Slide 1

$$\begin{bmatrix} word \\ \text{ORTH } \langle \textit{Grammatik} \rangle \\ \text{SYN|CAT|SUBCAT } \langle \text{ DET } \rangle \\ \text{SEM} \begin{bmatrix} \text{IND} & \boxed{1} \\ \text{RESTR} & \left\{ \begin{bmatrix} grammar \\ \text{INST } \boxed{1} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} word \\ \text{ORTH } \langle \text{ 语法 } \rangle \\ \text{SYN|CAT|SUBCAT } \langle \text{ DET } \rangle \\ \text{SEM} \begin{bmatrix} \text{IND} & \boxed{1} \\ \text{RESTR} & \left\{ \begin{bmatrix} grammar \\ \text{INST } \boxed{1} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} word \\ \text{ORTH } \langle \text{ دستور } \rangle \\ \text{SYN|CAT|SUBCAT } \langle \text{ DET } \rangle \\ \text{SEM} \begin{bmatrix} \text{IND} & \boxed{1} \\ \text{RESTR} & \left\{ \begin{bmatrix} grammar \\ \text{INST } \boxed{1} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

$$\begin{bmatrix} word \\ \text{ORTH } \langle \text{ व्याकरण } \rangle \\ \text{SYN|CAT|SUBCAT } \langle \text{ DET } \rangle \\ \text{SEM} \begin{bmatrix} \text{IND} & \boxed{1} \\ \text{RESTR} & \left\{ \begin{bmatrix} grammar \\ \text{INST } \boxed{1} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

On the structure of NPs

– A local account for German and Mandarin Chinese –

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April 13th, 2023

Slide 2

Contents

Slide 3

Introduction

The **topics**:

‣ structure of nominal complexes (NCs ≈ NP/DP)

‣ two languages: German (Ger) and Mandarin Chinese (MC)

‣ combination of **"specifying elements"** (DET, PreGens / DEM, Mods, CL) with the head N

‣ Two puzzles:
  ‣ Ger puzzle: determiners and prenominal genitives
  ‣ MC puzzle: modifiers, classifiers, demonstratives

The **general questions** we are dealing with:

‣ cross-linguistic consequences for NC structure

‣ structural consequences for NP-DP debate

Slide 4

Complexity

NCs in German can be morphosyntactically **simple** or **complex**,

(1)　{[Luise] / [*(Die) Behandlung]} war erfolgreich.
　　　Luise　/　the　treatment　was successful

and even **recursive**:

(2)　a.　mit [des　　Vaters　　Bruders　　Witwe]　　　　　(DECOW)
　　　　　with　the.GEN father.GEN brother.GEN widow.DAT
　　　　　'with the father's brother's widow'

　　　b.　Ich wähl [Doris　　ihrem　　Mann　　　seine　　Partei].
　　　　　I　vote　Doris.DAT her.DAT husband.DAT seine.ACC Partei.ACC
　　　　　'I am voting for Doris's husband's party.'

　　　　　　　　　　(cf. Karnowski & Pafel 2004: 181 and Zifonun 2003: 100)

Q1: account for simple, complex and recursive NCs

Distribution

In German, the prenominal position can be occupied by an element in the genitive (**PreGen**) – similar to **English** prenominal genitives (3).

(3)　Jacobs　Behandlung des　　Patienten
　　　Jacob's treatment　of.the patient

When the prenominal position is occupied by an element in genitive, the **determiner cannot appear**.

(4)　* [Jacobs　　die] Behandlung des　　Patienten
　　　　Jacob.GEN the　treatment　of.the patient

(5)　* [die Jacobs]　　Behandlung des　　Patienten
　　　　the Jacob.GEN treatment　of.the patient

Their **complementarity** suggests that determiners and prenominal genitives occupy the **same position** or at least "have **something in common**".

Q2: account for complementarity between PreGen and DET

Case

Arguments of **relational nouns** can be realised as **Pre-** or **PostGens**.

(6)　a.　Jacobs　　Freund　　　　　　b.　der Freund Jacobs
　　　　　Jacob.GEN friend　　　　　　　　the friend　Jacob.GEN

For **nominalisations** (relational nouns), the arguments bearing **structural case** (NOM or ACC w.r.t. V) are realised in GEN in the **nominal domain**.

(7)　Jacob　　behandelt den　　Patienten.
　　　Jacob.NOM treats　the.ACC patient.ACC

(8)　a.　Jacobs　　Behandlung
　　　　　Jacob.GEN treatment

　　　b.　die Behandlung Jacobs
　　　　　the treatment　Jacob.GEN

　　　c.　Jacobs　　Behandlung des　　Patienten
　　　　　Jacob.GEN treatment　the.GEN patient.GEN

But arguments with **lexical case** (e.g. DAT in (9) (Schumacher et al. 2004: 813)) cannot be realised as GEN.

(9)　Kannst [du]　　　[mir]　　[meinen Wutausbruch]　　verzeihen?
　　　can　　you.NOM me.DAT my.ACC outburst.of.anger.ACC forgive
　　　'Can you forgive (me) my tantrum?'

(10)　die Verzeihung des　　　Königspaares　　　　　　　(DECOW)
　　　　the forgiveness the.GEN royal.couple.GEN
　　　　'the royal couple's forgiveness'

(11)　die Verzeihung der　　　Sünden　　　　　　　　　　(DECOW)
　　　　the forgiveness the.GEN sins.GEN
　　　　'the forgiveness of the sins'

(12)　* die Verzeihung {dem　　Täter　　/ des　　Täters}
　　　　the forgiveness　the.DAT offender.DAT　the.GEN offender.GEN
　　　　Intended: 'the forgiveness of the offender'

Q3: account for case patterns

Interpretation

How we interpret the genitive phrases (i.e. θ-roles) **depends on the head noun**.

‣ (13a): Agent and Patient

‣ (13b): Experiencer

(13) a. [Jacobs]$_{AG}$ Behandlung [des   Patienten]$_{PAT}$
          Jacob.GEN treatment   the.GEN patient.GEN
          'Jacob's treatment of the patient'

  b. [Jacobs]$_{EXP}$ Begeisterung
      Jacob.GEN exaltation
      'Jacob's exaltation'

Both (structural) arguments of a noun can be realised either as **PreGen** (14b) or as **PostGen** (14c).

