Local Instability

The Syntax of Split Topics

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Abstract

In this dissertation, I propose a novel analysis of so-called Split Topicalization (ST), focusing on German. ST, which seemingly splits constituents into two parts, has been a recalcitrant problem for syntactic theory. The present dissertation argues that it follows directly from fundamental principles of syntactic computation.

Chapter 2 presents the central properties of ST. A brief sketch of its pragmatics leads to the conclusion that ST is not "information-structurally driven," contrary to what is typically assumed in the literature. While ST exhibits all properties of an $\overline{\text{A}}$-dependency, in many cases there is no identifiable base constituent from which the two parts could be derived. This is the empirical problem that so far no analysis of ST has been able to solve.

Chapter 3 develops a novel analysis of ST, based on the idea that the two separated parts are underlyingly related in a "bare-predication structure," i.e. they directly merge as DP subject and NP predicate ({DP, NP}). I argue that this structure is locally unstable: it must be broken by movement to be endowed with a label. This analysis explains why the two parts, while not forming a constituent, nevertheless agree in Case (the result of Multiple Agree) and are obligatorily separated. I show that the analysis correctly accounts for the locality conditions on ST, including its circumvention of the CED, and discuss various implications and extensions of the analysis.

In chapter 4 I propose to extend the analysis developed in chapter 3 to Quantifier Float (QF). I show that QF has in common with ST the property that the two separated parts do not necessarily originate in a single source constituent. In this case, too, the two parts are each an independently generated XP, related to one another by predication: I analyze

floated quantifiers as predicates that merge with their DP associates, again creating a locally unstable structure ({DP, QP}) that requires movement.

Chapter 5 concludes by summarizing the theoretical implications of the proposal, pointing to future avenues of research.

Contents

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Chapter 1

Introduction

1.1 Empirical Scope

In this essay, I propose a novel analysis of so-called *Split Topicalization* (henceforth, ST), a notorious and long-standing problem of German syntax.[1] The standard characterization of ST, illustrated in (1), is that it splits a single underlying constituent into discontinuous parts (examples are from German unless indicated otherwise):

(1) <u>Französische</u> <u>Bücher</u> hat Amina bisher nur <u>wenige</u> <u>gute</u> gelesen.
      French   books   has Amina so far only few   good read
      'As for French books, so far Amina read only few good ones.'

Throughout, I will use underlining to indicate the related parts; I follow van Hoof (2006) in refering to the fronted/topicalized part as TOP and to the stranded part as REM (for *remainder*). I hasten to add that both this terminology and the underlining are convenient notational shorthands without any theoretical import. In fact, it will become apparent in chapter 2 that TOP and REM are separate constituents, rather than discontinuous parts of a single constituent.

A distinctive feature of the analysis proposed in this work is that it incorporates and provides a unified analysis of all split-topic constructions (STCs). While most analyses of ST limit their attention to the simple variety illustrated in (1), it turns out that the construction becomes highly problematic when the full range of possibilities is taken into account (Haider 1990; Pittner 1995; Kniffka 1996; Puig Waldmüller 2006; Fanselow and Ćavar 2002; Nolda 2007). I will now outline the range of constructions that I take to fall within

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[1] Whence Gallmann and Lindauer's (1994) characterization of ST as a "thorny syntactic problem" (*dornenvolles syntaktisches Problem*). Nolda (2007: 12) notes that older works typically view it as a "marginal curiosity" (*Kuriosum am Rande*).

the category of ST; the discussion in chapter 2 will provide further evidence for this grouping.

1.2 Types of Split Topics

I should note at the outset that ST is a phenomenon predominantly found in spoken German but rare in written language (see Kniffka 1996: chapter 4). Therefore, readers with native intuitions should bear in mind when judging the examples that ST typically requires a proper contextual setting and specific information-structurally motivated intonation contours (on which see section 2.1) for full acceptability.

1.2.1 Simple Splits

The simple example of ST given in (1) is repeated below:[2]

(2)   <u>Französische</u> <u>Bücher</u> hat Amina bisher nur <u>wenige</u> <u>gute</u> gelesen.
       French   books   has Amina so far only few   good read
       'As for French books, so far Amina read only few good ones.'

