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German determiner sharing as an epiphenomenon

1 In a nutshell

- determiner sharing (omission of a determiner or quantifier in gapping) in German can be reduced to two independent processes: gapping + split topicalization

(1) a. Jede Schülerin spielt Geige und ___$_D$ Lehrerin ___$_v$ Klavier.
         every student   plays violin and   teacher   piano
         "Every student plays the violin and every teacher plays the piano."

   b.
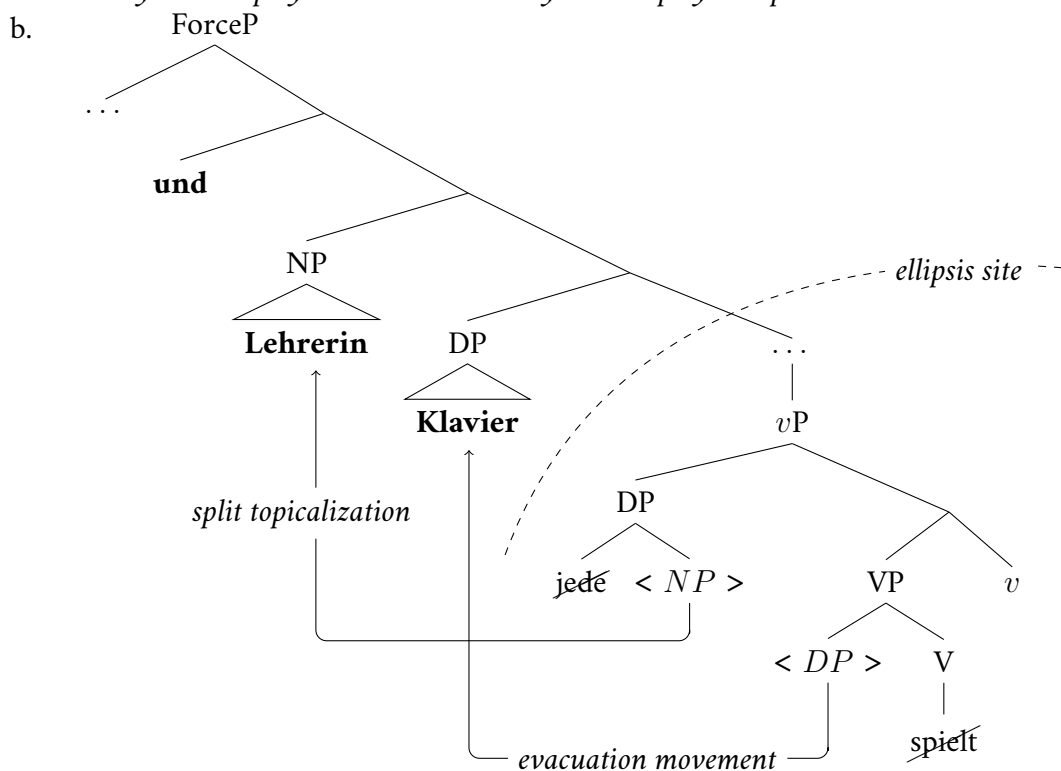
2 Determiner sharing

- first described by McCawley (1993) for English, many observations also hold in German

2.1 Properties of determiner sharing constructions

1. Determiner sharing is dependent on gapping.

   - omission of determiners/quantifiers without gapping is impossible, (2)

(2) *Jede Schülerin spielt Geige und ___D Lehrerin übt   Klavier.
every student plays violin and   teacher practices piano

- not every ellipsis can license DS: only gapping and stripping are suitable environments

(3) Anna probiert jeden Kräutertee und ___D Grüntee auch.
Anna tries   every herbal.tea and   green.tea too
"Anna tries every herbal tea and every green tea."

2. The nominal with the missing determiner must be initial in its conjunct.

- In (4), where an the direct object is fronted, and occupies the initial position, sharing of the determiner *viele* "many" in the subject of the second conjunct becomes impossible.