(14) a. [Jacobs]$_{AG}$ Behandlung [des   Patienten]$_{PAT}$
          Jacob.GEN treatment   the.GEN patient.GEN

  b. { [Jacobs]$_{AG}$ / [des   Patienten]$_{PAT}$ } Behandlung
      Jacob.GEN   the.GEN patient.GEN   treatment

  c. die Behandlung { [Jacobs]$_{AG}$ / [des   Patienten]$_{PAT}$ }
      the treatment   Jacob.GEN   the.GEN patient.GEN

Asymmetry: It is not possible to interpret the **PreGen** as **patient** and the **PostGen** as **agent** ((15) vs. (14a)).

(15) * [des   Patienten]$_{PAT}$ Behandlung [Jacobs]$_{AG}$
        the.GEN patient.GEN   treatment   Jacob.GEN
      Intended: 'Jacob's treatment of the patient'

Q4: account for asymmetry

Prenominal Datives

In some German varieties (e.g. Alemannic and Swabian):
a **dat NC** can precede a **possessive determiner** and its N head (16).

(16) Das ist [dem   Fischer   seine   Frau].   (Sternefeld 2015: 221)
      this is   the.DAT fisher.DAT his.NOM wife.NOM
      'This is the fisher's wife.'

The DAT NC **cannot follow** the N head,
it can only precede the possessive determiner.

(17) * Das ist [seine   Frau   dem   Fischer].
        this is   his.NOM wife.NOM the.DAT fisher.DAT
        Intended: 'This is the fisher's wife.'

The possessive determiner agrees with N in **case**, **number**, and **gender** (16).

(cf. Tappe 1989: 2–3; Demske 2001: Sec. 4.3.4; Zifonun 2003: 102; Karnowski & Pafel 2004: 181–184; Sternefeld 2015: 220–221)

NC with PreDat can appear in the **preverbal position** in declarative sentences (18) and **cannot be divided** (19), i.e. it behaves as one **constituent**.

(cf. Karnowski & Pafel 2004: 181; Machicao y Priemer 2018)

(18) [Klaus   sein   Händler]   **hat** auch noch ein paar.   (DECOW)
      Klaus.DAT his.NOM dealer.NOM has too   still a   pair
      'Klaus' dealer also has some.'

(19) a. * Klaus   **hat** sein   Händler   auch noch ein paar.
            Klaus.DAT has his.NOM dealer.NOM too   still a   pair

  b. * Sein   Händler   **hat** Klaus   auch noch ein paar.
        his.NOM dealer.NOM has Klaus.DAT too   still a   pair

Q5: account for PreDats (and PreGens)

Locality

Locality: Restriction on dependency relations between structures (e.g. subcategorisation). Local relations are restricted to a specific domain.

<div align="right">(cf. Muysken 1982: 64)</div>

In (1): X^0 is in a local relation with its arguments **YP** and **ZP**, and can have access to their properties. But has X^0 no direct access to the properties of YP's or ZP's constituents (α or β) nor Z^0 to the properties of YP.
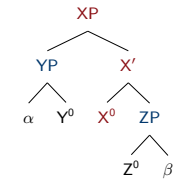

Fig. 1: Locality

<div align="right">(cf. Pollard & Sag 1987: 73, 143–145; 1994: 23; Sag 2007: 403 a.o.)</div>

With respect to NCs:
- internal structure (relation between N^0 and its arguments)
- selection of NCs

Verbs select **properties of the noun** (number, s-selectional properties, etc.), but they do not select for **particular determiners** (e.g. indef., def., or poss.).

<div align="right">(Baltin 1989: 3–4; Chomsky 2007; Bruening 2009: 28–29;
Sportiche 2005: 41; Chomsky et al. 2019: 22)</div>

(20)   Jacob **ate** {a / the / my} steak.

(21)   a.   er […] **versammelte** [seine Mönche] um   sich   (DECOW)
            he   gathered   his.PL monks.PL around him
            'He gathered his monks around himself.'

       b. * Er […] **versammelte** [seinen Mönch] um   sich.
            he   gathered   his.SG monk.SG around himself

       c.   […] er [die   Familie] **versammelt**   (DECOW)
            he   the.SG family.SG gathered
            'He gathered the family.'

versammeln requires a complement denoting a plurality, either morphosyntactically realised (21a) or not (21c).

That is different w.r.t. CPs. The **properties of C** are selected by a verb, but not the **properties of D**.   (cf. Bruening 2009, 2020)

(22)   a.   John declared [CP**that** Sally was insane].   (Baltin 1989: 3)
       b. * John declared [CP**for** Sally to be insane].
       c. * John was waiting [CP**that** Sally left].
       d.   John was waiting [CP**for** Sally to leave].
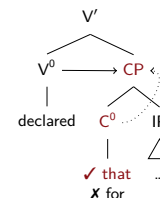

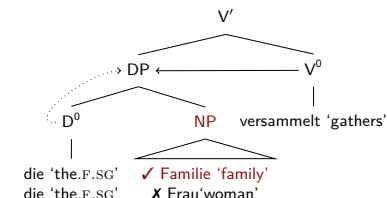Fig. 2: Selection of CP   Fig. 3: Selection of DP

<div align="right">(Di Sciullo & Williams 1988; Grimshaw 1991; van Riemsdijk 1998; Sportiche 2005)</div>

"For purposes of category selection (subcategorization), case assignment, (non-anaphoric) agreement, and semantic role assignment, a lexical head has access only to the signs it selects via some feature (e.g. ARG-ST […]), i.e. the elements that it is connected to via a grammatical relation […]"
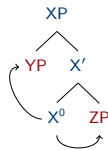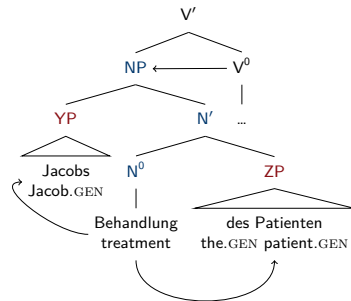
(Sag 2012: 149)

V′
NP ← V⁰
YP N′ …
XP
Jacobs N⁰ ZP
Jacob.GEN
YP X′
Behandlung des Patienten
X⁰ ZP treatment the.GEN patient.GEN

Fig. 4: Selectional Localism   Fig. 5: Local NP

Ger: Local Analysis

HPSG: (cf. Pollard & Sag 1987, 1994; Müller & Machicao y Priemer 2019)

‣ deeply formalised constraint-based framework

‣ declarative, i.e. non-derivational (no proper "movement")

‣ lexicalist approach: constraints on affixes, words, phrases are stored in an organised lexicon.

