

A functor treatment of NP-internal agreement in German and English

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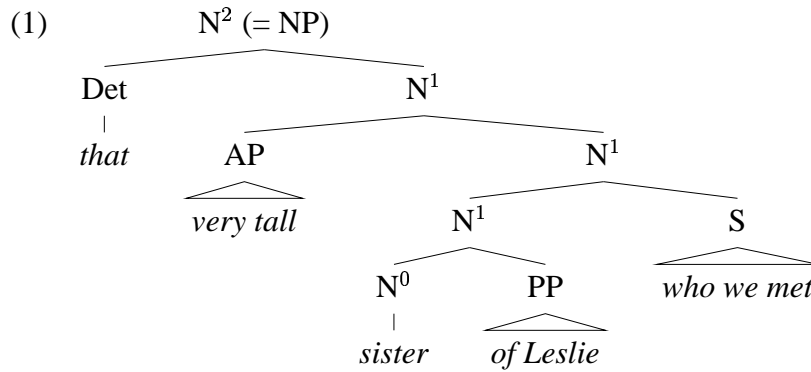
Universität Göttingen
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Overview

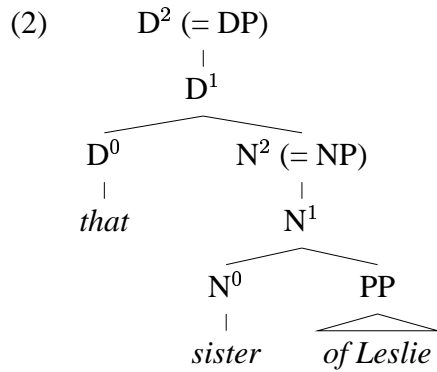
1. NP or DP
2. The categorial heterogeneity of the determiners
3. The specifier treatment
4. The functor treatment
5. Morpho-syntactic agreement in German NPs
6. Prepositional functors in NPs
7. Index agreement in English NPs
8. Conclusion

1 NP or DP

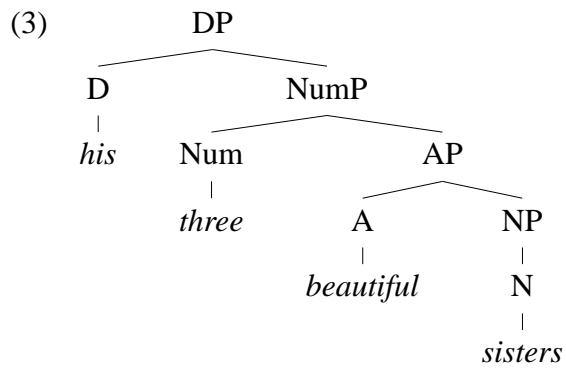
Heads, complements, adjuncts and specifiers (Chomsky 1970)



(Gazdar, Klein, Pullum and Sag 1985, 126)



(Hellan 1986) and (Abney 1987)



Word Grammar (Hudson 1990), LFG, HPSG (Netter 1994)

2 The categorial heterogeneity of the determiners

As applied to Dutch, see (Van Eynde 2006)

2.1 Adjectival determiners

	sing-masc	sing-fem	plur-masc	plur-fem	
Adj	<i>caldo</i>	<i>calda</i>	<i>caldi</i>	<i>calde</i>	warm
	<i>freddo</i>	<i>fredda</i>	<i>freddi</i>	<i>fredde</i>	cold
	<i>forte</i>	<i>forte</i>	<i>forti</i>	<i>forti</i>	strong
	<i>debole</i>	<i>debole</i>	<i>deboli</i>	<i>deboli</i>	weak
Dem	<i>questo</i>	<i>questa</i>	<i>questi</i>	<i>queste</i>	this
	<i>quello</i>	<i>quella</i>	<i>quelli</i>	<i>quelle</i>	that
Poss	<i>nostro</i>	<i>nostra</i>	<i>nostri</i>	<i>nostre</i>	our
	<i>tuo</i>	<i>tua</i>	<i>tuo</i>	<i>tue</i>	your
Inter	<i>quale</i>	<i>quale</i>	<i>quali</i>	<i>quali</i>	which

- (4) casa gialla/*o/*i/*e
 casa mia/*o/*i/*e
 ‘yellow house, my house’
- (5) venti forti/*e
 quali/*e venti
 ‘strong winds, which winds’

		sing-masc	sing-neu	sing-fem	plural
Adj	Nom	<i>guter</i>	<i>gutes</i>	<i>gute</i>	<i>gute</i>
	Acc	<i>guten</i>	<i>gutes</i>	<i>gute</i>	<i>gute</i>
	Dat	<i>gutem</i>	<i>gutem</i>	<i>guter</i>	<i>guten</i>
	Gen	<i>guten</i>	<i>guten</i>	<i>guter</i>	<i>guter</i>
Inter	Nom	<i>welcher</i>	<i>welches</i>	<i>welche</i>	<i>welche</i>
	Acc	<i>welchen</i>	<i>welches</i>	<i>welche</i>	<i>welche</i>
	Dat	<i>welchem</i>	<i>welchem</i>	<i>welcher</i>	<i>welchen</i>
	Gen	<i>welches/n</i>	<i>welches/n</i>	<i>welcher</i>	<i>welcher</i>
Quant	Nom	<i>jeder</i>	<i>jedes</i>	<i>jede</i>	
	Acc	<i>jeden</i>	<i>jedes</i>	<i>jede</i>	
	Dat	<i>jedem</i>	<i>jedem</i>	<i>jeder</i>	
	Gen	<i>jedes/n</i>	<i>jedes/n</i>	<i>jeder</i>	

- (6) a. guter/*es/*e Wein
 b. welcher/*es/*e Wein
 c. jeder/*es/*e Tag
- (7) a. mit gelben/*em/*er Tischen
 b. mit welchen/*em/*er Tischen
 c. in jeder/*em/*en Stadt

2.2 Pronominal determiners

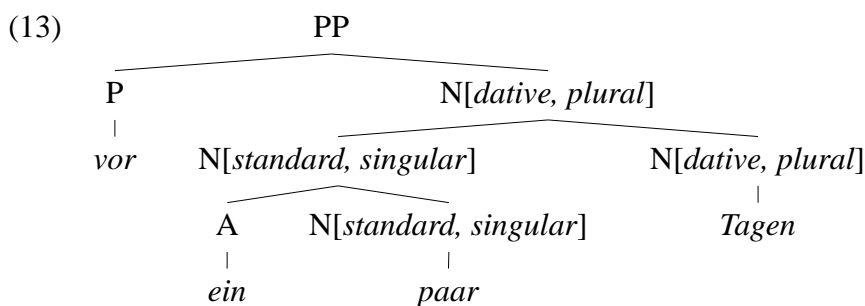
- (8) a. il loro cane, i loro cani
 la loro casa, le loro case
 ‘the their dog(s), the their house(s)’
 b. sono loro, è lei/lui
 sto con loro/lui/lei
 ‘it is them/her/him, I’m staying with them/him/her’
- (9) a. che libro, che libri
 che casa, che case
 ‘which book(s), which house(s)’
 b. che scegliamo, chi scegliamo
 che c’è, chi c’è
 ‘what/who(m) do we choose, what/who is there’

