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-

3

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: DISCFUNC 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**

SYN: syntax level

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
[70]

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
[79]

Valency-bound location/direction adverbial.

Related types: dir loc.
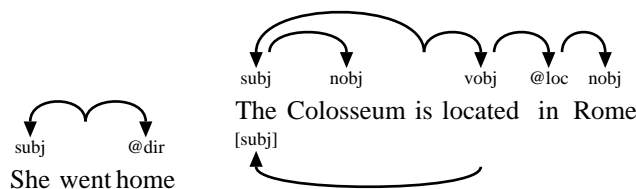
@time
isa SYNCOMP
[95]

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.

5

```
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
```
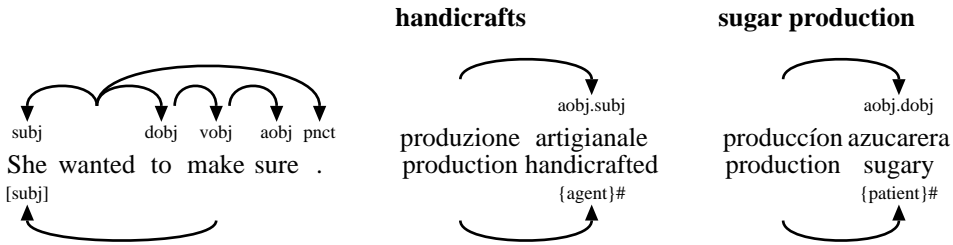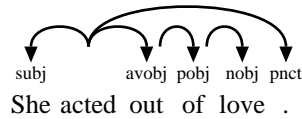
Figure 3.2: The relations matching SYNCOMP.

aobj
isa SYNCOMP
[86]

Adjectival object. If the adverbial object is part of a NP which nucleus is de-verbal, 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
[87]

Adverbial object.
Related types: aobj part.

dobj
isa SYNCOMP
[75]

Direct object.
Related types: iobj robj.

```
      expl      dobj  nobj  pnct
There  are  many  people  .
```

```
   subj    dobj nobj pnct
He  has   a   ball  .
```
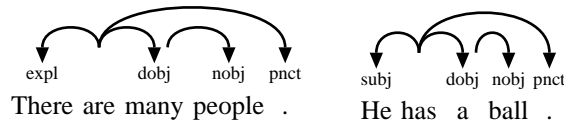
fobj   *Filler object.* NO LONGER IN USE; see gapping constructions.
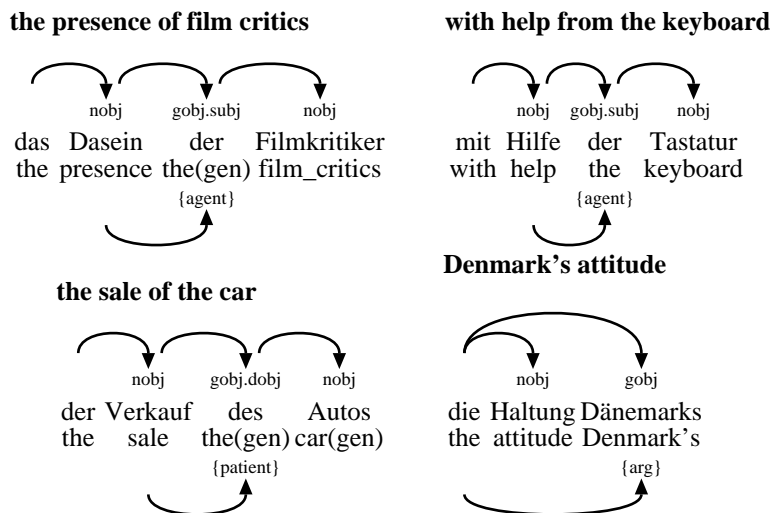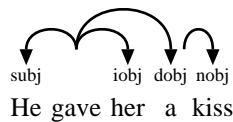isa SYNCOMP   Related types: GAP.
[88]

<div align="center">N/A</div>

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}
[77]   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.
[78]

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

They joined the party.

$$\text{nobj} \quad \text{the car}$$

$$\overset{\text{subj}}{\text{De}} \quad \text{meldte} \quad \overset{\text{dobj}}{\text{sig}} \quad \overset{\text{part}}{\text{ind}} \quad \overset{\text{pobj}}{\text{i}} \quad \overset{\text{nobj}}{\text{partiet}} \quad \overset{\text{pnct}}{.}$$
They joined themselves in in party–the

$$\overset{\text{nobj.subj}}{\text{shark attack}}$$
{agent}#

navigator

$$\overset{\text{nobj.dobj}}{\text{book review}}$$
indicatore percorsi
indicator tracks
{patient}#

keyword

$$\overset{\text{nobj}}{\text{parola chiave}}$$
word key
{func}#

$$\overset{\text{nobj.dobj}}{\text{book review}}$$
{patient}#

---

numa *Additive numeral complement.*
isa SYNCOMP Related types: numm.
[89]

$$\overset{\text{numa}}{\text{hundred two}}$$

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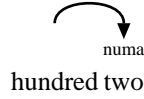
numm *Multiplicative numeral complement.*
isa SYNCOMP Related types: numa.
[90]

$$\overset{\text{numm}}{\text{two hundred}}$$

---
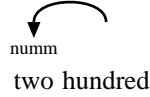
part *Verbal particle.* Verbal particle.
isa SYNCOMP Related types: avobj.
[91]

the fair two years ago

$$\overset{\text{nobj}}{\text{la}} \quad \overset{\text{attr}}{\text{fiera}} \quad \overset{}{\text{di}} \quad \overset{\text{nobj}}{\text{due}} \quad \overset{\text{nobj}}{\text{anni}} \quad \overset{\text{part}}{\text{fa}}$$
the fair of two years ago
{time}

$$\overset{\text{subj}}{\text{The}} \quad \overset{\text{nobj}}{\text{car}} \quad \text{broke} \quad \overset{\text{part}}{\text{down}} \quad \overset{\text{pnct}}{.}$$

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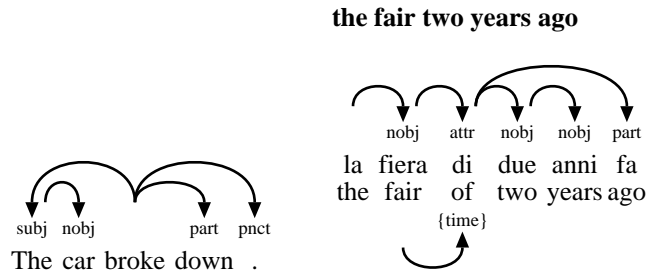
pobj *Prepositional object.* If the prepositional object is part of a NP which nucleus is
isa SYNCOMP deverbal, the following annotation possibilities are available: pobj.subj{SEMROLE}
[76] pobj.dobj{SEMROLE} pobj.pobj{SEMROLE} pobj.iobj{SEMROLE} The relevant
semantic roles in this context are agent,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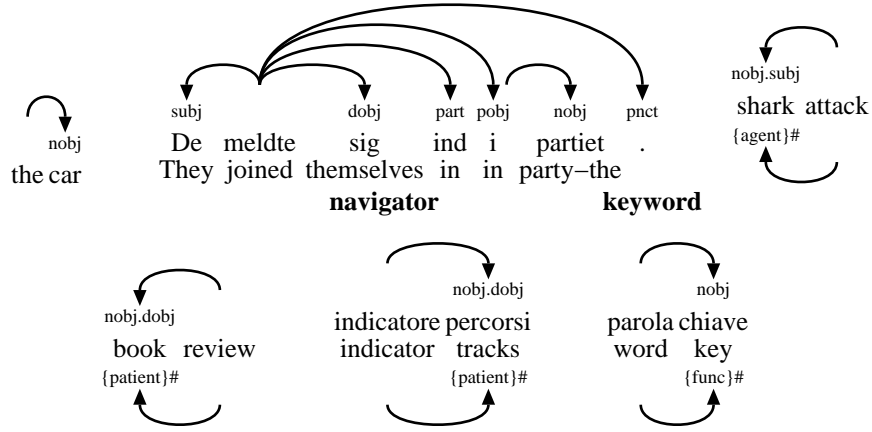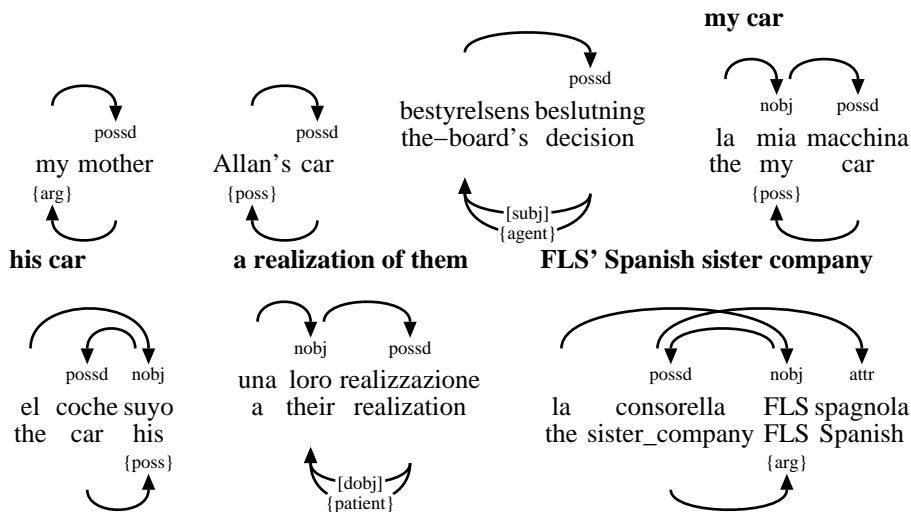Related types: SEMROLE avobj.