(4) #[Eine Pralinenschachtel] haben   viele Kollegen Petra   geschenkt und
      a   box.of.chocolates have many   colleagues P   given
[einen Blumenstrauß] ___AUX ___D Freunde ___VP.
and   a   bouquet   friends
intended: *"Many colleagues gave Petra a box of chocolates as a present, and many friends have given her a bouquet of flowers."*

3. The missing elements do not have to form a constituent.

- Not only single quantifiers can be shared, but also a complex of prenominal modifiers.

(5) Mindestens ein grüner Ball liegt im   Haus und ___D Eimer ___V im   Garten.
at.least   one green ball lies in.the house and   bucket   in.the garden
"At least one green ball is in the house and at least one green bucket is in the garden."

4. Low modifiers cannot be shared.

- Empirical picture is unclear. Not all determiners can be shared, but judgments vary a lot.

- Somewhat robust generalization: the indefinite article as well as bare numerals cannot be shared.

(6) a. *Ein Schüler spielt Geige und ___D Lehrer ___V Klavier.
       a   student plays violin and   teacher   piano
     b. #Vier Schüler spielen Geige und Lehrer   Klavier.
       four students play   violin and teachers piano

3 Gapping in German

Gapping in German is analyzed as involving large, **clause-sized conjuncts**, and **deletion of FinP** (following Hartmann 2000), with **movement of the remnants** of gapping out of the ellipsis site (move-and-delete).

3.1 Evidence for large conjuncts

1. No cross-conjunct binding

- In English gapping, the subject from conj1 can bind the subject from conj2, (7-a). Crucially, this binding is impossible if the verb is not gapped, (7-b) (Johnson 2004, 2009).

(7) a. Not every girl$_1$ ate a green banana and her$_1$ mother ~~ate~~ a ripe one. (Johnson 1996:26)
     b. #Not every girl$_1$ ate a green banana and her$_1$ mother ate a ripe one.

- German does not allow cross-conjunct binding, (8).

  (8) a. #Keine Studentin$_1$ wählt die CDU und ihr$_1$ Professor ~~wählt~~ die SPD.
            no   student   votes the CDU and her professor votes the SPD
       b. #Keine Studentin$_1$ wählt die CDU und ihr$_1$ Professor wählt die SPD.
            no   student   votes the CDU and her professor votes the SPD
            intended: *"No student votes for the CDU and her professor for the SPD."*

- The subject in the V2 structure in (8-a) arguably moves to the prefield, i.e., to Spec,CP. Still, it is not high enough to c-command the second subject. This can be accounted for if one assumes that the conjuncts are so large that it is not possible for the subject to move out of its conjunct. Thus, both subjects must be CPs, both subjects move only inside of their own conjunct.

2. V2 word order

   - Even though the finite verb is deleted in gapping, its position can be deduced from the position of an associated particle.

   - Particles can never occur in second position. In V2 structures, they are split from their verb and occur clause-finally, (9).

     (9) a. Er (*um)-fährt   jeden   Radfahrer um.
              He PARTC-drives every.ACC biker.ACC PARTC
              "He runs over every biker."
          b. Sie (*vor)-wirft   ihm seine Verfehlungen vor.
              she PARTC-throws him his   faults   PARTC
              "She reproaches him with his faults."

   - In gapping, we see that the particle also occurs clause-finally, indicating the split from a verb in V2, (10).

     (10) Sven und Julia können nicht gut Autofahren. Er fährt jeden   Baum   an   und sie
           Sven and Julia can   not   well drive   he drives every.ACC tree.ACC PARTC and she
           ~~fährt~~ jede   Oma   um.
           drives every.ACC grandma.ACC PARTC
           "Sven and Julia are terrible drivers. He bumps into every tree and she knocks over every grandma."