		nominative	accusative	dative	genitive
Dem	sg-m	<i>der</i>	<i>den</i>	<i>dem</i>	<i>dessen</i>
	sg-n	<i>das</i>	<i>das</i>	<i>dem</i>	<i>dessen</i>
	sg-f	<i>die</i>	<i>die</i>	<i>der</i>	<i>deren/r</i>
	pl	<i>die</i>	<i>die</i>	<i>denen</i>	<i>deren/r</i>
Inter	sg-nn	<i>wer</i>	<i>wen</i>	<i>wem</i>	<i>wessen</i>
	sg-n	<i>was</i>	<i>was</i>	<i>(was)</i>	<i>wessen</i>
Quant	sg-nn	<i>jemand</i>	<i>jemand(en)</i>	<i>jemand(em)</i>	<i>jemandes</i>
	sg-n	<i>etwas</i>	<i>etwas</i>	<i>etwas</i>	

- (10) a. Wessen Haus/Häuser will er kaufen ?
 b. Möchtest du noch (et)was Wein ?

2.3 CNP determiners

- (11) a. Un po' di sabbia era ancora bagnata/*o
 a little of sand was still wet
 'A little sand was still wet'
- b. Un bel po' di cani erano/*era ancora malati/*o
 a nice little of dogs were/*was still ill
 'Quite a few dogs were still ill'
- (12) a. Ich habe noch schnell ein paar Worte mit ihr gewechselt.
 b. Ein paar Türe sind/*ist schon geöffnet.
 c. Vor ein paar Tagen war er noch gesund.
 d. Aus ein wenig augetautem Fleisch kan ich noch kein essen für sechs machen.



2.4 The English determiners

Pronominal determiners (Hudson 2004)

- (14) a. Whose house is/*are for sale ?
 b. Whose houses are/*is for sale ?
- (15) a. What comes/*come next ?
 b. What books have you read about it ?
 c. What big teeth you have !
 d. What birds have/*has four wings and six legs ?

Adjectival determiners

- (16) a. He is so kind.

- b. * He is so (a) gentleman.
 - c. He is such a gentleman.
- (17) a. He is too vain.
- b. * He is too (a) politician.
 - c. He is too much of a politician.
- (18) a. How big should it be ?
- b. * How (a) box do you want ?
 - c. What kind of box do you want ?
- (19) a. There are so many errors in this paragraph.
- b. Too few waiters are serving too many patrons.
 - c. How much ice do you want in your Martini ?
- (20) a. Fewer/more students take the bus than the train.
- b. Which is the course with the fewest/most students ?

CNP determiners

- (21) a. A few houses have/*has been sold already.
- b. Every few weeks there is a party.
 - c. A good many people have/*has disappeared.
 - d. An awful lot of people have/*has been evacuated.
 - e. Lots of people have/*has been evacuated.

Few and *many* have both nominal and adjectival uses, like *cold* and *light*.

2.5 Consequences for the NP vs. DP debate

1. If the adjectival determiners are not treated as adjectives, then one misses generalizations in the treatment of inflection, morpho-syntactic agreement and distribution.
2. If the pronominal determiners are not treated as pronouns, then one misses generalizations about the organisation of pronominal paradigms.
3. If the adjectival, pronominal and CNP determiners are all treated as members of the same category Det(P), then one has to find other ways to account for the fact that only the adjectival ones are subject to morpho-syntactic agreement.

If the determiner is the head of the nominal, then

1. the nominal will be an AP when it is introduced by an adjectival determiner, and an NP otherwise;
2. a nominal with a pronominal determiner is predicted to share the case, number and gender values of the pronoun; this gives inappropriate results for *whose book, what books, wessen Bücher, (et)was Wein*.
3. a nominal with a CNP determiner is predicted to share the case, number and gender values of the CNP; this gives inappropriate results for *a good many people, a few people, vor ein paar Tagen, aus ein wenig aufgetautem Fleisch*.

If the noun is the head of the nominal, then

1. the nominal will be an NP, no matter whether it is introduced by an adjectival determiner, a pronominal determiner, a CNP determiner or no determiner;
2. a nominal with a pronominal determiner is predicted to share the case, number and gender values of the nominal; this gives the right results for *whose book, what books, wessen Bücher, (et)was Wein*.
3. a nominal with a CNP determiner is predicted to share the case, number and gender values of the nominal; this gives the right results for *a good many pages, a few people, vor ein paar Tagen, aus ein wenig aufgetautem Fleisch*.

If the noun is the head of the nominal, then what is the determiner?

3 The specifier treatment

- (22)
- a. N: whose/those/which/some/... houses, a few houses
 - b. A: so/too/how kind, five foot tall
 - c. P: long/just/right after the explosion, two days after the party
 - d. V: cats eat mice, the dogs ate the meat
 - e. V: they will never/often/always miss the target
 - f. V: they will all/both/each receive a present

What are the common distinctive properties of specifiers ?

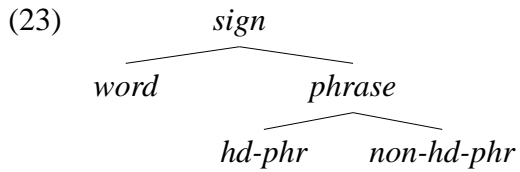
- Function ?
- Word order ?
- Obligatoriness ?

Specifiers in (Chomsky 1986), (Pollock 1989) and MP. The proliferation problem (Ackerman and Webelhuth 1998)

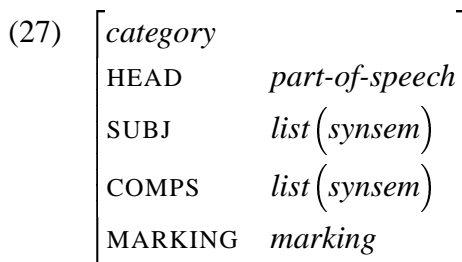
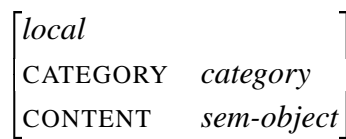
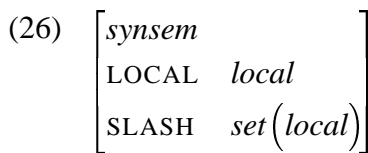
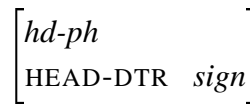
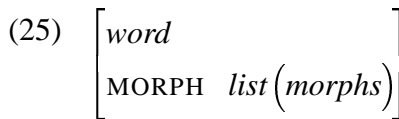
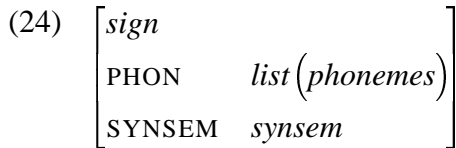
Specifiers in (Pollard and Sag 1994): lexical selection by the head.

