University of Leipzig, Department of Linguistics
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Syntax of the noun phrase

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Sternefeld (2004)

1   The challenging phenomena

- observation 1: the adjectival inflection depends on the inflection on D: an ending on D triggers weak inflection on A, absence of inflection on D triggers strong inflection on A:

  (1)   a.   ein   gross-er   Mann
              a.NOM.S.WK big-NOM.S.STR man
              'a big man'
         b.   d-er   gross-e   Mann
              the-NOM.S.STR big-NOM.S.WK man
              'the big man'

- observation 2: the presence of a Case-suffix on N depends on there being another overtly Case-marked element (A, D) within the same DP that c-commands it:

  (2)   a.   ein Schiff aus   Holz(*-e)
              a   ship   from wood-DAT
         b.   ein Schiff aus   hartem   Holz(-e)
              a   ship   from hard.DAT wood-DAT
              'a ship made of (hard) wood'

→ Crucially, in both cases, what is at stake are surface properties, i.e. properties of exponents, not abstract featural properties of syntactic objects

→ the phenomena are a challenge for post-syntactic approaches to morphology because the relevant information to choose the correct exponent is not available at the point when VI occurs given a bottom-up/inside-out procedure of VI-insertion

→ Sternefeld (2004) proposes a pre-syntactic account, where properties of individual morphemes project into the syntax (incremental)

2 Adjectival inflection

2.1 Empirical refinements

- zero articles trigger the strong inflection:

  (3) mit gut-em   Wein
       with good-DAT.STR wine

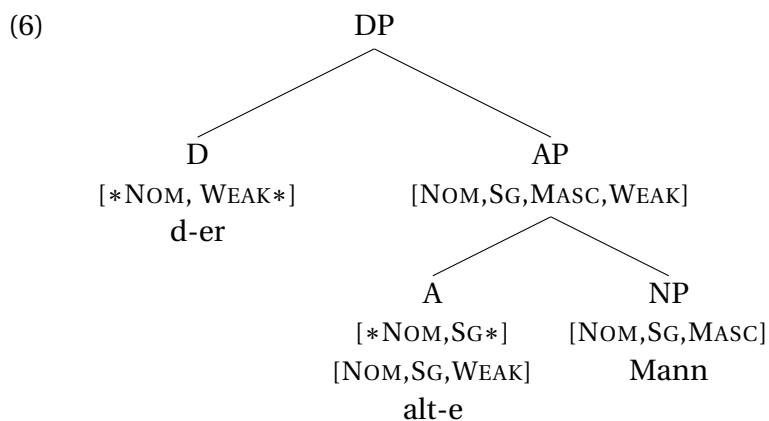- specifiers of D do not count:

  (4) mit Peter-s   gut-em   Wein
       with Peter-POSS good-DAT.STR wine

- some speakers allow switching to the weak declension after the first adjective:
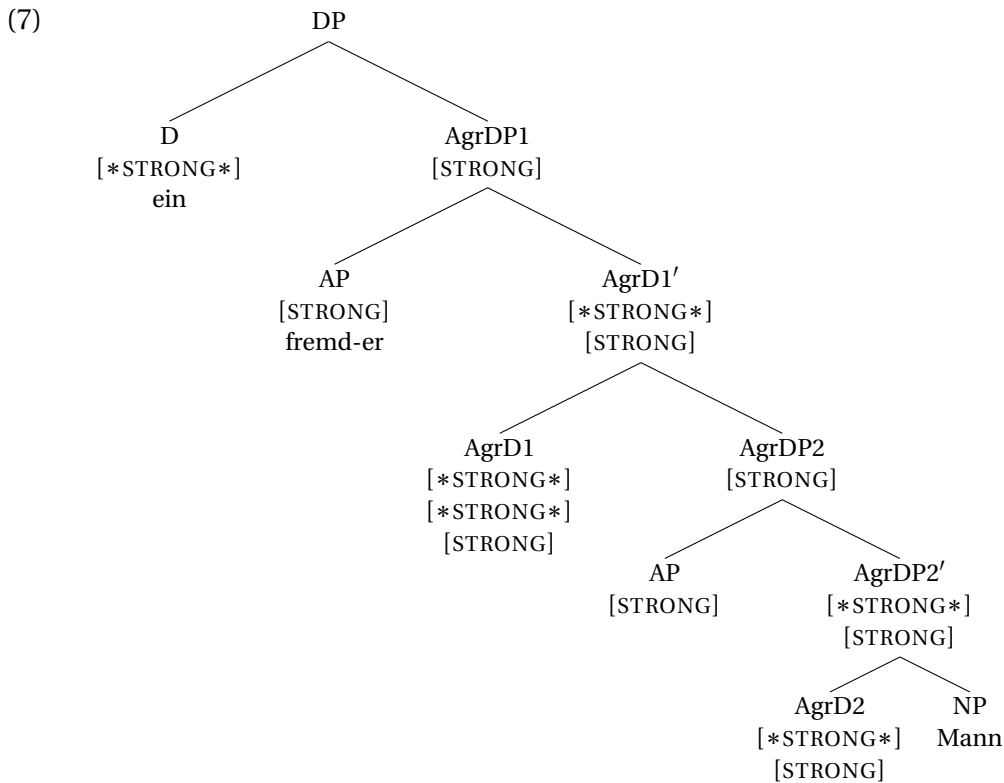
  (5) mit gut-em alt-**en**   Wein
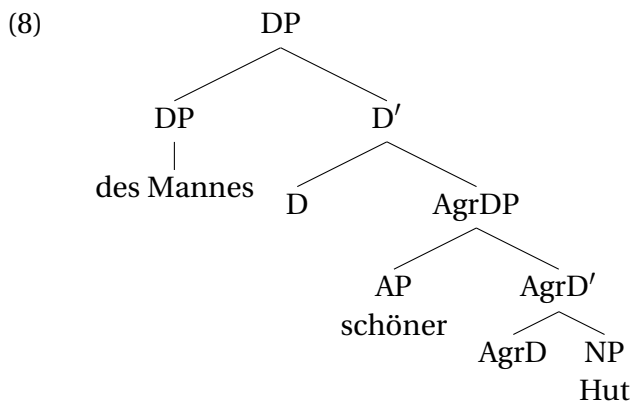   with good-DAT old.DAT.WK wine

2.2 Sternefeld's analysis

- idea:
  - the determiner suffix introduces a feature [∗WEAK∗] that needs to be checked (next to other concord features)
  - the feature is checked under sisterhood against a feature [WEAK] which is introduced in morphology by the suffix and borne by the adjective

(6)

```
                        DP
                  ┌──────┴──────┐
                  D             AP
           [∗NOM, WEAK∗]  [NOM,SG,MASC,WEAK]
               d-er         ┌────┴────┐
                            A         NP
                       [∗NOM,SG∗]  [NOM,SG,MASC]
                      [NOM,SG,WEAK]    Mann
                          alt-e
```

2

- to accommodate complex adjectives and stacked adjectives, an AgrD-projection is used instead, which has head-features and specifier features as well as complement-features to pass the adjectival inflection on to a lower AgrDP:

(7)

```
                              DP
                  ┌────────────┴────────────┐
                  D                       AgrDP1
              [*STRONG*]                  [STRONG]
                 ein           ┌────────────┴────────────┐
                               AP                       AgrD1′
                           [STRONG]                   [*STRONG*]
                           fremd-er                    [STRONG]
                                          ┌──────────────┴──────────────┐
                                        AgrD1                         AgrDP2
                                     [*STRONG*]                      [STRONG]
                                     [*STRONG*]            ┌────────────┴────────────┐
                                      [STRONG]             AP                      AgrDP2′
                                                       [STRONG]                  [*STRONG*]
                                                                                  [STRONG]
                                                                        ┌───────────┴───────────┐
                                                                      AgrD2                     NP
                                                                   [*STRONG*]                  Mann
                                                                    [STRONG]
```