   - standard analysis for V2: V-to-C movement (den Besten 1977/1983; Schwartz & Vikner 1989 a.o.)
   - ⇒ conjuncts must be large enough to host a landing position for the verb, i.e., CPs

3. Object fronting

   - In gapping, a direct object can be topicalized in each conjunct, (11). The objects move to the position preceding the finite verb in V2, the prefield.

     (11) [Den   Baum] fährt mein Bruder an   und [die   Oma]   __$_v$ meine Schwester
           the.ACC tree   drives my   brother PARTC and the.ACC grandma   my   sister
           um.
           PARTC
           "My brother crashes against the tree and my sister runs the grandma over."

   - The conjuncts must be large enough to offer a landing position for topicalization.

3.2   Evidence for movement

1. Island sensitivity

   - remnants of gapping are sensitive to island boundaries (Hankamer 1979; Neijt 1979; Coppock 2001)

   - This sensitivity is expected if remnants have to move to escape the ellipsis site.

   - (12) and (12) illustrate just two island violations.

     (12)   *Complex NP constraint* (Coppock 2001)
        a.   *Some complained about the person who ate the seafood and others, bread.
        b.   *Manche haben sich über   die Person die   Meeresfrüchte gegessen hat beschwert
             some   have REFL about the person who seafood   eaten   has complained
             und andere, Brot.
             and others   bread

     (13)   *Adjunct island constraint* (Coppock 2001)
        a.   *Some danced after they ate seafood and others, bread.
        b.   *Manche haben getanzt nachdem sie   Meeresfrüchte gegessen haben und andere,
             some   have danced after   they seafood   eaten   have and others
             Brot.
             bread

2. Phrasal remnants

   - Only full phrases can be remnants of gapping, not heads (Lasnik 1999; Hartmann 2000; Merchant 2004; Boone 2014). This is in line with a move-and-delete theory of gapping, where remnants move to a specifier in a left periphery.

   - Hartmann (2000) argues explicitly for German that X^0-elements cannot be remnants of gapping. For instance, a preposition without its DP complement cannot be a remnant, (14). Hartmann also provides examples for articles, given here as (15), prefix verbs, and compounds (see Hartmann 2000:150ff).

     (14)   *Karl verlegt die Rohre über   den Putz   und Peter __v die Kabel unter   __DP.
            Karl installs the pipes under the plaster and Peter   the cables under
                                                                        (Hartmann 2000:149)

     (15)   *Peter traf den   Schrader und Martin __v die   __NP.
            Peter met the.MASC Schrader and Martin   the.FEM
            intended: *"Peter met a male member of the Schrader family and Martin met a female member of the Schrader family."*   (Hartmann 2000:149)

3. Particles

   - Transparent particles can be topicalized while other, more idiomatic ones cannot, (16).

     (16)   a.   Auf_i hat er die Tür __i gemacht.
                 open has he the door   made
                 "He opened the door."   *transparent*
            b.   *Auf_i   haben sie   das Stück __i geführt.
                 PRTCL have   they the play   performed
                 intended: *"They staged the play."*   *idiomatic*

- If only such elements that can undergo movement can be remnants of gapping, we would expect that only transparent particles can be remnants, while idiomatic ones cannot. This seems to be borne out, (17).

  (17) a. Er hat die Tür zu   gemacht und sie ___$_V$ ___$_{DP}$ auf.
            he has the door close made   and she   open
            "He closed the door and she opened it."
        b. *Er hat ihr zu   gehört und mit dem Quatsch auf   ___$_V$.
            he has her PRTCL listened and with the   nonsense PRTCL
            intended: *"He listened to her and stopped with the nonsense."*

3.3   Evidence for FinP deletion

- gapping minimally deletes the finite verb (e.g. Hankamer 1979; Hartmann 2000)

- finite verb in V2 structure and complementizer in complementary distribution ⟹ both realized in the same head

- Rizzi (1997): two positions for complementizers, ForceP and FinP

- word order in German shows that complementizers are low, in FinP, (18) (see also e.g. Grewendorf 2002)

