Determiner sharing in German by clausal ellipsis and split topicalization

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Abstract

In *determiner sharing*, a quantifier may be omitted from a coordination in the context of another ellipsis. This paper proposes a novel analysis on the basis of new German data: determiner sharing arises from the interaction of clausal ellipsis and split topicalization. I show that the apparent parasitism of determiner sharing can be derived without any further assumptions. The success of this analysis supports Move-and-Delete approaches to ellipsis.

Keywords: determiner sharing, gapping, split topicalization, ellipsis

1 Introduction

Determiner sharing is the term given by McCawley (1993) to structures like (1) in which a determiner[1] is omitted from a non-initial conjunct in a coordination. The omission of the determiner creates the illusion that the interpretation of the overt determiner in the initial conjunct is *shared* between two NPs. In this paper, I investigate novel data of determiner sharing in German, (2). In English as well as German, the construction is subject to speaker variation and not accepted by all speakers. However, acceptability judgment experiments have shown that a subset of speakers of German do accept determiner sharing structures (see Schwarzer

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[1]I use *determiner* descriptively to refer to all modifiers that are elided in this construction, not just D^0 elements. Mostly, the shared elements will be quantifiers.

2   *Determiner sharing in German*

2022).[2] The analysis presented here aims to explain the grammar of this subgroup of speakers.

(1)   Few dogs like Whiskas and ~~few~~ cats ~~like~~ Alpo.   (Johnson 2000)

(2)   a.   Jede Schülerin mag Katzen und ~~jede~~   Lehrerin ~~mag~~ Hunde.
          every student   likes cats   and every teacher   likes dogs
          'Every student likes cats and every teacher likes dogs.'
      b.   Die meisten Frauen haben mit   'Ja' gestimmt und ~~die meisten~~
          the most   women have   with yes voted   and the most
          Männer ~~haben~~ mit   'Nein' ~~gestimmt.~~
          men   have   with no   voted
          'Most women voted 'yes' and most men voted 'no'.'

Not only a quantifier, but also the verb has been deleted in (1), (2). This is the core puzzle of determiner sharing: omission of the determiner is dependent on another ellipsis, such as gapping (McCawley 1993; Johnson 2000; Lin 2002; Ackema and Szendrői 2002; Arregi and Centeno 2005; Citko 2006). *Gapping* commonly refers to verbal ellipsis, (3-a). (3-b) shows that without gapping, when the verb surfaces in the second conjunct overtly, omission of the quantifier is ungrammatical.

(3)   a.   Jede Schülerin mag Katzen und jede Lehrerin ~~mag~~ Hunde.
          every student   likes cats   and every teacher   likes dogs
          'Every student likes cats and every teacher likes dogs.'
      b.   *Jede Schülerin mag Katzen und ~~jede~~   Lehrerin mag Hunde.
          every student   likes cats   and every teacher   likes dogs

Even though it seems that determiner sharing is parasitic on another type of ellipsis, I argue the syntactic architecture need not be fundamentally extended to include parasitic operations (in line with e.g, Johnson 2000; Lin 2002; Arregi and Centeno 2005, *contra* proposals by Ackema and Szendrői 2002; Fitzgibbons 2014; Schwarzer 2021). The grammar of German already contains the building blocks that can interact in a way that derives determiner sharing structures. Concretely, I propose that determiner sharing arises from the interaction of ellipsis, such as gapping, and split topicalization. *Split topicalization* refers to sentences such as (4), in which a noun is moved to the left periphery while its modifier is stranded in base position (e.g., Van Riemsdijk 1989; Fanselow and Ćavar 2002; Ott 2011).

(4)   [$_{CP}$ Hunde$_i$ [$_C$ magst [$_{TP}$ [$_{vP}$ du   [$_{VP}$ gar   keine t_i]]]]].
          dogs.ACC   like   you.NOM   at.all no.ACC
          'As for dogs, you don't like any of them.'

To preview the analysis, I argue that the structure that has been called determiner sharing is an elliptical version of a split topicalization structure. When gapping

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[2]In the study, determiner sharing sentences receive intermediate ratings. They are significantly more acceptable than ungrammatical controls, as determined by a two-sample t-test ($t(1429)$=30.1, p<0.001). But they are also degraded in comparison to shorter, non-elliptical grammatical sentences ($t(436)$=26.6, p<0.001). A cluster analysis reveals that there are two groups of speakers: one that rejects determiner sharing (64% of participants), and one that accepts it (36%). No effect of a dialectal area could be detected, see also Sect. 5.5.1.

occurs in a clause with split topicalization, the bare noun at the left periphery is outside of the ellipsis site created by gapping and the determiner or quantifier that is left *in situ* will be contained inside the ellipsis site and therefore deleted, see (5) and (6).[3] This creates a structure in which a bare noun is the first overt phrase of the conjunct. I show that this combination of independent processes accounts for all of the properties of determiner sharing.

(5) Jede Schülerin mag Katzen und [$_{CP}$ Lehrerin$_i$ [$_{C'}$ Hunde$_j$ [$_C$ ~~mag ...~~
     every student   likes cats   and   *teacher   dogs   likes*
     [$_{vP}$ ~~jede t_i~~ [$_{VP}$ ~~t_j t_V~~]]]].
        every
     'Every student likes cats and as for teachers, every teacher likes dogs.'

(6) *The conspiracy of ellipsis and split topicalization*
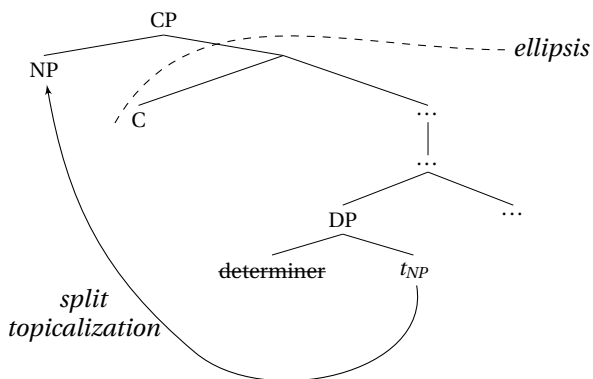
In this type of analysis, determiner sharing is directly predicted by the *Move-and-Delete* approach to ellipsis (Sailor and Thoms 2014, see also e.g., Pancheva 2010; Döring 2014; Weir 2014b; Shen 2018; Overfelt 2021). In the Move-and-Delete approach, all overtly realized phrases in an elliptical structure (the *remnants* of ellipsis) must undergo movement out of the ellipsis site. For instance, in gapping, the first remnant must topicalize to the left periphery. In general, topicalization in German may optionally *split* NP and modifier. If topicalization is a core component of gapping, we would expect splits to be possible as well. I argue that this is exactly the structure that is described as determiner sharing. I aim to show that the Move-and-Delete approach makes the right predictions in a new empirical domain, and characteristics of sharing structures can be derived without further assumptions. The treatment of determiner sharing supports this approach in the sense that (i) it is a borne out prediction and (ii) the approach can directly capture all of the properties of determiner sharing.

   To this end, the paper is structured as follows: Section 2 presents an overview of the empirical properties of German determiner sharing that any analysis must

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[3]Some reviewers disagreed with the judgment given for sentences like (5), in a singular noun is topicalized. As far as I know, splits with singular nouns and with *jeder* "every" specifically have been reported as acceptable, see e.g., Ott (2011, 20f.,149),Van Hoof (2017, fn. 10), Fehlisch (1986, 97). Speakers who do not accept splits with singular nouns are predicted to also reject determiner sharing with singular nouns given the present analysis.

be able to derive. Section 3 is concerned with gapping, the environment in which sharing typically arises. I argue that gapping in German should be analyzed as clausal ellipsis, and that remnants show symptoms of movement. In section 4, I show similarities between split topicalization and determiner sharing. Section 5 develops the analysis, including a discussion of the ellipsis-Comp generalization and exceptional movement. Section 6 discusses implications of the analysis and cross-linguistic variation. Section 7 concludes.

2 Properties of German determiner sharing

This section provides an overview of the empirical properties of determiner sharing structures in German.[4] They are characterized by three descriptive generalizations: (i) determiner sharing is dependent on another type of ellipsis, (ii) the noun with the omitted determiner must be initial in its conjunct, and (iii) the shared material need not form a constituent.

2.1 Parasitism on ellipsis

McCawley (1993) observes the most intriguing property of determiner sharing structures: ellipsis of the determiner seems to be possible only if the (finite) verb is omitted as well (see also Lin 2002; Centeno 2012). He describes this for English, but the same is true for German, compare (7-a) and (7-b), repeated from above.

(7)   a. Jede Schülerin mag Katzen und ~~jede~~ Lehrerin ~~mag~~ Hunde.
            every student   likes cats   and every teacher   likes dogs
            'Every student likes cats and every teacher likes dogs.'
        b. *Jede Schülerin mag Katzen und ~~jede~~ Lehrerin mag Hunde.
            every student   likes cats   and every teacher   likes dogs

The ungrammaticality of (7-b) indicates that, in general, ellipsis of a quantifier or determiner is not acceptable, even if there is an identical antecedent. Instead, gapping of the verb seems to be a necessary condition for determiner sharing.

  While previous literature has described determiner sharing only in gapping contexts (Johnson 2000; Lin 2002; Ackema and Szendrői 2002; Arregi and Centeno 2005; Citko 2006, but see Centeno 2012), I show that it can occur with other types of ellipsis, too. Concretely, determiner sharing can arise in stripping/bare argument ellipsis and fragment answer contexts in German. First, *stripping* refers to ellipsis in a coordination that leaves a single remnant and an additive or negative particle (see e.g. Depiante 2000; Merchant 2004). (8) shows that stripping can give rise to determiner sharing in German.[5]

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[4] I limit discussion to determiner sharing in subject positions. Note that object determiner sharing is possible, (i).

(i)   Jedes   Buch   liest die   Lehrerin   und ~~jedes~~ Magazin   ~~liest~~ die   Schülerin.
        *every.*ACC *book.*ACC *reads the.*NOM *teacher.*NOM *and every.*ACC *magazine.*ACC *reads the.*NOM *student.*NOM
        'Every book, the teacher reads and every magazine, the student reads.'

The analysis presented below for subject determiner sharing carries over to sentences like (i), see also Schwarzer (2022) for discussion.

[5] M. Frazier, p.c., notes that stripping can also create determiner sharing in English, (i).

(8)   a.   Jede Schülerin mag Katzen, und jede Lehrerin ~~mag~~ auch ~~Katzen~~.
              every student   likes cats   and every teacher likes too   cats

        b.   Jede Schülerin mag Katzen, und ~~jede~~ Lehrerin ~~mag~~ auch ~~Katzen~~.
              every student   likes cats   and every teacher likes too   cats
              'Every student likes cats and every teacher, too.'

Second, fragment answers can license determiner sharing. Fragments are the remnants of clausal ellipsis in an answer-utterance (see e.g., Merchant 2004; Weir 2014a), as in (9).

(9)   a.   *What did you see?*

        b.   [DP Einen Singvogel]i   [TP ~~habe ich~~ t_i ~~gesehen~~]
              a.ACC *songbird*.ACC   *have I   seen*
              'A songbird.'