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
[92] 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.

my mother
{arg}
possd

Allan's car
{poss}
possd

my car

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

la mia macchina
the my car
{poss}
nobj possd

his car

el coche suyo
the car his
{poss}
possd nobj

a realization of them

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

FLS' Spanish sister company

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

possr *Possessor complement.* NO LONGER IN USE
isa SYNCOMP The possessor complement in a possessive construction. Possession is understood
[93] 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
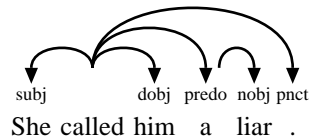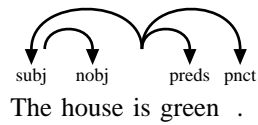relation in the future.
Related types: poss possd.

pred *Predicative.*
isa SYNCOMP Subtypes: predo preds.
[80] Related types: predo preds.
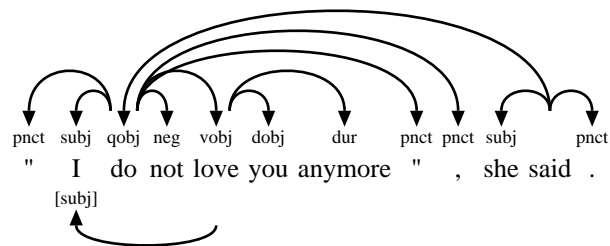
V–>predicative, P–>predicative

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

subj   dobj predo nobj pnct
She called him   a   liar .

preds *Subject predicative.*
isa pred Related types: predo.
[81]

subj nobj   preds pnct
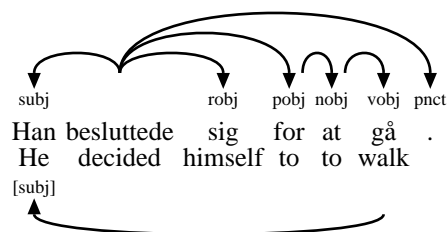The house is green .

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
[94] "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.
[84]

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.
[73]   Related types: expl.

subj   dobj   pnct
We like them .
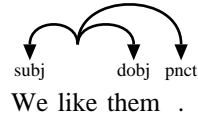
expl   *Expletive subject.*
isa subj   Related types: subj.
[74]

expl   dobj   nobj   pnct
There are many people .
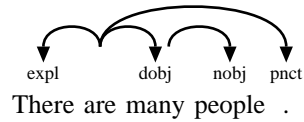
vobj   *Verbal object.*
isa SYNCOMP   Related types: "["$PRIM"]".
[83]

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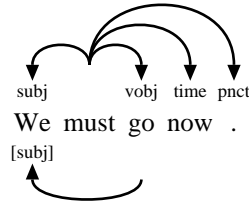
3.2   Adverbial adjunct relations: ADVERB

ADVERB   *Adverbial* (deprecated other). V/N/P->adverbial
isa SYNADJ
[134]   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
[172]

subj   nobj   vobj   agent   nobj   pnct
The house was painted by Eric .
[subj]
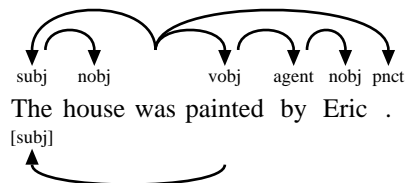
ben   *Benefactive adverbial.* Free dative
isa ADVERB   Related types: pobj.
[171]