1. it is not clear what the specifier of a verbal projection is.
2. it necessitates the use of nonbranching projections.
3. the application to functional categories is capricious: some determiners take a specifier, such as the possessive marker in *my brother's car* and the indefinite article in *too tall a tree*, but other determiners do not.
4. there are problems with weakly declined adjectives, cf. *wasser* and *warmes wasser* vs. *warme wasser*, which must be preceded by an appropriate kind of determiner, as in *das/dieses warme wasser*.

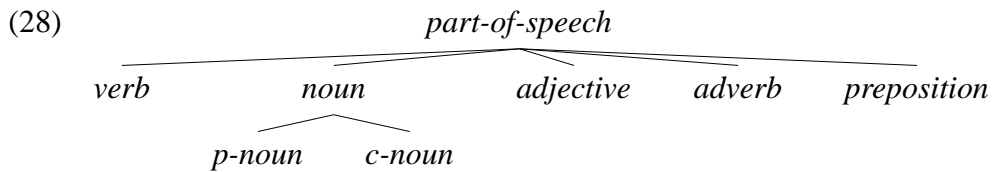
4 The functor treatment



(Ginzburg and Sag 2000)



The head feature



(29) HEAD FEATURE PRINCIPLE

$$\left[\begin{array}{l} hd-phr \\ SS | LOC | CAT | HEAD \quad \boxed{1} \quad part-of-speech \\ HEAD-DTR | SS | LOC | CAT | HEAD \quad \boxed{1} \end{array} \right]$$

(30) $\left[\begin{array}{l} part-of-speech \\ SELECT \quad synsem \vee none \end{array} \right]$

The valence features: no SPR

The marking feature

(31)

```

      marking
     /    \
  unmarked  marked
   /    \
incomplete  bare
  
```

(32)

