_2$: CONJ$_{50\%}$ CAUSE:reas$_{50\%}$.

DESCR:qual
isa DESCR
[247]

Neutral description. S expresses an objective and/or neutral description of N

Confusion$_1$: ELAB:exp$_{100\%}$.

DIREC
isa DISCPRAG
[240]

Directive act. Dependent text segment contains an order, command or request

e.g. imperatives

EXPR
isa DISCPRAG
[241]

Expressive act. Dependent text segment contains an expression of the speaker's attitudes or emotions, e.g. congratulations, excuses or thanks

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

INTACT
isa DISCPRAG
[242]

Interactional signals.

Subtypes: INTACT:attn INTACT:inter.

INTACT:attn
isa INTACT
[243]

Attention. S contains an attention signal

[da] Ja; Nå; OK; [it] Sì; Beh; [en] Yeah, Oh, Really?

INTACT:inter
isa INTACT
[244]

Interruption. S contains an interruption signal

[da] Jamen; [it] Ma; [en] But... But

QUEST
isa DISCPRAG
[238]

Question . The dependent text segment contains a question with or withour an answer

5.2 Semantic relations: DISCSEM

DISCSEM
isa ADJ DISC
[205]

Semantic discourse relations. The relations hold between the propositions of the governing and dependent text segments and are defined in semantic terms; relations are mono- or multinuclear; the four "prg"-subtypes express changes of speech act like the DISCPRAG, however the semantic relations are so dominant that they should determine the main type of the relation

Subtypes: CAUSE CONC COND CONJ CONS CONTR DISJ ELAB TIME.

CAUSE
isa DISCSEM
[209]

Cause relation (discourse). S expresses cause in a broad sense

Subtypes: CAUSE:expl CAUSE:goal CAUSE:prg CAUSE:reas.

CAUSE:expl
isa CAUSE
[210]

Explanation relation (discourse). S expresses explanation; a more general and elaborating explanation than "reason"

Confusion$_{12}$: ELAB:exp$_{25\%}$ CAUSE:reas$_{24\%}$ CAUSE:expl$_{17\%}$ CONJ$_{13\%}$ CONSOL:motiv$_{8\%}$ vobj$_{6\%}$ conj$_{4\%}$ CONSOL:just$_{4\%}$.

```
DISCSEM: semantic discourse relations
    CAUSE: cause relation (discourse)
        CAUSE:expl: explanation relation (discourse)
        CAUSE:goal: goal relation (discourse)
        CAUSE:prg: pragmatic cause
        CAUSE:reas: reason relation (discourse)
    CONC: concession
    COND: condition
    CONJ: conjunction
        CONJ:seq: sequence
    CONS: consequence/result/conclusion relation (discourse)
        CONS:dir: direct, physical consequence, result
        CONS:prg: pragmatic/personal conclusion, deduction
    CONTR: contrast
        CONTR:dir: direct contrast
        CONTR:prg: pragmatic contrast
    DISJ: disjunction
        DISJ:dir: direct disjunction
        DISJ:prg: pragmatic disjunction
    ELAB: elaboration
        ELAB:exem: exemplification
        ELAB:exp: expansion
        ELAB:part: part of relation
        ELAB:rest: restatement
    TIME: temporal relation
        TIME:cont: contemporaneity
        TIME:prec: temporal precedence
        TIME:prec§: temporal precedence
        TIME:succ: temporal succession
        TIME:succ§: temporal succession
```

Figure 5.3: The relations matching DISCSEM.

[da] Nemlig; [it] Infatti

CAUSE:goal *Goal relation (discourse).* S expresses goal, purpose, aim
isa CAUSE
[211]

[da] For (at)

CAUSE:prg *Pragmatic cause.* The speaker uses the cause as a personal argument to support a
isa CAUSE claim
[213]

CAUSE:reas *Reason relation (discourse).* S expresses a specific and concrete reason
isa CAUSE Confusion$_9$: CAUSE:expl$_{31\%}$ vobj$_{19\%}$ ELAB:exp$_{17\%}$ DESCR:eval$_{11\%}$ CONS:dir$_{11\%}$ conj$_{6\%}$ CON-
[212] SOL:just$_{6\%}$.

[da] Fordi, Eftersom

44

CONC
isa DISCSEM
[214]

Concession. S admits or acknowledges a fact wrt N, which may however not have the expected consequence or effect

Confusion$_2$: CONJ$_{25\%}$ ELAB:exp$_{25\%}$ CONC$_{25\%}$ CONTR:dir$_{25\%}$.

COND
isa DISCSEM
[215]

Condition.

CONJ
isa DISCSEM
[229]

Conjunction. Dependent text segment adds a new subject somehow related to governing text segment; may be difficult to distinguish from ELAB:exp, but is relatively more indpendent from the governing segment than ELAB and would function better without the governing segment than ELAB

Subtypes: CONJ:seq.
Related types: conj.

Confusion$_{41}$: CONJ$_{39\%}$ ELAB:exp$_{30\%}$ CAUSE:expl$_{4\%}$ JOINT$_{4\%}$ CONTR:prg$_{4\%}$ CONS:dir$_{4\%}$ conj$_{3\%}$ rel$_{2\%}$ cont$_{2\%}$ qobj$_{2\%}$ DESCR:eval$_{1\%}$ CONS:prg$_{1\%}$ ELAB:exem$_{1\%}$ CONTR:dir$_{1\%}$ CONC$_{1\%}$.

CONJ:seq
isa CONJ
[230]

Sequence. Dependent text segment is part of list or sequence linked to governing text segment as e.g. in recipes, sport results etc.

CONS
isa DISCSEM
[216]

Consequence/result/conclusion relation (discourse). S expresses consequence, result or conclusion wrt N

Subtypes: CONS:dir CONS:prg.