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```
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
```
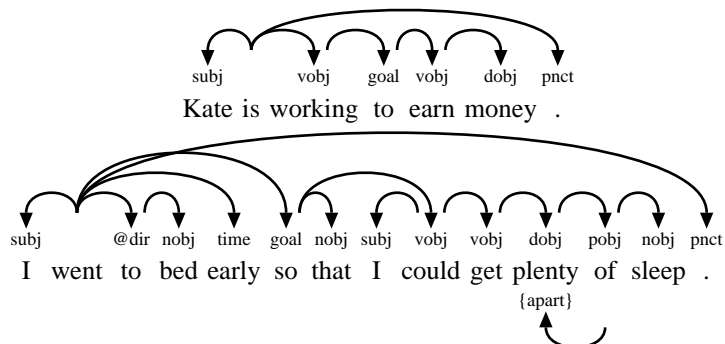
Figure 3.3: The relations matching ADVERB.
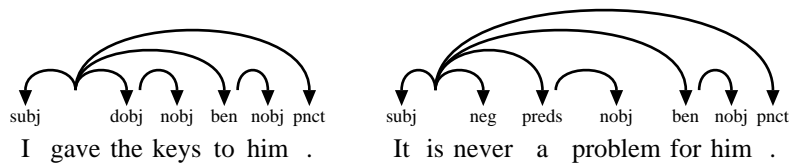
cause *Causation adverbial.* Causation adverbial. Describes why the event occurred.
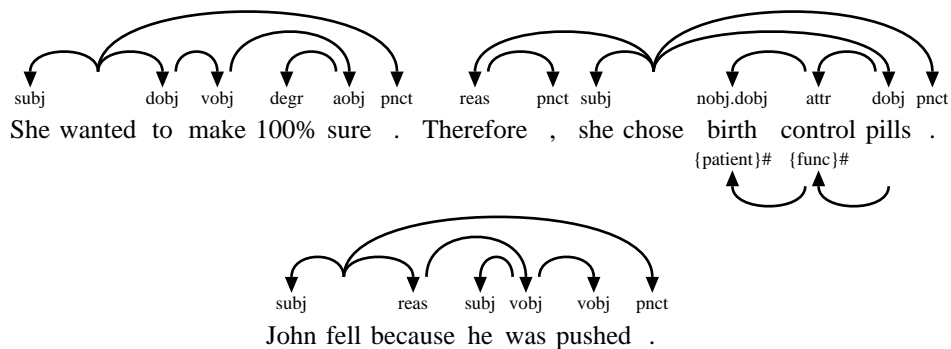isa ADVERB Subtypes: goal reas.
    [160]

goal *Goal adverbial.* Describes the intended goal of the event/action.
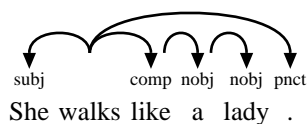isa cause   Related types: reas.
[161]

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.
[162]

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
[166]

subj   comp nobj nobj pnct
She walks like a lady .

conc *Concession adverbial.* Describes the concession of the event/action.
isa ADVERB
[165]

subj   dobj   conc   subj vobj preds   possd   pnct
I said it though he is my brother .
{arg}
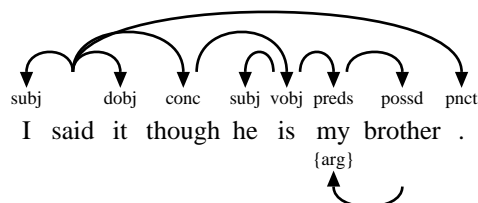
concom   . Gerunds in Romance
isa ADVERB   Related types: vobj.
[169]

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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]
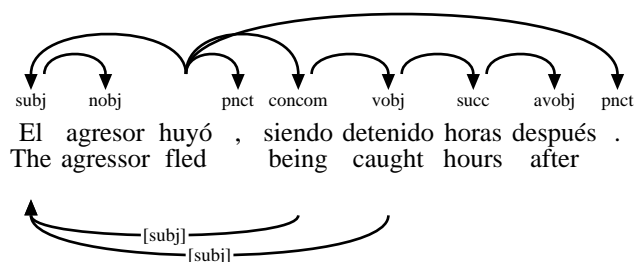
cond *Condition adverbial.* Describes the condition of the event/action.
isa ADVERB Related types: pcond.
[164]

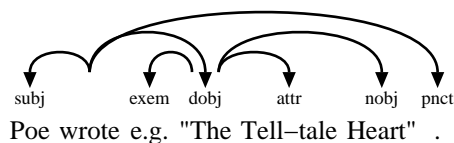| cond	subj	vobj	vobj	attr	dobj	pnct		ben	pnct	nobj	nobj	pnct	pnct
If	you	are	having	health	problems	,		write	to	"	The	Doctors	"	.

{about}#
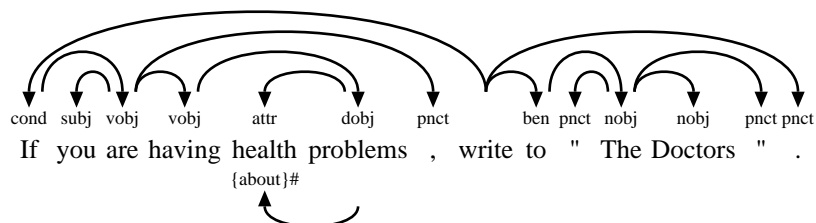
cons *Consequence adverbial.* Describes the consequence of the event/action.
isa ADVERB Related types: xtop.
[163]

degr *Degree adverbial.* Modifies the object or verbal by degree
isa ADVERB Related types: focal.
[170]

degr	subj	nobj	pnct
Only	two	people	came	.
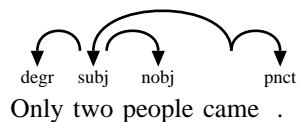
exem *Example adverbial* (deprecated ex). Exemplification; subordinated the object which is
isa ADVERB added to a list.
[168]

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.
[157] Related types: fpredo.

subj	man	pnct
He	talks	slowly	.

14
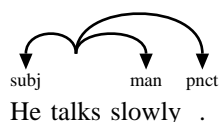
accom *Companionship adverbial* (deprecated `comp`). Companionship
isa man   Related types: man.
[158]

subj nobj accom nobj possd pnct
The husband came with his wife .
{arg}
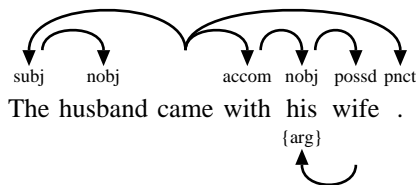
inst *Instrument adverbial.* Instrument/means
isa man   Related types: man.
[159]

subj dobj nobj inst nobj nobj pnct
He opened the door with the key .
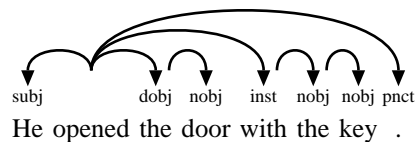
neg *Negation adverbial.* Negation of a verbal
isa ADVERB
[173]

It's never a problem.

subj neg vobj pnct
Thomas is not coming .
[subj]

neg neg preds nobj pnct
Non è mai un problema .
Not is–it never a problem

She never lied

subj neg time
Ella no mintio nunca
She not lied never
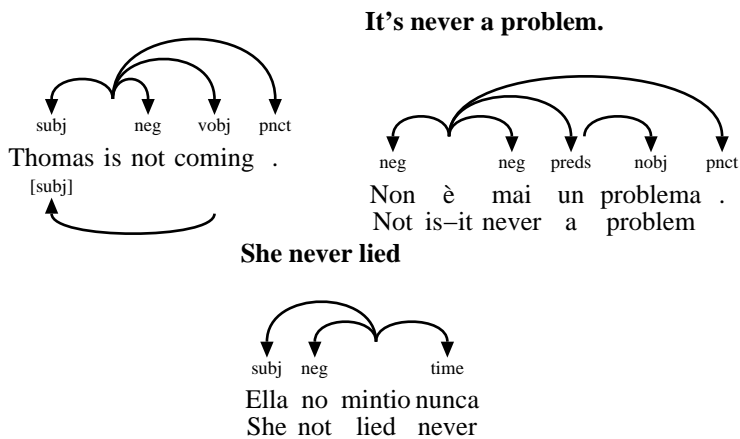
other *Other adverbial.*
isa ADVERB
[174]

prg *Pragmatic adverbial.* Sentence level.
isa ADVERB   Subtypes: att discmark epi eval focal pcond.
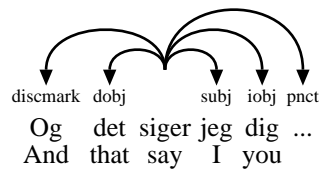[135]

att *Attitude adverbial.* Regarding attitude
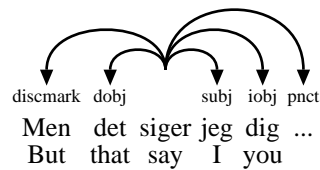isa prg   Related types: epi eval.
[139]

subj nobj att preds pnct
The weather is unfortunately bad .
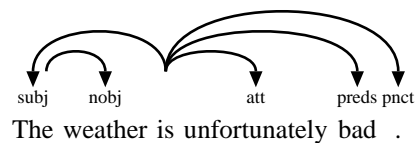
discmark *Sentence-initial discourse marker.* Discourse marker
isa prg   Related types: coord.
[141]

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

discmark	dobj		subj	iobj	pnct
Og	det	siger	jeg	dig	...
And	that	say	I	you	

discmark	dobj		subj	iobj	pnct
Men	det	siger	jeg	dig	...
But	that	say	I	you	

epi *Epistemic adverbial.* Regarding the level of truth in the expression
isa prg   Related types: att eval.
[138]

subj	epi	preds	pnct
He	is	maybe	wrong	.
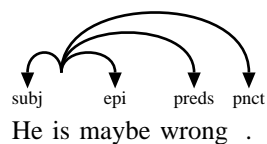
eval *Evaluation adverbial.* Evaluating adverbials
isa prg   Related types: att epi.
[140]

eval	pnct	subj	preds	pnct
However	,	I	am	fine	.
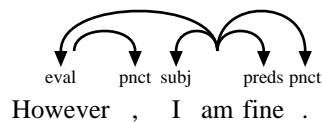
focal *Focalizer adverbial.* Focalization of a noun
isa prg   Related types: degr.
[136]

focal	subj		dobj	pnct
Even	Italy	imports	pasta	.
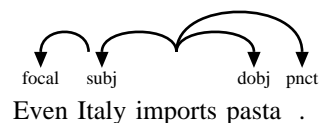
pcond *Pragmatic condition adverbial* (deprecated prgcond). Pragmatic condition
isa prg   Related types: cond.
[137]

coord	subj		neg	vobj	dobj	pnct	pcond	subj	vobj	pnct
But	I	have	not	seen	anything	,	if	anyone	asks	.

[subj]
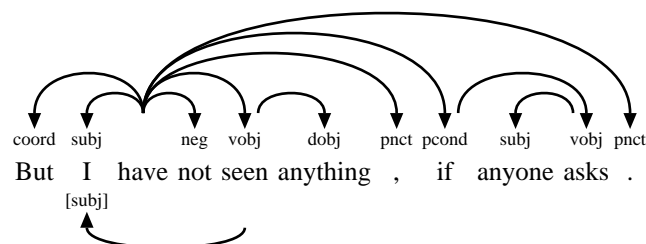
source *Source attribution adverbial.* Reference/source
isa ADVERB
[167]

16

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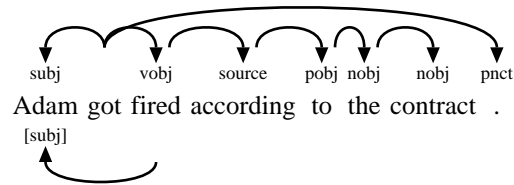
space *Space adverbial.* Space adverbials
isa ADVERB
[154]   Subtypes: dir loc.

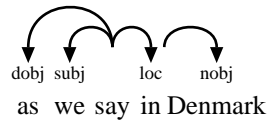**dir** *Direction adverbial.* Movement from one place to another; direction
isa space
[156]   Related types: loc.

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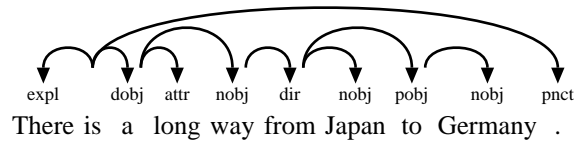
loc *Location adverbial.* Location
isa space
[155]   Related types: dir.

dobj subj loc nobj
as we say in Denmark

struct *Text-structuring or connective adverbial.* Connectives and text structuring adverbials
isa ADVERB
[142]   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 .
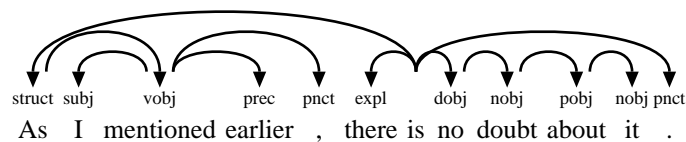
add *Additive adverbial.* Additive information
isa struct
[146]

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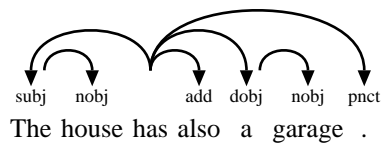
bg *Background adverbial.* Background information
isa struct
[143]   Related types: struct.

17

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]

---
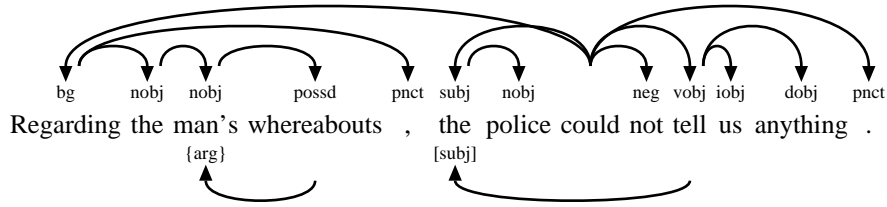
contr *Contrast adverbial.* Opposition

isa struct   Related types: struct.

[144]

contr pobj nobj pnct subj dobj attr nobj pnct

Instead of fruits , he bought two chocolate muffins .

{const}#

---
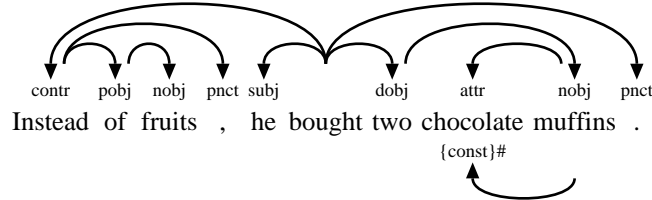
elab *Elaboration advebial.* More detailed description

isa struct

[145]

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}#

---
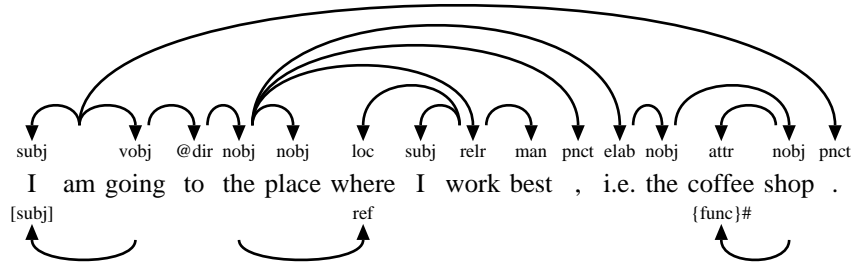
time *Time adverbial.* Time relating adverbials

isa ADVERB   Subtypes: cont dur ext hab prec succ.

[147]

She never lied

subj nobj time pnct

The Smiths arrive sunday .

subj neg time

Ella no mintio nunca
She not lied never

---
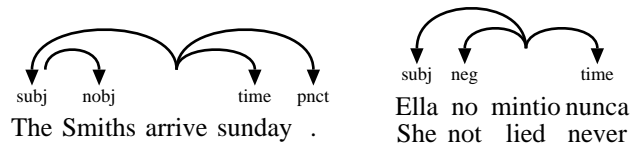
cont *Contemporaneity adverbial.* Contemporaneity

isa time   Related types: time.

[151]

subj vobj pnct cont subj vobj dobj pnct

I was eating , when you called me .

[subj]

18
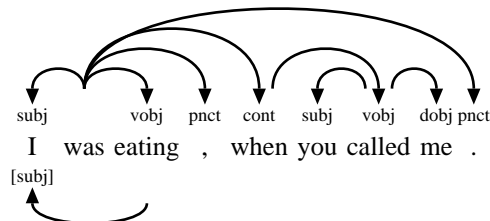
dur *Duration adverbial.* Duration

isa time
[148]
Related types: ext hab.

subj nobj vobj dur nobj aobj pnct

The dog was barking all night long .

[subj]

---
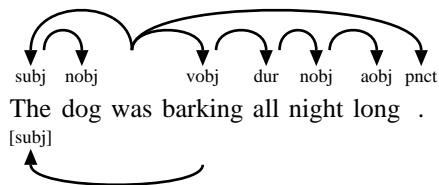
ext *Extent/frequency adverbial* (deprecated freq). Frequency; extention

isa time
[153]
Related types: dur hab.

subj dobj ext nobj pnct

He called her seven times .

---
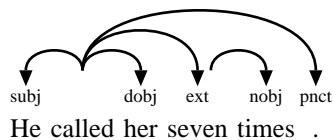
hab *Habituality adverb.* Habitual; repeated habit

isa time
[152]
Related types: dur ext.

hab subj vobj pnct subj pobj vobj pnct

Every_time he leaves , she begins to cry .

[subj]

---
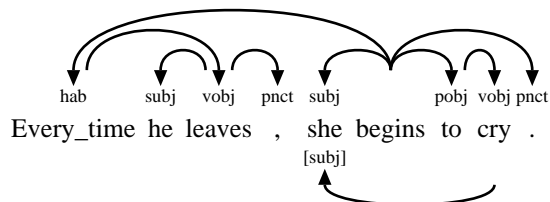
prec *Precedence adverbial.* Precedence

isa time
[149]

prec subj vobj pnct expl degr dobj loc nobj nobj pnct

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

---
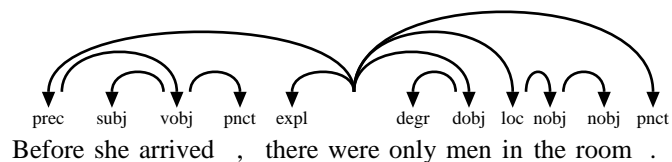
succ *Succession adverbial.* Succesion

isa time
[150]

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 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
```

Figure 3.4: The relations matching SYNADJ-ADVERB.