Given a sufficiently parallel antecedent, determiner sharing seems to be possible across utterances, similarly to gapping, as in (10).

(10)   a.   Mag jede SCHÜLERIN Hunde?
              likes every student   dogs
              "Does every student like dogs?"

        b.   Nein, LEHRERINi [TP ~~mag jede~~ t_i ~~Hunde~~]
              no   teacher   likes every   dogs
              'No, every teacher likes dogs.'

In sum, there seems to be nothing special about gapping such that only gapping can license determiner sharing. I revise McCawley's (1993) generalization: omission of a determiner is not dependent on gapping specifically, but on *another ellipsis* in the same clause, (11).

(11)   *The ellipsis generalization*
        Determiner sharing is only possible in ellipsis contexts.

Ackema and Szendrői (2002) discuss apparent counter-examples to the ellipsis generalization. They find that in embedded CP-coordinations with *wh*-movement, the *wh*-phrase can apparently be shared without any ellipsis. They made this observation for sharing in English, but German is completely parallel, (12).

(12)   a.   Wie viele Gemälde werden niemals gesehen und ~~wie viele~~ Bücher
              how many paintings are   never seen   and how many books
              (*werden) niemals gelesen?
               are   never   read

        b.   Ich frage   mich wie viele Gemälde niemals gesehen werden und
              I wonder REFL *how many painting never seen   are   and*
              ~~wie viele~~ Bücher niemals gelesen (werden).
              how many books   never   read   are

(i)   Every student likes cats and ~~every~~ teacher ~~likes cats~~, too.

> '(I wonder) how many paintings will never be seen and how many books will never be read.'
>
> (based on Ackema and Szendrői 2002, 29)

(12-a) behaves as McCawley would predict: ellipsis of the *wh*-phrase is only possible if the auxiliary is deleted as well. However, (12-b) allows *wh*-sharing in the embedded clause seemingly without ellipsis. Ackema and Szendrői (2002) argue that there *is* ellipsis in cases like (12-b), only it is not verbal material that is elided but the complementizer (an observation going back to at least Fiengo 1974, see also Sect. 3.3). In languages with a Doubly-Filled Comp Filter such as standard German and English (e.g., Chomsky and Lasnik 1977; Koopman 2000; Van Gelderen 2013; Bacskai-Atkari 2020), they argue that the complementizer is independently non-overt in the context of *wh*-movement. The relevant contrast is visible in varieties that allow a Doubly-Filled Comp: consider Bavarian German in (13). (13-a) shows that overt complementizers generally can co-occur with *wh*-movement. In the sharing construction in (13-b), an overt complementizer degrades the sentence.

(13)   a.   I frog   mi   [wia vui   Biacha dos   d-Maria   glesen hod] und
             I wonder REFL *how many books*   COMP *the-Maria read   has   and*
             [wia vui   Fuim   dos   d-Peter   gschaut hod].
             how many movies COMP *the-Peter seen   has*

        b.   *I frog   mi   [wia vui   Biacha dos   d-Maria   glesen hod] und
             I wonder REFL *how many books*   COMP *the-Maria read   has   and*
             [~~wia vui~~   Fuim   dos   d-Peter   gschaut hod].
             how many movies COMP *the-Peter seen   has*
             'I wonder how many books Maria has read and how many movies Peter has seen.'   *Bavarian*

Ackema and Szendrői (2002) argue that gapping targets C^0, which is filled by the finite verb in V2-root clauses in German, and by the complementizer in embedded clauses (see also e.g., Fiengo 1974; Wilder 1994, 1996; Hendriks 1995; Hartmann 2000), and thus sentences like (12-b) do not constitute counter-examples to the ellipsis generalization.

In sum, the data discussed in this section indicate that ellipsis of a determiner is not independently possible in German, but acceptable if another ellipsis such as gapping or stripping occurs in the same clause.

2.2 Position of the bare noun

The second crucial property of determiner sharing is a restriction on the position of the nominal. McCawley (1993) observes that the NP from which the determiner is omitted must be the first constituent in the second conjunct. Again, McCawley (1993) found this for English, (14), but German behaves exactly the same, (15).

(14)   a.   How many cathedrals are there in Hartford, or ~~how many~~ opera
             houses ~~are there~~ in Detroit?

b. *In Hartford, how many cathedrals are there, or in Detroit, ~~how many~~ opera houses ~~are there?~~   (McCawley 1993, 247)

(15) a. Jeder   Kollege   hat Petra   Pralinen   geschenkt
          every.NOM *colleague*.NOM *has Petra*.DAT *chocolates*.ACC *given*
          und [~~jeder~~   Freund]   ~~hat Petra~~   Blumen   ~~geschenkt~~.
          and every.NOM *friend*.NOM *has Petra*.DAT *flowers*.ACC *given*
          'Every colleague has given chocolates to Petra as a present and every friend has given her flowers.'
      b. ?*Pralinen   hat jeder   Kollege   Petra   geschenkt
          chocolates.ACC *has every*.NOM *colleague*.NOM *Petra*.DAT *given*
          und [Blumen]   ~~hat Petra~~   [~~jeder~~   Freund]   ~~geschenkt~~.
          and flowers.ACC *has Petra*.DAT *every*.NOM *friend*.NOM *given*

In (15-b) where the direct object of the second conjunct is fronted and occupies the initial position, sharing of the determiner *jeder* "every" in the subject of the second conjunct becomes impossible. It seems that as soon as another element occupies the initial position in the elliptical conjunct, determiner sharing is blocked. This is captured in the generalization in (16).

(16)   *The first-element generalization*
        The element with the omitted determiner must be the first constituent of the elliptical conjunct.

2.3 Constituency of omitted material and remnants

Not only single quantifiers or determiners can be shared, but also pre-nominal modifiers and other material in addition to the determiner, see (17). The elements that can be shared need not form a constituent without the head noun.

(17) a. [DP Viele [kleine [grüne [NP Bälle]]]] liegen im   Haus und [DP
              many   small   green   balls   lie   in.the house and
          ~~viele~~ [~~kleine~~ [~~grüne~~ [NP Eimer]]]] ~~liegen~~ im   Garten.
          many   small   green   buckets lie   in.the garden
          'Many small green balls are in the house and many small green buckets are in the garden.'
      b. [DP Jeder [zweite [NP Schüler]]] leidet unter Stress und [DP ~~jeder~~ [
              every second   student   suffers under stress and   every
          ~~zweite~~ [NP Lehrer]]] ~~leidet~~ unter Lärm.
          second   teacher suffers under noise
          'Every other student suffers from stress and every other teacher suffers from noise.'

In contrast, the remnant itself must form a constituent. Put differently, determiner sharing cannot skip elements in DP. A remnant like *small buckets* as in (18) cannot receive a determiner sharing interpretation, where it should be interpreted parallel

to the antecedent. While the initial quantifier *many* could be shared, the interven-ing adjective *green* cannot. Presumably this is because *small* and *buckets* do not form a constituent to the exclusion of *green*.

(18)   #[DP Viele [kleine [grüne [NP Bälle]]]] liegen im   Haus und [DP ~~viele~~ [
        many small green   balls lie   in.the house and   many
        kleine [~~grüne~~ [NP Eimer]]]] ~~liegen~~ im   Garten.
        small green   buckets lie   in.the garden
        *'Many small green balls are in the house and many small green buckets are in the garden.'   (shared reading)
        ✓'Many small green balls are in the house and small buckets are in the garden.'   (non-shared reading)

This leads to the following generalization:

(19)   *The non-constituent generalization*
        If more than just a determiner is shared, the deleted elements need not form a constituent.

In sum, we arrive at the list of properties of determiner sharing structures in (20). A successful analysis must account for all of these properties.

(20)   *Determiner sharing generalizations*
        a.   The ellipsis generalization: determiner sharing is only possible in gapping contexts.
        b.   The first-element generalization: the element with the omitted deter-miner must be the first constituent of the conjunct.
        c.   The non-constituent generalization: if more than just a determiner is shared, the deleted elements need not form a constituent.

In the following sections, we will look at the two processes that create determiner sharing, ellipsis, using gapping as a concrete example, and split topicalization.

3 Gapping in German as clausal ellipsis plus movement

Even though gapping looks like ellipsis of the verb, there is evidence to suggest that it actually involves ellipsis of a clausal projection in German.[6] This, and the

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[6]It is sometimes claimed that gapping can apply in two "directions": in *forward* gapping, the finite verb is deleted in the non-initial conjunct (i-a), while in *backward* gapping, material is missing from the initial conjunct. Backward gapping is only possible in embedded verb-final clauses in German, (i-b).

(i)   a.   [Die Schülerin liebt Katzen] und [die Lehrerin ~~liebt~~ Hunde]
            the student   loves cats   and the teacher   loves dogs
        b.   Ich denke, [dass die Schülerin Katzen ~~liebt~~] und [die Lehrerin Hunde liebt]
            I   think that the student   cats   loves and the teacher   dogs   loves
            'I think that the student loves cats and the teacher loves dogs.'

I take the position that the backwards application is an illusion, and gapping can only ever apply forward, i.e., produce an ellipsis site in the non-initial conjunct. I follow a long tradition of research here in assuming that what sentences like (i-b) show is a case of Right Node Raising (RNR, e.g., Maling 1972; Hankamer 1979; Wesche 1995; Kornfilt 2000; Ha 2008; Hernández 2007; Ackema 2010). Therefore the rest of this paper only considers gapping sentences like (i-a).

exceptional movement of a second remnant make it similar to multiple sluicing in German. If gapping affects different underlying structures in German than in English, the previous analyses for determiner sharing which have been designed for languages like English cannot be applied to German, and we are in need of a new approach.

The aim of this section is to establish three points: first, gapping in German involves the coordination of clause-sized conjuncts. This is relevant since previous analyses of determiner sharing are built on approaches to gapping that involve small, vP-sized conjuncts (e.g., Johnson 2000; Lin 2002). I show that in German, the evidence coming from the lack of cross-conjunct binding, the word order of particles, and fronted objects, points to a *large-conjunct*-analysis of gapping and therefore calls for a novel analysis of determiner sharing. Second, I show that the remnants of gapping undergo movement out of the ellipsis site with evidence from clause-boundedness and embedding under factive verbs. Third, I argue, based on Hartmann (2000), that gapping should be analyzed as ellipsis of a clausal projection, specifically CP (but see Sect. 5.2 for a discussion of alternatives, i.e., TP/C′-ellipsis).

3.1 Clausal conjuncts

3.1.1 Lack of cross-conjunct binding

In English, in coordinations in which the verb is gapped, the subject in the first conjunct can bind the subject in the second one, as in (21) (see e.g., McCawley 1993; Johnson 2004, 2009; Kennedy 2001). This binding is not possible in non-gapping coordinations. German does not show this contrast, (22).

(21)   Not every$_1$ girl ate a green banana and her$_1$ mother (*ate) a ripe one.

(Johnson 1996, 26)

(22)   #Nicht jedes$_1$ Mädchen hat eine grüne Banane gegessen und ihre$_1$ Mutter
        not   every   girl   has a   green banana eaten   and her   mother
        (hat) eine reife   (gegessen).
        has a   ripe.one eaten
        intended: 'Not every girl$_1$ ate a green banana and her mother$_1$ a ripe one.'