‣ organisation of lexicon: inheritance hierarchy (generalisations)

Constraint on **Count nouns**:

‣ Count nouns select for a DET(P) in its specifier (a valence feature).

‣ This element can be simple (a DET) or complex (a PreGen).

(23) Sample entry for count-nouns
$$\begin{bmatrix} \text{CAT} \begin{bmatrix} \text{HEAD } noun \end{bmatrix} \\ \text{SPR } \langle \text{DetP} \rangle \end{bmatrix}$$

‣ *-ung* nominalisations are a subtype of count nouns with arguments.

(24) a. * Behandlung
     b. * Behandlung { [Jacobs]$_{AG}$ / [des Patienten]$_{PAT}$ }
     c.   die Behandlung { [Jacobs]$_{AG}$ / [des Patienten]$_{PAT}$ }

Verbs selecting NCs do not select NPs (→ N′) but DPs (→ NP).
          (cf. Longobardi 1994: 612–613; Chierchia 1998b: 342; Adger 2004: 253; a.o.)

(25) a. * I bought [$_{N'}$ car].
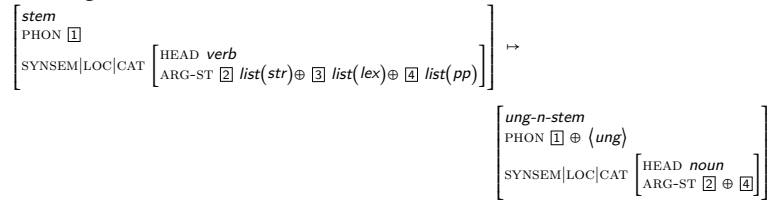   b.   I bought [$_{NP}$ the [$_{N'}$ car]].

The regularities w.r.t. to **structural case assignment** can be accounted for locally. → no need of possessive case or semantic genitive

(Hartmann & Zimmermann 2003; Partee 1997; Olsen 1991)

(26) **Case Principle** (simplified) (Przepiórkowski 1999; Meurers 1999)
- In the **verbal domain**, the first element with structural case in the ARG-ST list receives nominative, all further elements in the list with structural case receive accusative.
- In the **nominal domain**, elements with structural case in the ARG-ST list receive genitive.

(27) LR: -ung nominalisation

$$\begin{bmatrix} stem \\ \text{PHON } \boxed{1} \\ \text{SYNSEM|LOC|CAT } \begin{bmatrix} \text{HEAD } verb \\ \text{ARG-ST } \boxed{2}\, list(str) \oplus \boxed{3}\, list(lex) \oplus \boxed{4}\, list(pp) \end{bmatrix} \end{bmatrix} \mapsto$$

$$\begin{bmatrix} ung\text{-}n\text{-}stem \\ \text{PHON } \boxed{1} \oplus \langle ung \rangle \\ \text{SYNSEM|LOC|CAT } \begin{bmatrix} \text{HEAD } noun \\ \text{ARG-ST } \boxed{2} \oplus \boxed{4} \end{bmatrix} \end{bmatrix}$$

Case → no arguments with lexical case (**no datives**)

For the asymmetry …

(28) a. [Jacobs]_AG Behandlung [des Patienten]_PAT
        Jacob.GEN treatment   the.GEN patient.GEN

b. {[Jacobs]_AG / [des Patienten]_PAT} Behandlung
        Jacob.GEN   the.GEN patient.GEN   treatment

c. die Behandlung {[Jacobs]_AG / [des Patienten]_PAT}
        the treatment   Jacob.GEN   the.GEN patient.GEN

d. *[des Patienten]_PAT Behandlung [Jacobs]_AG
        the.GEN patient.GEN treatment   Jacob.GEN

Intended: 'Jacob's treatment of the patient'

… we use linking constraints:
- the elements in the ARG-ST list of the noun are linked with the valency lists SPR and COMPS

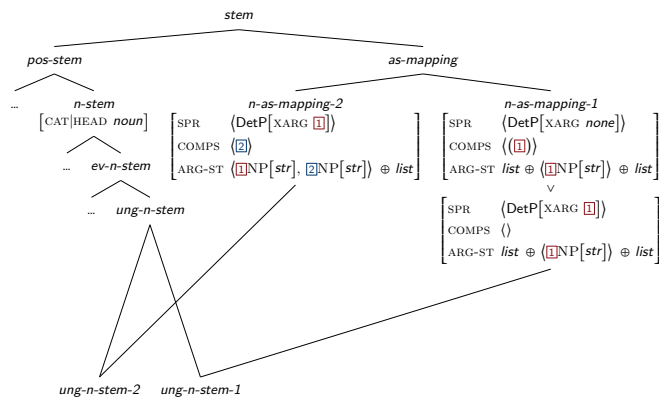**asymmetry** between agent and patient + optionality of arguments N domain:

Fig. 6: Mapping ARG-ST to valency

Complementarity between determiners and PreGens by means of XARG

(cf. Sag & Pollard 1991; Sag 2007)

Account for **complex** and **recursive** structures (and parallel to **PossDat**)
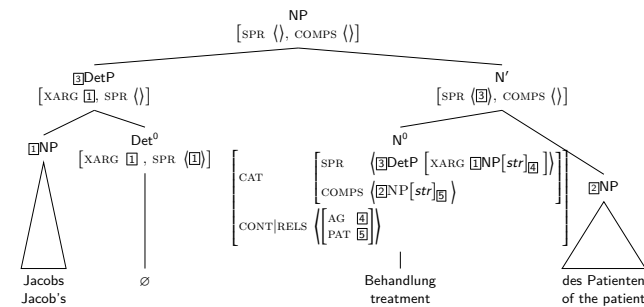

Fig. 7: NP analysis

Recursive structures:

(29) a. Ihres Vaters   Vaters   Schwester Mann   (DECOW)
         your father.GEN father.GEN sister.GEN man
         'your father's father's sister's husband'

      b. Einschüsse auf [Peters   Bruders   Harley]   (TAUTOO)
         bullet.holes on   Peter.GEN brother.GEN Harley
         'bullet holes on Peter's brother's Harley'

      c. mit [des   Vaters   Bruders   Witwe]   (DECOW)
         with the.GEN father.GEN brother.GEN widow.DAT
         ' with the father's brother's widow'

      d. Maria ist [des   Sohnes   Gottes   Mutter].   (DECOW)
         Maria is   the.GEN son.GEN   God.GEN   mother
         'Maria is god's son's mother.'

      e. Ich wähl [Doris   ihrem   Mann   seine   Partei].
         I   vote Doris.DAT her.DAT husband.DAT seine.ACC Partei.ACC
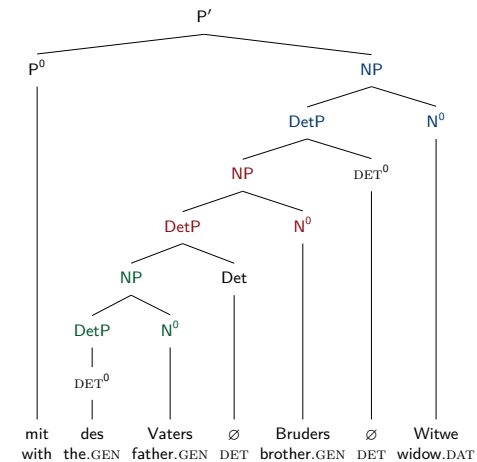   'I am voting for Doris's husband's party.'

Fig. 8: Recursive structure

Ger: Summary

Q1: **complex** and **recursive PreGens** → local selection of DETP as specifier
    In the case of PreGens: phonologically empty DET, selecting PreGen and
    identifying it with an argument of N

Q2: **complementarity** between PreGen and DET → only one specifier is selected

Q3: Case Principle (and LR) accounts for **case realisation** w.r.t. structural vs.
    lexical case

Q4: θ-role and **distribution asymmetry** is accounted for by means of
    as-mapping-constraint

Q5: **PreDats** can be analysed with the same structure as **PreGens**
    but with a different DET (i.e. possessive DET)

   ‣ (possessors as arguments)

Complexity

As it is well known, NCs in MC can appear in argument positions
with or without a **demonstrative** (DEM) or a **classifier** (CL):

(30) a. wo mai-le   shu.
          I   bought-PFV book
          'I bought {a/the book / ∅/the books}.'

    b. wo   mai-le   san   ben shu.
          1.SG buy-PFV three CL   book
          'I bought {the/∅} three books.'

    c. wo   mai-le   zhe   shu.
          1.SG buy-PFV DEM   book
          'I bought this book.'

    d. wo   mai-le   zhe   san   ben shu.
          1.SG buy-PFV DEM   three CL   book
          'I bought these three books.'

(cf. Cheng & Sybesma 1999; Chierchia 1998b)

Q1: account for bare and complex NCs

Combination

Similar to specifiers (different from modifiers),
DEM and CL **cannot be iterated** (31b).

(We limit ourselves to sortal and measure classifiers.)

(31) a. zhe da de san   ben guanyu yuyanxue de shu
          DEM big DE three CL   about   linguistics DE book
          'these three big books about linguistics'

    b. *zhe san   xiang zhe liang ben shu
          DEM three CL   DEM two   CL   book
          Intended: 'these three boxes of two books'

But the **combination** of DEM and CL is possible (31a).

Q2: What is the function of DEM and CL? How are they combined with N?

Modifiers

Modifiers in MC can have **different positions** within NCs,
and reveal a lot about NC structure.

(We limit ourselves to phrasal modifiers, cf. Paul 2005,
for a semantic distinction between lexical and phrasal modification, see Bücking 2009)

(32) a. zhe san   ben da de shu
          DEM three CL   big DE book

    b. zhe da de san   ben shu
          DEM big DE three CL   book

    c. da de zhe san   ben shu
          big DE DEM three CL   book
          'these three big books'

    d. *zhe san   da de ben shu
          DEM three big DE CL   book
          Intended: 'these three big books'

It is not possible to **separate** NUM **from** CL.

Q3: account for strong connection between NUM + CL

Classifiers

Considering sortal and measure classifiers (CL_s, CL_m),
it is possible to **combine** (some subtypes of) **modifiers** with CL_m,
while CL_s **does not allow modification**.

CL_m leads to different interpretations (33b).

(33) a. wo   mai-le   [da de zhe san   ben shu].
          1.SG buy-PFV big DE DEM three CL_s book
          'I bought these three big books.'

   b. wo   mai-le   [da de zhe san xiang   shu].
          1.SG buy-PFV big DE DEM three $CL_{m \approx \text{'box'}}$ book
          'I bought these three big boxes of books.' or
          'I bought three boxes of these big books.' or
          'I bought these three boxes of big books.'
          Not possible: 'I bought three big boxes of these books.'

Q4: account for the different interpretations according to the CL subtypes

Ambiguities with CL_m

CL_m have lexical meaning that **can be modified**,
and can offer **further positions** to attach modifiers.

(34) a. *da de zhe da de san   ben shu.
          big DE DEM big DE three CL_s book
          'these three big books.'

   b. da de zhe da de san xiang   shu.
          big DE DEM big DE three $CL_{m \approx \text{'box'}}$ book
          'these three big boxes of books.' or
          'three boxes of these big books.' or
          'these three boxes of big books.'
          Not possible: 'three big boxes of these books.'

Q5: account for the different structures according to the CL subtypes

Number

Depending on the combination of DEM, CL, Mod and N,
the NC can be interpreted either only as **sg**, or as **underspecified** (sg or pl).