- questions/issues
  - While the ending on the adjective depends on the shape of the determiner, the analysis suggests that it is the determiner that probes → what happens if there is no adjective in the structure?
  - because of the AgrD-projection, the features are proliferated, leading to many more checking operations (between AgrD and its complement and its specifier); but since the feature on D can be checked only by one AgrDP, another checking feature has to be introduced
  - the uninflected determiner must have a feature [*STRONG*], but morphologically it is not clear where this feature comes from – by stipulation/default?
  - what if there is a complex DP-specifier containing a determiner – why does it not affect the adjective? Since the probe-features have to be checked under sisterhood, the AgrDP cannot be reached – it could only be checked against a feature of D on D′ → interaction with the Spec thus correctly ruled out (note though that approaches based on c-command may encounter problems):

(8)

```
                        DP
              ┌──────────┴──────────┐
             DP                    D′
              │            ┌────────┴────────┐
          des Mannes       D              AgrDP
                                    ┌────────┴────────┐
                                    AP              AgrD′
                                  schöner       ┌─────┴─────┐
                                              AgrD          NP
                                                           Hut
```

3

3 A previous OT-analysis of the visibility condition Müller (2002)

3.1 Proposal

(9) *Agreement rule*
If N is Case-marked, there exists another Case-marked pre-nominal element (an adjective or a determiner) within N's DP

(10) *Agreement rule 2*
Nominal word forms are underspecified with respect to Case (and therefore necessarily have no Case suffixes), unless they are preceded by an adjectivally inflected word form with Case suffix within their DPs (Gallmann 1998)

- The agreement rules are too strong because the plural dative suffix behaves differently, i.e. it is licensed within bare DPs:

   (11) a. Holz mit Nägel*(-n)
   wood with nails-DAT
   'wood with nails'
   b. Kinder*(-n) gebührt mehr Aufmerksamkeit
   children-DAT deserve.3S more attention
   'Children deserve more attention.'

→ the agreement rule only holds for so-called secondary suffixes, viz., dative *-e* and dative/accusative *-n*, cf. Müller (2002)

   (12) constraint ranking:
   a. C1: Don't drop primary Case >
   b. C2: Agreement rule (Case-marking on N depends on Case-marking on A/D) >
   c. Don't drop secondary Case

3.2 Problems

3.2.1 Optionality

- The *-e*-suffix is optional in contexts where it is licensed (cf. *aus hartem Holz(-e)*)
- since the *e*-suffix is more specific than the zero-suffix, the zero-suffix/the Case-less form should be blocked
- the 3rd constraint in (12) is violated by the Case-less form (depending on the exact nature of the agreement rule) in contexts were *-e* is licensed → the suffixed form should block the Case-less form
- Müller's solution: the two output forms derive from different inputs (with or without the suffix) → they don't compete anymore
- problem: the notion of secondary suffix can now be replaced by 'being deletable, i.e. not being generated at all'

3.2.2 Empirical refinements

3.2.2.1 Syntactic context: P vs. N vs. V

- At first sight, the visibility condition equally applies to the genitive + the accusative ending:

  (13) *genitive*
      a. %wegen   Regen(??-s)
          because.of rain-GEN
          'because of rain'
      b. wegen   stark-en   Regen*(-s)
          because.of strong-GEN rain-GEN
          'because of heavy rain'

  (14) *accusative*
      a. ein Orchester ohne   Dirigent(*-en)
          a   orchestra without conductor-ACC
          'an orchestra without conductor'
      b. ein Orchester ohne   eigen-en   Dirigent*(-en)
          a   orchestra without its.own-ACC conductor-ACC
          'an orchestra without its own conductor'

- however, at least after P, the Case-bearing form is acceptable for some speaker (cf. Sternefeld 2004: 293)
- while the Case-less form is o.k in the dative if it appears in argument position, this is not the Case with the genitive, irrespective of whether the gen depends on N or V → ineffability:

  (15) Feuchtigkeit schadet$_{dat}$ Holz.
        moistness   damage.3S wood
        'Moistness damages wood.'