3.3 Other adjunct relations: SYNADJ

SYNADJ
isa ADJ SYN
[71]

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"">".
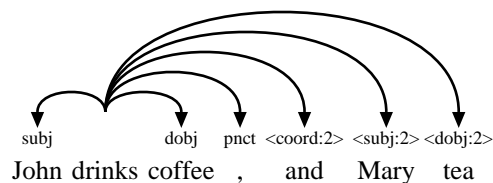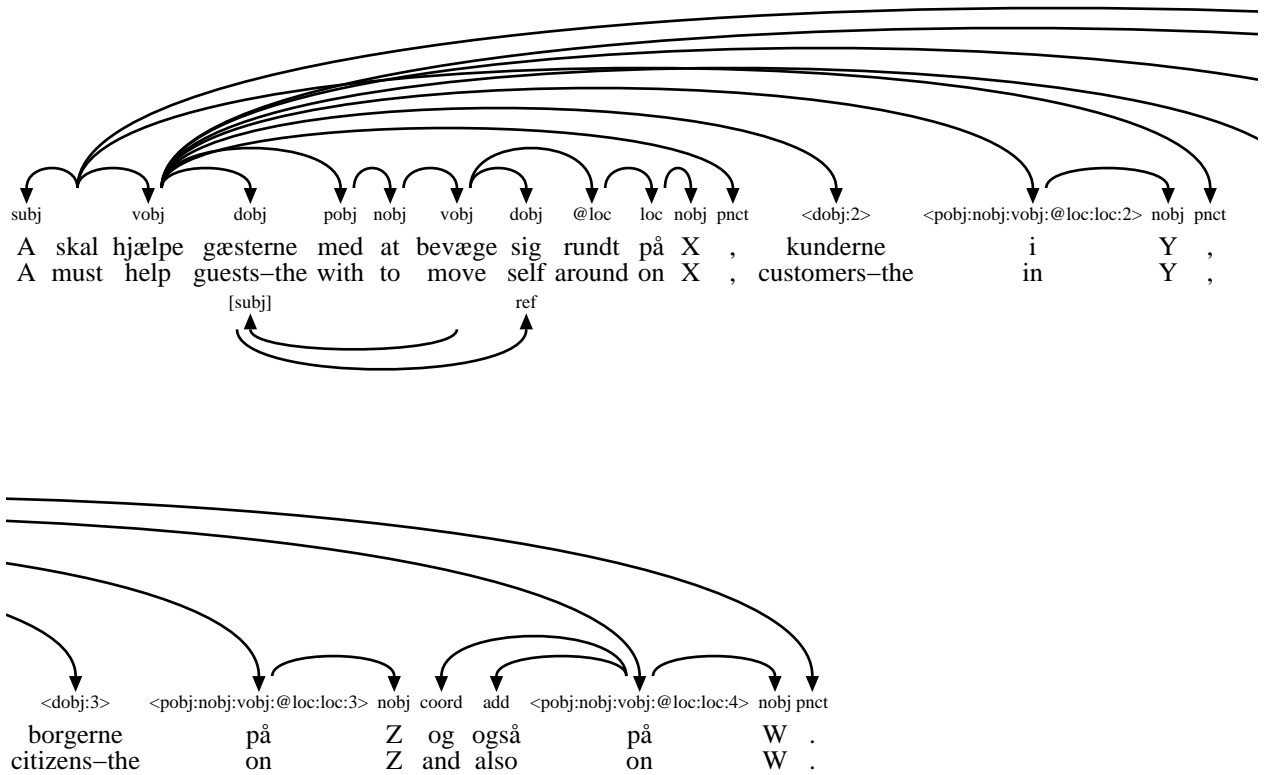
PRIM...":"INTEGER*ping dependent.* First conjunct->gapping dependent

isa GAP RULE

[356]
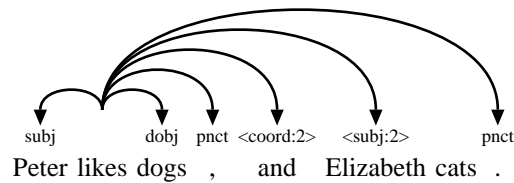
app *Apposition.*

isa SYNADJ   Subtypes: appa appr.

[109]   Related types: appa appr.

appa *Parenthetic apposition (comma).*

isa app   Subtypes: xpl.

[110]   Related types: appr xpl.
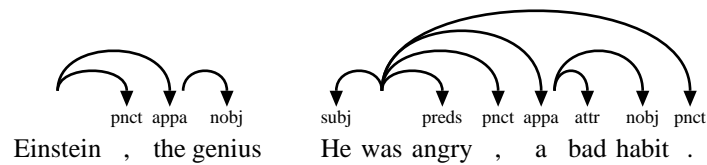
xpl *Explication.* Explication of an NP or VP.

isa appa   Related types: qobj.

[123]

21

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

nobj pobj nobj nobj pnct · · · xpl attr nobj pnct pnct

pnct
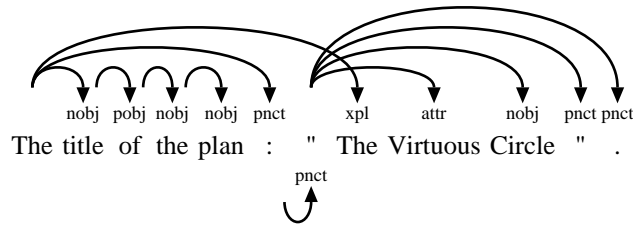
appr *Restrictive apposition (no comma).*
isa app Related types: appa.
[111]

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}
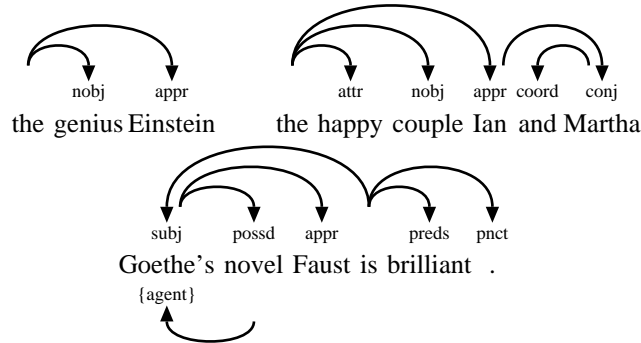
attr *Attributive* (deprecated `attrdattrr`). In Germanic languages, adjectives modify the de-
isa SYNADJ terminer; in Romance languages, adjectives modify the noun even if there is a de-
[107] terminer
Related types: SEMROLE attrg pobj.

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

the three wonderful books

nobj attr nobj

a house built of bricks

nobj attr pobj nobj

the parliamentary groups

barco de guerra
ship of war

attr nobj

{func}#

vanilla sugar

una bella giornata
a beautiful day

attr nobj

i gruppi parlamentari
the groups parliamentary

nobj attr

{func}#

zucchero vanigliato
sugar vanillarized

attr

{const}#

attrg *Genitive attributive.*
isa SYNADJ Related types: SEMROLE gobj.
[108]

22

the lady's car

nobj	attrg	nobj
das Auto	der	Frau
the car	the(gen)	lady

{poss}

Peter's car

nobj	attrg
das Auto	Peters
the car	Peter's

{poss}
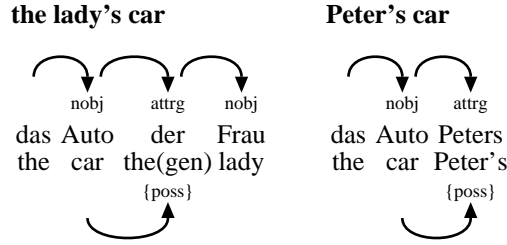
conj
isa SYNADJ
[99]

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

Related types: coord correl.

subj dobj coord conj pnct
We met John and Mary .

subj dobj pnct conj coord conj pnct
We met John , Mary and Sue .
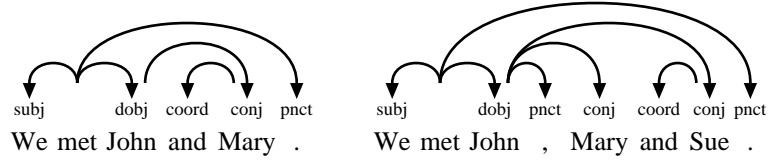
coord
isa SYNADJ
[100]

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

Related types: conj correl discmark.
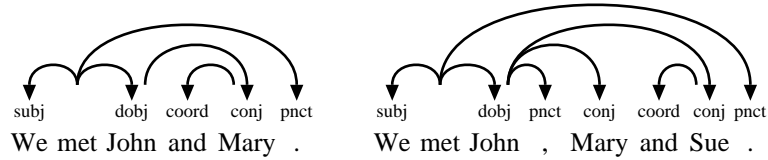
subj dobj coord conj pnct
We met John and Mary .

subj dobj pnct conj coord conj pnct
We met John , Mary and Sue .

correl
isa SYNADJ
[101]

Correlative coordinator relation.
Related types: conj coord.

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

subj correl dobj pnct coord conj pnct
We neither met John , nor Mary .
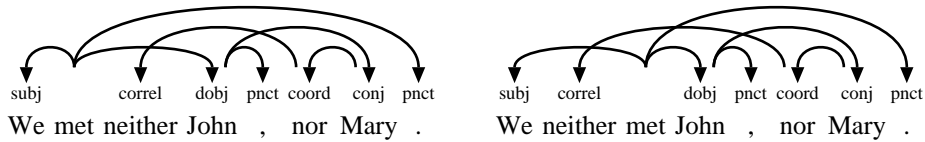
fpred
isa SYNADJ
[104]

Free predicative.
Subtypes: fpredo fpreds.
Related types: fpredo fpreds.

V−>free predicative

fpredo
isa fpred
[106]

Free direct-object predicative.
Related types: fpreds man.