  (18) a. Frog-s   doch, wia lang dass-s   no dobleim woin!
            ask-them PARTC how long COMP-they still stay   want
            "Ask them how long they want to stay!"   (*Bavarian*, Bayer 2004)
        b. [$_{ForceP}$ [$_{TopP}$ wia lang [$_{FocP}$ [$_{FinP}$ dass-s no dobleim woin]]]]

- FinP is the minimal constituent that contains the finite verb/the complementizer

4   Split topicalization

(19) <u>Fehler</u>   sind ihm <u>so</u>   richtig <u>dumme</u> gestern   <u>keine</u> unterlaufen.
      mistakes are   him PARTC <u>really</u> stupid yesterday no   occur
      "As for mistakes, he didn't make any really stupid ones yesterday."   (Pafel 1996)

- Phonetic material that belongs to a single phrase appears in more than one position.

- Some sort of movement of some element is involved in the derivation of these splits (for German see e.g. van Riemsdijk 1989; Tappe 1989; Diesing 1992; Kniffka 1996; Fanselow & Ćavar 2002; Ott 2012).

  – Island sensitivity:

  (20) *Coordinate structure constraint*
        *<u>Romane</u> hat Benni <u>drei</u> ___ gelesen und will   Caro viele (*Autos) kaufen.
        novels   has Benni three   read   and wants Caro many   cars   buy
        intended: *"As for novels, Benni has read three and Caro wants to buy many cars."*   (Ott 2011:25)

  – Licensing of parasitic gaps:

  (21) <u>Briefe</u> hat sie [ohne   *pg* zu Ende zu lesen] noch <u>keine</u> ___ weggeworfen.
        letters has she without   to end to read   yet   no   thrown.away
        "As for letters, she has not yet thrown any away without reading them."

- Connectivity effects:

(22) [Bücher von einander$_i$] sind uns$_i$ keine __ bekannt.
books of each.other are to.us no known
*"We don't know of books of each other."* (Van Riemsdijk 1989:115)

(23) Männern/*Männer helfe ich nur netten __.
men.DAT/ men.NOM help I only nice
"As for men, I only help nice ones."

- Any theory of split topicalization that is based on movement is compatible with the analysis of determiner sharing. I will not subscribe to any one approach to splits here.

5   Analysis

- If split topicalization applies to a remnant of gapping, the result is a determiner sharing structure, (24).

(24)   a.   Jede Schülerin spielt Geige und __$_D$ Lehrerin __$_v$ Klavier.
every student plays violin and teacher piano
"Every student plays the violin and every teacher plays the piano."