In English, cross-conjunct binding is an argument for small conjuncts in gapping: binding is only possible if the subject of the first conjunct is in a high enough position to c-command the subject of a non-initial conjunct. The proposed analysis in Johnson (2009) is that the subject of the initial conjunct can move (asymmetrically) to a higher position, Spec,TP, while the second subject stays low in its first-merge position in Spec,vP. This entails that the coordination occurs below TP, i.e., the conjuncts are vPs, (23).

(23)   [$_{TP}$ every$_i$ girl [[$_{vP}$ t ...] and [$_{vP}$ her$_i$ mother ...]]]

The lack of cross-conjunct binding in German gapping suggests that conjuncts must be large enough to contain the landing sites of the subjects in order to rule

out c-command of one subject over the other. Since (22) shows a V2 structure, that landing site is the high left periphery, Spec,CP (the so-called *prefield*, Höhle 1986). Even there the first subject is not high enough to c-command the second one. This suggests that both subjects move only inside of their own conjunct, and consequently both conjuncts must be CPs, (24).

(24)   [[$_{CP}$ [*jedes$_i$ Mädchen*] ... [$_{vP}$ *t* ...]] *und* [$_{CP}$ [*seine$_i$ Mutter*] ... [$_{vP}$ *t* ...]]]

3.1.2 Object fronting

Hartmann (2000, 158) introduces an argument from gapping in complement clauses. With gapping in embedded clauses, the complementizer must be obligatorily non-overt (see also Hendriks 1995; Lechner 2018). Gapping of the verb with an overt complementizer is ungrammatical, (25).

(25)   a.   *Ich glaube, [$_{CP}$ dass Peter mit   seiner Frau nach Indien reist]   und
              I   believe   that Peter with his   wife to   India   travels and
              [$_{CP}$ dass Martin mit   seinen Kollegen   in die Schweiz   ~~reist~~].
                  that Martin with his   colleagues in the Switzerland travels
        b.   Ich glaube, [$_{CP}$ dass Peter mit   seiner Frau nach Indien reist]   und
              I   believe   that Peter with his   wife to   India   travels and
              [$_{CP}$ ~~dass~~ Martin mit   seinen Kollegen   in die Schweiz   ~~reist~~].
                  that Martin with his   colleagues in the Switzerland travels
              'I think that Peter will travel to India with his wife and Martin will travel
              to Switzerland with his colleagues.'   (Hartmann 2000, 158)

In principle, (25-b) could receive an analysis like (26), in which TPs are coordinated under a single complementizer, i.e., there is no complementizer in the second conjunct that is subject to ellipsis.

(26)   I think [$_{CP}$ that [$_{TP}$ ...] and [$_{TP}$ ...]]

However, Hartmann points out that embedded *wh*-clauses show that such an analysis is on the wrong track. In (27), the *wh*-element cannot be left out of the second conjunct. Since *wh*-words must move to the left periphery in German, she concludes that examples like (27) suggest that the conjuncts must be CPs. An analysis like (28), analogous to (26), in which a *wh*-word moves across-the-board from two embedded TPs is ruled out.

(27)   Ich vergesse immer [was   Peter   Ute   *t* geschenkt hat] und
        I   forget   always what.ACC *Peter*.NOM *Ute*.DAT *given   has and*
        [*(was)   sie   ihm   ~~*t* geschenkt hat~~]
            what.ACC *she*.NOM *him*.DAT *given   has*
        'I always forget what present Peter has given to Ute and what present she
        has given to him.'   (based on Hartmann 2000, 158)

(28)   *I forget [$_{CP}$ what [$_{TP}$ ... *t* ...] and [$_{TP}$ ... *t* ...]]

In summary, I have presented two arguments in favor of the large size of gapping conjuncts in German. The evidence in this section suggests that gapping involves clausal coordination, and that smaller, vP-sized conjuncts are unavailable in German gapping, indicating that small conjunct analyses of determiner sharing cannot be applied to German.

3.2 Movement of the remnants

This section presents arguments that suggest that the remnants of gapping undergo movement. If it can be shown that there is independent evidence for a Move-and-Delete approach to gapping, and we know that determiner sharing is dependent on gapping-like ellipses, then determiner sharing arises automatically with split topicalization as the type of movement that evacuates a remnant from the ellipsis site.

3.2.1 Clause-boundedness

A first piece of evidence comes from the clause-boundedness of gapping. Gapping respects (finite) clause boundaries (e.g., Johnson 2004).[7]

(29) *Maria behauptet [dass Anne Äpfel   mag] und Julia Orangen₍ᵢ₎ ~~behauptet~~
       Maria claims   that Anne apples likes and Julia oranges   claims
       [~~dass Anne~~ t_i ~~mag~~]
       that Anne   likes
       intended: 'Maria claims that Anne likes apples and Julia claims that Anne
       likes oranges.'

(29) shows that a remnant, *Orangen*, may not originate in an embedded finite clause. In this respect, the remnants behave just like other phrases that undergo clause-bound movement, such as scrambling, (30).

(30) *Maria hat behauptet dass Anne Äpfel   mag und Julia hat Orangen₍ᵢ₎
       Maria has claimed   that Anne apples likes and Julia has oranges
       behauptet [dass Anne t_i mag].
       claimed   that Anne   likes
       intended: 'Maria claimed that Anne likes apples and Julia claimed that
       Anne likes oranges.'

Gapping and scrambling also behave parallel in non-finite embedded clauses in the context of restructuring. Restructuring environments, which are considered to lack a clause boundary (e.g., Zagona 1982; Wurmbrand 2001; Lee-Schoenfeld 2008) permit both gapping and scrambling, (31), while non-restructuring contexts block both, (32).

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[7]It has also been argued that gapping is constrained by island boundaries, e.g., Neijt (1979); Pesetsky (1982); Coppock (2001). Vanden Wyngaerd (1993) and Johnson (2004) argue that island constraints are not restrictive enough to account for the distribution of gapping, and that it rather seems to track the restrictions of long-distance scrambling and multiple sluicing.

(31) a. dass jeder   [den   Traktor   zu reparieren] versucht hat aber
          *that everybody the.*ACC *tractor.*ACC *to repair   tried   has but*
          niemand$_i$ das   Motorrad$_{ii}$ ~~dass t_i~~ [t_{ii} ~~zu reparieren~~] ~~versucht~~
          *nobody   the.*ACC *motorbike.*ACC *that   to repair   tried*
          ~~hat~~
          has
          'that everyone tried to repair the tractor but nobody the motorbike'
      b. dass das   Motorrad$_i$ niemand [t_i zu reparieren] versucht hat
          *that the.*ACC *motorbike.*ACC *nobody   to repair   tried   has*
          'that nobody tried to repair the motorbike'

(32) a. *dass jeder   [den   Traktor   reparieren zu müssen] bedauert
          *that everyone the.*ACC *tractor.*ACC *repair   to must   regrets*
          aber niemand$_i$ das   Motorrad$_{ii}$ ~~dass t_i~~ [t_{ii} ~~reparieren zu~~
          *but nobody   the.*ACC *motorbike.*ACC *that   repair   to*
          ~~müssen~~] ~~bedauert~~ .
          must   regrets
          intended: 'that everyone regrets having to repair the tractor and that
          nobody regrets having to repair the motorbike'
      b. *dass das   Motorrad$_i$ niemand [t_i reparieren zu müssen]
          *that the.*ACC *motorbike.*ACC *nobody   repair   to must*
          bedauert
          regrets
          intended: 'that nobody regrets having to repair the motorbike'

The remnants of gapping show a sensitivity to clause boundaries, a property that is known from movement dependencies such as scrambling and the secondary *wh*-movement in multiple sluicing. This similarity suggests that a clause-bound movement dependency is involved in the derivation of this type of ellipsis.

3.2.2 P-stranding

Merchant (2001, 2004) and Abels (2003) observe that languages that normally allow stranding of prepositions under movement also allow it under sluicing and in fragment answers. Swedish is such a language, (33).

(33) a. Vem$_i$ har Peter talat   med t_i?
          who has Peter talked with
          'Who has Peter talked to?'
      b. Peter har talat   med nåagon; jap vet   inte (med) vem.
          Peter has talked with someone I   know not with   whom
          'Peter has talked to somebody, I don't know with whom.'

                                        Swedish, Merchant (2001, 93)

German does not allow stranding of a preposition under *wh*-movement, (34-a), and instead has to obligatorily pied-pipe it. It also does not allow P-stranding in sluicing (34-b), suggesting that sluicing involves the same type of movement.

(34) a. *Wem$_i$ hast du gesprochen mit t_i?
          who   have you talked   with
      b. Peter hat mit jemandem geredet, ich weiß aber nicht *(mit) wem
          Peter has with someone   talked   I   know but not   with whom
          'Peter has talked to somebody, but I don't know with whom.'

For gapping specifically, Vanden Wyngaerd (2009) argues that P-stranding is only possible if the language allows P-stranding under movement. If gapping involves movement out of the ellipsis site, the prediction is that languages should show the same P-stranding behavior in gapping as in sluicing and fragment answers. In German gapping, this is borne out[8]. P-stranding is impossible (35), as expected if the remnants undergo movement prior to ellipsis.

(35) Britta hat mit Abed geredet und Shirley *(mit) Jeff [~~hat *t t* geredet~~].
      Britta has with Abed talked   and Shirley   with Jeff has   talked
      'Britta has talked to Abed and Shirley has talked to Jeff.'

Postpositions show different behaviors than prepositions. (36) shows that postpositions like *hinauf* "up" can be stranded. Fittingly, they also allow their DP complement to be a remnant in gapping without pied-piping, (37).[9]

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[8]Erschler (2018) notes that in English gapping, P-stranding should be possible, but is not, as shown by e.g., Jayaseelan (1990); Lasnik and Saito (1991); Abe and Hoshi (1997), (i). Jayaseelan (1990) and Lasnik and Saito (1991) derive this by postulating rightward movement of the remnant DP. For all other analyses of English gapping, this puzzling observation remains te be explained. However, there seems to be no consensus on the acceptability of preposition stranding in English gapping, as Steedman 1990, for instance, judges examples like (ii) perfectly acceptable.

(i)   *John talked about Bill, and Mary Susan.   (Abe & Hoshi 1997, 102)

(ii)   Harry went to London, and Barry Detroit.   (Steedman 1990, 248)

[9]A reviewer points out that it is not clear whether *hinauf* in (37) is a postposition or a particle. Elements that are unambiguously postpositions can be found in R-pronouns. It is well known that these can be stranded under regular *wh*-movement, *hin* in (i-a), but they cannot be stranded in sluicing, (i-b), an observation known as 'Merchant's wrinkle', see also Kluck (2015); Griffiths et al. (2021).

(i)   a. Wo$_R$ guckst du *t* hin?
            where look   you   at
            'What are you looking at?'
        b. *Er guckt irgendwo   hin, aber ich weiß nicht wo$_R$ ~~er *t* hin guckt~~.
            he looks somewhere at   but I   know not   where he at looks
            intended: 'He is looking at something but I don't know what he is looking at.'

(36)   Wo$_i$ geht Peter t_i hinauf?
          where goes Peter   up
          'What does Peter go up?'