I refer to this type of split, which contains a gap corresponding to TOP, as "simple split." The underlining reflects the intuitive perception of TOP and REM as discontinuous parts of an underlyingly continuous noun phrase (an idea which will however be rejected in chapter 2 below). Generally, the interpretation of STCs roughly corresponds to *as for* constructions in English (*As for TOP, . . . REM . . .*; cf. Pittner 1995: 33). Kniffka 1996: appendix contains a wealth of naturalistic examples of (mostly) simple splits.

   Adopting for the moment the intuitive idea that TOP and REM represent a discontinuous constituent, we see that in STCs the head noun and optionally pied-piped modifiers precede the rest of the DP, i.e. ST inverts the order of elements internal to the split DP. The reverse of (2) is unacceptable:

(3)   *(Nur) <u>Wenige</u> <u>gute</u> hat Amina bisher (nur) <u>französische</u> <u>Bücher</u> gelesen.
         only few   good has Amina so far   French   books   read

---

[2] Here and throughout, focus-sensitive particles such as *nur* 'only' do not appear underlined, reflecting my assumption that they are not part of the relevant constituents but rather adjoined to higher functional projections: see Büring and Hartmann 2001 and Kleemann-Krämer 2010 for arguments in favor of this view, and Reis 2005 for some counterarguments.

   I assume that the same is true for negative particles like clause-initial *nicht*:

(i)   Nicht <u>Männer</u> wurden <u>viele</u> ausgezeichnet, sondern Frauen.
       not   men   were   many decorated   but   women

In this respect ST differs from partitive split, which allows both inverted and non-interted post-movement orders (examples adapted from De Kuthy 2001: 53):

(4) a. Niemand$_i$ hat gestern t_i von uns das Fußballspiel gesehen.
        no-one   has yesterday   of   us   the soccer match watched

     b. Von uns$_i$ hat gestern   niemand t_i das Fußballspiel gesehen.
        of   us   has yesterday no-one   the soccer match watched

In (2), TOP appears clause-initially; alternatively, it can appear in the middle field, more specifically in what Frey (2004a) terms the *medial topic position*, an $\overline{\text{A}}$-position immediately below C:[3]

(5) obwohl   er <u>französische</u> <u>Bücher</u> bisher nur   <u>wenige</u> <u>gute</u> gelesen hat.
     although he French   books   so far only few   good read   has

As suggested by (2) and (5), STCs can be derived by means of either topicalization or scrambling; I will demonstrate in section 2.2.2 that movement is involved. I will also refer to STCs derived by scrambling as instances of split scrambling (SS), but will explicitly distinguish ST and SS only where necessary and will otherwise use the labels "ST" and "STC" as cover terms subsuming SS.[4]

1.2.2 Gapless Splits

While in simple splits REM lacks an overt head noun, it is a complete noun phrase in gapless splits. In what Ott and Nicolae (in press) term "genus–species splits,"[5] TOP denotes

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[3]Here and in what follows I will only consider $\overline{\text{A}}$-scrambling to the medial topic position immediately preceding the base position of sentence adverbials (see Frey 2004a). Frey (2000) points out that scrambling to a lower position (which is presumably A-movement, cf. Fanselow in press) yields unacceptable splits:

(i) a. Otto wird <u>Bücher</u> wahrscheinlich <u>keine</u> verschenken.
        Otto will books   probably   none give away
     b. *Otto wird wahrscheinlich <u>Bücher</u> <u>keine</u> verschenken.
        Otto will probably   books   none give away
        'As for books, Otto probably won't give any away.'   (Frey 2000: 144)

I will therefore only consider TP-level scrambling in what follows.

[4]The existence of SS is sometimes denied in the literature, for instance by Frey (1993: 198) (who, however, accepts it in Frey 2000: 144); Puig Waldmüller (2006: 26) takes it to be "only acceptable in colloquial German." In many cases, the judgments are confounded by extraneous factors, such as illicit scrambling across a pronominal subject. Here I take SS to be fully productive while, like any scrambling, contextually conditioned.