  (16) a. *Wir bedurften Holz-(es)
          we needed   wood-GEN
        b. Wir bedurften frisch-en Holz*(-es)
          we needed   fresh-GEN wood-GEN
          'we needed fresh wood'

  (17) a. *Die Verarbeitung   Holz-(es)
          the manufacturing wood-gen
        b. Die Verarbeitung   tropisch-en Holz*(-es)
          the manufacturing tropical-gen wood-gen
          'the manufacturing of tropical wood'

  - Gallmann (1998), Müller (2002): the *von*-PP can enter the competition with the Case-less form (in the context of the genitive)

    (18)   die Verarbeitung   von Holz
            the manufacturing of   wood

  - lack of Case-marking is possible because the preposition somehow counts as a Case-exponent (cf. English *of*-insertion)
  - but: incurs a faithfulness violation → additional constraints are needed to prefer P-insertion over the Case-less form
  - *von*-insertion not possible after V:

    (19)   *wir bedurften von Holz
            we needed   of wood

3.2.2.2 *Appositions/als-phrases*

- The agreement rule does not seem to work for appositions/*als*-phrases, where a Case-less form is acceptable even though there is no Case-bearing element within the DP (assuming that *als* relates 2 DPs):

  (20) a. ihm/ihn   als Christ(-en)
            he.DAT/he.ACC as Christian-ACC

        b. wir haben   ihm   als Experte(-n) vertraut
            we have.1P he.DAT as expert-DAT   trust.PTCP
            'we trusted him as an expert'

    – that the pronoun in the specifier of *als* does not count (w.r.t. being within the same DP) is suggested by the fact that the adjectival inflection is strong in the complement of *als* in the absence of an overt D:

      (21) wir als unbestechlich-e/*unbestechlich-en   Richter
            we as incorruptible-STR/uncorruptible-WK judges

3.2.2.3 *More details on the genitive*

- for some, the genitive suffix is even acceptable in the presence of an uninflected determiner:

  (22) %die Doppelmoral   manch Arbeitgeber-s
         the double.standard many.a employer-GEN
         'the double standards of many an employer'

- rather, at least for some speakers, there seem to be 2 conditions on genitive realization (Sternefeld 2004: 290–294):

    – the left edge of a genitive DP cannot be an NP, i.e. the DP has to contain another (overt) constituent in addition to N, cf. (22)
    – genitive DPs require there to be at least one *-es* or *-er* (plural) suffix:

      (23) a. der Traum manch-es   Schüler-s
                the dream many.a-GEN pupil-GEN
                'the dream of many a pupil'

            b. %der Traum manch-en   Schüler-s
                the dream many-ADJ.GEN pupil-GEN

            c. der Traum manch-es   Dirigent-en
                the dream many.a-GEN conductor

            d. *der Traum manch-en   Dirigent-en
                the dream many.a-ADJ.GEN conductor-GEN

      (24) a. Er bedurfte (zwei) überzeugend-er Beweis-e
                he needed   two   convincing-GEN proof-P
                'he needed two convincing proofs'

            b. Er bedurfte zwei*(-er) Beweis-e
                he needed   two-GEN   proof-P

            c. *Er bedurfte Beweis-e
                he needed   proof-P

    – even worse, it seems that *-er* can also be a derivational suffix, suggesting that the visibility requirement is not about Case per se but rather about the shapes of suffixes:

      (25) der Protest manch Berlin-er   Student-en
            the protest many.a Berlin-DER student-GEN
            'the protest of many a student from Berlin'

- for some speakers, in partitive constructions even bare genitives as in (26-b) are possible; for others, the Case-less form is preferred, cf. (26-c)