(35) a. wo mai-le   shu.
          I   bought-PFV book
          'I bought {a/the book / ∅/the books}.'   bare: sg / pl

   b. wo   mai-le   zhe shu.
          1.SG buy-PFV DEM book
          'I bought this book.'   DEM+N: sg

   c. wo   mai-le   zhe san   ben shu.
          1.SG buy-PFV DEM three CL   book
          'I bought these three books.'   DEM+NUM+CL+N: pl

   d. wo   mai-le   zhe da de shu.
          1.SG buy-PFV DEM big DE book
          'I bought {this big book / these big books}.' DEM+Mod+N: sg / pl
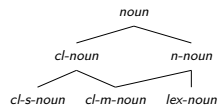
Q6: account for singular–plural asymmetry

MC: Local Analysis

Due to the different **positions** and **interpretations** of **modifiers**,
according to the subtypes of CL (CL$_s$ vs. CL$_m$),
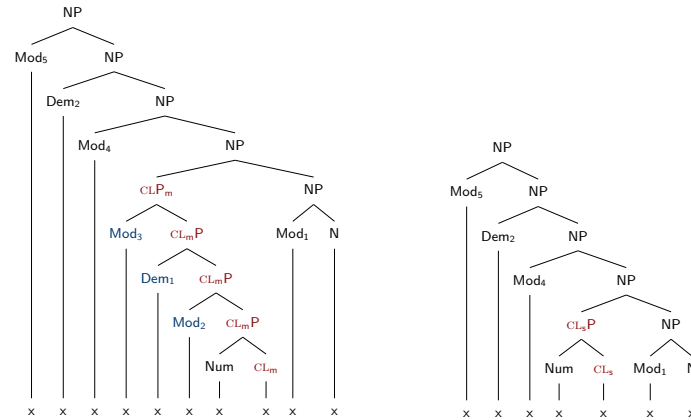we assume that N and CL build a "**natural class**" that can be subdivided.

(36) Hierarchy of nominal HEAD Values

noun
— *cl-noun* — *n-noun*
— *cl-s-noun* *cl-m-noun* *lex-noun*

Phrasal modifiers and DEMs can attach only to elements of type *n-noun*.

Phrasal modifiers and DEMs select only elements of type *n-noun*.

The modification of the noun (or CL) follows directly from the **NP structure**.

In contrast to Ger, where **only one specifier** is allowed (and required)
we assume that MC shows more a **head-functor structure** in the combination
of **modifying** and **specifying** elements **with N**.   (Van Eynde 2006, 2020, 2021)

‣ the functor (e.g. Mod$_1$ to N) selects
  a head (*n-noun*),

‣ the properties of the head are
  projected
  (HEAD-FEATURE-PRINCIPLE)

‣ the MARKING value of the resulting
  phrase is determined by the functor

(37) Hierarchy of MARKING values

marking
— *unmarked* — *marked*
— *incomplete* *bare* *non-dem-marked* *dem-marked*
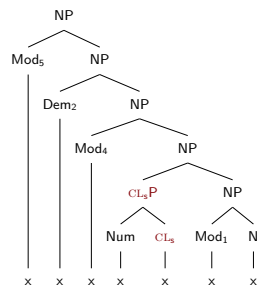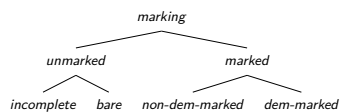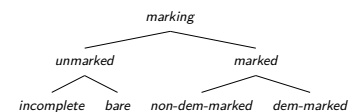

Why are several modifiers possible, but not several CLs or DEMs?

(38) Sample DeP for adjectives
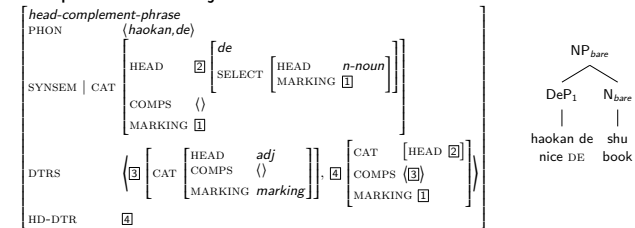
(39) Hierarchy of MARKING Values

marking
— *unmarked* — *marked*
— *incomplete* *bare* *non-dem-marked* *dem-marked*
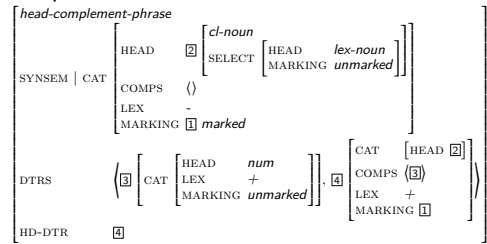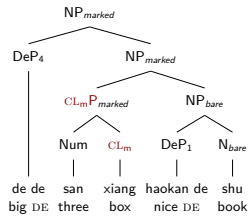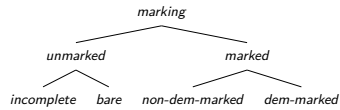
Why are several modifiers possible, but not several CLs or DEMs?

(40) Sample structure for CLP

$$
\begin{bmatrix}
\textit{head-complement-phrase} \\
\text{SYNSEM} \mid \text{CAT}
\begin{bmatrix}
\text{HEAD} & \boxed{2}
\begin{bmatrix}
\textit{cl-noun} \\
\text{SELECT}
\begin{bmatrix}
\text{HEAD} & \textit{lex-noun} \\
\text{MARKING} & \textit{unmarked}
\end{bmatrix}
\end{bmatrix} \\
\text{COMPS} & \langle\rangle \\
\text{LEX} & - \\
\text{MARKING} & \boxed{1}\ \textit{marked}
\end{bmatrix} \\
\text{DTRS}\quad \left\langle \boxed{3}
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD} & \textit{num} \\
\text{LEX} & + \\
\text{MARKING} & \textit{unmarked}
\end{bmatrix}
\end{bmatrix},\ \boxed{4}
\begin{bmatrix}
\text{CAT} & [\text{HEAD}\ \boxed{2}] \\
\text{COMPS} & \langle\boxed{3}\rangle \\
\text{LEX} & + \\
\text{MARKING} & \boxed{1}
\end{bmatrix}
\right\rangle \\
\text{HD-DTR}\quad \boxed{4}
\end{bmatrix}
$$

(41) Hierarchy of MARKING Values

marking
  — unmarked
      — incomplete
      — bare
  — marked
      — non-dem-marked
      — dem-marked

NP_marked
  — DeP₄
  — NP_marked
      — CL_mP_marked
          — Num — de de / big DE
          — CL_m — san / three
      — NP_bare
          — DeP₁ — xiang / box — haokan de / nice DE
          — N_bare — shu / book
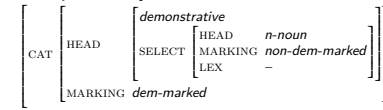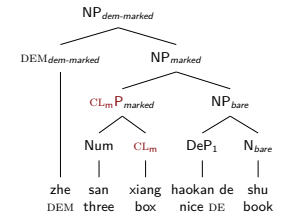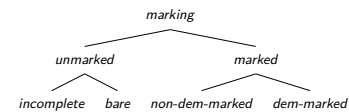

Why are several modifiers possible, but not several CLs or DEMs?