23

He drank the coffee too hot .

subj dobj nobj fpredo attr pnct
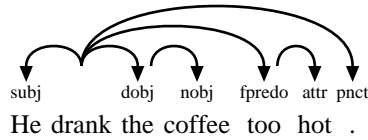
fpreds *Free subject predicative.*
isa fpred   Related types: fpredo.
[105]

Terrified she walked down the street .

fpreds subj @dir nobj nobj pnct
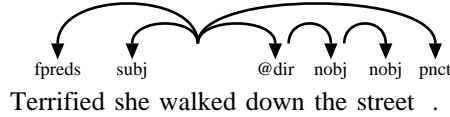
mod   *Modifier/adverbial.* Deprecated name for adverbials
isa SYNADJ   Subtypes: modp.
[129]

modp   *Parenthetic modifier.* Deprecated name for parenthetic modifiers
isa mod
[131]

name   *Part of name.* Part of a name.
isa SYNADJ   Subtypes: namef namel title.
[117]

a Garrett engine

name nobj

a Citroen X2

nobj name
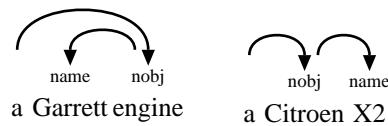
namef   *First name.* A first name.
isa name   Related types: namel title.
[118]

John Travolta
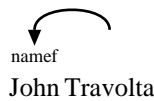
namef

namel   *Last name.* A second last name
isa name   Related types: namef title.
[119]

Matthias Trautner Kromann
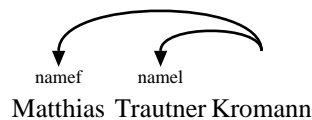
namef namel

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".
[120]   Related types: namef namel.
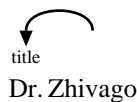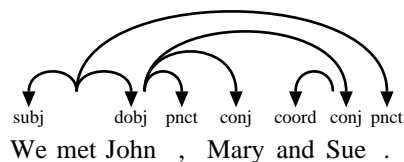
Dr. Zhivago

title

subj   dobj pnct conj coord conj pnct
We met John , Mary and Sue .

N–>V, V–>V

V–>V

nobj   pnct loc   rel
Consideration must be given to a higher degree to the nature north of Bella Centre , where 31 hectares in all
ref

relpa   pnct
will be exempt on environmental grounds .

subj   pnct subj relr   pnct
The part of the Amager Commons , which has not become a part of Ørestaden is to be preserved .
ref
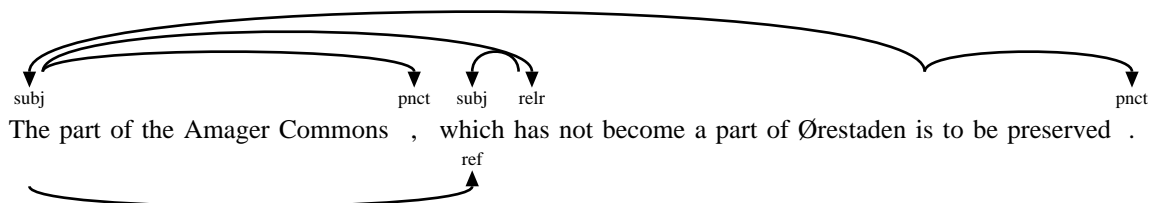
voc *Vocative.* Vocative specification. The person to whom the statement is directed.
isa SYNADJ
[122]

voc   pnct   subj   vobj   pnct
Mary   ,   will   you   help   me   ?
[subj]   dobj

subj   vobj   dobj   pnct   voc   pnct
Will   you   help   me   ,   Mary   ?
[subj]
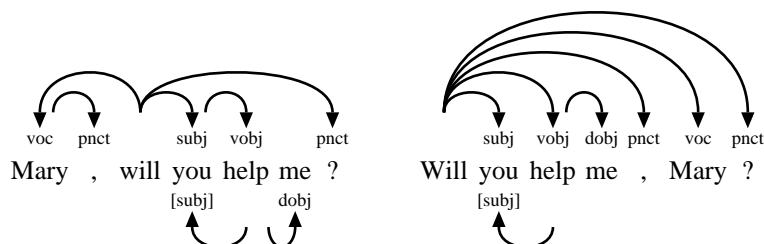
xtop *External topic with resuming pronoun.* An external topic is a sentence-initial NP
isa SYNADJ whose only function is to provide the antecedent for a pronoun later in the sentence.
[116] Eg in "John, he is a nice person". Here "John" is the "xtop" of "is", and "he" is the
subject of "is".

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
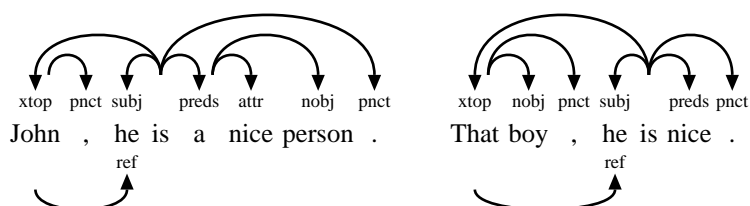
If you are having any problems, call me.

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

26
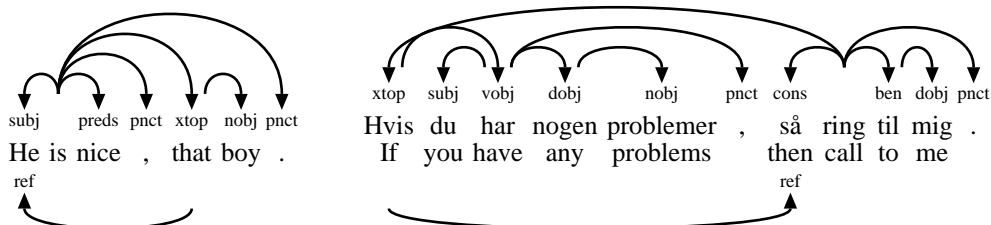
Chapter 4

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
[359]

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
[254]

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
[346]

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

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

AGENT
isa MORPHCOMP
[338]

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

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

CONST
isa MORPHCOMP
[337]

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

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

EVAL
isa MORPHCOMP
[344]

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

coche de lujo 'luksusbil'

FUNC
isa MORPHCOMP
[340]

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

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

ORIGIN
isa MORPHCOMP
[339]

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

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

OTHER
isa MORPHCOMP
[347]

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

POS
isa MORPHCOMP
[342]

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

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

POSS
isa MORPHCOMP
[341]

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

<div style="text-align: center;">(possession: politibil = bil –politi/POSS</div>

RESEM
isa MORPHCOMP
[345]

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

<div style="text-align: center;">silla de tijeras 'saksestol' [klapstol], válvula de mariposa 'sommerfugleventil'</div>

TIME:MC
isa MORPHCOMP
[343]

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

<div style="text-align: center;">(time: oktoberregn 'October rain' = regn –oktober/TIME)</div>

4.2 Derivational relations: MORPHDERIV

MORPHDERIV: derivational semantic relations

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

MORPHDERIV
isa MORPH
[253]

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
[256]

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
[273]

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
[276]

Causation. Prefix conveys causation.

<div style="text-align: center;">(causative: acallar 'silence' = callar –a/ASPEC:cause)</div>

ASPEC:iter
isa ASPEC
[275]

Iteration. Prefix conveys iteration.

<div style="text-align: center;">(iterative: redefine = define –re/ASPEC:iter)</div>

ASPEC:reflex
isa ASPEC
[277]

Reflexivity. Prefix conveys reflexivity.