CONS:dir
isa CONS
[217]

Direct, physical consequence, result. Physical, objectivally observed consequence or result

Confusion$_6$: CONS:dir$_{29\%}$ CONJ$_{25\%}$ ELAB:rest$_{17\%}$ vobj$_{13\%}$ CAUSE:reas$_{8\%}$ CONS:prg$_{8\%}$.

[da] Derfor, Af den grund

CONS:prg
isa CONS
[218]

Pragmatic/personal conclusion, deduction. Personal, subjective conclusion or deduction

Confusion$_4$: CONS:prg$_{63\%}$ CONJ$_{13\%}$ CONS:dir$_{13\%}$ ELAB:exp$_{13\%}$.

[da] Derfor, Af den grund

CONTR
isa DISCSEM
[231]

Contrast.
Subtypes: CONTR:dir CONTR:prg.

Confusion$_1$: CONTR:prg$_{33\%}$ conj$_{33\%}$ CONTR:dir$_{33\%}$.

CONTR:dir
isa CONTR
[232]

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

Confusion$_6$: CONTR:prg$_{33\%}$ expl$_{17\%}$ CONC$_{17\%}$ conj$_{11\%}$ CONJ$_{8\%}$ CONTR:dir$_{8\%}$ CONTR$_{6\%}$.

[da] Men, Derimod

CONTR:prg
isa CONTR
[233]

Pragmatic contrast. The contrast lies between the dependent and an inferred text segment

Confusion$_{11}$: conj$_{30\%}$ CONTR:prg$_{24\%}$ CONTR:dir$_{20\%}$ CONJ$_{14\%}$ coord$_{9\%}$ CONTR$_{3\%}$.

[da] Men

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

[da] Eller

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

DISJ:prg *Pragmatic disjunction.* The disjunction lies between the dependent and an inferred
isa DISJ text segment
[236]

ELAB *Elaboration.* S adds more information or detail on N
isa DISCSEM
[219] Subtypes: ELAB:exem ELAB:exp ELAB:part ELAB:rest.

ELAB:exem *Exemplification.* S gives examples of elements or phenomena mentioned in N
isa ELAB Confusion$_1$: CONJ$_{50\%}$ ELAB:exp$_{50\%}$.
[220]

[en] For example

ELAB:exp *Expansion* (deprecated ELAB:spec). S develops and expans knowledge of N; may be
isa ELAB difficult to distinguish from CONJ
[221] Confusion$_{34}$: ELAB:exp$_{35\%}$ CONJ$_{35\%}$ CAUSE:expl$_{9\%}$ CONS:prg$_{3\%}$ CAUSE:reas$_{3\%}$ DESCR:qual$_{3\%}$
CONSOL:just$_{3\%}$ ELAB:rest$_{2\%}$ qobj$_{2\%}$ xpl$_{2\%}$ ELAB:exem$_{1\%}$ CONC$_{1\%}$.

[it] Cioè

ELAB:part *Part of relation.* S is a concrete part of N
isa ELAB
[222]

[da] Herunder, Heri

ELAB:rest *Restatement.* S states N again in a different way
isa ELAB Confusion$_4$: ELAB:rest$_{38\%}$ ELAB:exp$_{33\%}$ xpl$_{17\%}$ CONS:dir$_{13\%}$.
[223]

[da] Dvs.; [it] Ossia, In altre parole, Cioè; [en] In other words, Or

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

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

[da] Samtidig, Mens, Så længe, Da

TIME:prec   *Temporal precedence.* S precedes N
    isa TIME
      [226]

                      [en] Earlier, Some days before

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

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

TIME:succ   *Temporal succession.* S succeeds N
    isa TIME
      [227]

                      [en] Later, Some time afterwards

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

             (temporal succession: postmodernism = modernism –post/TIME:succ)

Chapter 6

Anaphor relations: **ANAPHORA**

```
ANA: anaphoric level
     anaphor:
```

Figure 6.1: The relations matching ANAPHORA-coref-assoc.

ANA
isa DIM:LEVEL
[20]

Anaphoric level (long: ANAPHORA). An anaphoric relation. Ie, a relation between an anaphor (pronoun, definite description, etc.) and an antecedent which either is a coreferent, or which provides access to a coreferent via its qualia structure. The relation goes from antecedent to anaphor.

Subtypes: anaphor.

anaphor
isa ANA
[187]

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

Subtypes: assoc coref.

6.1   Coreference relations: coref

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

Figure 6.2: The relations matching coref.

coref
isa anaphor
[188]

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

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

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

coref-iden
isa coref
[190]

Coreferential NP with lexical identity (deprecated coref-id). A car -> the car // a yellow car -> the yellow car

coref-part
isa coref
[194]

Partial coreference. Coreferential with a part of the antecedent, ex. a bunch of flowers -> the roses, a couple -> the man; the Italian partitive "ne", ex. some wine -> ne vuoi (un po')?

coref-res
isa coref
[192]

Resumptive anaphor (deprecated nowincludescoref-res.cause).

Subtypes: coref-res.prg.

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

coref-res.prg
isa coref-res
[193]

Pragmatic coreference. Takes up a statement and evaluates it with respect to speech act; I will be there tomorrow -> the threat / promise / warning / statement

coref-var
isa coref
[191]

Coreferential NP with lexical variety. A car -> the vehicle // a yellow car -> the car

ref
isa coref
[189]

Syntactically determined coreference. Syntactically determined coreference (eg, relative pronouns, external topics)

Confusion$_{38}$: ref$_{100\%}$.

antecedent–>anaphor

6.2 Associative anaphor relations: assoc

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

Figure 6.3: The relations matching assoc.

assoc
isa anaphor
[196]

Associative anaphor. Anaphor denotes entity which is associated with antecedent

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

"assoc-"QUALIA
isa RULE assoc
[197]