(37)   Martha geht die Treppe hinauf und Peter die Rampe [~~geht *t t* hinauf~~].
          Martha goes the stairs up   and Peter the slope   goes   up
          'Martha goes up the stairs and Peter goes up the slope.'

<div align="right">(Hartmann 2000, 148, fn.5)</div>

The fact that the possibility of preposition stranding shows exactly the same behavior in proper movement contexts and in ellipses like sluicing and gapping in German suggests that these contexts have something in common, namely XP-movement.

3.2.3 Types of embedding predicates

Lastly, I apply an argument made for fragment answers in Dutch by Temmerman (2013) to German gapping. Observe that the remnants of gapping may occur in an embedded clause, but only under certain types of embedding verbs. Propositional attitude verbs can embed a gapped clause, (38-a), but factive verbs cannot, (38-b).

(38)   a.   Die Grünen   haben in Bayern gewonnen und Anne glaubt/
            the green.party have   in Bavaria won   and Anne believes
            fürchtet/ denkt [$_{CP}$ die CDU in Berlin ~~[...*t*...*t*...]~~].
            fears   thinks   the CDU in Berlin
    b. *Die Grünen   haben in Bayern gewonnen und Anne weiß/
            the green.party have   in Bavaria won   and Anne knows
            bezweifelt/ stimmt zu [$_{CP}$ *Op* [die CDU in Berlin]].
            doubts   agrees   the CDU in Berlin
            'The green party has won in Bavaria and Anne believes/ fears/ thinks/ *knows/ *doubts/ *agrees the CDU has won in Berlin.'

This is parallel to what has been observed for embedded fragment answers in Dutch. Temmerman (2013) argues that this contrast is due to the remnant's possibility to move into the left periphery to escape ellipsis. Factive verbs are known for disallowing fronting within their complement clause, (39). Different accounts for this have been proposed: a factive operator blocks the would-be landing site (e.g., Manzini 1992; Barbiers 2002); the selected C lacks edge features (Basse 2008); the selected CP lacks a left periphery altogether (Haegeman 2006; Kastner 2015). I stay agnostic on the exact implementation, as it does not bear on the present issues.

(39)   *Ich bedauere [$_{CP}$ [$_{DP}$ die Grünen]   haben *t* in Bayern gewonnen]
          I   regret   the green.party have   in Bavaria won
          intended: 'I regret that the green party has won in Bavaria.'

The central point is that an approach to ellipsis in which movement of the remnants is obligatory can account for the fact that gapping remnants (and fragments) can be embedded only by such verbs that independently allow movement inside

their complement, compare (40). In a theory where remnants do not move, the contrast in (38) is unaccounted for.

(40)   a. $[_{vP}$ think $[_{CP}$ remnant$_1$ remnant$_2$ $[_{TP}$ ... t ...t ...]]]
         b. $[_{vP}$ know $[_{CP}$ $[_{TP}$ ... remnant$_1$ remnant2...]]]

In sum, this subsection presented three arguments in support of an obligatory movement dependency in clausal ellipsis, specifically gapping.

3.3 Clausal ellipsis

In this subsection, I present previous research that shows that (i) gapping in German targets a left-peripheral projection, and (ii) gapping deletes apparent non-constituents.

While gapping superficially looks like ellipsis of the verb, there is evidence that this ellipsis actually targets a high left-peripheral projection in German. It has been observed that gapping must minimally delete the finite verb. Hartmann (2000) formulates the generalization in (41).

(41)   *Finite First Condition* (Hartmann 2000, 156)
         In a gapping construction, the finite (part of the) verb is obligatorily left out in a non-first conjunct.

In a V2 language like German, the finite verb is in complementary distribution with the complementizer (e.g., Den Besten 1983). Hartmann (2000) argues that the position at the left periphery that can be spelled out by either the finite verb or the complementizer, encodes the *assertion* of a sentence (see also e.g., Wechsler 1991; Gärtner 2002; Meinunger 2004 for linking C/V2 with assertion). She proposes, based on an argument from prosody (Hartmann 2000, 158ff.), that it is the assertion feature on this head, C^0, that is targeted by gapping, i.e., gapping minimally deletes the head that is associated with assertion.[10] If gapping applies to embedded clauses, it is not the verb but the complementizer that is minimally deleted, see ex. (25) above (Hendriks 1995; Lechner 2018).

At the same time, gapping allows deletion of more than just the finite verb or complementizer (see e.g., Ross 1970; Jackendoff 1971; Neijt 1979). This is illustrated in (42). Crucially, the deleted string does not need to form a syntactic constituent to the exclusion of the other material. However, gapping does not delete arbitrary elements either: the remnants of ellipsis do need to be constituents (e.g., Hankamer 1973; Sag 1976 and Hartmann 2000, 147–152 for German specifically).

(42)   I want to try to begin to write a novel and...

         a.   ...you ~~want~~ to try to begin to write a play.
         b.   ...you ~~want to try~~ to begin to write a play.

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[10]Let me stress that Hartmann (2000) does not argue for a Move-and-Delete approach, but views gapping as a rule that de-accents elements *in situ* under certain syntactic conditions. In her view, the assertion-head is obligatorily de-accented, optionally along other material.

c.   ...you ~~want to try to begin~~ to write a play.

d.   ...you ~~want to try to begin to write~~ a play.   (Ross 1970, 250)

The conceptually simplest way to account for both the obligatory deletion of C^0 and the seemingly random deletion of additional elements while ensuring the constituency of the remnants of gapping, is to conceive of it as clausal ellipsis. I take these observation to suggest that not only C^0, but the minimal constituent that contains C^0, i.e., CP, is obligatorily deleted in gapping in German. The arguments in Sect. 3.2 suggest that the remnants undergo movement. Taken together, the ingredients constitute a Move-and-Delete approach to ellipsis (e.g. Sailor and Thoms 2014; Shen 2018; Overfelt 2021).

An advantage of this approach lies in its simplicity: only a single instance of ellipsis triggers the non-pronunciation of all deleted elements. To illustrate, let us consider an alternative in which every non-realized element is deleted *in situ*. In gapping, ellipsis of all optionally deleted elements depends on ellipsis of C^0. In (42), ellipsis of the lexical verb and embedded material is impossible without ellipsis of the finite modal. In this respect, gapping is similar to other apparent non-constituent ellipses (e.g., determiner sharing, non-constituent ellipsis in Sailor and Thoms 2014, and so-called parasitic ellipsis in Fitzgibbons 2014). In an *in-situ* deletion analysis, an ellipsis process would have to create dependencies between C^0 and every other terminal node, deciding for each node if it can be overtly realized or not. This increases complexity. Note that this is not a *feeding* configuration, in which the application of process A (ellipsis of C^0) creates the context for process B to apply (ellipsis of other material; see Schneider 2023). In feeding, process B is independently attested and available. This is not the case in gapping. Ellipsis of, for instance, an indirect object, is not an independently available process of the German grammar (43-a), and can only be grammatical in the context of gapping (43-b). This is entirely parallel to the parasitism of determiner omission discussed above.

(43)   a.   *Ich gebe meiner Mutter   einen Brief   und du gibst ~~meiner~~
            I   give my   mother.DAT *a*.ACC *letter*.ACC *and you give my*
            ~~Mutter~~   ein   Buch.
            mother.DAT *a*.ACC *book*.ACC

       b.   Ich gebe meiner Mutter   einen Brief   und du ~~gibst meiner~~
            I   give my   mother.DAT *a*.ACC *letter*.ACC *and you give my*
            ~~Mutter~~   ein   Buch.
            mother.DAT *a*.ACC *book*.ACC
            'I give my mother a letter and you a book.'

In this sense, an *in-situ* analysis would have to create truly parasitic configurations. A Move-and-Delete approach radically simplifies this configuration: it shows that it is possible to account for what looks like parasitism on the surface (ellipsis of A fully dependent on ellipsis of B) with the combination of established independent processes, namely constituent ellipsis and movement.

4 Determiner sharing and split topicalization

In a nutshell, I propose that determiner sharing structures in German are an elliptical version of split topicalizations. *Split topicalization* refers to structures in which material that belongs to a single noun phrase appears in more than one position, as in (44).

(44) Rosen_i hab ich dir schon einige t_i geschenkt.
    roses   have I   you.DAT *already several given.as.present*
    'As for roses, I have already given you a few.'

These structures have received many different analyses: the standard analysis posits that the discontinuous material is base-generated as a single phrase, out of which the noun moves to the left periphery (Van Riemsdijk 1989, see also Bhatt 1990; Fanselow and Ćavar 2002). Another family of approaches proposes that no movement is involved and that the discontinuous material is base-generated in its surface positions (e.g., Haider 1990; Pittner 1995; Ballweg 1997). Finally, hybrid analyses posit that the discontinuous material is base-generated as distinct phrases, and that one of these phrases moves to the left periphery (e.g., Fanselow 1988, 1990, 1993; Roehrs 2009; Ott 2011). Crucially, there is a near consensus that a movement dependency into the left periphery is involved in the derivation of splits. This is the only relevant point for the present analysis of determiner sharing: it is compatible with all accounts of split topicalization that are based on movement.

If determiner sharing sentences such as (45) are an elliptical variant of split topicalizations such as (46), we expect determiner sharing to be subject the same restrictions as splits.This section aims to show that this is the case.[11]

(45) Jede   Schülerin   mag Katzen und ~~jede~~   Lehrerin   ~~mag~~
    every.NOM *student*.NOM *likes cats*.ACC *and every*.NOM *teacher*.NOM *likes*
    Hunde.
    dogs.ACC
    'Every student likes cats and every teacher likes dogs.'

(46) Jede   Schülerin   mag Katzen und Lehrerin   mag jede
    every.NOM *student*.NOM *likes cats*.ACC *and teacher*.NOM *likes every*.NOM
    t   Hunde.
    dogs.ACC
    'Every student likes cats and as for teachers, every one of them likes dogs.'

4.1 Case-connectivity

Splits show connectivity effects with respect to case marking. It has sometimes been claimed that only NOM and ACC marked DPs can be split (e.g., Fanselow 1988, 102, Tappe 1989, 163). However, Kniffka (1996, 33,82), Fanselow and Ćavar (2002),

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[11]As a reviewer points out, some of the facts discussed in this section are also compatible with an *in-situ* analysis of ellipsis.

and Roehrs (2009, 89) describe split datives and genitives, (47). The case marking on the dislocated noun suggests that it is connected to a position to which the case has been assigned.

(47) a. {Lehrer-n/   *Lehrer}   hat er kein-en t_i geholfen.
          *teacher-*DAT.PL *teacher.*NOM.PL *has he no-*DAT.PL *helped*
          'As for teachers, he didn't help any of them.'

                                                          (Roehrs 2009, 89)

      b. Schrecklich-er Morde   an Studenten ist er viel-er t_i
          *horrible-*GEN.PL *murders.*GEN.PL *at students   is he many-*GEN.PL
          beschuldigt worden.
          accused   been
          "He has been accused of many horrible murders of students.'

                                                  (Fanselow and Ćavar 2002, 73)

As expected, determiner sharing may apply to dative-marked nominals, such as in (48). The noun with the missing determiner must bear the case-marking assigned by the elided verb.