<div style="text-align: center;">29</div>

```
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
     [279]
(resultative: fastnagle 'rivet' = nagle –fast/ASPEC:resul)

ASPEC:rev *Reversion*. Prefix conveys reversion.
   isa ASPEC
     [274]
(reversion: deactivate = activate –de/ASPEC:rev)

ASPEC:term *Termination*. Prefix conveys termination.
   isa ASPEC
     [278]
(terminative: oplåse 'open' = låse –op/ASPEC:term)

GRAD *Graduation*. Prefix conveys graduation in a broad sense.
  isa PREFIX Subtypes: GRAD:qual GRAD:size.
    [270]
GRAD:qual *Quality*. Prefix conveys quality.
   isa GRAD
    [272]

30

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

GRAD:size *Size.* Prefix conveys size.
isa GRAD
[271]

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

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

LOC:dir *Direction.* Prefix expresses direction.
isa LOC
[261]

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

LOC:pos *Position.* Prefix expresses position.
isa LOC
[260]

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

LOC:proce *Origin.* Prefix conveys origin.
isa LOC
[262]

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

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

MOD:cuant *Quantification.* Prefix conveys quantification.
isa MOD
[282]

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

MOD:man *Manner.* Prefix conveys manner.
isa MOD
[283]

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

MOD:qual *Qualification.* Prefix conveys qualification.
isa MOD
[284]

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

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

NEG:oppo *Opposition.* Prefix conveys opposition.
isa NEG
[268]

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

NEG:priv *Privation.* Prefix conveys privation.
isa NEG
[269]

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

PRE:other *Other prefix relation.* If in doubt about the meaning conveyed by the prefix
isa PREFIX
[285]

TIMES *Time.* Prefix conveys time in a broad sense.
isa PREFIX
[264]

TRANS *Transitivity.* Prefix conveys transitivity.
isa PREFIX
[280]

(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.
[257]
Subtypes: AUG DENOM DENUM DER DEV DEVN DIMIN NOPRED PEJ QUAL.

AUG *Augmentation.* Suffix conveys augmentation.
isa SUFFIX
[286]

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

DENOM *Noun-adjective derivation.* Suffix creates denominal adjectives in a broad sense.
isa SUFFIX
[322]
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.
[330]

"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.
[331]

"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
[332]

DENOM:poss *Noun-adjective derivation (possession).* Suffix creates denominal adjectives that
isa DENOM express possession.
[329]

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

DENOM:rel
isa DENOM
[323]

Noun-adjective derivation (relational). Suffix creates denominal adjectives with a relational meaning.

Subtypes: DENOM:rel.deono DENOM:rel.norm.

ENOM:rel.deono
isa DENOM:rel
[325]

Noun-adjective derivation (naming). Suffix creates relational adjectives with the meaning of "naming".

Subtypes: DENOM:rel.deono.pers DENOM:rel.deono.place.

NOM:rel.deono.pers
isa DENOM:rel.deono
[326]

Noun-adjective derivation (naming persons). Suffix creates relational adjectives with the meaning of "naming" persons.

Cervantino 'som har at gøre med Cervantes'

NOM:rel.deono.place
isa DENOM:rel.deono
[327]

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
[324]

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
[328]

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
[333]

Adjective-numeral derivation. Suffix creates denumeral adjectives in a broad sense.

Subtypes: DENUM:mult DENUM:ord DENUM:part.

DENUM:mult
isa DENUM
[336]

Adjective-multiplicative derivation. Suffix creates multiplicative numerals.

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

DENUM:ord
isa DENUM
[334]

Adjective-ordinal derivation. Suffix creates ordinals.

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

DENUM:part
isa DENUM
[335]

Adjective-partitive derivation. Suffix creates partitive numerals.

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

DER
isa SUFFIX
[289]

Verb derivation. Suffix triggers a derivation

Subtypes: DER:av DER:nv DER:vv.

DER:av
isa DER
[291]

Adjective-verb derivation. Suffix triggers a derivation from an adjective to a verb.

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

DER:nv
isa DER
[290]

Noun-verb derivation. Suffix triggers a derivation from a noun to a verb.

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

DER:vv
isa DER
[292]

Verb-verb derivation. Suffix triggers a derivation from a verb to another verb.

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

DEV
isa SUFFIX
[313]

(long: DEVERB).

Subtypes: DEVA.

DEVA
isa DEV
[314]

Verb-adjective derivation (long: DEVERBA). Suffix creates deverbal adjectives in a broad sense.

Subtypes: DEVA:act DEVA:pas.part.

DEVA:act
isa DEVA
[315]

Verb-adjective derivation (active) (long: DEVERB:act.pure). Suffix creates active adjectives.

Subtypes: DEVA:act.disp DEVA:act.poten DEVA:pas.

DEVA:act.disp
isa DEVA:act
[316]

Verb-adjective derivation (pure) (long: DEVERB:act.disp). Suffix creates active adjectives with the meaning aspect "pure".

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

DEVA:act.poten
isa DEVA:act
[317]

Verb-adjective derivation (disposition) (long: DEVERB:act.poten). Suffix creates active adjectives with the meaning aspect "disposition".

"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

DEVA:pas *Verb-adjective derivation (potentiality)* (long: DEVERB:pas). Suffix creates active ad-
isa DEVA:act jectives with the meaning aspect "potentiality".
[318] Subtypes: DEVA:pas.deon DEVA:pas.poten.

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

DEVA:pas.deon *Verb-adjective derivation (passive potentiality)* (long: DEVERB:pas.deon). Suffix creates
isa DEVA:pas passive adjectives with the meaning aspect "potentiality".
[321]

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

'transportabel/maskine som kan blive transporteret/transporteres

DEVA:pas.poten *Verb-adjective derivation (passive participles)* (long: DEVERB:pas.poten). Suffix creates
isa DEVA:pas passive adjectives with the form of participles.
[320]

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

købt"

DEVA:pas.part *Verb-adjective derivation (passive)* (long: DEVERB:pas.part). Suffix creates passive ad-
isa DEVA jectives.
[319]

DEVN *Verb-noun derivation* (long: DEVERBN, deprecated PRED). Suffix creates deverbal nouns
isa SUFFIX in a broad sense.
[293] Subtypes: DEVN:agent DEVN:core DEVN:exper DEVN:inst DEVN:loc DEVN:other DEVN:recip
DEVN:result.

DEVN:agent *Verb-noun derivation (agent).* Suffix creates deverbal nouns absorbing the agent
isa DEVN role.
[294]

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

DEVN:core *Verb-noun derivation (core).* Suffix creates deverbal nouns expressing a nominalized
isa DEVN version of the situation denoted by the original verb.
[296]

<div style="text-align: center">(core derivation: exploitation = exploit@V +ation/PRED:core)</div>

DEVN:exper
isa DEVN
[295]

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

<div style="text-align: center">(experiencer derivation: admirer = admire +r/PRED:exper</div>

DEVN:inst
isa DEVN
[300]

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

<div style="text-align: center">(instrument derivation: exprimidor 'saftpresser' = exprimir +dor/PRED:inst)</div>

DEVN:loc
isa DEVN
[299]

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

<div style="text-align: center">(locative derivation: comedor 'spisestue' = comer +dor/PRED:loc)</div>

DEVN:other
isa DEVN
[301]

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

DEVN:recip
isa DEVN
[298]

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

<div style="text-align: center">(recipient derivation: beneficiario 'den begunstigede' = beneficiar +ario/PRED:recip)</div>

DEVN:result
isa DEVN
[297]

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

<div style="text-align: center">(result derivation: hallazgo 'fund' = hallar +azgo/PRED:result)</div>

DIMIN
isa SUFFIX
[287]

Diminution. Suffix conveys diminution.

<div style="text-align: center">(diminutive: viejecito 'little old man' = viejo +ecito/DIM)</div>

NOPRED
isa SUFFIX
[303]

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
[304]

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

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

NOPRED:capac
isa NOPRED
[309]
Noun-noun derivation (capacity). Suffix creates non-predicative nouns expressing a capacity.

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

NOPRED:cont
isa NOPRED
[306]
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
[310]
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
[312]
Noun-noun derivation (other). If in doubt about the meaning conveyed by the suffix

NOPRED:result
isa NOPRED
[305]
Noun-noun derivation (result). Suffix creates non-predicative nouns expressing a result.

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

NOPRED:script
isa NOPRED
[311]
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
[308]
Noun-noun derivation (set). Suffix creates non-predicative nouns expressing a set.

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

NOPRED:temp
isa NOPRED
[307]
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
[288]
Pejoration. Suffix conveys a pejorative sense.

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

QUAL
isa SUFFIX
[302]
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

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 DISCFUNC DISCSEM.

"¤"PRIM
isa DISC RULE
[358]

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

5.1 Functional relations: DISCFUNC

DISCFUNC: functional discourse relation
    ANSW: answer
    CONSOL: consolidation
      CONSOL:enabl: enablement
      CONSOL:just: justification
      CONSOL:motiv: motivation
    DIREC: directive act
    EXPR: expressive act
    INTACT: interactional signals
      INTACT:attn: attention
      INTACT:inter: interruption
    PREP: preparation
    QUEST: question
    REP: repaired

Figure 5.2: The relations matching DISCFUNC.

DISCFUNC
isa ADJ DISC
[206]

Functional discourse relation. The relation between governing and depending text segments is defined functionally: the depending text segment has illocutionary, structuring or enhancing function

Subtypes: ANSW CONSOL DIREC EXPR INTACT PREP QUEST REP.

ANSW
isa DISCFUNC
[239]

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

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

CONSOL
isa DISCFUNC
[245]

Consolidation (deprecated SUPPORT?).

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

CONSOL:enabl
isa CONSOL
[247]

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

CONSOL:just
isa CONSOL
[246]

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
[248]

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

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

DIREC
isa DISCFUNC
[240]

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

e.g. imperatives

EXPR
isa DISCFUNC
[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 DISCFUNC
[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

PREP isa DISCFUNC [249]	*Preparation.* Dependent text segment "prepares" for the following and governing text, e.g. headings, titles Confusion$_4$: PREP$_{100\%}$.
QUEST isa DISCFUNC [238]	*Question .* The dependent text segment contains a question with or withour an answer
REP isa DISCFUNC [250]	*Repaired.* Dependent text segment is interrupted and unfinished and "repaired" by the following and governing text segments, which completes it

5.2 Semantic relations: DISCSEM

```
DISCSEM: semantic discourse relation
    CAUSE: cause relation (discourse)
        CAUSE:expl: explanation relation (discourse)
        CAUSE:goal: goal relation (discourse)
        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
    DESCR: description/evaluation
        DESCR:eval: positive/negative evaluation
        DESCR:qual: neutral description
    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
    JOINT: no clear relation
    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.

DISCSEM isa ADJ DISC [205]	*Semantic discourse relation.* The relation between governing and depending text segments is defined semantically

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

CAUSE
isa DISCSEM
[208]

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

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

CAUSE:expl
isa CAUSE
[209]

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

Confusion$_{11}$: CAUSE:reas$_{26\%}$ CAUSE:expl$_{18\%}$ ELAB:exp$_{18\%}$ CONJ$_{14\%}$ CONSOL:motiv$_{9\%}$ vobj$_{6\%}$ conj$_{5\%}$ CONSOL:just$_{5\%}$.

[da] Nemlig; [it] Infatti

CAUSE:goal
isa CAUSE
[210]

Goal relation (discourse). S expresses goal, purpose, aim

[da] For (at)

CAUSE:reas
isa CAUSE
[211]

Reason relation (discourse). S expresses a specific and concrete reason

Confusion$_8$: CAUSE:expl$_{35\%}$ vobj$_{21\%}$ DESCR:eval$_{13\%}$ CONS:dir$_{13\%}$ conj$_{6\%}$ ELAB:exp$_{6\%}$ CONSOL:just$_{6\%}$.

[da] Fordi, Eftersom

CONC
isa DISCSEM
[227]

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

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

[da] Dog, Skønt

COND
isa DISCSEM
[228]

Condition.
Related types: cond.

[da] På betingelse af, Hvis

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

Subtypes: CONJ:seq.
Related types: conj.
Confusion$_{41}$: CONJ$_{39\%}$ ELAB:exp$_{30\%}$ CONTR:prg$_{5\%}$ CAUSE:expl$_{4\%}$ JOINT$_{4\%}$ CONS:dir$_{4\%}$ conj$_{3\%}$ rel$_{2\%}$ cont$_{2\%}$ qobj$_{2\%}$ DESCR:eval$_{1\%}$ CONS:prg$_{1\%}$ ELAB:exem$_{1\%}$ 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
[212]

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

Subtypes: CONS:dir CONS:prg.

CONS:dir
isa CONS
[213]

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

Confusion$_5$: CONJ$_{30\%}$ CONS:dir$_{25\%}$ CAUSE:reas$_{20\%}$ vobj$_{15\%}$ CONS:prg$_{10\%}$.

42

<div align="center">[da] Derfor, Af den grund</div>

CONS:prg *Pragmatic/personal conclusion, deduction.* Personal, subjective conclusion or de-
isa CONS duction
[214]   Confusion$_4$: CONS:prg$_{75\%}$ CONJ$_{13\%}$ CONS:dir$_{13\%}$.

<div align="center">[da] Derfor, Af den grund</div>

CONTR *Contrast.*
isa DISCSEM Subtypes: CONTR:dir CONTR:prg.
[231]   Confusion$_1$: CONTR:prg$_{33\%}$ conj$_{33\%}$ CONTR:dir$_{33\%}$.