Associative anaphor wrt. qualia. Anaphor denotes entity which is associated with antecedent

assoc-agentive
isa assoc
[199]
Associative anaphor (agentive) (deprecated `assoc-agent?`). Anaphor is associated with antecedent wrt its agentive qualia (creator, factory, producer, author, etc.), ex. a car -> the factory; a piece of music -> the composer

assoc-const
isa assoc
[198]
Associative anaphor (constitutive) (deprecated `assoc-loc?`). Anaphor is associated with antecedent wrt its constitutive qualia (parts, material, etc.), ex. a car -> the wheels, the numberplate, the driver's seat; a hotel -> the kitchen

assoc-formal
isa assoc
[200]
Associative anaphor (formal) (deprecated `nowalsoincludesassoc-loc`). Anaphor is associated with antecedent wrt its formal qualia (shape, dimension, colour, location, etc.), ex. a car -> the size, the colour; a building -> the height; a village -> the church, the inn, the train station

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

Chapter 7

Semantic relations: **SEMANTICS**

```
SEM: semantic level
```

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

SEM
isa DIM:LEVEL
[18]

Semantic level (long: SEMANTICS). A relation at the semantic level. Ie, a relation between functors, arguments, and modifiers.

Subtypes: QUALIA SEMROLE.

7.1   Qualia relations: **QUALIA**

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

Figure 7.2: The relations matching QUALIA.

QUALIA
isa SEM
[32]

Qualia roles.

Subtypes: const formal resem telic.

const
isa QUALIA
[39]

Constitutive qualia. Relates to material or part-whole qualia

<div align="center">

N–>P.material/part

</div>

formal
isa QUALIA
[36]

Formal qualia. Relates to hyperonym (super type) wrt. form, dimension, quality, shape, size.

Subtypes: agentive location.

agentive
isa formal
[37]

Agentive qualia. Relates to agentive qualia

<div align="center">N–>P.agent</div>

location
isa formal
[38]

Location qualia.

resem
isa QUALIA
[42]

Resemblance wrt. qualia role. Resemblance wrt. some qualia role

Subtypes: "*QUALIA.

<div align="center">N–>P.resem</div>

"*QUALIA
isa RULE resem
[39]

Resemblance wrt. $qualia relation.

telic
isa QUALIA
[40]

Telic qualia. Relates to purpose qualia

Subtypes: about.

about
isa telic
[41]

About qualia. Relates to hyponym (subtype)

7.2   Thematic role relations: SEMROLE

SEMROLE
isa SEM
[46]

. A semantic relation. All the relations of the semantic roles run under the text line. The syntactic relation that runs over the text line is determined by the word class of the lemma in question. In NP constructions, the syntactic head of an adjunct is assumed to also act as the semantic head of the adjunct, ie, the semantic relation mirrors the syntactic relation in this respect.

Subtypes: {about} {agent} {apart} {arg} {class} {const} {elab} {eval} {experiencer} {form} {func} {iden} {location} {origin} {other} {patient} {poss} {pos} {quant} {recipient} {resem} {time}.
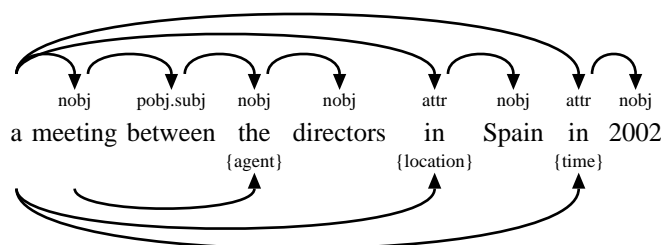
{about}
isa SEMROLE
[57]
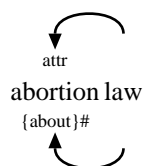
.

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

Figure 7.3: The relations matching SEMROLE.

{agent}
isa SEMROLE
[64]

An object or a person that performs an action. Often generated by subject relation
Confusion$_1$: {arg}$_{100\%}$.
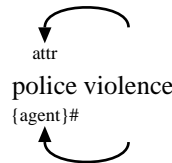
{apart}
isa SEMROLE
[58]

(long: arbitrarypart). Please note that the semantic relation goes from the satellite to
the nucleus in opposition to the main part of the other semantic roles.

{arg}
isa SEMROLE
[63]
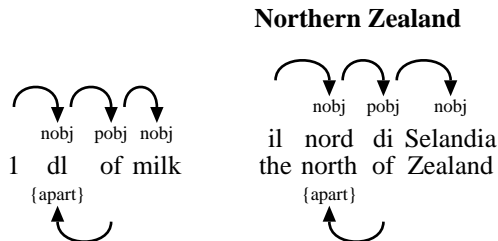
(long: argument).
Confusion$_2$: {arg}$_{50\%}$ {agent}$_{50\%}$.
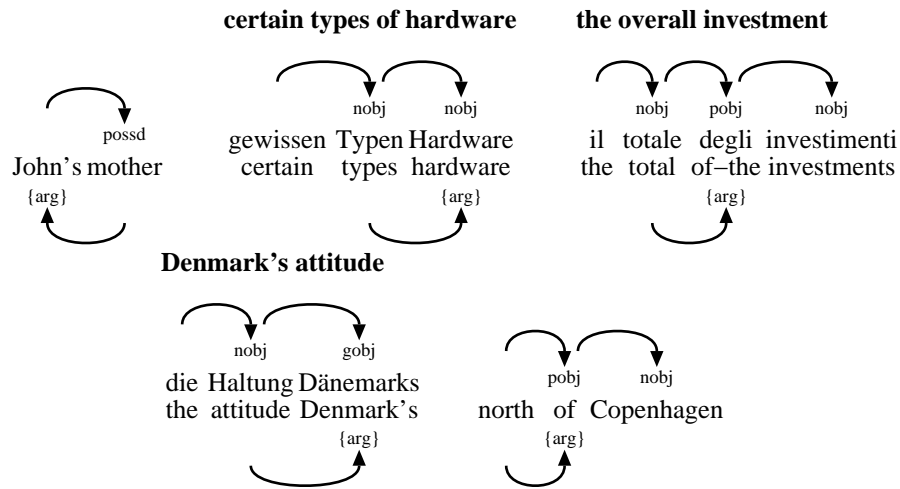
certain types of hardware

gewissen Typen Hardware
certain types hardware
nobj nobj
{arg}

the overall investment

il totale degli investimenti
the total of–the investments
nobj pobj nobj
{arg}

possd
John's mother
{arg}

Denmark's attitude

die Haltung Dänemarks
the attitude Denmark's
nobj gobj
{arg}

north of Copenhagen
pobj nobj
{arg}

{class}
isa SEMROLE
[59]