(26)   a.   der Genuss   eines Glases   kühl-en   Wasser-s
               the consumption a.GEN glass-GEN cool-GEN water-GEN
               'the consumption of a glass of cold water'
          b.%*/?der Genuss   ein-es Glas-es   Wasser-s
               the   consumption a.GEN glass-GEN water-GEN
          c.%?/*der Genuss   ein-es Glas-es   Wasser
               the   consumption a.GEN glass-GEN water

- what if an uninflected Adj occurs at the left edge (check also alternative adj-order):

(27) %??die Verarbeitung   lila   brasilianisch-en Holz-es
         the manufacturing purple Brasilian-GEN   wood-GEN

3.2.2.4   *Confounds in the weak declension*

- w.r.t. the facts about the weak declension there is a confound in that many lexical items are changing to the strong declension class where non-genitive forms are always Case-less (cf. e.g. *Bär* 'bear')
- lexical items of the weak declension refer to animate/usually [+human] referents, which normally require with an article

4   Analysis of the *e*-dative
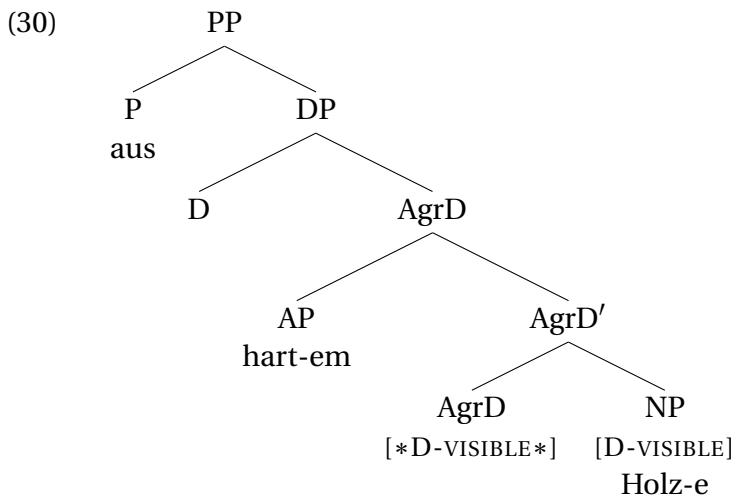
4.1   Empirical refinements

- the *e*-suffix is not licensed by uninflected adjectives, cf. (28-a), not by post-nominal inflected constituents, cf. (28-b), not by inflected elements in the specifier of D, cf. (28-c), but, disturbingly, by derivational (but not dative-bearing) adjectives as in (28-d)

(28)   a.   ein Schiff aus   lila   Holz(*-e)
             a   ship   from purple wood-DAT
             'a ship made of purple wood'
         b.   ein Schiff aus   Holz(*-e) der   Kolonien/von den   Kolonien
             a   ship   from wood-DAT the.GEN colonies/of   the.DAT colonies
             'a ship made of wood from the colonies'
         c.   ein Schiff aus   der   Kolonien Holz(*-e)
             a   ship   made.of the.GEN colonies   wood-DAT
       d. %ein Schiff aus   Leipzig-er   Holz(-e)
             a   ship   from Leipzig-ADJ wood-DAT
             'a ship made from wood from Leipzig'

4.2 Sternefeld's analysis

- the e-suffix has a contextual feature [D-VISIBLE] that needs to be checked
- any inflected (c-commanding) element within DP will suffice
- the checking/probe feature is added to a checker by a redundancy rule:

(29) Assume that X has the feature [dative]
  a. X is the inflection of a determiner, or
  b. X is an AGrD with specifier features other than [∗−INFL∗] (= not inflected)
     Then X can optionally acquire the feature [∗D-VISIBLE∗]

(30)

```
                    PP
                  /    \
                 P      DP
                aus    /   \
                      D     AgrD
                           /    \
                         AP      AgrD′
                       hart-em   /    \
                              AgrD      NP
                          [∗D-VISIBLE∗]  [D-VISIBLE]
                                        Holz-e
```