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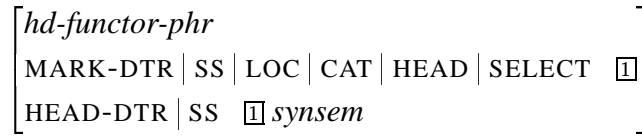
      phrase
       |
      hd-phr
     /    \
hd-mark-phr  non-hd-mark-phr
  /    \      /    \
hd-func-phr ... hd-comp-phr ...
  
```

(33) $\left[\begin{array}{l} hd-mark-phr \\ MARK-DTR \quad sign \end{array} \right]$

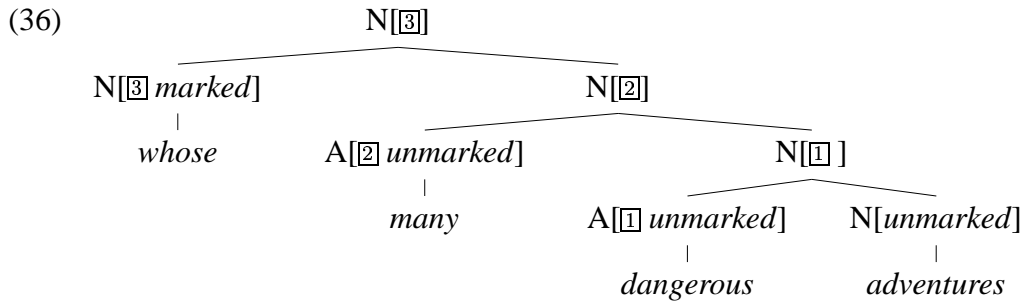
(34) GENERALIZED MARKING FEATURE PRINCIPLE

- a. $\left[\begin{array}{l} hd-mark-phr \\ SS | LOC | CAT | MARKING \quad \boxed{1} \quad marking \\ MARK-DTR | SS | LOC | CAT | MARKING \quad \boxed{1} \end{array} \right]$
- b. $\left[\begin{array}{l} non-hd-mark-phr \\ SS | LOC | CAT | MARKING \quad \boxed{1} \quad marking \\ HEAD-DTR | SS | LOC | CAT | MARKING \quad \boxed{1} \end{array} \right]$

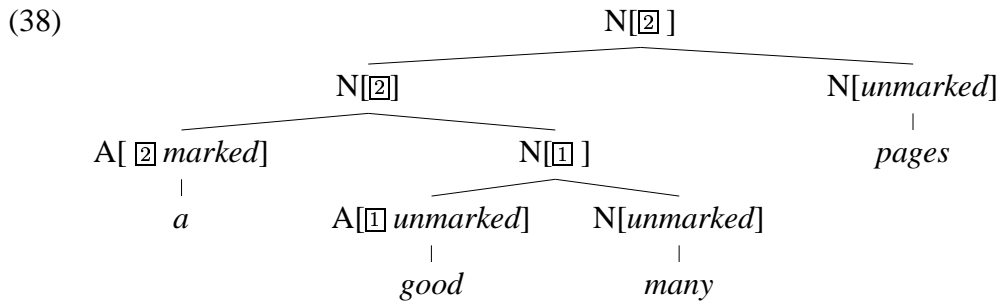
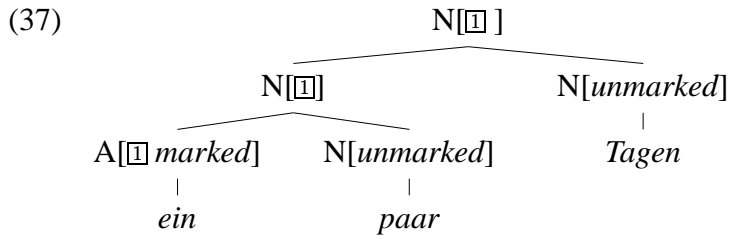
(35) SELECTOR PRINCIPLE



(Allegranza 1998) and (Van Eynde 1998)



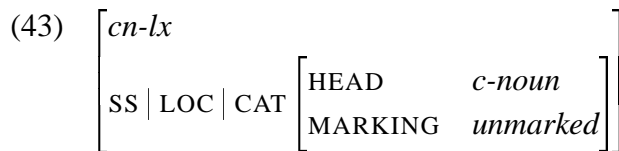
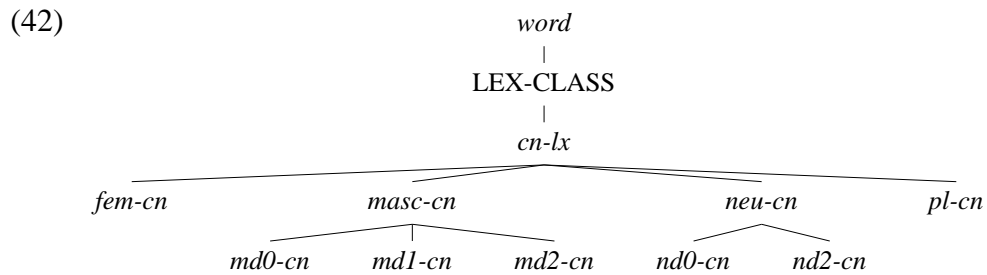
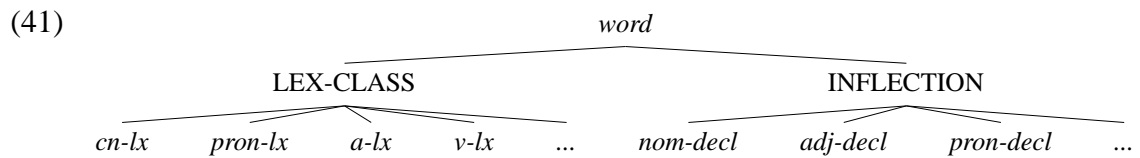
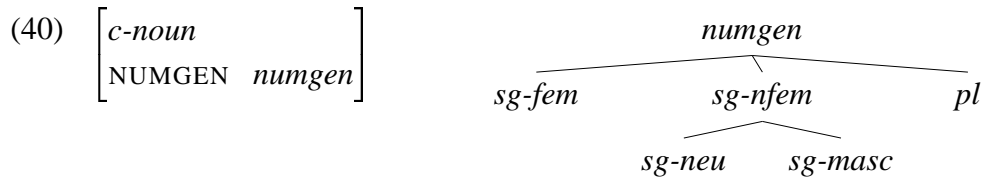
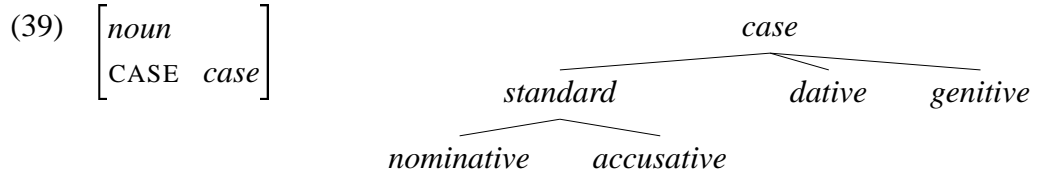
(Netter 1994)



5 Morpho-syntactic agreement in German NPs

(Engel 1988)

5.1 The common nouns



- b. $\left[\begin{array}{l} \textit{masc-cn} \\ \text{SS | LOC | CAT | HEAD | NUMGEN } \textit{sg-masc} \end{array} \right]$
- c. $\left[\begin{array}{l} \textit{neu-cn} \\ \text{SS | LOC | CAT | HEAD | NUMGEN } \textit{sg-neu} \end{array} \right]$
- d. $\left[\begin{array}{l} \textit{pl-cn} \\ \text{SS | LOC | CAT | HEAD | NUMGEN } \textit{pl} \end{array} \right]$

fem-cn: *Hand, Reise, Frau*

m-d0-cn: *Lehrer, Garten, Tisch*

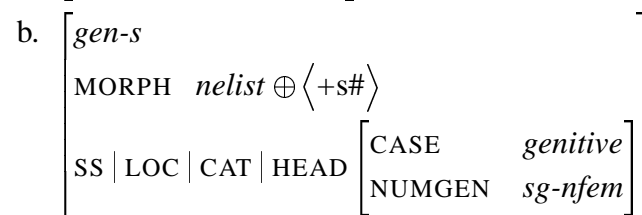
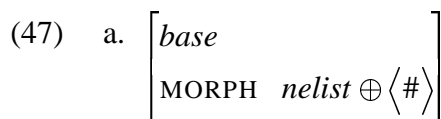
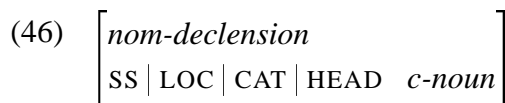
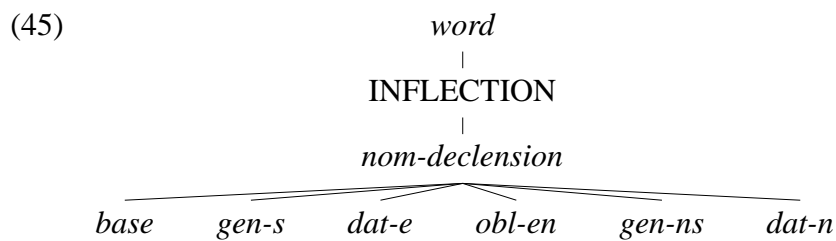
m-d1-cn: *Herr, Mensch, Bote*

m-d2-cn: *Name, Wille*

n-d0-cn: *Kind, Haus, Auto, Händchen, Fraulein*

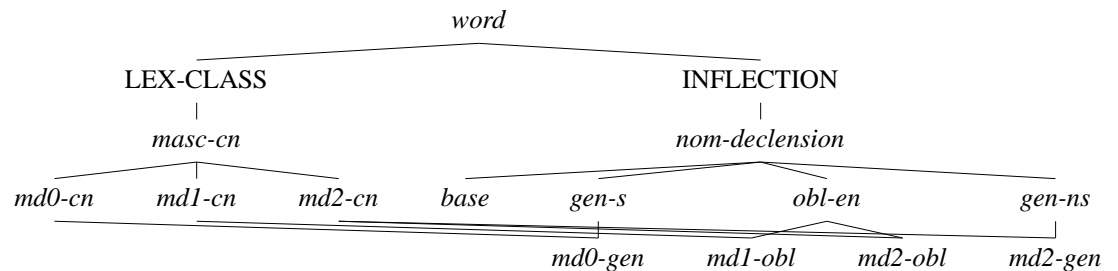
n-d2-cn: *Herz*

pl-cn: *Lehrer, Gärten, Kinder, Häuser, Tische, Hände, Reisen, Frauen, Autos*



- c. $\left[\begin{array}{l} \text{dat-e} \\ \text{MORPH } \textit{nelist} \oplus \langle +e\# \rangle \\ \text{SS | LOC | CAT | HEAD } \left[\begin{array}{ll} \text{CASE} & \textit{dative} \\ \text{NUMGEN} & \textit{sg-nfem} \end{array} \right] \end{array} \right]$
- d. $\left[\begin{array}{l} \text{obl-en} \\ \text{MORPH } \textit{nelist} \oplus \langle +en\# \rangle \\ \text{SS | LOC | CAT | HEAD } \left[\begin{array}{ll} \text{CASE} & \neg \textit{nominative} \\ \text{NUMGEN} & \textit{sg-masc} \end{array} \right] \end{array} \right]$
- e. $\left[\begin{array}{l} \text{gen-ns} \\ \text{MORPH } \textit{nelist} \oplus \langle +ns\# \rangle \\ \text{SS | LOC | CAT | HEAD } \left[\begin{array}{ll} \text{CASE} & \textit{genitive} \\ \text{NUMGEN} & \textit{sg-masc} \end{array} \right] \end{array} \right]$
- f. $\left[\begin{array}{l} \text{dat-n} \\ \text{MORPH } \textit{nelist} \oplus \langle +n\# \rangle \\ \text{SS | LOC | CAT | HEAD } \left[\begin{array}{ll} \text{CASE} & \textit{dative} \\ \text{NUMGEN} & \textit{pl} \end{array} \right] \end{array} \right]$

(48)



md0-bse: *Lehrer, Garten, Tisch*

md1-bse: *Mensch, Herr*

md2-bse: *Name, wille*

nd0-bse: *Kind, Haus, Auto, Händchen, Fraulein*

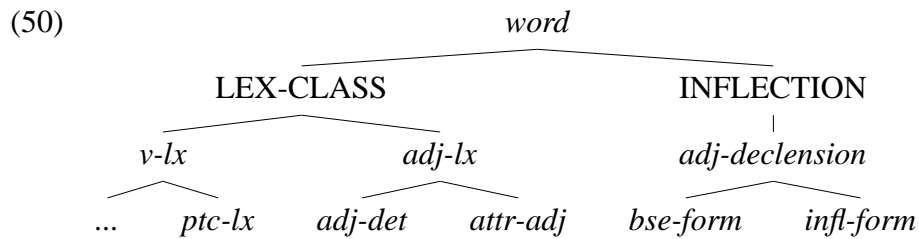
nd2-bse: *Herz*

fem-bse: *Hand, Frau*

pl-bse: *Lehrer, Gärten, Kinder, Häuser, Tische, Hände, Reisen, Frauen, Autos*
 md0-gen: *Lehrers, Gartens, Tisches*
 nd0-gen: *Kindes, Hauses, Autos, Händchens, Frauleins*
 md0-dat: *Berge, Balle, Reste*
 nd0-dat: *Hause, Holze*
 md1-obl: *Menschen, Herren*
 md2-obl: *Namen, willen*