. Please note that the semantic relation goes from the satellite to the nucleus in opposition to the main part of the other semantic roles.

the city of London
nobj attr nobj
{class}

la zona di Kalvebodkilerne
the zone of Kalvebodkilerne
nobj attr nobj
{class}

{const}
isa SEMROLE
[48]

(long: constituent).

plastic lighter

mechero de plástico
lighter of plastic
attr nobj
{const}#

church tower
attr
{const}#
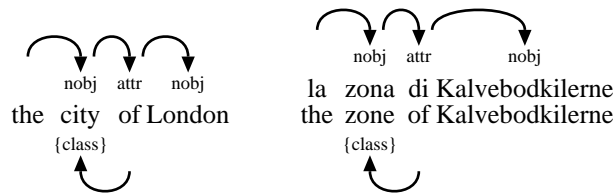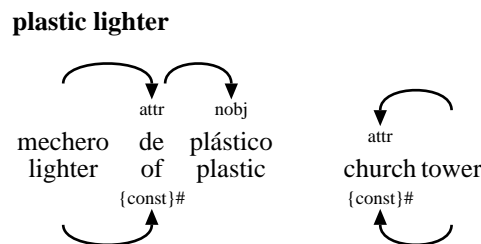
{elab}
isa SEMROLE
[47]

(long: elaboration). Often used together with parenthetic modifiers
Related types: modp.

{eval}
isa SEMROLE
[55]

(long: evaluation).

side effect
attr
{eval}#
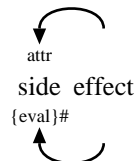
{experiencer}
isa SEMROLE
[66]

The receiver of an emotion or a physical impact. Often generated by direct object

film critics

critici cinematografici
critics   cinematic
attr.dobj
{experiencer}#
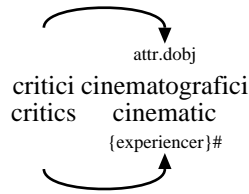
{form} .
isa SEMROLE
[61]

baking powder

levadura en polvo
yeast   in powder
attr nobj
{form}#
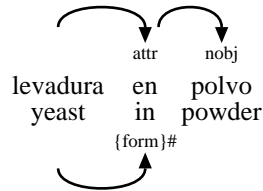
country ham in julienne strips

landskinke i julienne
country_ham in julienne
attr nobj
{form}
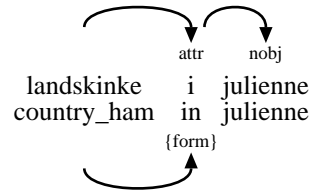
{func} (long: function).
isa SEMROLE
[51]

nobj.dobj attr
birth control pills
{patient}# {func}#

attr
police station
{func}#
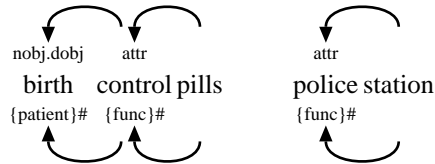
{iden} (long: identity).
isa SEMROLE
[62]

attr
rock music
{iden}#
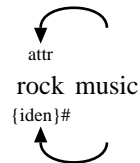
{location} *The location where something is situated or happens.* Often generated by preposi-
isa SEMROLE tional object
[68]

deltagelse i mødet
participation in meeting–the
pobj.pobj nobj
{location}

{origin} .
isa SEMROLE
[50]

attr — attr

orange juice — olive oil
{origin}# — {origin}#
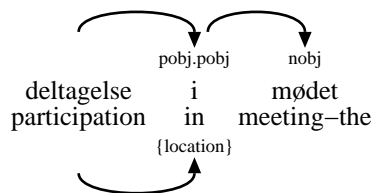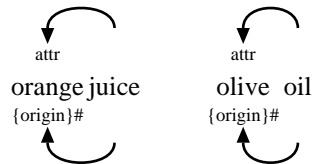
{other}
isa SEMROLE
[69]

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

{patient}
isa SEMROLE
[65]

An object or a person that is the subject of the action or the one who is located somewhere. Often generated by direct object
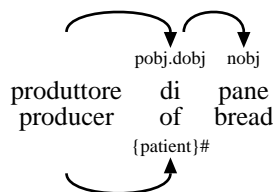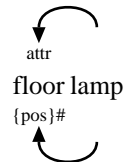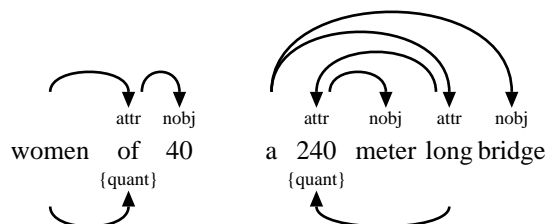
bread producer

produttore	di	pane
producer	of	bread

pobj.dobj — nobj

{patient}#

{poss}
isa SEMROLE
[52]

(long: possession).

attr

police car
{poss}#

{pos}
isa SEMROLE
[53]

(long: position).

attr

floor lamp
{pos}#

{quant}
isa SEMROLE
[60]

(long: quantity).

women	of	40

attr — nobj

{quant}

a	240	meter	long	bridge

attr — nobj — attr — nobj
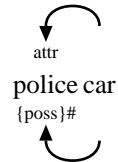
{quant}

{recipient}
isa SEMROLE
[67]