- discussion/problems:

  - downward Agree, but actually, an affix is looking for a licensor – so wrong direction?
  - it is an accident that the [D-visible] feature on the affix can be checked because the D/Adj does not inherently have the feature to check it, but this seems counter-intuitive
  - insertion has to be limited to dative singular (everybody's problem)
  - solution overgenerates in many cases, viz., if a [∗D-VISIBLE∗] is chosen but no dative-*e* on N (e.g. feminine declension)
  - also overgenerates if both D and AgrD carry [∗D-VISIBLE∗] as only one probe can be checked
  - D must have the probe feature if AP is absent; if AP is present, A must have the probe-feature and D must not – an accident under the present analysis
  - not clear why a genitive complement of N with a [∗D-VISIBLE∗] cannot check the feature on N as they would be sisters
  - what about specifiers of D? Given that probe-features have to be checked under sisterhood, the features of a specifiers could only be checked against D′, NP cannot be reached so that interaction with specifiers is correctly ruled out

References

Gallmann, Peter (1998): Case underspecification in Morphology, Syntax and the Lexicon. *In:* A. Alexiadou and C. Wilder, eds, *Possessors, Predicates and Movement in the Determiner Phrase*. Linguistik Aktuell / Linguistics Today 22, John Benjamins, Amsterdam, pp. 141–176.

Müller, Gereon (2002): 'Syntaktisch determinierter Kasuswegfall in der deutschen DP', *Linguistische Berichte* **189**, 89–114.

Sternefeld, Wolfgang (2004): Feature Checking, Case, and Agreement in German DPs. *In:* G. Müller, L. Gunkel and G. Zifonun, eds, *Explorations in Nominal Inflection*. Mouton de Gruyter, Berlin, pp. 269–299.

5 Post-syntactic reanalysis

5.1 Adjectival inflection

- Upward Agree?

    - dependency correct: inflection on A depends on the nature of D
    - potential problem: specifiers of D, as the feature on D may c-command the adj if it is visible on DP – but (Sören): the silent D head is closer, so arguably, the problem will not obtain
    - but: whatever feature we posit on the A, it is not clear what determines the feature on D: if there are just abstract features, it is not clear how to differentiate between *ein* (nom) and *ein-en* (acc): *ein* vs. *einen* shows that definiteness is not at stake; *d-er* vs. *ein* shows that Case is not at stake either
    - the relevant property of having an ending does not correspond to a morpho-syntactic feature on D (consider also cases where D is empty)

5.2 Visibility Conditions

- dependency: upward Agree?
- zero-marker and *-e* simply being subject to different contexts? e.g. *-e* only in the context of agr (whatever that means), and zero more generally for dative; problem: the *e*-suffix should always win in contexts where it is licensed as it is more specific (context counts for specificity)
- impoverishment: delete dative feature in a certain context. but: negative context: impoverish [dat, sg] in the context of, well absence of A/D ... not possible
- alternative (Sören): *-e*-Suffix is impoverished if the NP is adjacent to the Case-assigner (e.g. no AP/DP-shell); works für NP after P, but not after V since the NP/DP can move away from the Case-assigner
- enrichment (dative on N gets an extra feature): here, the context can be stated more straightforwardly (although a large part of structure must be inspected)
- how to capture the optionality? enrichment rule optional
- → the problem remains in that enrichment refers to syntactic features and not to surface properties such as having an ending
- contextual allomorphy? but: outward sensitive allomorphy
- alternative (Luise): vocabulary insertion at the phase level; unclear how this would exactly be done - the D/A-elements would still have to come before that for the N ...
- DPs just consisting of N = NP + NP can only get Case from D; complements of N must be DPs (to account for ineffability of genitive after N; plural dative = more structure, can get the case); cf. prepositions are part of the extended projection of N; but: leaves asymmetry between genitive and dative after V unaccounted for