 nd2-obl: *Herzen*
 md2-gen: *Namens, willens*
 nd2-gen: *Herzens*
 pl-dat: *Lehrern, Kindern, Häusern, Tischen, Händen*

- (49) a. $\left[\begin{array}{l} md0-bse \\ SS \mid LOC \mid CAT \mid HEAD \mid CASE \quad \neg \textit{genitive} \end{array} \right]$
 b. $\left[\begin{array}{l} md1-bse \\ SS \mid LOC \mid CAT \mid HEAD \mid CASE \quad \textit{nominative} \end{array} \right]$
 c. $\left[\begin{array}{l} md2-obl \\ SS \mid LOC \mid CAT \mid HEAD \mid CASE \quad \neg \textit{genitive} \end{array} \right]$

5.2 The adjectival and participial prenominals



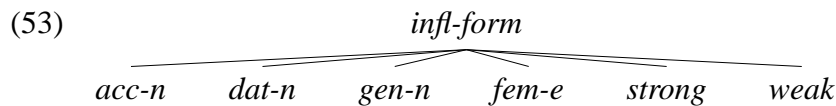
- (51) a. $\left[\begin{array}{l} v-lx \\ SS \mid LOC \mid CAT \left[\begin{array}{l} HEAD \quad \textit{verb} \\ MARKING \quad \textit{unmarked} \end{array} \right] \end{array} \right]$
 b. $\left[\begin{array}{l} adj-lx \\ SS \mid LOC \mid CAT \mid HEAD \quad \textit{adj} \end{array} \right]$

- c.
$$\left[\begin{array}{l} \text{adj-det} \\ \text{SS | LOC | CAT} \left[\begin{array}{l} \text{HEAD | SEL | LOC | CAT | HEAD } c\text{-noun} \\ \text{MARKING } \textit{marked} \end{array} \right] \\ \text{ARG-ST } \langle \rangle \end{array} \right]$$
- (52) a.
$$\left[\begin{array}{l} \text{bse-form} \\ \text{MORPH } \textit{nelist} \oplus \langle \# \rangle \end{array} \right]$$
- b.
$$\left[\begin{array}{l} \text{infl-form} \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT} \left[\begin{array}{l} \text{HEAD } c\text{-noun} \\ \text{MARKING } \textit{unmarked} \end{array} \right] \end{array} \right]$$

infl-form does not subsume: (1) the adjectives in predicative position, since their select value is *none*, (2) the adjectives in adverbial position, since they select a verbal head sister.

4 cases x 3 genders x 2 numbers x 3 declension types

“A derivation-based approach that assumes fully specified lexical forms would have to posit 72 distinct adjectival lexemes... a constraint-based approach can reduce the number of lexical forms for each adjective to 14.” (Pollard and Sag 1994, 65-66)



- (54) a.
$$\left[\begin{array}{l} \textit{acc-n} \\ \text{MORPH } \textit{nelist} \oplus \langle +n\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{l} \text{CASE } \textit{accusative} \\ \text{NUMGEN } \textit{sg-masc} \end{array} \right] \end{array} \right]$$
- b.
$$\left[\begin{array}{l} \textit{dat-n} \\ \text{MORPH } \textit{nelist} \oplus \langle +n\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{l} \text{CASE } \textit{dative} \\ \text{NUMGEN } \textit{pl} \end{array} \right] \end{array} \right]$$

- (55) c. $\left[\begin{array}{l} \textit{gen-n} \\ \text{MORPH } \textit{nelist} \oplus \langle +n\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{l} \text{CASE } \textit{genitive} \\ \text{NUMGEN } \textit{sg-nfem} \end{array} \right] \end{array} \right]$
- d. $\left[\begin{array}{l} \textit{fem-e} \\ \text{MORPH } \textit{nelist} \oplus \langle +e\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{l} \text{CASE } \textit{standard} \\ \text{NUMGEN } \textit{sg-fem} \end{array} \right] \end{array} \right]$
- a. $\left[\begin{array}{l} \textit{strong} \\ \text{SS | LOC | CAT | MARKING } \neg \textit{incomplete} \end{array} \right]$
- b. $\left[\begin{array}{l} \textit{weak} \\ \text{SS | LOC | CAT | MARKING } \textit{incomplete} \end{array} \right]$

This implies that the adjectival determiners (being marked) cannot have weak forms.

- (56) $\begin{array}{c} \textit{strong} \\ \text{---} \\ \textit{gen-s} \quad \textit{dat-m} \quad \textit{masc-r} \quad \textit{fem-r} \quad \textit{pl-r} \quad \textit{pl-e} \end{array}$