The receiver of something. Often generated by indirect object

child benefits

	pobj.iobj	nobj	nobj
contribuiti	per	i	figli
benefits	for	the children	

{recipient}#

child maintenance

	attr.iobj
assegni	familiari
checks	family

{recipient}#
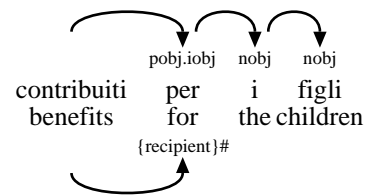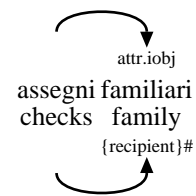
{resem} (long: resemblance).
isa SEMROLE
[56]

folding chair

	attr	nobj
silla	de	tijeras
chair		scissors

{resem}#

spring cabbage

	attr
cavolo	cappuccio
cabbage	hooded

{resem}#
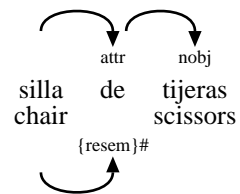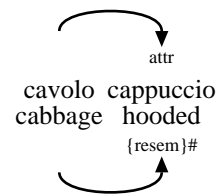
{time} .
isa SEMROLE
[54]

attr
november rain

{time}#
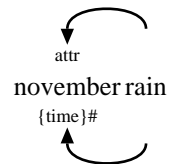
Chapter 8

Word alignment relations: ALIGN

ALIGN: alignment level

Figure 8.1: The relations matching ALIGN.

ALIGN
isa DIM:LEVEL
[19]

Alignment level (long: ALIGNMENT). A relation at the word alignment level. Ie, an alignment relation that expresses a translational equivalence between two sets of words (and their 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.

Chapter 9

Rule schemata for complex relations: RULE

RULE: relation rule
    "("ANY")": disambiguation
    "*"DISC: down-head in attribution
    "<"PRIM...":"INTEGER">": gapping dependent
    "@"adverb: valency-bound adverbial
    "["PRIM"]": pattern for secondary syntactic dependency relation formed
from primary syntactic dependency relation
    "assoc-"QUALIA: associative anaphor wrt. qualia
    "{"SEM"}": pattern for secondary semantic dependency realtion formed
from primary semantic dependency relation
    "*"QUALIA: resemblance wrt. $qualia relation
    "¤"PRIM: discourse specification
    "§"PRIM: morphology specification
    ANY"&"ANY: both-and relation
    ANY"|"ANY: either-or relation
    DISC"*": down-dependent in attribution
    PRIM"#": pattern for idiomatic primary dependency
    PRIM"/"CONNECTOR: explicit connector
    PRIM"/("CONNECTOR")": implicit connector
    PRIM"/ATTR"INTEGER: attribution
    PRIM"{"THEM"}": pattern for primary dependency relation with thematic role

Figure 9.1: The relations matching RULE.

RULE
isa ANY
[8]

Relation rule. Rule for specifying complex relations.

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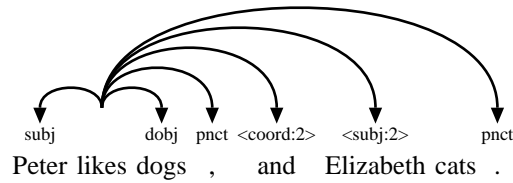PRIM"/("CONNECTOR")" PRIM"/ATTR"INTEGER PRIM"{"THEM"}".

"("ANY")"
isa RULE
[36]

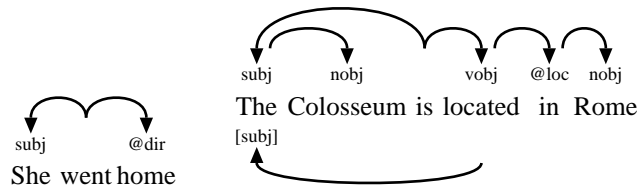*Disambiguation.*

"*"DISC
isa RULE
[372]

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

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

subj   dobj   pnct   <coord:2>   <subj:2>   pnct
Peter likes dogs   ,   and   Elizabeth cats .

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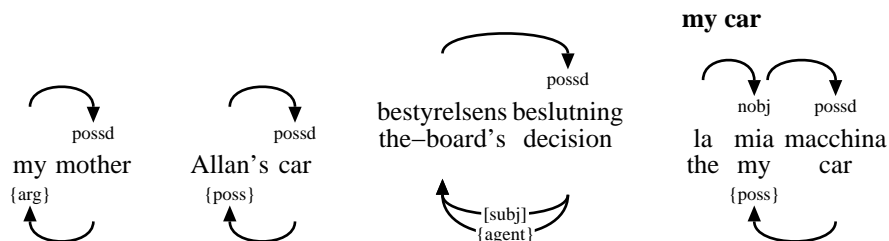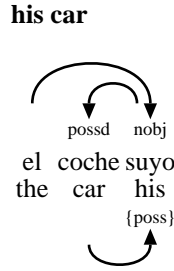[374] Related types: cont dir dur ext hab loc prec succ time.

subj   nobj   vobj   @loc   nobj
The Colosseum is located in Rome
[subj]

subj   @dir
She went home

"["PRIM"]" *Pattern for secondary syntactic dependency relation formed from primary syntactic*
isa RULE SEC *dependency relation.* Governor->secondary syntactic dependent; $PRIM must be
[358] non-secondary
Related types: "{"$PRIM"}".
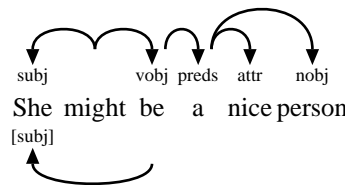
subj   vobj preds attr nobj
She might be a nice person
[subj]

"assoc-"QUALIA *Associative anaphor wrt. qualia.* Anaphor denotes entity which is associated with
isa RULE assoc antecedent
[197]