(48) Einig-en   Schüler-n   bist du   gefolgt und {Lehrer-n/
      *some-*DAT.PL *student-*DAT.PL *are you.*NOM *followed and teacher-*DAT.PL
      *Lehrer}   ich.
      *teacher.*NOM.PL *I.*NOM
      'You followed some students and I followed some teachers.'

The split off noun may not be embedded in a complex DP (Roehrs 2009), as in (49).

(49) a. *Männern$_i$ habe ich immer nur [$_{DP}$ die Autos von [$_{DP}$ jungen t_i]]
          *men.*DAT *have I   always only   the cars of   young.*DAT
          repariert.
          repaired
          intended: 'As for men, I have only repaired the cars of young ones.'

      b. *[Roten Punkten]$_i$ habe ich immer nur [$_{DP}$ die Bluse mit [$_{DP}$
          *red.*DAT *dots.*DAT *have I   always only   the blouse with
          zwei t_i]] getragen.
          *two.*DAT   *worn*
          intended: 'As for red dots, I have only worn the blouse with two of
          them on it.'   (Roehrs 2009, 101f.)

The same is true for determiner sharing. If the noun with the omitted determiner stems from an embedded DP, the structure becomes severely degraded, (50).

(50) *[$_{DP}$ Das Auto von [$_{DP}$ jedem Professor]]   hab ich abgeschleppt und
          *the car of   every professor.*DAT *have I   hauled   and*
      Studenten$_i$ repariert ... [$_{VP}$ [$_{DP}$ das Auto von [$_{DP}$ jedem t_i]] ...]
      *student.*DAT *repaired   the car of   every*
      intended: 'I have hauled the car of every professor and repaired the car of
      every student.'

In sum, both determiner sharing and split topicalization show case connectivity effects.

4.2 Mixed splits and sharing

Apart from NP splits, VPs can also be split in German, as in (51), where a non-finite verb is topicalized, leaving its object behind (e.g., Van Hoof 2017).

(51)   Gegessen hat er nur die grünen Bohnen.
         eaten   has he only the green beans
         'He has only eaten the green beans.'   (Van Hoof 2017)

An idiosyncratic property of split topicalization in German is that NP splits and VP splits can be combined to create what have been called *mixed splits* (Van Hoof 2017). In these structures, the bare noun is contained in a topicalized VP, as in (52).

(52)   [VP Rosen gepflanzt] hab ich schon   [viele   ].
         roses planted   have I already many
         'I have already planted many roses.'

The analysis of such structures is not trivial, since it is not clear how the VP can be topicalized while stranding a D-element contained in it. Fanselow (1987) proposes that the VP-structure in (53-a) is re-analyzed as (53-b), creating a constituent that can be fronted (see also Van Hoof 2017, 15–17).

(53)   a.   [VP [DP *many roses*] [V *planted*]]
         b.   [VP [DP *many t_i*] [FP *roses$_i$ planted*]]

Whatever the right analysis for mixed splits is, it is striking that the same configuration is possible in determiner sharing. The noun with the missing determiner can be part of a topicalized VP, (54). In the elliptical second conjunct, the omitted quantifier *jede* "every" can still be interpreted, as suggested in the glossing. The underlying structure that I assume is given in (54-b): the bare noun and the VP move to the left periphery, stranding the quantifier. A lower CP, containing the auxiliary in V2-position as well as the quantifier is deleted. Note that in this context, too, determiner sharing is impossible without deletion of the auxiliary.

(54)   a.   [VP Jede   Konsequenz   ignoriert] hat der angeklagte
                  *every.*ACC *consequence.*ACC *ignored   has the accused*
              Millionenerbe   *t* und [VP ~~jede~~ Entscheidung bereut]   (*hat) der
              *heir.of.millions and   decision.*ACC *regretted   the*
              verdrossene Vater.
              disgruntled father
              'The accused heir has ignored every consequence and the disgruntled father has regretted every decision.'
         b.   ... *and* [CP [VP *decision regretted*] [DP *the disgruntled father*] ~~[CP [C has] ... t_{DP} ... every t_{VP} ...]~~]

If determiner sharing is a type of split topicalization, (54) is entirely expected.

4.3 Syntactically conditioned case omission

German shows curious behavior with morphological case marking on nouns. Overt exponents of case marking usually occur on determiners, adjectives, and nouns, see (55-a). In some cases, nouns can appear without overt case markers, (55-b).

(55)   a.   ein Orchester ohne   eigen-en Dirigent-en
              *a   orchestra without own-*ACC *conductor-*ACC
        b.   ein Orchester ohne   Dirigent
              *a   orchestra without conductor.*ACC

Gallmann (1996) observes that the distribution of overt case markers on nouns seems to be syntactically conditioned. 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. This is illustrated for accusative *-en* in (55), and for dative *-e* in (56).

(56)   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

(Gallmann 1996)

Determiner sharing and split topicalization behave similarly here: both can show overt case marking on what seems to be a bare noun, see (57) and (58).

(57)   Jed-en   Dirigent-en   hat das   Blasquartett   vergrault und
        *every-*ACC *conductor-*ACC *has the.*NOM *wind.quartet.*NOM *scared.off and*
        Solist-en   das   Symphonieorchester   ~~[...hat *t* jed-en~~   ~~*t*~~
        *soloist-*ACC *the.*NOM *symphonic.orchestra.*NOM *has   every-*ACC
        ~~vergrault]~~
        scared.off
        'The wind quartet scared off every conductor and the symphonic orchestra scared off every soloist.'

(58)   Context: *I heard that the orchestra scared away every conductor.*
        Ich habe gehört, dass das Orchester jeden Dirigenten vergrault hat.

        Nein! <u>Solist-en</u>   hat das Orchester jed-en   *t* vergrault!
        *no   soloist-*ACC *has the orchestra every-*ACC   *scared.off*

        'No, it's every soloist that the orchestra scared away.'

This suggests that the case-marked noun must have once been in a position where it could establish concord with a determiner, presumably their base position. The

linear adjacency can then be interrupted by split topicalization as in (58), and the determiner can additionally be deleted as in (57), see (59).

(59)   ... [$_{CP}$ Solist-en$_i$... [... [$_{VP}$ ~~jed-en~~   ~~t_i ...~~]]
         soloist-ACC   *every*-ACC

4.4 Types of determiners

In both NP splits and determiner sharing, not all DP-elements are equally accepted. If determiner sharing is split topicalization in an ellipsis site, the same elements that can be shared should also be split-able. This is indeed what we find.[12] The elements that can be shared are identical to the ones that may not be part of the topicalized part of NP splits, i.e., that must be left *in situ* within the ellipsis site. These elements are quantifiers like *viele* "many", *wenige* "few", *jeder* "every", *alle* "all", *mehrere* "several", etc., and demonstratives like *dies-* "this" and *jen-* "that', (60) and (61).

(60)   *Split topicalization*
         a. Ammern$_i$ mag ich eigentlich (nur) viele/ wenige/ alle/ manche t_i.
             buntings like I   actually   only many few   all   some
             'As for buntings, I actually many/ few/ all (only) some of them.'
         b. Fink$_i$ nistet hier jeder/ keiner t_i.
             finch nests here every   no
             'As for finches, every/ none of them nests here.'
         c. Fink$_i$ hab ich nur diesen/ jenen t_i gesehen.
             finch have I   only this   that   seen
             'As for finches, I have only seen this/ that one.'

(61)   *Determiner sharing*
         a. Viele/ wenige/ alle/ manche Ammern mögen Insekten und
             many few   all   some   buntings like   insects and
             ~~viele/wenige/alle/manche~~ Finken ~~mögen~~ Samen.
                                        finches like   seeds
             'Many/ few/ all/ some buntings like insects and many/ few/ all/ some finches like seeds.'
         b. Jeder/ dieser/ jener/ kein Fink nistet im   Nistkasten und
             every this   that   no finch nests in.the nestbox   and
             ~~jeder/dieser/jener/kein~~ Rabe ~~nistet~~ im   Baum.
                                        raven nests in.the tree
             'Every/ this/ that/ no finch nests in the nestbox and every/ this/ that/ no raven nests in the tree.'

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[12]The judgments on determiner sharing reported here should be considered with some caution, since determiner sharing seems to be subject to considerable speaker variation. In any case, the analysis proposed in this paper makes the prediction that, all else equal, speakers who accept a certain quantifier or other DP-element in determiner sharing should also accept it in split topicalization.

Certain elements cannot occur in the *in-situ* part in split topicalization, namely definite and indefinite[13] articles, and possessive pronouns (62). These are also ungrammatical in a sharing construction, (63).

(62) a. *<u>Drossel</u>$_i$ hab ich <u>die</u>/   <u>'n-e</u> t_i im   Rosenbusch gefunden.
          thrush.FEM *have I*   *the*.FEM *a*-FEM   *in.the rose.bush   found*
          intended: 'I have found the/a thrush in the rose bush.'

     b. *<u>Mutter</u>$_i$ kann <u>meine</u> t_i nähen.
          mother can   my   sew
          intended: 'My mother can sew.'

(63) a. *Die/   'ne   Drossel   war der Bräutigam und ~~die/ 'ne~~
          the.FEM *a*.FEM *thrush*.FEM *was the groom   and the*.FEM/ *a*.FEM
          Amsel   ~~war~~ die Braut.
          blackbird.FEM *was the bride*
          intended: 'The/a thrush was the bridegroom and the/a blackbird was the bride.'

     b. *Meine Mutter kann nähen und ~~meine~~ Oma   ~~kann~~ häkeln.
          my   mother can sew   and my   grandma can   crotchet
          intended: 'My mother can sow and my grandma can crotchet.'

There are some elements that do not behave as predicted: numerals and (bare) adjectives are possible in splits, (64), and we would expect that they should also be possible in sharing structures. However, that is not the case, (65). (65) is ungrammatical under the sharing interpretation.

(64) *Split topicalization*

     a. <u>Amseln</u>$_i$ hab ich <u>zwei</u> t_i am   Futterhäuschen gesehen.
          blackbirds have I   two   at.the bird.feeder   seen
          'As for blackbirds, I have seen two at the bird feeder.'

     b. <u>Wein</u>$_i$ hat sie nur <u>georgischen</u> t_i da.
          wine   has she only $\overline{Georgian}$ there
          'As for wine, she only has a Georgian one.'

(65) *Determiner sharing*

     a. *Zwei Amseln   sind am   Futterhäuschen und ~~zwei~~ Drosseln ~~sind~~
          two blackbirds are at.the bird.feeder   and two   thrushes are
          an der Tränke.
          at the watering.place
          intended: 'Two blackbirds are at the bird feeder and two thrushes are at the watering place.'

     b. ?*Guter Wein kommt aus   Frankreich und ~~guter~~ Wodka ~~kommt~~ aus
          good wine comes from France   and good vodka comes from
          Russland.
          Russia

---

[13]The indefinite article *ein-* is homophonous with the numeral "one". Ott (2011) argues that the article cannot occur in splits, but the numeral can. He proposes a way of differentiating between the two: the article can occur in a reduced form *'n-*, while the numeral cannot.

> intended: 'Good wine comes from France and good vodka comes from Russia.'