- (57) a. $\left[\begin{array}{l} \textit{gen-s} \\ \text{MORPH } \textit{nelist} \oplus \langle +s\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{l} \text{CASE } \textit{standard} \\ \text{NUMGEN } \textit{sg-neu} \end{array} \right] \end{array} \right]$
- b. $\left[\begin{array}{l} \textit{dat-m} \\ \text{MORPH } \textit{nelist} \oplus \langle +m\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{l} \text{CASE } \textit{dative} \\ \text{NUMGEN } \textit{sg-nfem} \end{array} \right] \end{array} \right]$

- c. $\left[\begin{array}{l} \textit{masc-r} \\ \text{MORPH } \textit{nelist} \oplus \langle +r\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & \textit{nominative} \\ \text{NUMGEN} & \textit{sg-masc} \end{array} \right] \end{array} \right]$
- d. $\left[\begin{array}{l} \textit{fem-r} \\ \text{MORPH } \textit{nelist} \oplus \langle +r\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & \neg \textit{standard} \\ \text{NUMGEN} & \textit{sg-fem} \end{array} \right] \end{array} \right]$
- e. $\left[\begin{array}{l} \textit{pl-r} \\ \text{MORPH } \textit{nelist} \oplus \langle +r\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & \textit{genitive} \\ \text{NUMGEN} & \textit{pl} \end{array} \right] \end{array} \right]$
- f. $\left[\begin{array}{l} \textit{pl-e} \\ \text{MORPH } \textit{nelist} \oplus \langle +e\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & \textit{standard} \\ \text{NUMGEN} & \textit{pl} \end{array} \right] \end{array} \right]$

(58) $\begin{array}{c} \textit{weak} \\ \swarrow \quad \downarrow \quad \searrow \\ \textit{masc-e} \quad \textit{neu-e} \quad \textit{pl-n} \quad \textit{nst-n} \end{array}$

- (59) a. $\left[\begin{array}{l} \textit{masc-e} \\ \text{MORPH } \textit{nelist} \oplus \langle +e\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & \textit{nominative} \\ \text{NUMGEN} & \textit{sg-masc} \end{array} \right] \end{array} \right]$
- b. $\left[\begin{array}{l} \textit{neu-e} \\ \text{MORPH } \textit{nelist} \oplus \langle +e\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & \textit{standard} \\ \text{NUMGEN} & \textit{sg-neu} \end{array} \right] \end{array} \right]$

- c.
$$\left[\begin{array}{l} pl-n \\ \text{MORPH } nelist \oplus \langle +n\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD} \left[\begin{array}{ll} \text{CASE} & standard \\ \text{NUMGEN} & pl \end{array} \right] \end{array} \right]$$
- d.
$$\left[\begin{array}{l} nst-n \\ \text{MORPH } nelist \oplus \langle +n\# \rangle \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | HEAD | CASE } \neg standard \end{array} \right]$$

5.2.1 The inflected adjectival pronominals

infl-adj-det: (1) all forms of the definite article, the demonstrative *dieser, jener, derselbe, derjenige*, and the quantifying *jeder*; (2) the inflected *aller, welcher, mancher, solcher*; (3) the inflected forms of the indefinite article, the negative *kein* and the possessives.

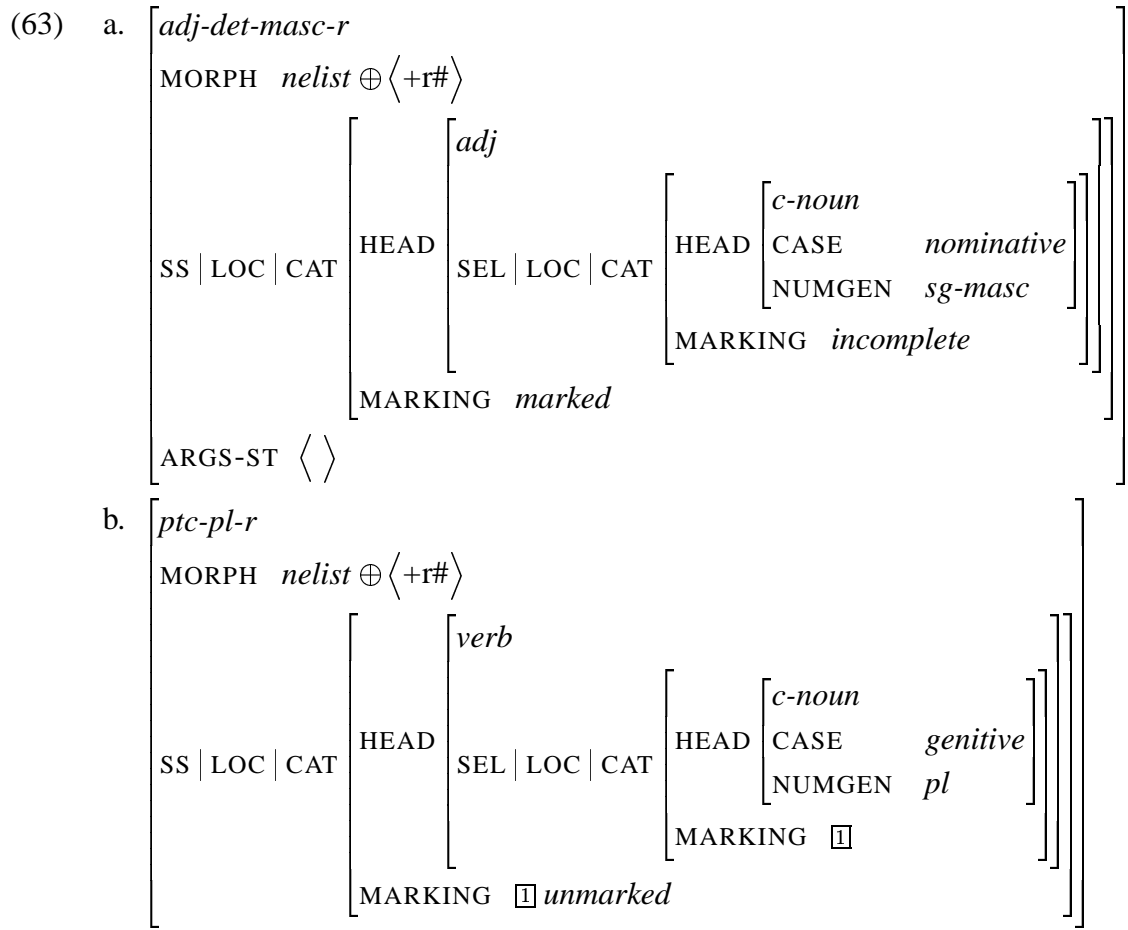
- (60)
$$\left[\begin{array}{l} infl-adj-det \\ \text{SS | LOC | CAT | HEAD | SEL | LOC | CAT | MARKING } incomplete \end{array} \right]$$

The other inflected adjectives and the inflected participles are unmarked and select a nominal head with the same marking value.

- (61)
$$\left[\begin{array}{l} infl-attr-adj \\ \text{SS | LOC | CAT} \left[\begin{array}{l} \text{HEAD | SEL | LOC | CAT | MARKING} \boxed{1} \\ \text{MARKING} \boxed{1} unmarked \end{array} \right] \end{array} \right]$$

- (62)
$$\left[\begin{array}{l} infl-ptc \\ \text{SS | LOC | CAT} \left[\begin{array}{l} \text{HEAD | SEL | LOC | CAT | MARKING} \boxed{1} \\ \text{MARKING} \boxed{1} unmarked \end{array} \right] \end{array} \right]$$