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

possd
my mother
{arg}

possd
Allan's car
{poss}

possd
bestyrelsens beslutning
the–board's decision
[subj]
{agent}

my car
nobj   possd
la mia macchina
the my car
{poss}

his car

el   coche suyo
the   car   his

possd nobj

{poss}

"*QUALIA   *Resemblance wrt. $qualia relation.*
isa RULE resem

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

"§"PRIM   *Morphology specification.*
isa MORPH RULE

ANY"&"ANY   *Both-and relation.* Both relations hold
isa RULE
[864]

ANY"|"ANY   *Either-or relation.* One of the relations holds
isa RULE
[365]

DISC   *Down-dependent in attribution.* The dependent in the relation is one step further
isa RULE   down in the attribution chain
[373]

PRIM"#"   *Pattern for idiomatic primary dependency.* Head->dependent within idiom
isa IDIOM RULE
[356]

warship

side effect   barco de guerra
                   ship   of   war

attr   attr nobj

{eval#}   **{func#}**
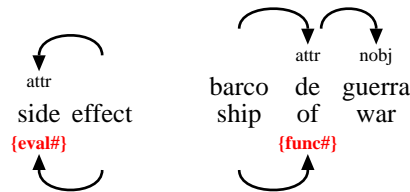
PRIM"/"CONNECTOR   *Explicit connector.* The discourse relation has explicit connector $CONNECTOR
isa RULE
[370]

PRIM"/("CONNECTOR")"   *Implicit connector.* The discourse relation has implicit connector $CONNECTOR
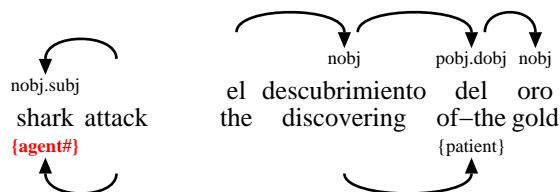isa RULE
[371]

PRIM"/ATTR"INTEGER   *Attribution.* Specifies the person to whom the utterance is attributed (ATTR or
isa RULE   ATTR1, ATTR2, ... when there is more than one person)
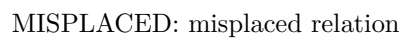[361]

PRIM"{"THEM"}"   *Pattern for primary dependency relation with thematic role.* $PRIM must be non-
isa RULE   thematic; the thematic roles can be agent, patient, recipient, experient, location.
[357]

shark attack   el descubrimiento del oro
                 the discovering of–the gold

nobj.subj   nobj   pobj.dobj nobj

{agent#}   {patient}

Chapter 10

Relations misplaced outside the ANY hierarchy

MISPLACED: misplaced relation

Figure 10.1: The relations matching -ANY.

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

Appendix A

Overview tables

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

```
ANY: directed relation
    DIM: dimension
        DIM:LEVEL: dimension: linguistic level
        DIM:TYPE: dimension: relation type
            +: segment concatenation
            IDIOM: idiomatic relation
            PRIM: primary dependency relation
                ADJ: adjunct relation
                COMP: complement relation
            SEC: secondary dependency relation
```

The relations matching ANY-SYNTAX-MORPHOLOGY-DISCOURSE-ANAPHORA-SEMANTICS-ALIGNMENT-RULE.

```
SYN: syntax level
```

The relations matching SYNTAX-SYNCOMP-SYNADJ.

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

The relations matching SYNCOMP.

```
ADVERB: adverbial
    agent: agent adverbial
    ben: benefactive adverbial
    cause: causation adverbial
        goal: goal adverbial
        reas: reason adverbial
    comp: comparison adverbial
    conc: concession adverbial
    concom:
    cond: condition adverbial
    cons: consequence adverbial
    degr: degree adverbial
    exem: example adverbial
    man: manner adverbial
        accom: companionship adverbial
        inst: instrument adverbial
    neg: negation adverbial
    other: other adverbial
    prg: pragmatic adverbial
        att: attitude adverbial
        discmark: sentence-initial discourse marker
        epi: epistemic adverbial
        eval: evaluation adverbial
        focal: focalizer adverbial
        pcond: pragmatic condition adverbial
    source: source attribution adverbial
    space: space adverbial
        dir: direction adverbial
        loc: location adverbial
    struct: text-structuring or connective adverbial
        add: additive adverbial
        bg: background adverbial
        contr: contrast adverbial
        elab: elaboration advebial
    time: time adverbial
        cont: contemporaneity adverbial
        dur: duration adverbial
        ext: extent/frequency adverbial
        hab: habituality adverb
        prec: precedence adverbial
        succ: succession adverbial
```

The relations matching ADVERB.

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

The relations matching SYNADJ-ADVERB.

```
MORPH: morphology level
    "§"PRIM: morphology specification
```

The relations matching MORPHOLOGY-MORPHCOMP-MORPHDERIV.

MORPHCOMP: compositional semantic relations
    ABOUT: noun-noun compound (about)
    AGENT: noun-noun compound (agentive)
    CONST: noun-noun compound (constitutive)
    EVAL: noun-noun compound (evaluative)
    FUNC: noun-noun compound (function)
    ORIGIN: noun-noun compound (origin)
    OTHER: noun-noun compound (other)
    POS: noun-noun compound (position)
    POSS: noun-noun compound (possession)
    RESEM: noun-noun compound (resemblance)
    TIME:MC: noun-noun compound (time)

The relations matching MORPHCOMP.

MORPHDERIV: derivational semantic relations

The relations matching MORPHDERIV-PREFIX-SUFFIX.

PREFIX: semantic relations appearing with prefixes
    ASPEC: aspectual dimension
        ASPEC:cause: causation
        ASPEC:iter: iteration
        ASPEC:reflex: reflexivity
        ASPEC:resul: result
        ASPEC:rev: reversion
        ASPEC:term: termination
    GRAD: graduation
        GRAD:qual: quality
        GRAD:size: size
    LOC: location
        LOC:dir: direction
        LOC:pos: position
        LOC:proce: origin
    MOD: modification
        MOD:cuant: quantification
        MOD:man: manner
        MOD:qual: qualification
    NEG: negation
        NEG:oppo: opposition
        NEG:priv: privation
    PRE:other: other prefix relation
    TIME§: time
    TRANS: transitivity

The relations matching PREFIX.