I do not have a full-fledged explanation for this. Since ellipsis is involved in (65), but not in (64), it seems reasonable to assume that sharing is subject to more restrictions than splits. I leave this as an open question at this point. Apart from this wrinkle, the elements that can be shared fit the elements that can be split: all elements that can occur in sharing constructions can also be split. Elements that cannot be split cannot be shared either.

4.5 Regeneration

Split topicalization shows some behaviors that are not trivially reconcilable with a movement analysis. Concretely, reconstruction of the topicalized phrase into its supposed base position can result in an ungrammatical sequence. The examples in (66) involve the "regeneration" of an article or a preposition in the topicalized position. Such doubling is ungrammatical in the base position.[14]

(66) a. [Einer/'Ner alten Hexe]$_i$ bin ich noch keiner t_i begegnet.
   *a.*DAT *old.*DAT *witch.*DAT *am I yet no.*DAT *met*
   'As for old witches, I haven't met any yet.'
 b. *keiner einer alten Hexe
   no a old witch
 c. [In Schlössern]$_i$ hab ich noch in keinen t_i übernachtet.
   *in castles.*DAT *have I yet in no.*DAT *slept*
   'As for castles, I haven't stayed in any yet.'
 d. *in keinen in Schlössern
   in no in castles

Van Riemsdijk (1989) proposes a morphological repair analysis: an article or a preposition can be generated at the left periphery, if the fronted element is not a well-formed NP by itself (see also Fanselow and Ćavar 2002; Féry et al. 2007; Goncharov 2015 for other analyses). For the purposes of determiner sharing, regeneration should not have any influence its the availability or interpretation. Indeed, a regenerated article in (67) can co-occur with the shared interpretation of the indefinite (Klaus Abels, p.c.).

(67) Einer alten Hexe bin ICH noch keiner begegnet und einer
   *a.*DAT *old.*DAT *witch.*DAT *am I yet no.*DAT *met and a.*DAT
   (alten) Vogelscheuche DU bist *t* keiner *t* begegnet.
   *old.*DAT *scarecrow.*DAT *you are no.*DAT *met*

---

[14]A related phenomenon are so called gapless splits, such as (i). In this construction, there is no gap in the middle field into which a topicalized phrase might reconstruct. See e.g., Ott (2011) for discussion.

(i) Greifvögel hab ich nur Bussarde gesehen.
   raptors have I only buzzards seen
   'As for raptors, I have only seen buzzards.'

> shared reading: 'I haven't met an old witch and you haven't met an old scarecrow.'
>
> non-shared reading: ?*'I haven't met an old witch and you have met an old scarecrow.'

This section aimed to demonstrate that splits share many descriptive similarities with determiner sharing structures. The next section explores how gapping and split topicalization interact to create these structures.

5 Analysis

The fundamental idea is simple: determiner sharing arises when ellipsis, e.g., gapping, applies in a split topicalization structure. Split topicalization and ellipsis are in a *shifting* relation in Rasin's (2022) terminology. As shown in (6), repeated as (68), the determiner will be left inside the ellipsis site, while a bare noun is fronted.

(68)   *The conspiracy of ellipsis and split topicalization*
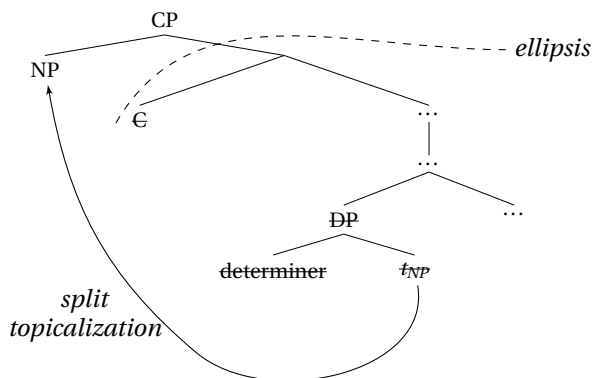
This straightforwardly accounts for the observed dependency between determiner sharing and ellipsis: the determiner is deleted as a by-product of the ellipsis process. No designated determiner-deleting ellipsis operation needs to be posited. Thus, a Move-and-Delete approach can predict the grammar of speakers who accept determiner sharing without further assumptions. This apparent complex non-constituent ellipsis, which deletes a finite verb and a determiner to the exclusion of the noun, can be boiled down to a simple constituent ellipsis operation targeting a clause.

Before discussing the derivation of determiner sharing in more detail, let us examine two crucial aspects of the analysis: (i) the mechanism of ellipsis licensing, and (ii) the left periphery and exceptional movement into it.

5.1 Ellipsis licensing

Following standard approaches, I assume that ellipsis of YP is triggered by an [E]-feature on the head of YP's complement X^0 (Merchant 2001). Aelbrecht (2010) shows that the [E]-feature itself needs to establish a relation with another head in

order to license ellipsis and restrict its distribution. I understand this licensing as Agree for category features. Note that this Agree relation happens upwards, i.e., the goal c-commands the probe. This is illustrated in (69). I adopt the [E]-feature approach here for concreteness. However, nothing hinges on this exact implementation of ellipsis licensing. The analysis of determiner sharing presented below is compatible with other ways to trigger CP ellipsis.

(69)   *Ellipsis and licensing*
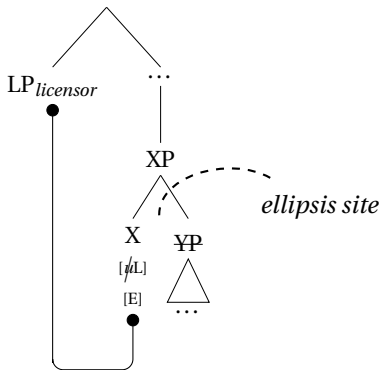
5.2 The ellipsis-Comp generalization and movement to the left periphery

I have aimed to show that gapping in German should be analyzed as clausal ellipsis preceded by evacuation movement. This raises at least two questions: exactly which phrase is deleted, and what triggers the remnants' movement out of that phrase? This section addresses these questions.

5.2.1 The ellipsis-Comp generalization

If the present view of gapping is on the right track, we have a structure in which C^0 must be inside the ellipsis site, but the remnants, which have moved to specifiers of CP, must not be. This is the configuration that is captured by the *ellipsis-Comp generalization* (70), originally described for sluicing.

(70)   *The Sluicing-Comp Generalization* (Merchant 2001, 62)
        In sluicing, no non-operator material may appear in Comp.

Sluicing is standardly analyzed as ellipsis of TP, leaving a *wh*-phrase remnant in Spec,CP. However, C^0-material such as complementizers or fronted auxiliaries may not surface in sluicing either, (71).

(71)   A: Max hat jemanden eingeladen. B: Echt? Wen   (*hat)?
        Max has somebody invited   really who.ACC   *has*
        'Max has invited somebody. Really? Who?'   (Merchant 2001, 62)

In the present analysis, gapping is also characterized by (70): the V2 position C^0 must be obligatorily empty, but remnants in Spec,CP must be able to surface. There are different ways to capture (70). The standard approach for sluicing, posits that TP-ellipsis in sluicing bleeds the T-to-C movement of the auxiliary that is normally triggered in questions (e.g., Merchant 2001; Van Craenenbroeck and Lipták 2013; Landau 2020). It cannot easily derive the impossibility of overt complementizers. An alternative analysis suggests that not TP, but C' is deleted, which accounts for the omission of both dislocated and base-generated elements in Comp without further assumptions (e.g., Heck and Müller 2007; Thoms 2010; Döring 2014; Messick and Thoms 2016), but refers to an X' category and is incompatible with an [E]-feature analysis of ellipsis (see Landau 2020). A third approach builds on the idea that the Comp domain is split into different projections, based on Rizzi (1997). If the landing site for A' movement is in a higher phrase than the one for verb movement, then a higher C_1-head can license ellipsis of a lower C_2-phrase (e.g., Iatridou and Kroch 1992; Baltin 2010; Van Craenenbroeck 2010). I adopt such a split-Comp approach with a double CP layer.

5.2.2 Exceptional movement

Regarding movement to the left periphery, there are (at least) two steps involved: the first is split topicalization, as it also happens in non-elliptical contexts. Any subsequent movement is exceptional, i.e., it cannot occur without ellipsis. As a V2-language, German allows at most one constituent preceding the finite verb in non-elliptical clauses, (72) (see e.g., Fanselow 1993; Müller 2004; Jensen 2012 *vs.* St. Müller 2005; Bildhauer and Cook 2010; St. Müller et al. 2012).

(72)   a.   [$_{CP}$ Deinen Hund$_i$ [$_C$ habe ich lange nicht t_i gesehen]].
                your   dog   have I   long   not   seen
         b.   *[$_{CP}$ Deinen Hund$_i$ [ich$_{ii}$ [$_C$ habe t_{ii} lange nicht t_i gesehen]]].
                your   dog   I   have   long   not   seen
                'I haven't seen your dog in a long time.'

The postulation of exceptional movement is a disadvantage of Move-and-Delete analyses:[15] the theoretical modeling of movement only in a specific context is, as

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[15]Ott and Struckmeier (2018) criticize Move-and-Delete accounts since they undergenerate sentences in which immobile elements like German discourse particles can surface as the remnants of sluicing or as as fragments. Ott and Struckmeier (2018) claim that these particles cannot be dislocated to the left periphery by themselves, (i-b), or with a DP, (i-c) in non-elliptical contexts. They argue that if unmovable elements can surface as remnants of ellipsis, this suggests that movement cannot be involved in the derivation of elliptical structures.

(i)   a.   Peter hat wohl/ja   einige Leute eingeladen.
              Peter has PARTC/PARTC *some people invited*
              '(Probably/As you know) Peter has invited some people.'
        b.   *Wohl/ja   hat Peter ____ einige Leute eingeladen.
              PARTC/PARTC *has Peter   some people invited*
        c.   *[Seine Freunde wohl] hat er ____ eingeladen.
              his   friends PARTC *has he   invited*

(Ott and Struckmeier 2018)

A reviewer wonders how these data fit in with the exceptional movement I assume in determiner sharing: they suggest that if a discourse particle, assumed to be in the middle field, can separate the two remnants as in (ii), this would suggest that the non-initial remnant does not undergo movement.

far as I know, still an open issue in Minimalist approaches. A resolution of this issue is beyond the scope of this paper. However, the data discussed in Sect. 3.2 suggest that both of the remnants of gapping do move and that that movement has syntactic and semantic effects, i.e., it is not purely PF- or LF-movement (as proposed by e.g., Weir 2014a and Richards 2001; Temmerman 2013 respectively, see also discussion in Schwarzer 2022). Exceptional movement has similar properties to secondary *wh*-movement in multiple sluicing in German: both movements are clause-bound. Recall (29) and compare (73) (Heck and Müller 2007).

(73) a. *Irgendjemand hat behauptet dass Maria irgendetwas geerbt   hat
          someone   has claimed   that Maria something   inherited has
          aber Fritz weiß   nicht mehr   [$_{CP}$ wer$_i$ was$_{ii}$ ~~t_i behauptet hat~~
          but Fritz knows not   anymore   who what
          [$_{CP}$ ~~dass Maria t_{ii} geerbt hat~~]]
          intended: 'Somebody claimed that Maria inherited something but Fritz doesn't remember who claimed it and what Maria inherited.'
      b. Irgendjemand hat irgendetwas geerbt   aber Fritz weiß   nicht
          someome   has something   inherited but Fritz knows not
          mehr   [$_{CP}$ wer$_i$ was$_{ii}$ ~~[$_{TP}$ t_i t_{ii} geerbt hat~~]]
          anymore   who what
          'Somebody has inherited something but Fritz doesn't remember who inherited what.'