(42) Sample entry for demonstratives

$$
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\textit{demonstrative} \\
\text{SELECT}
\begin{bmatrix}
\text{HEAD} & \textit{n-noun} \\
\text{MARKING} & \textit{non-dem-marked} \\
\text{LEX} & -
\end{bmatrix}
\end{bmatrix} \\
\text{MARKING} & \textit{dem-marked}
\end{bmatrix}
\end{bmatrix}
$$

(43) Hierarchy of MARKING Values

marking
  — unmarked
      — incomplete
      — bare
  — marked
      — non-dem-marked
      — dem-marked

NP_dem-marked
  — DEM_dem-marked
  — NP_marked
      — CL_mP_marked
          — Num — zhe / DEM — san / three
          — CL_m — xiang / box
      — NP_bare
          — DeP₁ — haokan de / nice DE
          — N_bare — shu / book

DEM can also combine with CL_m

(44) Sample entry for demonstratives

$$
\begin{bmatrix}
\text{CAT}
\begin{bmatrix}
\text{HEAD}
\begin{bmatrix}
\textit{demonstrative} \\
\text{SELECT}
\begin{bmatrix}
\text{HEAD} & \textit{n-noun} \\
\text{MARKING} & \textit{non-dem-marked} \\
\text{LEX} & -
\end{bmatrix}
\end{bmatrix} \\
\text{MARKING} & \textit{dem-marked}
\end{bmatrix}
\end{bmatrix}
$$

(45) Hierarchy of MARKING Values

marking
  — unmarked
      — incomplete
      — bare
  — marked
      — non-dem-marked
      — dem-marked

NP_dem-marked
  — (*DEM)
  — NP_dem-marked
      — CL_mP_dem-marked
          — DEM_dem-marked — zhe / DEM — zhe / DEM
          — CL_mP_marked
              — Num — san / three
              — CL_m — xiang / box
      — NP_bare
          — DeP₁ — haokan de / nice DE
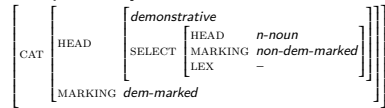   — N_bare — shu / book

---
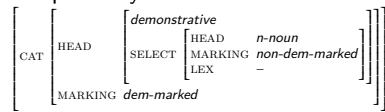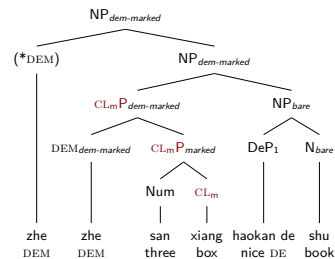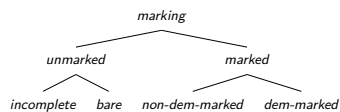
Why is the combination of DEM and N only sg (46c),
but the DEM with a modified N sg or pl (46b)?

(46) a. wo mai-le   shu.
          I   bought-PFV book
          'I bought {a/the book / ∅/the books}.'   bare: sg / pl

      b. wo   mai-le   zhe da de shu.
          1.SG buy-PFV DEM big DE book
          'I bought {this big book/these big books}.'   DEM+Mod+N: sg / pl

      c. wo   mai-le   zhe shu.
          1.SG buy-PFV DEM book
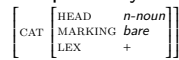   'I bought this book.'   DEM+N: sg

DEM can combine only with an element of type *n-noun* with value LEX −

(47) Sample entry for demonstratives

$$\left[\text{CAT}\begin{bmatrix}\text{HEAD}\begin{bmatrix}\textit{demonstrative}\\ \text{SELECT}\begin{bmatrix}\text{HEAD}&\textit{n-noun}\\ \text{MARKING}&\textit{non-dem-marked}\\ \text{LEX}&-\end{bmatrix}\end{bmatrix}\\ \text{MARKING}\quad\textit{dem-marked}\end{bmatrix}\right]$$

A bare noun has the value LEX +, but
after the combination with a modifier it has the value LEX −

(48) Sample entry for n-nouns

$$\left[\text{CAT}\begin{bmatrix}\text{HEAD}&\textit{n-noun}\\ \text{MARKING}&\textit{bare}\\ \text{LEX}&+\end{bmatrix}\right]$$

Number neutrality (sg or pl) follows from the number underspecification of N.
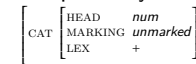

When a DEM combines with a "bare" N there is a number specification → 1

(49) wo mai-le zhe shu.
1.SG buy-PFV DEM book
'I bought this book.'
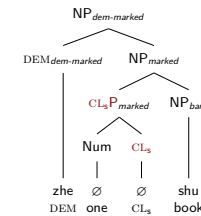
That is, a phonologically empty NUM is needed
(combined with CL via *head-complement-phrase*).

(50) Sample entry for numerals

$$\left[\text{CAT}\begin{bmatrix}\text{HEAD}&\textit{num}\\ \text{MARKING}&\textit{unmarked}\\ \text{LEX}&+\end{bmatrix}\right]$$

MC: Summary

Q1: **bare** N and **complex** N are allowed as NP structures.

Q2: MC treats DEM, CL, and Mod as **functors** (no specifier needed).
  ‣ iteration of Mods,
  ‣ no iteration of DEM and NUM+CL,
  ‣ combination of DEM and NUM+CL

Q3: NUM+CL is accounted for as a *head-complement-phrase*

Q4&5: CL_m and CL_s have **different structures**.
  DEM and Mod can attach only to elements of type *n-nouns*, i.e. CL_m or N

Q6: **singular-plural asymmetry** in the combination with DEM, is solved by
  means of a phonologically empty NUM+CL_s − needed to specify the
  meaning of N to one.

Conclusion

‣ The behaviour of prenominal elements in **MC and Ger** is **very different** hard to see how they could converge towards a **common analysis**
→ This approach gives a local (NP) account for both.