SUFFIX: semantic relations appearing with suffixes
    AUG: augmentation
    DENOM: noun-adjective derivation
        DENOM:disp: noun-adjective derivation (disposition)
        DENOM:eff: noun-adjective derivation (effect)
        DENOM:other: noun-adjective derivation (other)
        DENOM:poss: noun-adjective derivation (possession)
        DENOM:rel: noun-adjective derivation (relational)
            DENOM:rel.deono: noun-adjective derivation (naming)
                DENOM:rel.deono.pers: noun-adjective derivation (naming persons)
                DENOM:rel.deono.place: noun-adjective derivation (naming places)
            DENOM:rel.norm: noun-adjective derivation (normal)
        DENOM:resem: noun-adjective derivation (resemblance)
    DENUM: adjective-numeral derivation
        DENUM:mult: adjective-multiplicative derivation
        DENUM:ord: adjective-ordinal derivation
        DENUM:part: adjective-partitive derivation
    DER: verb derivation
        DER:av: adjective-verb derivation
        DER:nv: noun-verb derivation
        DER:vv: verb-verb derivation
    DEV:
    DEVA: verb-adjective derivation
        DEVA:act: verb-adjective derivation (active)
            DEVA:act.disp: verb-adjective derivation (pure)
            DEVA:act.poten: verb-adjective derivation (disposition)
            DEVA:pas: verb-adjective derivation (potentiality)
                DEVA:pas.deon: verb-adjective derivation (passive potentiality)
                DEVA:pas.poten: verb-adjective derivation (passive participles)
        DEVA:pas.part: verb-adjective derivation (passive)
    DEVN: verb-noun derivation
        DEVN:agent: verb-noun derivation (agent)
        DEVN:core: verb-noun derivation (core)
        DEVN:exper: verb-noun derivation (experiencer)
        DEVN:inst: verb-noun derivation (instrument)
        DEVN:loc: verb-noun derivation (location)
        DEVN:other: verb-noun derivation (other)
        DEVN:recip: verb-noun derivation (recipient)
        DEVN:result: verb-noun derivation (patient)
    DIMIN: diminution
    NOPRED: noun-noun derivation
        NOPRED:agent: noun-noun derivation (agent)
        NOPRED:capac: noun-noun derivation (capacity)
        NOPRED:cont: noun-noun derivation (container)
        NOPRED:loc: noun-noun derivation (location)
        NOPRED:other: noun-noun derivation (other)
        NOPRED:result: noun-noun derivation (result)
        NOPRED:script: noun-noun derivation (script)
        NOPRED:set: noun-noun derivation (set)
        NOPRED:temp: noun-noun derivation (temporal)
    PEJ: pejoration
    QUAL: adjective derivation

The relations matching SUFFIX.

```
DISC: discourse level
    "¤"PRIM: discourse specification
    DISCOTHER:
        JOINT: no clear relation
        PREP: preparation
        REP: repaired
```

The relations matching DISCOURSE-DISCFUNC-DISCSEM.

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

The relations matching DISCFUNC.

```
DISCSEM: semantic discourse relations
    CAUSE: cause relation (discourse)
        CAUSE:expl: explanation relation (discourse)
        CAUSE:goal: goal relation (discourse)
        CAUSE:prg: pragmatic cause
        CAUSE:reas: reason relation (discourse)
    CONC: concession
    COND: condition
    CONJ: conjunction
        CONJ:seq: sequence
    CONS: consequence/result/conclusion relation (discourse)
        CONS:dir: direct, physical consequence, result
        CONS:prg: pragmatic/personal conclusion, deduction
    CONTR: contrast
        CONTR:dir: direct contrast
        CONTR:prg: pragmatic contrast
    DISJ: disjunction
        DISJ:dir: direct disjunction
        DISJ:prg: pragmatic disjunction
    ELAB: elaboration
        ELAB:exem: exemplification
        ELAB:exp: expansion
        ELAB:part: part of relation
        ELAB:rest: restatement
    TIME: temporal relation
        TIME:cont: contemporaneity
        TIME:prec: temporal precedence
        TIME:prec§: temporal precedence
        TIME:succ: temporal succession
        TIME:succ§: temporal succession
```

The relations matching DISCSEM.

```
ANA: anaphoric level
    anaphor:
```

The relations matching ANAPHORA-coref-assoc.

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

The relations matching coref.

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

The relations matching assoc.

SEM: semantic level

The relations matching SEMANTICS-QUALIA-SEMROLE.

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

The relations matching QUALIA.

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

The relations matching SEMROLE.

ALIGN: alignment level

The relations matching ALIGN.

RULE: relation rule
    "("ANY")": disambiguation
    "*"DISC: down-head in attribution
    "<"PRIM...":"INTEGER">": gapping dependent
    "@"adverb: valency-bound adverbial
    "["PRIM"]": pattern for secondary syntactic dependency relation formed
from primary syntactic dependency relation
    "assoc-"QUALIA: associative anaphor wrt. qualia
    "{"SEM"}": pattern for secondary semantic dependency realtion formed
from primary semantic dependency relation
    "*QUALIA: resemblance wrt. $qualia relation
    "¤"PRIM: discourse specification
    "§"PRIM: morphology specification
    ANY"&"ANY: both-and relation
    ANY"|"ANY: either-or relation
    DISC"*": down-dependent in attribution
    PRIM"#": pattern for idiomatic primary dependency
    PRIM"/"CONNECTOR: explicit connector
    PRIM"/("CONNECTOR")": implicit connector
    PRIM"/ATTR"INTEGER: attribution
    PRIM"{"THEM"}": pattern for primary dependency relation with thematic role

The relations matching RULE.

MISPLACED: misplaced relation

The relations matching -ANY.