                                                    (Heck and Müller 2007, 27)

In Heck & Müller's optimality-theoretic analysis of multiple sluicing, secondary movements are not feature-driven, but occur as a repair in order to avoid a violation of recoverability (see details in Heck and Müller 2007). If one adopts an Optimality-Theoretic model of syntax, this analysis is completely transferable to exceptional movement in gapping and determiner sharing. In Minimalist

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(ii)   Jede Schülerin mag Katzen und ~~jede~~ Lehrerin ~~mag~~ (wohl) Hunde (*wohl).
        every student   likes cats and every teacher likes PARTC *dogs* PARTC
        'Every student likes cats and (apparently) every teacher likes dogs.'

While I agree with the reviewer's judgment of (ii), I think the data presented in Ott and Struckmeier (2018) are not unequivocal. Broekhuis and Bayer (2020) note that clauses in which discourse particles move to the clause-initial position are attested, contrary to what Ott and Struckmeier (2018, fn.7) claim, see (iii) (see also Bayer and Obenauer 2011; Bayer 2018).

(iii)   a. [Wer   denn] soll befehlen?
            *who.*NOM PARTC *should command*
            'Who should be in command?'
        b. [Warum bloss] ist ein Rauschenberg so teuer?
            why   PARTC *is a   Rauschenberg so expensive*
            'Why is a (piece by) Rauschenberg so expensive?'
        c. [Von wem   schon] kann man das sagen?
            *of   who.*DAT PARTC *can one that say*
            'Who can you say that about?'   (Broekhuis and Bayer 2020)

They argue that the particles are contained in their associated XPs and can be pied-piped in sluices or fragments. It seems to be an open empirical question whether discourse particles can serve as an argument against exceptional movement of the second remnant in (ii). If they can be pied-piped by a moving phrase in (iii), that could also be possible in determiner sharing.

approaches, repair operations have no conceptual standing. Modeling such operations is somewhat *ad hoc*: one could stipulate that a C-head that induces ellipsis also has a requirement that elements must move into its specifier. Then the concept of Phase Balance, (74), can locally trigger movement of the remnants. Müller (2011) proposes that edge features can be inserted on a head to attract elements into an intermediate landing site in order to keep them syntactically available for a later, final movement step, i.e., to create a balanced phase, (75). We can use the same mechanism to motivate movement of remnants.

(74)   Balanced Phase (Müller 2011, 128)
        A phase is balanced iff, for every movement-inducing feature [•F•] in the numeration, there is a distinct potentially available feature [F].

(75)   Edge Feature Condition (Müller 2011, 129)
        The head X of phase XP may be assigned an edge feature after the phase XP is otherwise complete, but only if that is the only way to produce a balanced phase.

The movement inducing features can either be edge features, even for the final landing site in the left periphery, following Fanselow and Lenertová (2011), or an information-structural feature like [focus].[16] Delaying the details until Sect. 5.3, (75) will trigger movement of an XP that is not yet at the edge of vP into that edge, from where it can be attracted to the clausal left periphery before deletion. Whether we adopt edge features or focus features as the trigger for the final movement step, this account cannot explain why a second trigger, and thus exceptional movement, is limited to ellipsis context.[17] An explanation for this is beyond the scope of this paper. However, it seems clear that empirically, types of exceptional or last-resort operations exist (see e.g., Grimshaw 1997; Kalin 2014; Brandt and Fuß 2013). Even exceptional movement specifically is not restricted to ellipsis, but has been described e.g., in locative inversion (Salzmann 2013) and for labeling purposes (Blümel 2012; Ott 2015). Thus, even adopting an *in-situ*-ellipsis analysis does not solve this problem completely. For our present purposes, I propose that exceptional movement can be driven by edge features according to (74) and (75), even though I cannot provide an adequate solution to all the theoretical challenges.

   In sum, the theoretical assumptions for the following analysis of determiner sharing are these: ellipsis is licensed by an [E]-feature on the head of a higher CP,

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[16]A reviewer suggested [topic] and [focus] features as triggers for movement. Fanselow and Lenertová (2011) list some considerations that advise against taking that route. Theoretically, the use of information-structural features in syntax violates the Inclusiveness Condition (Chomsky 1995): focus- or topic-hood is not a property of lexical items. Empirically, focus- or topic-movement differs from regular A′-movement in a number of ways, e.g., with respect to obligatoriness, locality, pied-piping. This would suggest that it should not be implemented with an A′ feature. However, the debate regarding the interaction of syntax and information structure is still ongoing, see e.g., Fanselow (2006) and Hartmann and Bárány (2023) for an overview.

[17]An additional complication is that clausal ellipsis does not have to leave exactly two remnants; it can be more or less (stripping) than that. For each contrastive phrase in the antecedent clause, there is a corresponding remnant in the elliptical clause. And for every remnant, there must be a movement-inducing feature. While Phase Balance ensures that the number of goals match the number of probes, it cannot regulate how many probes should be assigned to C^0 in the first place.

targeting the lower CP complement for deletion; both remnants of gapping move into the higher CP to check an edge feature.

5.3 Derivation

Now that the building blocks of the analysis are in place, let us examine how split topicalization and ellipsis interact to create determiner sharing structures. Take a sentence like (76) as an example.

(76)   Jede Schülerin mag Katzen und ~~jede~~   Lehrerin ~~mag~~ Hunde.
       every student   likes cats   and every teacher   likes dogs
       'Every student likes cats and every teacher likes dogs.'

I have argued that the second conjunct has a full clausal structure. If we solve the ellipsis-Comp generalization problem with a double CP layer, the lower CP is then the ellipsis site, since it is the minimal projection that contains the verb-second position (C^0). The higher C^0 is the head that attracts a phrase into its specifier to fill the pre-verbal position, triggered by [•EF•]. This is run-of-the-mill (split) topicalization. C^0 can optionally carry an ellipsis-inducing [E]-feature. Pending a proper Minimalist analysis of exceptional movement, for now I assume that [E] comes with an additional feature [•EF•] attracting a phrase to its specifier. This C-head then has the features that trigger movement of two phrases into its specifier, and subsequent ellipsis of its complement. This is the standard gapping configuration. Determiner sharing arises when instead of regular topicalization, the movement step into Spec,CP splits up noun and quantifier, stranding the quantifier in the ellipsis site, as in (77).

(77)
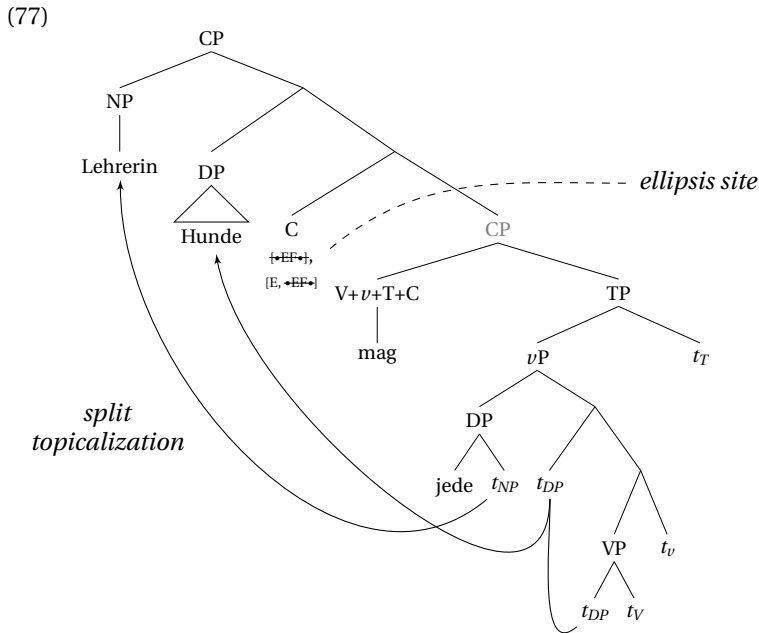
The ellipsis site now contains the finite verb and the quantifier, while a bare noun has moved to the left periphery. The surface structure created by the interaction of split topicalization and gapping is the sequence described as determiner sharing. Crucially, split topicalization and gapping are completely independent of each other. Gapping can occur without split topicalization, as in (78-a). Split topicalization in the second conjunct can occur without gapping, (78-b). If both occur at the

same time, the result is determiner sharing, (78-c), and if neither applies, we get a simple coordination of sentences, (78-d).[18]

(78)   a.   Jede   Schülerin mag Katzen und jede   Lehrerin Hunde.
          every student   likes cats   and every teacher   dogs

     b.   Jede   Schülerin mag Katzen und <u>Lehrerin</u>$_i$ mag jede t_i Hunde.
          every student   likes cats   and teacher   likes <u>every</u>   dogs

     c.   Jede   Schülerin mag Katzen und Lehrerin Hunde.
          every student   likes cats   and teacher   dogs

     d.   Jede   Schülerin mag Katzen und jede   Lehrerin mag Hunde.
          every student   likes cats   and every teacher   likes dogs
          'Every student likes cats and every teacher likes dogs.'

5.4 Deriving the empirical observations

This section explores how the present analysis can account for the empirical observations we have made about determiner sharing. The properties of German determiner sharing are repeated in (79).

(79)   *Determiner sharing generalizations*

     a.   The ellipsis generalization: determiner sharing is only possible in gapping contexts.

     b.   The first-element generalization: the element with the omitted determiner must be the first constituent of the conjunct.

     c.   The non-constituent generalization: if more than just a determiner is shared, the deleted elements need not form a constituent.

5.4.1 Deriving the ellipsis generalization

Ellipsis of a determiner is analyzed as a by-product of gapping here. Gapping, as well as other instances of clausal ellipsis (e.g., stripping or fragments, recall (8-b) and (10) above), can be combined with split topicalization to create the environment in which a determiner sharing structure is generated: determiners can be deleted to the exclusion of their NP when they can be stranded in an ellipsis site.

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[18]A reviewer remarks that they find sentences like (78-b) odd. They wonder whether the oddness could be attributed to the fact that the fronted topic not in utterance-initial position, which could affect the information structure. Regarding this point, it is worth noting that previous research has found non-utterance-initial split topics to be acceptable, e.g., in embedded contexts, (i) (Grewendorf 1989; Neeleman 1994). The fronted topic can either precede or follow the subject.

(i)   ... weil   (Kleider$_i$)   er   (Kleider$_i$)   immer dreckige t_i anhat
         *because clothes.*ACC *he.*NOM *clothes.*ACC *always dirty.*ACC   *wears*
         'because he always wears dirty clothes'   (modified, Grewendorf 1989, 27)

Additionally, while some speakers may have a preference for parallel dependencies in coordinate structures, the first conjunct does not show a parallel split. Once this is controlled for, the sentence should become more acceptable, (ii).

(ii)   Schülerin$_i$ mag jede t_i Katzen und Lehrerin$_{ii}$ mag jede t_{ii} Hunde.
         student   likes every   cats   and teacher   likes every   dogs
         'As for students, every student likes cats and as for teachers, every teacher likes dogs.'