‣ Complex and recursive specifiers/functors were discussed and analysed.
  ‣ **Ger** prenominal elements → **specifiers** (and modifiers)
  ‣ **MC** prenominal elements → **functors**

‣ Two-way typology of languages – parallel to the **NP/DP parameter** proposed in the minimalist tradition

(Chierchia 1998a; Cheng & Sybesma 1999; Bošković 2008
Bošković & Gajewski 2011; Bošković et al. 2013)

‣ Many **independent properties** have been argued to follow from the absence of dedicated determiners in languages.
→ Reinterpretation of these findings in terms of the absence of a *specifier-head-phrase* (e.g. in MC, Serbo-Croatian, Turkish, Polish, Czech)

References I

Abney, Steven P. 1987. *The English noun phrase in its sentential aspect*: Massachusetts Institute of Technology PhD thesis. http://www.vinartus.net/spa/publications.html.

Adger, David. 2004. *Core syntax: A minimalist approach*. Oxford: Oxford University Press.

Anderson, Stephen R. 2008. The English "group genitive" is a special clitic. *English Linguistics* 25(1). 1–20. doi:10.9793/elsj1984.25.1.

Baltin, Mark R. 1989. Heads and projections. In Mark R. Baltin & Anthony S. Kroch (eds.), *Alternative conceptions of phrase structure*, 1–16. Chicago: University of Chicago Press.

Bošković, Željko. 2008. What will you have, DP or NP? In Emily Elfner & Martin Walkow (eds.), *Proceedings of the North East Linguistic Society*, vol. 37 1, 101–114. Amherst, MA: University of Massachussetts Press.

Bošković, Željko & Jon Gajewski. 2011. Semantic correlates of the NP/DP parameter. In *Proceedings of North East Linguistic Society*, vol. 39, 121–134.

Bošković, Željko, I Hsieh & Ta Chris. 2013. On word order, binding relations, and plurality in chinese noun phrases. *Studies in Polish Linguistics* 8(4).

Bruening, Benjamin. 2009. Selectional asymmetries between CP and DP suggest that the DP hypothesis is wrong. In Laurel MacKenzie (ed.), *Proceedings of the 32nd annual Penn Linguistics Colloquium* (Penn Working Papers in Linguistics 15.1), 26–35. Pennsylvania: University of Pennsylvania. http://repository.upenn.edu/pwpl/vol15/iss1/5.

Bruening, Benjamin. 2020. The head of the nominal is N, not D: N-to-D movement, hybrid agreement, and conventionalized expressions. *Glossa: A Journal of General Linguistics* 5(1). 1–19. doi:10.5334/gjgl.1031.

Bücking, Sebastian. 2009. How do phrasal and lexical modification differ? Contrasting adjective-noun combinations in German. *Word Structure* 2(2). 184–204.

Cheng, Lisa Lai-Shen & Rint Sybesma. 1999. Bare and not-so-bare nouns and the structure of NP. *Linguistic Inquiry* 30(4). 509–542.

Chierchia, Gennaro. 1998a. Reference to kinds across language. *Natural language semantics* 6(4). 339–405.

Chierchia, Gennaro. 1998b. Reference to kinds across languages. *Natural Language Semantics* 6(4). 339–405. doi:10.1023/A:1008324218506.

Chomsky, Noam. 1981. *Lectures on Government and Binding: The Pisa lectures*. Dordrecht: Foris Publications. doi:10.1515/9783110884166.

Chomsky, Noam. 2007. Approaching UG from below. In Uli Sauerland & Hans-Martin Gärtner (eds.), *Interfaces + recursion = language?: Chomsky's Minimalism and the view from syntax-semantics* (Studies in Generative Grammar 89), 1–30. Berlin: De Gruyter. doi:10.1515/9783110207552.

Chomsky, Noam, Ángel J. Gallego & Dennis Ott. 2019. Generative grammar and the faculty of language: Insights, questions, and challenges. Manuscript. To appear in Catalan Journal of Linguistics. https://ling.auf.net/lingbuzz/003507.

References II

Comrie, Bernard, Martin Haspelmath & Balthasar Bickel. 2015. Leipzig glossing rules. http://www.eva.mpg.de/lingua/resources/glossing-rules.php.

Demske, Ulrike. 2001. *Merkmale und Relationen: Diachrone Studien zur Nominalphrase des Deutschen* (Studia Linguistica Germanica 56). Berlin: Walter de Gruyter. doi:10.1515/9783110811353.

Di Sciullo, Anna Maria & Edwin Williams. 1988. *On the definition of word*. Cambridge, MA: MIT Press.

Georgi, Doreen & Martin Salzmann. 2011. DP-internal double agreement is not double Agree: Consequences of Agree-based case assignment within DP. *Lingua* 121(14). 2069–2088.

Grimshaw, Jane. 1991. Extended projection. Ms. Brandeis University.

Haider, Hubert. 1988. Die Struktur der deutschen Nominalphrase. *Zeitschrift für Sprachwissenschaft* 7(1). 32–59. doi:10.1515/ZFSW.1988.7.1.32.

Hartmann, Katharina & Malte Zimmermann. 2003. Syntactic and semantic adnominal genitive. In Claudia Maienborn (ed.), *(A-)symmetrien – (A-)symmetries: Beiträge zu Ehren von Ewald Lang* (Stauffenburg Linguistik 29), 171–202. Tübingen: Stauffenburg.

Karnowski, Paweł & Jürgen Pafel. 2004. A topological schema for noun phrases in German. In Gereon Müller, Lutz Gunkel & Gisela Zifonun (eds.), *Explorations in nominal inflection*, 161–188. Berlin: Mouton de Gruyter. doi:10.1515/9783110197501.161.

Longobardi, Giuseppe. 1994. Reference and proper names: A theory of N-movement in syntax and logical form. *Linguistic Inquiry* 25(4). 609–665.

Machicao y Priemer, Antonio. 2018. Konstituententest. In Stefan Schierholz & Pál Uzonyi (eds.), *Grammatik: Syntax* (Wörterbücher zur Sprach- und Kommunikationswissenschaft (Online) 1.2), Berlin: De Gruyter. https://www.researchgate.net/publication/325046937_Konstituententest_Pre-Print.