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Appendix B

Agreement and confusion tables

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

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

- *Agreement A:* the estimated level of agreement, defined as the probability that another annotator assigns the same label to the relation (this number may be inaccurate if N is small).

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

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

B.1 Confusion table: syntax

R	A	N	Confusion list
pnct	0%	2	$nobj_{50\%}$ $dobj_{50\%}$
nobj	0%	1	$pnct_{100\%}$
dobj	0%	1	$pnct_{100\%}$

B.2 Confusion table: semantics

R	A	N	Confusion list
arg	50%	2	$arg_{50\%}$ $agent_{50\%}$
agent	0%	1	$arg_{100\%}$

B.3   Confusion table: discourse

R	A	N	Confusion list
PREP	100%	4	$PREP_{100\%}$
ANSW	100%	1	$ANSW_{100\%}$
CONS:prg	63%	4	$CONS:prg_{63\%}$ $CONJ_{13\%}$ $CONS:dir_{13\%}$ $ELAB:exp_{13\%}$
JOINT	50%	4	$CONJ_{50\%}$ $JOINT_{50\%}$
CONJ	39%	41	$CONJ_{39\%}$ $ELAB:exp_{30\%}$ $CAUSE:expl_{4\%}$ $JOINT_{4\%}$ $CONTR:prg_{4\%}$ $CONS:dir_{4\%}$ $conj_{3\%}$ $rel_{2\%}$ $cont_{2\%}$ $qobj_{2\%}$ $DESCR:eval_{1\%}$ $CONS:prg_{1\%}$ $ELAB:exem_{1\%}$ $CONTR:dir_{1\%}$ $CONC_{1\%}$
ELAB:rest	38%	4	$ELAB:rest_{38\%}$ $ELAB:exp_{33\%}$ $xpl_{17\%}$ $CONS:dir_{13\%}$
ELAB:exp	35%	34	$ELAB:exp_{35\%}$ $CONJ_{35\%}$ $CAUSE:expl_{9\%}$ $CONS:prg_{3\%}$ $CAUSE:reas_{3\%}$ $DESCR:qual_{3\%}$ $CONSOL:just_{3\%}$ $ELAB:rest_{2\%}$ $qobj_{2\%}$ $xpl_{2\%}$ $ELAB:exem_{1\%}$ $CONC_{1\%}$
CONTR	33%	1	$CONTR:prg_{33\%}$ $conj_{33\%}$ $CONTR:dir_{33\%}$
CONS:dir	29%	6	$CONS:dir_{29\%}$ $CONJ_{25\%}$ $ELAB:rest_{17\%}$ $vobj_{13\%}$ $CAUSE:reas_{8\%}$ $CONS:prg_{8\%}$
CONC	25%	2	$CONJ_{25\%}$ $ELAB:exp_{25\%}$ $CONC_{25\%}$ $CONTR:dir_{25\%}$
CONTR:prg	24%	11	$conj_{30\%}$ $CONTR:prg_{24\%}$ $CONTR:dir_{20\%}$ $CONJ_{14\%}$ $coord_{9\%}$ $CONTR_{3\%}$
CAUSE:expl	17%	12	$ELAB:exp_{25\%}$ $CAUSE:reas_{24\%}$ $CAUSE:expl_{17\%}$ $CONJ_{13\%}$ $CONSOL:motiv_{8\%}$ $vobj_{6\%}$ $conj_{4\%}$ $CONSOL:just_{4\%}$
CONTR:dir	8%	6	$CONTR:prg_{33\%}$ $expl_{17\%}$ $CONC_{17\%}$ $conj_{11\%}$ $CONJ_{8\%}$ $CONTR:dir_{8\%}$ $CONTR_{6\%}$
xpl ELAB:exp	0%	1	$xpl_{100\%}$
ELAB:exem	0%	1	$CONJ_{50\%}$ $ELAB:exp_{50\%}$
DESCR:qual	0%	1	$ELAB:exp_{100\%}$
DESCR:eval	0%	2	$CONJ_{50\%}$ $CAUSE:reas_{50\%}$
CONSOL:motiv	0%	1	$CAUSE:expl_{100\%}$
CONSOL:just	0%	2	$ELAB:exp_{50\%}$ $CAUSE:reas_{25\%}$ $CAUSE:expl_{25\%}$
CAUSE:reas	0%	9	$CAUSE:expl_{31\%}$ $vobj_{19\%}$ $ELAB:exp_{17\%}$ $DESCR:eval_{11\%}$ $CONS:dir_{11\%}$ $conj_{6\%}$ $CONSOL:just_{6\%}$

B.4   Confusion table: anaphora

R	A	N	Confusion list
ref	100%	38	$ref_{100\%}$
coref-res	100%	1	$coref\text{-}res_{100\%}$
coref	100%	1	$coref_{100\%}$

B.5   Confusion table: morphology

R	A	N	Confusion list

B.6 Confusion table: alignment

R	A	N	Confusion list

Appendix C

Annotation status

C.1 All texts

	alignment	discourse	morphology	postag	syntax
none	1016	2098	2228		972
auto				1775	77
outdated-final	536				943
first	45	20	82		62
discussed	178	193	1		176
final				536	81

C.2 da texts

	discourse	morphology	postag	syntax
none	439	475		
auto				
outdated-final				502
first	12	60		24
discussed	85	1		3
final			536	7

C.3 de texts

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

C.4 en texts

	discourse	morphology	postag	syntax
none	536	536		
auto			536	77
outdated-final				441

first	
discussed	4
final	14

C.5 es texts

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

C.6 it texts

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

C.7 da-de texts

	alignment
none	368
auto	
outdated-final	
first	45
discussed	
final	

C.8 da-en texts

	alignment
none	
auto	
outdated-final	536
first	
discussed	
final	

C.9 da-es texts

	alignment
none	332

```
             auto
    outdated-final
           first
       discussed          81
           final
```

C.10   da-it texts

```
                    alignment
            none          316
            auto
    outdated-final
           first
       discussed          97
           final
```

Appendix D

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