Therefore, sharing is always observed in ellipsis environments. Since the independent requirement of recoverability (see e.g., the overview in Lipták 2015 and references therein) ensures that lexical material inside an ellipsis site must have a matching correlate in the antecedent clause, a determiner can only be deleted if it is (in some relevant sense) identical to an overt determiner in the antecedent conjunct.[19] This creates the illusion that a single determiner is shared between two NPs: the deleted determiner must have the same interpretation as the overt one, because otherwise it could not have been deleted.

The present account does not rely on the postulation of a parasitic determiner-ellipsis that is otherwise unattested in the language (as Ackema and Szendrői 2002). Instead, the Move-and-Delete approach allows us to subsume the superficial parasitism of determiner-ellipsis on verbal ellipsis under a single, well-motivated ellipsis operation.

5.4.2 Deriving the first-element generalization

I argue that this generalization falls out from independent constraints on the information structure of split topicalization and gapping. First, Winkler (2005) shows that the initial remnant of gapping always has topic properties, while the second remnant has focus properties. In split topicalization, the noun that undergoes movement and ends up without a determiner is also a topic (e.g., Kniffka 1996; Nolda 2007, 107; Ott 2011, see also Büring 1997; Jacobs 1997; Krifka 1998). Neeleman and Vermeulen (2012) show that cross-linguistically, dislocated topics must be higher than dislocated foci. Whatever derives this observation can also derive the first-element generalization of determiner sharing. Neeleman and Vermeulen (2012) propose essentially a filter: syntax is free to derive all word orders, but only such structures in which topic > focus can be interpreted. For determiner sharing, I assume that topicalization and exceptional movement are not ordered in syntax. These movements can combine to derive any order of the constituents. Neeleman and Vermeulen's filter ensures that whatever phrase lands in the higher position is interpreted as a topic, while the lower one is interpreted as a focus. If the split-off noun without the determiner happens to land in the higher position, the derivation converges. If it happens to land in the lower position and should be interpreted as a focus, the resulting structure is pragmatically illicit and incoherent in the discourse context, and therefore infelicitous. Thus, split topicalization as the basis for determiner sharing makes exactly the right prediction: splits create topics, and topics must independently surface left-peripherally.

5.4.3 Deriving the non-constituent generalization

An especially strong prediction of this analysis is that it should be possible to share pre- and postnominal modifiers that do not form a constituent to the exclusion of their NP, ((80)).

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[19]A reviewer rightly points out that the parallelism condition does not hold for dependencies: the antecedent does not have to contain a split construction. This contrasts with other types of ellipsis, e.g., VP-ellipsis, which require parallel movement dependencies in antecedent and ellipsis site, see e.g., Messick and Thoms (2016).

(80) a. Jede einzelne braun-äugige Schülerin mag Katzen und ~~jede~~
         every single   brown-eyed   student   likes cats   and every
         ~~einzelne braun-äugige~~ Lehrerin ~~mag~~ Hunde.
         single   brown-eyed   teacher   likes dogs
         'Every single brown-eyed student likes cats and every single brown-eyed teacher likes dogs.'

    b. Jede Schülerin [CP die etwas   auf sich hält] mag Katzen und
         every student   who something on REFL holds likes cats   and
         ~~jede~~ Lehrerin ~~die~~ ~~etwas~~   ~~auf sich hält~~ ~~mag~~ Hunde.
         every teacher   who something on REFL holds likes dogs
         'Every self-respecting student likes cats and every self-respecting teacher likes dogs.'

A Move-and-Delete analysis derives this generalization without difficulty. On the surface, the omitted modifiers in (80) do not form a constituent. In a Move-and-Delete approach, the ellipsis of apparent non-constituents is re-analyzed as deletion of a constituent that contains all of these elements and a NP-trace. The only elements that syntactic processes like ellipsis and movement make reference to are the deleted phrase, CP, and the remnant XPs. The modifiers embedded more deeply inside the ellipsis site need not form a constituent in order for the analysis to go through, since they are not directly affected by a process in any way. Only the NP is topicalized, leaving other DP-internal material behind, (81). If that material is contained in an ellipsis site, the result is a determiner sharing structure.

(81) a. <u>Lehrerin</u>$_i$ mag jede   einzelne braun-äugige t_i Hunde.
         teacher.F likes every.F single.F brown-eyed.F   dogs
         'As for teachers, every single brown-eyed one likes dogs.'

    b. <u>Lehrerin</u>$_i$ mag jede t_i <u>die</u> <u>etwas</u>   <u>auf</u> <u>sich</u> <u>hält</u> Hunde.
         teacher   likes every   who something on REFL holds dogs
         'As for teachers, every self-respecting one likes dogs.'

5.5 Implications

5.5.1 Variation

The present analysis predicts that all else equal, split topicalization and gapping should be completely combinable. This prediction is only partially confirmed. First, if a specific D-element cannot participate in split topicalization, sharing of that element is correctly predicted to be impossible, as discussed in Sect. 4.4. Similarly, if a certain element can be shared, it should also be able to be split, which also seems to be the case. The analysis is supported from this direction: if an element can be shared, it can be split, and furthermore: if an element cannot be split, it cannot be shared. However, we observe that even if an element (e.g., numerals and bare adjectives) can be split, it might not be able to participate in sharing. In that sense, determiner sharing is more restricted than split topicalization with respect to the lexical elements involved. I believe this in and of itself does not

significantly impair the proposed analysis. There is little research on what the natural class of shareable determiners may be. It is conceivable that there may be an additional restriction on the types of lexical elements. It remains to be seen whether this is then compatible with the present analysis. Another possible prediction of this analysis concerns variation between speakers. Speakers who allow split topicalization and gapping should also allow determiner sharing in principle. However, there is a group of speakers who do not accept any sharing even though they do allow splits and gapping. An explanation of why splits and sharing behave differently in this respect must be left for future research for now.

5.5.2 Cross-linguistic predictions

The analysis for determiner sharing developed here predicts that a language that allows split topicalization and can exhibit it in verbal or clausal ellipsis sites, should show determiner sharing. Specifically, determiner sharing should be able to occur with ellipses other than gapping, which I have shown to be the case for German stripping above.[20]

   Initially, it seems like an analysis of determiner sharing based on split topicalization cannot be applied to other languages like English, since it lacks such a movement type.[21] I think there are two ways to possibly think about this: On the one hand, it could be true that determiner sharing in German works fundamentally differently than determiner sharing in English or Spanish. In different languages, there are different combinations of processes that can generate similar surface structures. For instance, German lacks VP-ellipsis, whereas English and Spanish allow it. Therefore it is conceivable that in VP-ellipsis languages, there are other processes available to derive a similar structure, such as small ellipsis combined with across-the-board-movement as proposed by Johnson (2000); Lin (2002). Another, more radical analytical possibility would be to assume that English determiner sharing is derived exactly in the same way as proposed for German. If one can sufficiently argue for a large-conjunct approach to gapping in English (as in Frazier 2015; Potter et al. 2017), then one could assume that split topicalization is in principle possible in English, but it only becomes visible under ellipsis, i.e., in determiner sharing structures (similarly to Kennedy and Merchant's 2000 treatment of attributive comparative deletion and Left Branch Extraction in

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[20]VP-ellipsis and pseudo-gapping should also be suitable contexts for determiner sharing, but since German does not allow these types of ellipsis independently, (i), the availability of determiner sharing cannot be tested. Languages that allow both VP-ellipsis/ pseudo-gapping and split topicalization are predicted to also allow determiner sharing in these environments.

(i) a. *Kerstin hat eine ganze Tüte Gummibärchen gegessen und Mario hat auch
         Kerstin has a   whole bag jelly.babies   eaten   and Mario has too
         [VP]~~eine ganze Tüte Gummibärchen gegessen~~.

     b. *Kerstin hat eine ganze Tüte Gummibärchen gegessen und Mario hat eine Packung Kekse   ~~gegessen~~.
         Kerstin has a   whole bag jelly.babies   eaten   and Mario has a   bag   cookies eaten

[21]Note that this analysis can extend to Spanish, since it seems to allow split topicalization, (i).

(i) Perros$_i$ he   tenido muchos t_i.
     dogs.ACC AUX.1SG *pet* *many*.ACC
     'I have pet many dogs.'   (A. Fábregas, p.c.)

English). Why should this be the case? Surface morphology seems to play a crucial role in the derivation of split topicalization (see discussion of regeneration effects and the link to NP-ellipsis in e.g., Fanselow 1988; Van Riemsdijk 1989; Lobeck 1995; Kester 1996; Van Hoof 2017). Consider also examples like (82).

(82)   a.   *<u>Pferd</u>_i   habe ich <u>kein</u> t_i gesehen.
            horse.N.ACC *have I*   *no*.N.ACC   *seen*

       b.   <u>Pferd</u>_i   habe ich <u>kein-es</u> t_i gesehen
            horse.N.ACC *have I*   *no*-N.ACC   *seen*

       c.   Ich habe kein/   *kein-es   Pferd gesehen.
            I   have no.N.ACC *no*-N.ACC *horse seen*
            'I haven't seen a horse.'

The material stranded by split topicalization must have overt morphological exponents. Whatever accounts for the ungrammaticality of (82-a) in German might also prohibit split topicalization in English in general: English lacks the overt morphology to license splits, (83).

(83)   *Horse I have no seen.

This morphological licensing requirement is lifted in the context of ellipsis: the non-pronunciation of the stranded element permits splits, (84) (see also Privizentseva 2023 for a similar argument in nominal ellipsis).

(84)   No dog likes Whiskas or cat_i Pedigree_j ~~... [~~$_{vP}$ ~~no t_i likes t_j~~]

Further typological research is required here. With more case studies and the discovery of (more) cross-linguistically robust generalizations, we can test whether the similarity between determiner sharing in German and English/Spanish is truly accidental, or whether there is evidence to suggest that all instances of determiner sharing should receive the same analysis.

6 Conclusion

This paper discussed novel German data of determiner sharing constructions. I have shown that German determiner sharing can be characterized by three core empirical properties: (i) it is dependent on another ellipsis process, (ii) the noun whose determiner is omitted must be the initial element in its conjunct, (iii) the deleted material need not form a constituent. These properties are derived straightforwardly if determiner sharing is analyzed as an elliptical version of split topicalization. Despite the superficial appearance of parasitism between ellipsis of the determiner and ellipsis of the verb, I have aimed to show that the syntactic architecture need not be extended to include parasitic operations. The parasitism of determiner sharing can be fully derived by the combination of independently available processes, namely (clausal) ellipsis and split topicalization: split topicalization strands a determiner in the middle field, where it is included in the ellipsis site created by gapping. Under a Move-and-Delete approach to ellipsis, this is

expected. I have shown five empirical arguments that suggest that the remnants of clausal ellipsis undergo some type of movement to the left periphery, i.e, topicalization. If topicalization is a core component of clausal ellipsis, we would expect splits to be possible as well. This is exactly the structure that is described as determiner sharing. The present analysis of determiner sharing supports the general Move-and-Delete approach in the sense that (i) it is a borne out prediction and (ii) the approach can capture all of the properties of determiner sharing without adding parasitic relations to the syntactic architecture.

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