Multiple inheritance



- (64) a. der andere frische Käse
- b. jener wahren Ursache
- (65) a. mit allem erdenklichen Ernst
- b. solche verlockenden Ziele
- c. manches grosse Kind
- (66) a. in einem solchen neuen Haus
- b. mit meinem kleinen Bruder
- c. keine guten Anfänge

5.2.2 The noninflected adjectival pronominals

bse-adj-det1: (1) the uninflected forms of the indefinite article, *kein* and the possessives; (2) the uninflected *viel*, *wenig*

(67) $\left[\begin{array}{l} bse\text{-}adj\text{-}det1 \\ SS \mid LOC \mid CAT \mid HEAD \mid SEL \mid LOC \mid CAT \mid MARKING \quad bare \end{array} \right]$

- (68) a. ein schönes altes Haus
 b. kein guter Anfang
 c. mein kleiner Bruder

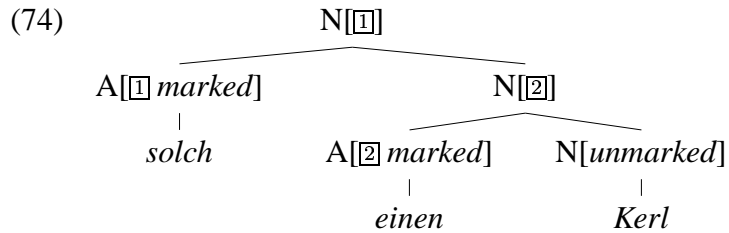
- (69) a. viel russischer Wodka
 b. wenig ausgesuchtes thüringisches Spielzeug

(70) $\left[\begin{array}{l} bse\text{-}adj\text{-}det \\ MORPH \quad \langle ein\# \rangle \\ \\ SS \mid LOC \mid CAT \quad \left[\begin{array}{l} HEAD \quad \left[\begin{array}{l} adj \\ SEL \mid LOC \mid CAT \quad \left[\begin{array}{l} HEAD \quad \left[\begin{array}{l} c\text{-}noun \\ CASE \quad standard \\ NUMGEN \quad sg\text{-}neu \end{array} \right] \\ MARKING \quad bare \end{array} \right] \end{array} \right] \\ MARKING \quad marked \end{array} \right] \\ ARG\text{-}ST \quad \langle \rangle \end{array} \right]$

bse-adj-det2: *manch*, *solch*, *welch*

(71) $\left[\begin{array}{l} bse\text{-}adj\text{-}det2 \\ SS \mid LOC \mid CAT \mid HEAD \mid SEL \mid LOC \mid CAT \mid MARKING \quad \neg \textit{incomplete} \end{array} \right]$

- (72) a. solch lohnendem Ziel(e)
 b. welch verborgene Ursachen
- (73) a. Manch eine Diva musste aufgeben.
 b. Solch einen Kerl findet man heute selten.
 c. In welch einem trostlosen Milieu er leben musste!



5.2.3 Agreement in nominals without determiner

The external selectors of nominals require the nominals to be bare or marked, not incomplete.

- (75)
- a. mit gutem frischem Gemüse
 - b. * mit guten frischen Gemüse
 - c. * mit guten frischem Gemüse
 - d. * mit gutem frischen Gemüse

This also accounts for:

- (76)
- a. viele wertvolle Steine
 - b. die vielen wertvollen Steine
 - c. der Mut vieler wichtiger Frauen
 - d. der Mut dieser vielen vergessenen Frauen
- (77)
- a. anderer frischer Käse
 - b. der andere frische Käse
- (78)
- a. mehrere unnötige Bemerkungen
 - b. der Zorn etlicher berühmter Leute

The only external selectors of nominals which combine with incomplete nominals are fused prepositions.

- (79)
- a. im dunklen Wald
 - b. zur anderen Seite
 - c. fürs neue Haus

- (84) a. $\left[\begin{array}{l} \textit{bse-form} \\ \text{MORPH } \textit{nelist} \oplus \langle \# \rangle \\ \text{SS | LOC | CAT | HEAD | CASE } \neg \textit{genitive} \end{array} \right]$
- b. $\left[\begin{array}{l} \textit{gen-n-form} \\ \text{MORPH } \textit{nelist} \oplus \langle +\text{en}\# \rangle \\ \text{SS | LOC | CAT | HEAD | CASE } \textit{genitive} \end{array} \right]$
- c. $\left[\begin{array}{l} \textit{gen-s-form} \\ \text{MORPH } \textit{nelist} \oplus \langle +\text{s}\# \rangle \\ \text{SS | LOC | CAT | HEAD | CASE } \textit{genitive} \end{array} \right]$

Also the CNP determiners require a bare nominal:

- (85) a. ein wenig bulgarischer Schafskäse
 b. mit ein wenig aufgetautem Fleisch
 c. der Reiz ein paar unbekümmerter Mädchen
 d. ein kleines bisschen kalter Kaffee

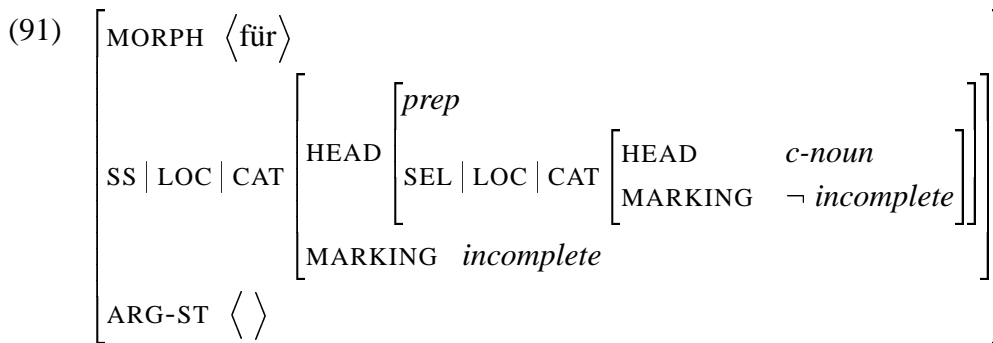
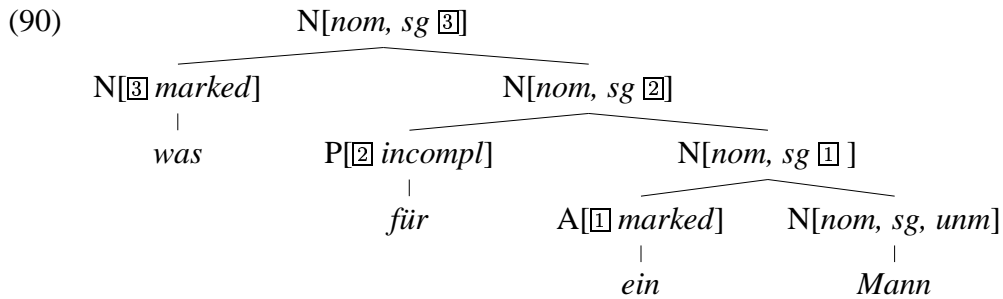