b.
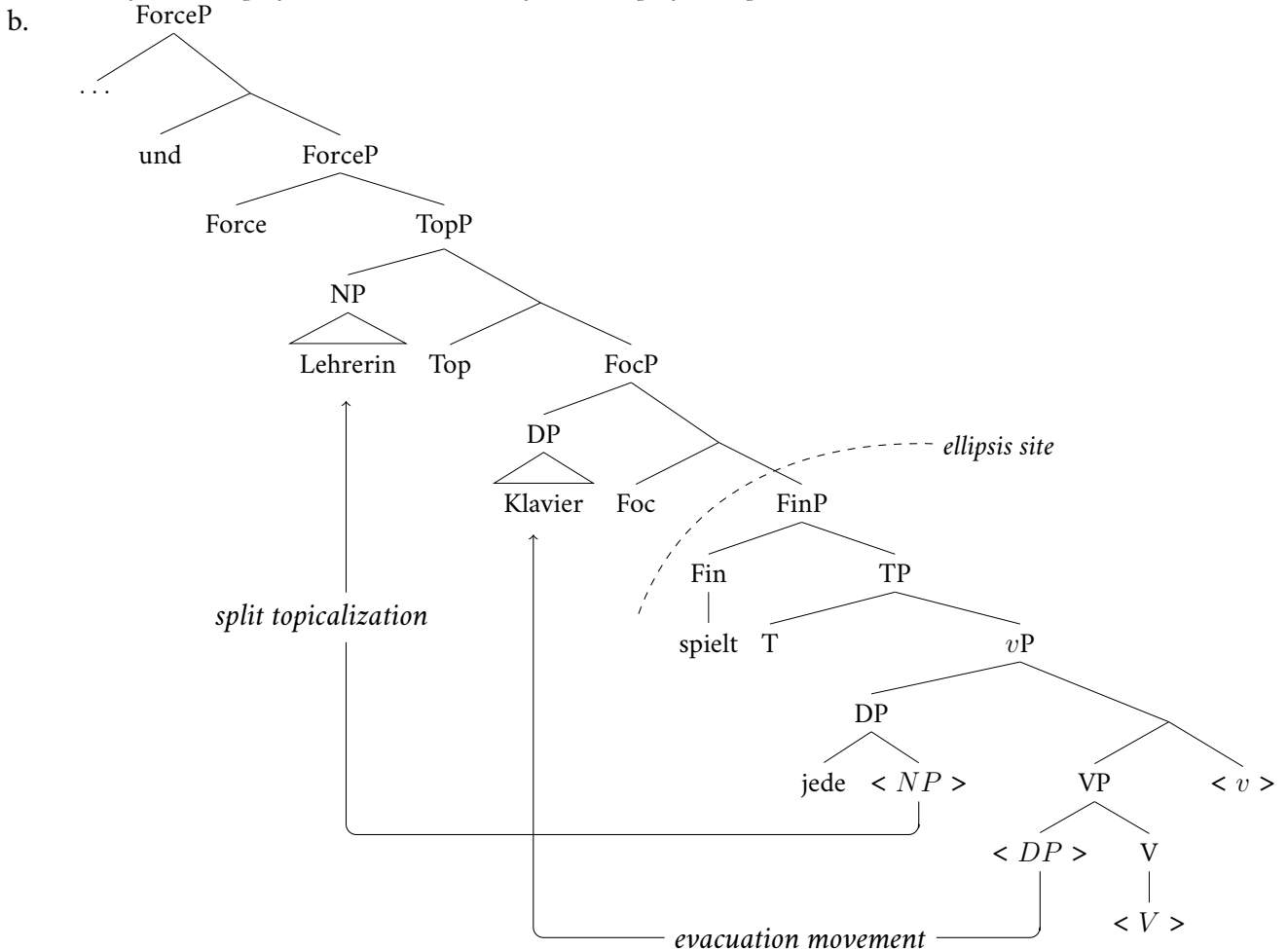
- Note that split topicalization is possible independent of deletion of FinP, (25).

(25)   Jede Schülerin spielt Geige und Lehrerin spielt jede __ Klavier.
every student plays violin and teacher plays every piano
"Every student plays the violin and as for teachers, everyone plays the piano."

- Evidence for the movement relation of the determiner-shared NP to a position in the ellipsis site comes from syntactically conditioned case omission.

  – Overt case markers can occur on determiners, adjectives, and nouns. In some cases, nouns appear without them, (26).

  (26) a. ein Orchester ohne eigen-en Dirigent-en
            a   orchestra without proper-ACC conductor-ACC
        b. ein Orchester ohne Dirigent
            a   orchestra without conductor.ACC

  – Nouns can only bear a case suffix if there is **another overtly case-marked element** (adjective or determiner) within the same DP in concord with the noun (Gallmann 1996, 1998, see also Müller 2002; Sternefeld 2004). This is illustrated for dative *-e* in (27).[1]

  (27) a. ein Schiff aus Holz
            a   ship   made.of wood.DAT
        b. *ein Schiff aus Holz-e
            a   ship   made.of wood-DAT
        c. ein Schiff aus hart-em Holz/ Holz-e
            a ship made.of hard-DAT wood.DAT/ wood-DAT

  (Sternefeld 2004:269)

  – In DS, the NP whose determiner has been deleted can carry the overt case marker, such as *Kind-e* "child" in (28-a).