CONTR:dir *Direct contrast.* The contrast lies between the governing and dependent text segment
isa CONTR
[232]   Confusion$_5$: CONTR:prg$_{30\%}$ expl$_{20\%}$ CONC$_{20\%}$ conj$_{13\%}$ CONTR:dir$_{10\%}$ CONTR$_{7\%}$.

<div align="center">[da] Men, Derimod</div>

CONTR:prg *Pragmatic contrast.* The contrast lies between the dependent and an inferred text
isa CONTR segment
[233]   Confusion$_{11}$: conj$_{30\%}$ CONTR:prg$_{24\%}$ CONJ$_{18\%}$ CONTR:dir$_{15\%}$ coord$_{9\%}$ CONTR$_{3\%}$.

<div align="center">[da] Men</div>

DESCR *Description/evaluation.* S expresses description or evaluation of N
isa DISCSEM Subtypes: DESCR:eval DESCR:qual.
[215]

DESCR:eval *Positive/negative evaluation.* S expresses a personal and/or subjective positive or
isa DESCR negative description of N
[216]   Confusion$_2$: CONJ$_{50\%}$ CAUSE:reas$_{50\%}$.

DESCR:qual *Neutral description.* S expresses an objective and/or neutral description of N
isa DESCR Confusion$_1$: ELAB:exp$_{100\%}$.
[217]

<div align="center">[da] Sådan</div>

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

<div align="center">[da] Eller</div>

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

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

ELAB
isa DISCSEM
[218]
Elaboration. S adds more information or detail on N

Subtypes: ELAB:exem ELAB:exp ELAB:part ELAB:rest.

ELAB:exem
isa ELAB
[219]
Exemplification. S gives examples of elements or phenomena mentioned in N

Confusion$_1$: CONJ$_{50\%}$ ELAB:exp$_{50\%}$.

[en] For example

ELAB:exp
isa ELAB
[220]
Expansion (deprecated ELAB:spec). S develops and expans knowledge of N; may be difficult to distinguish from CONJ

Confusion$_{32}$: ELAB:exp$_{39\%}$ CONJ$_{37\%}$ CAUSE:expl$_{6\%}$ DESCR:qual$_{3\%}$ CONSOL:just$_{3\%}$ ELAB:rest$_{3\%}$ qobj$_{2\%}$ xpl$_{2\%}$ CAUSE:reas$_{2\%}$ ELAB:exem$_{2\%}$ CONC$_{2\%}$.

[it] Cioè

ELAB:part
isa ELAB
[221]
Part of relation. S is a concrete part of N

[da] Herunder, Heri

ELAB:rest
isa ELAB
[222]
Restatement. S states N again in a different way

Confusion$_4$: ELAB:rest$_{50\%}$ ELAB:exp$_{33\%}$ xpl$_{17\%}$.

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

JOINT
isa DISCSEM
[237]
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$_{50\%}$.

TIME
isa DISCSEM
[223]
Temporal relation (deprecated CIRCUM). There is a clear temporal relation between N and S

Subtypes: TIME:cont TIME:prec TIME:prec§ TIME:succ TIME:succ§.

TIME:cont
isa TIME
[224]
Contemporaneity. S is contemporary with N (now includes abolished TIME:dur)

[da] Samtidig, Mens, Så længe, Da

TIME:prec
isa TIME
[225]
Temporal precedence. S precedes N

[en] Earlier, Some days before

TIME:prec§ *Temporal precedence.* Prefix conveys precedence.
    isa TIME
      [265]

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

TIME:succ *Temporal succession.* S succeeds N
    isa TIME
      [226]

                    [en] Later, Some time afterwards

TIME:succ§ *Temporal succession.* Prefix conveys succession.
    isa TIME
      [266]

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

Chapter 6

Anaphor relations: ANAPHORA

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

ANA: anaphoric level
    anaphor:

</div>

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
[186]

.

Subtypes: assoc coref.

6.1 Coreference relations: coref

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

coref: coreference
    coref-id: lexical identity coreference
    coref-part: partial coreference
    coref-prg: pragmatic coreference
    coref-res: resumptive anaphor
    coref-var: lexical variation coreference
    ref: syntactically determined coreference

</div>

Figure 6.2: The relations matching coref.

coref
isa anaphor
[187]

Coreference. Anaphor denotes same entity as antecedent

Subtypes: coref-id coref-part coref-prg coref-res coref-var ref.

coref-id
isa coref
[189]

Lexical identity coreference. A car -> the car // a yellow car -> the yellow car

46

coref-part isa coref [193]	*Partial coreference.* Coreferential with a part of the antecedent
coref-prg isa coref [191]	*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-res isa coref [192]	*Resumptive anaphor.*
coref-var isa coref [190]	*Lexical variation coreference.* A car -> the vehicle // a yellow car -> the car
ref isa coref [188]	*Syntactically determined coreference.* Syntactically determined coreference (eg, relative pronouns, external topics)

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 [194]	*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 [195]	*Associative anaphor wrt. qualia.* Anaphor denotes entity which is associated with antecedent
assoc-agentive isa assoc [197]	*Associative anaphor (agentive)* (deprecated assoc-agent?).
assoc-const isa assoc [196]	*Associative anaphor (constitutive)* (deprecated assoc-loc?).
assoc-formal isa assoc [196]	*Associative anaphor (formal)* (deprecated assoc-form?).
assoc-telic isa assoc [199]	*Associative anaphor (telic)* (deprecated assoc-scope?).

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

N−>P.material/part

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
[13]

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]

. All the relations of the semantic roles run under the text line. The syntactic relation that runs over the text line is determinated by the word class of the lemma in question.

Subtypes: {about} {agent} {apart} {arg} {class} {const} {elab} {eval} {experient} {form} {func} {iden} {location} {origin} {patient} {poss} {pos} {quant} {recipient} {resem} {time}.

{about}
isa SEMROLE
[57]

.

<div align="center">

attr

abortion law

{about}#

</div>
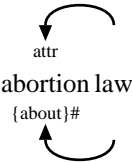
{agent}
isa SEMROLE
[64]

An object or a person that performs an action. Often generated by subject relation

<div align="center">

attr
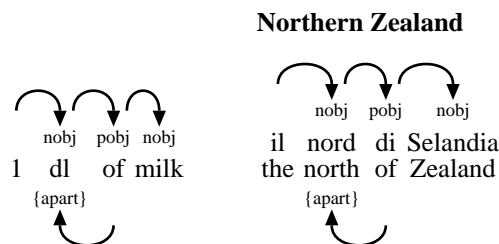
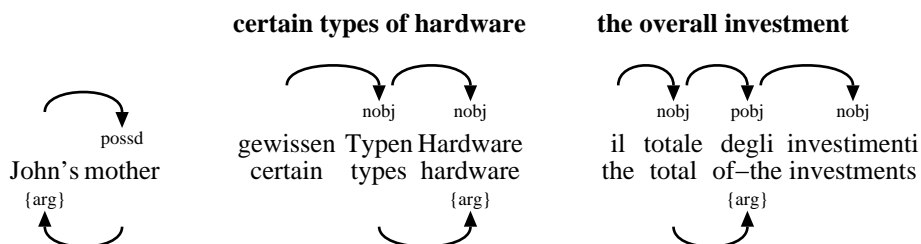police violence

{agent}#

</div>

```
SEMROLE:
    {about}:
    {agent}: An object or a person that performs an action
    {apart}:
    {arg}:
    {class}:
    {const}:
    {elab}:
    {eval}:
    {experient}: The receiver of an emotion or a physical impact
    {form}:
    {func}:
    {iden}:
    {location}: The location where something is situated or happens
    {origin}:
    {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.
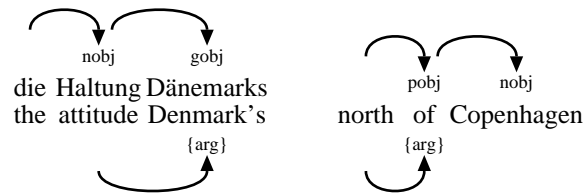
{apart} (long: arbitrarypart). Please note that the semantic relation goes from the satellite to
isa SEMROLE the nucleus in opposition to the main part of the other semantic roles.
[58]

Northern Zealand

nobj pobj nobj	nobj pobj nobj
1 dl of milk	il nord di Selandia
{apart}	the north of Zealand
	{apart}

{arg} (long: argument).
isa SEMROLE
[63]

certain types of hardware   **the overall investment**

	nobj nobj	nobj pobj nobj
possd	gewissen Typen Hardware	il totale degli investimenti
John's mother	certain types hardware	the total of–the investments
{arg}	{arg}	{arg}

50

Denmark's attitude

die Haltung Dänemarks
the attitude Denmark's
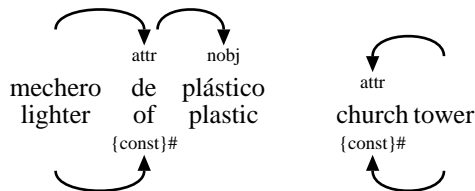{arg}

north of Copenhagen
{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
{class}

la zona di Kalvebodkilerne
the zone of Kalvebodkilerne
{class}
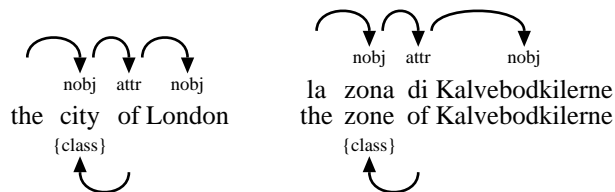
{const} (long: constituent).
isa SEMROLE
[48]

plastic lighter

mechero de plástico
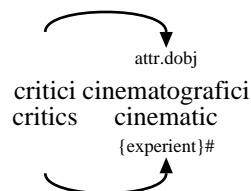lighter of plastic
{const}#

church tower
{const}#

{elab} (long: elaboration). Often used together with parenthetic modifiers
isa SEMROLE
[47]   Related types: modp.
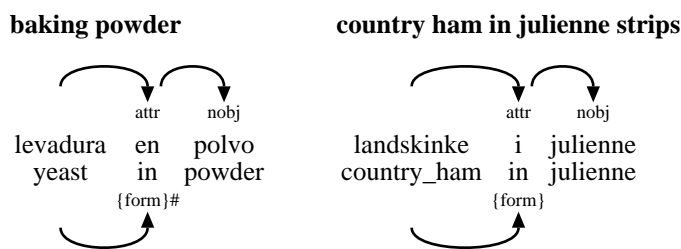
{eval} (long: evaluation).
isa SEMROLE
[55]

side effect
{eval}#
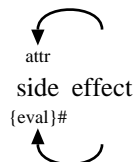
{experient} *The receiver of an emotion or a physical impact.* Often generated by direct object
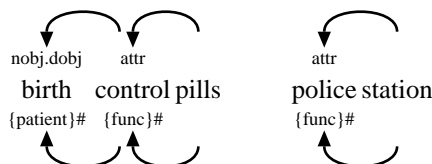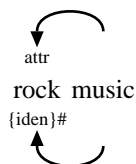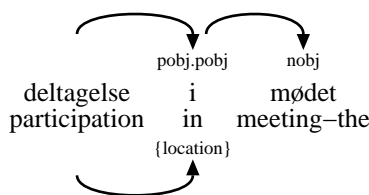isa SEMROLE
[66]

film critics

critici cinematografici
critics   cinematic
{experient}#

51

{form} .
isa SEMROLE
[61]

baking powder　　　　**country ham in julienne strips**