- (86) $\left[\begin{array}{l} \textit{hd-fun-ph} \\ \text{MARK-DTR} \left[\begin{array}{l} \textit{phrase} \\ \text{SS | LOC | CAT} \left[\begin{array}{l} \text{HEAD} \left[\begin{array}{l} \textit{c-noun} \\ \text{SEL | LOC | CAT | HEAD } \textit{c-noun} \end{array} \right] \\ \text{MARKING } \textit{marked} \end{array} \right] \end{array} \right] \end{array} \right] \end{array} \right]$
- \Rightarrow $\left[\text{HEAD-DTR | SS | LOC | CAT | MARKING } \textit{bare} \right]$

6 Prepositional functors in NPs

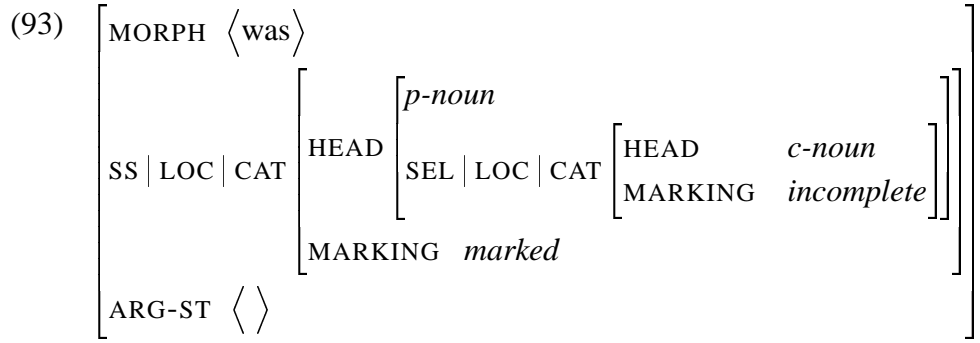
Dutch (Van Eynde 2004)

German

- (87) a. was für einen Wagen willst du dir kaufen ?
 b. was für Tomaten haben Sie ?
 c. Was willst du dir für einen Wagen kaufen ?
 d. was haben Sie für Tomaten ?
- (88) a. Was ist das für ein/*einen Mann ?
 b. Mit was für einem/*einen Mann has du denn gesprochen ?
- (89) a. Was für ein Mann will denn so was tun ?
 b. Was für Männer wollen denn so was tun ?

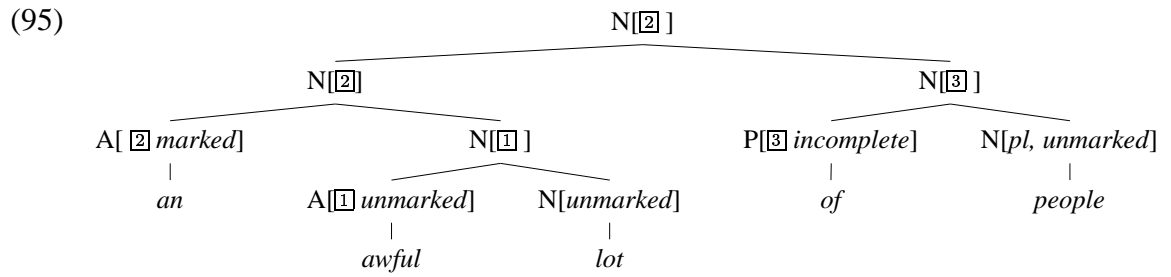


- (92) a. Was für einen schönen Garten ihr habt !
 b. Was für ein herrlicher Morgen !
 c. was für blöder Unsinn ist das denn !



English

- (94) a. An awful lot of people have/*has been evacuated.
 b. Lots of people have been evacuated.



7 Index agreement in English NPs

(Wechsler and Zlatić 2003)

- (96) $\left[\begin{array}{l} \textit{scope-obj} \\ \text{INDEX} \quad \boxed{\text{I}} \textit{index} \\ \text{RESTR} \quad \{ \textit{horse-rel} \ (\boxed{\text{I}}) \} \end{array} \right]$

(Montague 1974) and (Barwise and Cooper 1981)

- (97) $\left[\begin{array}{l} \textit{index} \\ \text{PERSON} \quad \textit{person} \\ \text{NUMBER} \quad \textit{number} \\ \text{GENDER} \quad \textit{gender} \end{array} \right]$
-

- (98) SEMANTIC INHERITANCE PRINCIPLE (Sag and Wasow 1999, 116)

- $\left[\begin{array}{l} \textit{hd-phr} \\ \text{SS} \mid \text{CONT} \mid \text{INDEX} \quad \boxed{\text{I}} \textit{index} \\ \text{HEAD-DTR} \mid \text{SS} \mid \text{CONT} \mid \text{INDEX} \quad \boxed{\text{I}} \end{array} \right]$

The mass/count distinction

- (99) $\left[\begin{array}{l} \textit{number} \\ \text{COUNT} \quad \textit{countability} \end{array} \right]$
-

	count	mass
sing	<i>horse, wall</i>	<i>gold, sugar</i>
plur	<i>horses, walls</i>	<i>oats, measles</i>

—	<i>the, no, my, your</i>
sing	<i>this, that</i>
plur	<i>these, those</i>
sing-count	<i>each, every, a, one</i>
sing-mass	<i>much</i>
plur-count	<i>two, both, several, many</i>

- (100) $\left[\text{SS} \mid \text{LOC} \mid \text{CAT} \mid \text{HEAD} \mid \text{SEL} \mid \text{LOC} \mid \text{CONT} \mid \text{INDEX} \mid \text{NUMBER} \left[\begin{array}{l} \textit{singular} \\ \text{COUNT} \quad \textit{count} \end{array} \right] \right]$

8 Summary and conclusion

- The determiners of many languages, including Italian, German, English and Dutch, are categorially heterogeneous: some are adjectival, others (pro)nominal.
- If determiners are heads of nominal projections then the latter will sometimes be APs and sometimes NPs; it also leads to erroneous predictions about nominals which are introduced by a (pro)nominal determiner.
- If the common noun is the head of the nominal projection, both of these problems are avoided.
- The specifier treatment of the determiners is not satisfactory.
- The functor treatment of the prenominals provides a more flexible and more accurate device to handle the complex interactions between common nouns, determiners and prenominal adjectives, as displayed by the German data about NP-internal agreement
- The functor treatment also provides a nonstipulative way to deal with the exceptional properties of certain prenominal prepositions.
- The functor treatment also deals with the more semantically oriented index agreement in English NPs.

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