Meurers, Walt Detmar. 1999. Raising spirits (and assigning them case). *Groninger Arbeiten zur Germanistischen Linguistik* (GAGL) 43. 173–226. http://irs.ub.rug.nl/dbi/475d4439a8e3f.

Muysken, Pieter. 1982. Parametrizing the notion 'head'. *Journal of Linguistic Research* 2(3). 57–75.

Müller, Stefan & Antonio Machicao y Priemer. 2019. Head-Driven Phrase Structure Grammar. In András Kertész, Edith Moravcsik & Csilla Rákosi (eds.), *Current approaches to syntax – A comparative handbook* (Comparative Handbooks of Linguistics 3), Berlin: De Gruyter Mouton. doi:10.1515/9783110540253-012. https://www.degruyter.com/view/product/486143.

Olsen, Susan. 1991. Die deutsche Nominalphrase als Determinansphrase. In Susan Olsen & Gisbert Fanselow (eds.), *'DET, COMP und INFL': Zur Syntax funktionaler Kategorien und grammatischer Funktionen*, 35–56. Tübingen: Niemeyer. doi:10.1515/9783111353838.

Partee, Barbara H. 1997. Genitives: A case study. In Johan van Bethem & Alice ter Meulen (eds.), *Handbook of logic and linguistics*, 464–470. Amsterdam: Elsevier. [Appendix to Theo M.V. Janssen, 'Compositionality'].

References III

Paul, Waltraud. 2005. Adjectival modification in Mandarin Chinese and related issues. *Linguistics* 43(4). 757–793.

Pollard, Carl J. & Ivan A. Sag. 1987. *Information-based syntax and semantics. Volume 1: Fundamentals*. Stanford, CA: CSLI Publications.

Pollard, Carl J. & Ivan A. Sag. 1994. *Head-Driven Phrase Structure Grammar* Studies in Contemporary Linguistics. Chicago: University of Chicago Press.

Przepiórkowski, Adam. 1999. *Case assignment and the complement/adjunct dichotomy: A non-configurational constraint-based approach*: Eberhard-Karls-Universität Tübingen PhD thesis.

van Riemsdijk, Henk. 1998. Categorial feature magnetism: The endocentricity and distribution of projections. *Journal of Comparative Germanic Linguistics* 2(1). 1–48. doi:10.1023/A:1009763305416.

Sag, Ivan A. 2007. Remarks on locality. In Stefan Müller (ed.), *The 14th International Conference on Head-Driven Phrase Structure Grammar, Stanford Department of Linguistics and CSLI's LinGO Lab*, 394–414. Stanford University: CSLI Publications. http://csli-publications.stanford.edu/HPSG/2007.

Sag, Ivan A. 2012. Sign-Based Construction Grammar: An informal synopsis. In Hans C. Boas & Ivan Sag (eds.), *Sign-Based Construction Grammar* (CSLI Lecture Notes 193), 69–202. Stanford: CSLI Publications.

Sag, Ivan A. & Carl J. Pollard. 1991. An integrated theory of complement control. *Language* 67(1). 63–113. doi:10.2307/415539.

Salzmann, Martin. 2020. The NP vs. DP debate: Why previous arguments are inconclusive and what a good argument could look like: Evidence from agreement with hybrid nouns. *Glossa: A Journal of General Linguistics* 5(1). 83. 1–46. doi:10.5334/gjgl.1123.

Schumacher, Helmut, Jacqueline Kubczak, Renate Schmidt & Vera de Ruiter. 2004. *VALBU – Valenzwörterbuch deutscher Verben* (Studien zur Deutschen Sprache 31). Tübingen: Gunter Narr.

Sportiche, Dominique. 2005. Division of labor between merge and move: Strict locality of selection and apparent reconstruction paradoxes. Ms. https://ling.auf.net/lingbuzz/000163.

Sternefeld, Wolfgang. 2009. *Syntax: Eine morphologisch motivierte generative Beschreibung des Deutschen*, vol. 2. Tübingen: Stauffenburg 3rd edn.

Sternefeld, Wolfgang. 2015. *Syntax: Eine morphologisch motivierte generative Beschreibung des Deutschen*, vol. 1. Tübingen: Stauffenburg 4th edn.

Szabolcsi, Anna. 1994. The noun phrase. In Ferenc Kiefer & Katalin É. Kiss (eds.), *The syntactic structure of Hungarian*, 179–274. San Diego: Academic Press.

Tappe, Hans Thilo. 1989. The position of prenominal genitives in German. Manuscript.

Van Eynde, Frank. 2006. NP-internal agreement and the structure of the noun phrase. *Journal of Linguistics* 42(1). 139–186. doi:10.1017/S0022226705003713.

References IV

Van Eynde, Frank. 2019. Nominal structures. In Stefan Müller, Anne Abeillé, Robert D. Borsley & Jean-Pierre Koenig (eds.), *Head-Driven Phrase Structure Grammar: The handbook* Empirically Oriented Theoretical Morphology and Syntax, Berlin: Language Science Press. [To appear].

Van Eynde, Frank. 2020. Agreement, disagreement and the NP vs. DP debate. *Glossa: A Journal of General Linguistics* 5(1). 65. 1–23. doi:10.5334/gjgl.1119.

Van Eynde, Frank. 2021. Nominal structures. In Stefan Müller, Anne Abeillé, Robert D. Borsley & Jean-Pierre Koenig (eds.), *Head-Driven Phrase Structure Grammar: The handbook*, 275–313. Berlin: Language Science Press.

Vater, Heinz. 1991. Determinantien in der DP [Determiners in the DP]. In Susan Olsen & Gisbert Fanselow (eds.), *DET, COMP und INFL: Zur Syntax funktionaler Kategorien und grammatischer Funktionen*, 15–34. Berlin: de Gruyter. doi:10.1515/9783111353838.15.

Zifonun, Gisela. 2003. *Dem Vater sein Hut*: Der Charme des Substandards und wie wir ihm gerecht werden [*The father his hat*: The charm of the substandard and how we live up to it]. *Deutsche Sprache* 31(2). 97–126. doi:10.37307/j.1868-775X.2003.02.02.

Zwicky, Arnold M. 1987. Suppressing the Zs. *Journal of Linguistics* 23(1). 133–148. doi:10.1017/S0022226700011063.