```
        attr    nobj              attr    nobj
levadura  en   polvo      landskinke   i    julienne
yeast     in   powder     country_ham  in   julienne
        {form}#                      {form}
```

{func}　(long: function).
isa SEMROLE
[51]

```
   nobj.dobj    attr                 attr
   birth   control pills        police station
  {patient}#  {func}#              {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]
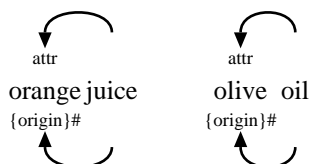
```
           pobj.pobj        nobj
deltagelse      i         mødet
participation   in        meeting–the
            {location}
```

{origin} .
isa SEMROLE
[50]

```
      attr              attr
  orange juice        olive  oil
   {origin}#           {origin}#
```
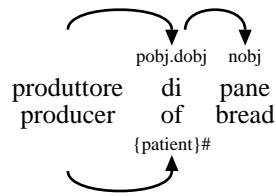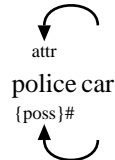
{patient}　*An object or a person that is the subject of the action or the one who is located*
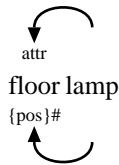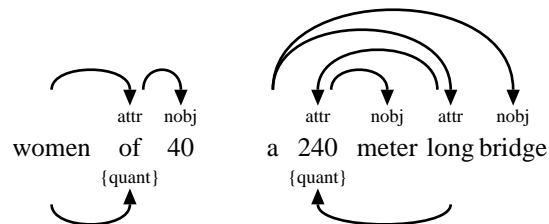isa SEMROLE　*somewhere.* Often generated by direct object
[65]

bread producer

produttore   di   pane
producer   of   bread

pobj.dobj   nobj

{patient}#

{poss}   (long: possession).
isa SEMROLE
[52]

attr

police car
{poss}#

{pos}   (long: position).
isa SEMROLE
[53]

attr

floor lamp
{pos}#

{quant}   (long: quantity).
isa SEMROLE
[60]

attr   nobj
women   of   40
{quant}

attr   nobj   attr   nobj
a   240   meter   long   bridge
{quant}

{recipient}   *The receiver of something.* Often generated by indirect object
isa SEMROLE
[67]

child benefits

pobj.iobj   nobj   nobj
contribuiti   per   i   figli
benefits   for   the children
{recipient}#

child maintenance

attr.iobj
assegni familiari
checks   family
{recipient}#
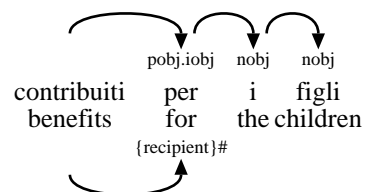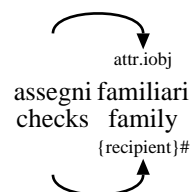
{resem}   (long: resemblance).
isa SEMROLE
[56]

folding chair

silla   de   tijeras
chair   scissors

attr   nobj

{resem}#

spring cabbage

cavolo   cappuccio
cabbage   hooded

attr

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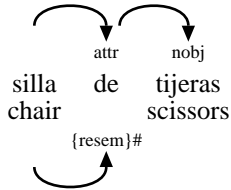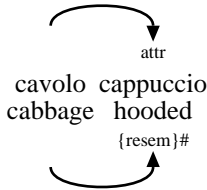
{time}   .
isa SEMROLE
[54]

november rain

attr

{time}#
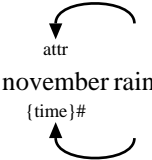
Chapter 8

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"}".
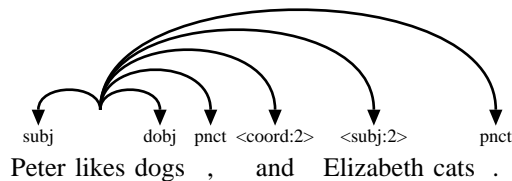
"("ANY")"
isa RULE
[369]

Disambiguation.

"*"DISC
isa RULE
[368]

*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
[356]

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.
[370]

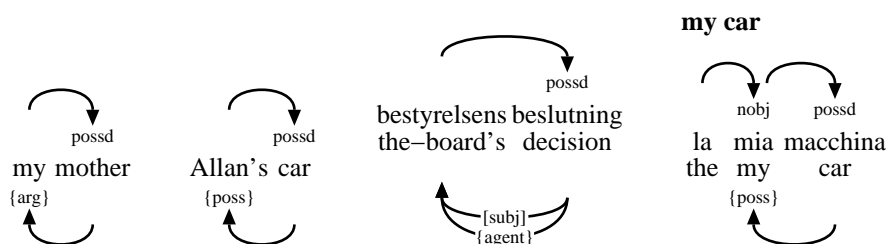Related types: cont dir dur ext hab loc prec succ time.
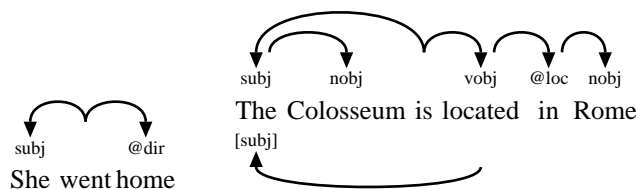
subj   nobj   vobj   @loc   nobj

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; $PRIM must be
[354] non-secondary
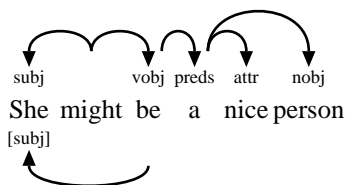
Related types: "{"$PRIM"}".

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
[195]

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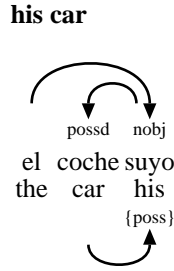
Related types: "["$PRIM"]".

my car

possd

bestyrelsens beslutning
the–board's decision

possd   possd

possd   nobj   possd

my mother   Allan's car   la mia macchina
{arg}   {poss}   the my   car

[subj]
{agent}   {poss}

his car

```
        possd   nobj
    el  coche  suyo
    the  car   his
                {poss}
```

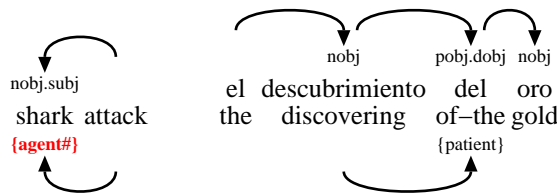**"⁀QUALIA**
isa RULE resem
Resemblance wrt. $qualia relation.

"¤"PRIM [356]
isa DISC RULE
[358]
Discourse specification. A primary syntactic relation that has been used as a discourse relation for stilistic purposes.

"§"PRIM
isa MORPH RULE
Morphology specification.

ANY"&"ANY [355]
isa RULE
Both-and relation. Both relations hold

ANY"|"ANY [360]
isa RULE
Either-or relation. One of the relations holds

DISC [361]
isa RULE
[369]
Down-dependent in attribution. The dependent in the relation is one step further down in the attribution chain

PRIM"#"
isa IDIOM RULE
[352]
Pattern for idiomatic primary dependency. Head->dependent within idiom

warship

```
          attr              attr   nobj
   side  effect      barco   de   guerra
   {eval#}           ship    of    war
                             {func#}
```
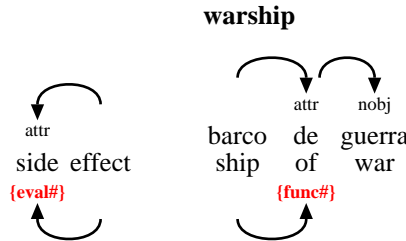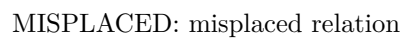
IM"/"CONNECTOR *Explicit connector.* The discourse relation has explicit connector $CONNECTOR
isa RULE

IM"/("CONNECTOR")" [366] *Implicit connector.* The discourse relation has implicit connector $CONNECTOR
isa RULE

IM"/ATTR"INTEGER [367] *Attribution.* Specifies the person to whom the utterance is attributed (ATTR or
isa RULE ATTR1, ATTR2, ... when there is more than one person)
[357]

RIM"{"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.
[353]

```
                              nobj        pobj.dobj  nobj
   nobj.subj
   shark  attack      el  descubrimiento  del    oro
   {agent#}           the   discovering   of–the gold
                                          {patient}
```

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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
```

The relations matching DISCOURSE-DISCFUNC-DISCSEM.

```
DISCFUNC: functional discourse relation
    ANSW: answer
    CONSOL: consolidation
        CONSOL:enabl: enablement
        CONSOL:just: justification
        CONSOL:motiv: motivation
    DIREC: directive act
    EXPR: expressive act
    INTACT: interactional signals
        INTACT:attn: attention
        INTACT:inter: interruption
    PREP: preparation
    QUEST: question
    REP: repaired
```

The relations matching DISCFUNC.

```
DISCSEM: semantic discourse relation
    CAUSE: cause relation (discourse)
        CAUSE:expl: explanation relation (discourse)
        CAUSE:goal: goal relation (discourse)
        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
    DESCR: description/evaluation
        DESCR:eval: positive/negative evaluation
        DESCR:qual: neutral description
    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
    JOINT: no clear relation
    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-id: lexical identity coreference
    coref-part: partial coreference
    coref-prg: pragmatic coreference
    coref-res: resumptive anaphor
    coref-var: lexical variation coreference
    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}:
    {experient}: The receiver of an emotion or a physical impact
    {form}:
    {func}:
    {iden}:
    {location}: The location where something is situated or happens
    {origin}:
    {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

Index