  (28) a. Jedem   Erzieher   ist ein Hund   gefolgt und __ Kind-e   __v
            every-DAT kindergarten.teacher.DAT is a   dog.NOM followed und   child-DAT
            eine Katze.
            a   cat.NOM
            "Every kindergarten teacher was followed by a dog and every child was followed by a cat."
        b. Jedem   Jagdrevier fehlt ein Jäger   und __ Wald-e   __v ein Förster.
            every-DAT shoot.DAT lacks a   hunter.NOM and   forest-DAT   a   forester.NOM
            "Every shoot lacks a hunter and every forest lacks a forester."
        c. Jedem   Dekan gratuliert   eine Bürgermeisterin und __ Professor-en eine
            every-DAT dean congratulates a   mayer   and   professor-DAT   a
            Studentin.
            student
            "A mayor congratulates every dean and a student congratulates every professor."

  – This suggests that the dative-marked noun must have once been in agreement with a determiner that can carry overt case marking. We can account for this if we propose that the noun was base-generated in a DP with a case-marked determiner, which has subsequently been deleted, and the noun can surface with dative *-e(n)* because it has escaped deletion by moving away from its base position, out of the ellipsis site, leaving its determiner behind.

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[1]Note that dative *-e* is generally optional and somewhat archaic in modern German. However, if it does appear, it can only do so in the context of another overtly case marked element, like the adjective *hartem* in (27-c).

Accounting for the properties of determiner sharing:

1. The gapping generalization:

   - DS can never occur without gapping because the deletion operation that elides the determiner is identical to the deletion operation that elides the finite verb. The verb, functional projections, as well as the determiner are all left in the ellipsis site.

2. The initial element generalization:

   - Topicalization targets TopP, which is located above FocP, the landing site for the second remnant. The split NP will always surface to the left of a non-split NP.
   - This is in line with the observation that the first remnant of gapping is interpreted as a contrastive topic, while the second one is interpreted as a contrastive focus (e.g. Winkler 2016).

3. The no-constituent generalization:

   - Arbitrarily many prenominal modifiers can be shared, because they can be left behind in the ellipsis site. The deleted material does not need to behave as a constituent for (internal) Merge or Agree.

4. The no-low modifiers generalization:

   - Low modifiers may be too low in the nominal domain such that they cannot be split from the NP in topicalization.
   - The indefinite article cannot be shared, (29-a) and cannot be split, (29-b).

   (29) a. *Ein Hund springt in   die Pfütze und ___$_D$ Frosch ___$_V$ in   den Teich.
             a   dog   jumps into the puddle and   frog   into the pond
         b. *Katze hab ich hier eine gesehen.
             cat   have I   here a   seen

   - Note that another version of (29-b) is possible, however, there we are dealing with the homophonous numeral *eine* "one", as can be seen from the modifier *nur* "only".

   (30) Katze habe ich hier nur eine gesehen.
         cat   have I   here only one seen
         "As for cats, I have only seen one here."

   - Numerals, which cannot be shared, can occur in split topicalizations, (31). The impossibility of numerals in determiner sharing remains a topic for further research.

   (31) a. #Zwei Hunde springen in   die Pfütze und ___$_D$ Frösche ___$_V$ in   den Teich.
             two dogs jumps   into the puddle and   frogs   into the pond
             Only reading: *"Two dogs jump into the puddle and frogs in general jump into the pond."*
         b. Katzen hab ich hier zwei gesehen.
             cats   have I   here two seen
             "As for cats, I have seen two here."

6   Conclusion

I argue that a type of non-constituent ellipsis in which the finite verb and a quantifier or determiner are deleted, known as determiner sharing structures, can be analyses as the result of the interaction of two existing, independent processes, gapping and split topicalization.

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