[5]The name is from Cable 2004, where similar constructions in Yiddish are discussed.

a superset (genus) of REM (species):[6]

(6)   a.   <u>Seltene</u> <u>Raubvögel</u>   hat Jürgen nur   <u>ein paar</u> <u>Bussarde</u> gesehen.
              rare   birds of prey has Jürgen only a few   buzzards seen
              'As for rare birds of prey, Jürgen only saw a few buzzards.'

        b.   *<u>Bussarde</u> hat Jürgen bisher nur   <u>ein</u> <u>paar</u> <u>Raubvögel</u>   gesehen.
              buzzards has Jürgen so far only a   few birds of prey seen

At this point it should be obvious that the label "split" is inadequate and merely used for convenience, since examples like (6a) do not seem to involve a discontinuous constituent.

    Some further examples of gapless splits are given below (see also Fanselow 1993: 63, Pittner 1995: 33 Fanselow and Ćavar 2002: 99, Puig Waldmüller 2006: 8 and Fanselow and Féry 2006: 66, among others):

(7)   a.   <u>Rotwein</u> haben wir heute <u>kalifornischen</u> <u>Merlot</u>.
              red wine have   we today Californian   Merlot

        b.   <u>Japanische</u> <u>Autos</u> hat Volker bisher meistens <u>Toyotas</u> gekauft.
              Japanese   cars   has Volker so far mostly   Toyotas bought

        c.   <u>Zeitungen</u>   <u>aus</u>   <u>Berlin</u> kenne ich nur   <u>die</u> <u>*junge* *Welt*</u>.
              newspapers from Berlin know I   only the *junge Welt*

    The superset–subset requirement is pragmatically grounded and not tied to inherent lexical-semantic properties of TOP and REM. Consider the following (due to Gisbert Fanselow p.c.; see also Nolda 2007: 87):

(8)   a.   <u>Geschenke</u> hat er mal wieder nur   <u>rote</u> <u>Socken</u> bekommen.
              presents   has he PRT again   only red socks   got

        b.   <u>Syntaktiker</u>   kenne ich nur   <u>den</u> <u>Chomsky</u>.
              syntacticians know I   only the Chomsky

    In both cases, it is only world knowledge that licenses the superset–subset relation between TOP and REM; *rote Socken* and *Chomsky* are not hypernymically related to *Geschenke* and *Syntaktiker*, respectively.[7]

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[6]It should be noted that some speakers prefer TOP to be a PP, headed by the preposition *an*:

(i)   An seltenen Raubvögeln hat Mitsch nur   ein paar Bussarde gesehen.
        of   rare   birds of prey has Mitsch only a   few buzzards seen

Semantico-pragmatically, (i) and (6a) appear to be equivalent; *an* seems to act as an explicit topic marker. I set aside this alternative here.

[7]Similarly, the judgment in (6b) presupposes that the speaker knows about the superset–subset relation between birds of prey and buzzards. If this relation is falsely believed to be the reverse, or in a hypothetical situation where birds of prey are a type (species) of buzzards, (6b) is acceptable.

In a further class of gapless splits, REM surfaces as an indefinite pronoun. This is shown below for plural *welche* 'some/any' (in its quantificational, non-interrogative use) and singular *eins* 'one' and *keins* 'none:'

(9)   a.   <u>Französische</u> <u>Bücher</u> habe ich noch nie   <u>welche</u> gelesen.
          French   books have I   so far never any   read
          'As for French books, I haven't read any so far.'

        b.   <u>'n</u> <u>französisches</u> <u>Buch</u> habe ich schon   mal <u>eins</u> gelesen.
          a French   book have I   already PRT one read
          'As for French books, I've read one.'

        c.   <u>Französische</u> <u>Bücher</u> habe ich noch <u>keins</u> gelesen.
          French   books have I   yet   none read

In my dialect, indefinite *was* is also possible when TOP is a mass noun, indicating a vague amount; strong personal pronouns seem to be acceptable as well (capitals indicate stress):[8]

(10)   a.   Den Vodka mochte ich nicht, aber <u>Bier</u> hab ich schon <u>was</u>   getrunken.
          the vodka liked   I   not   but beer have I   PRT   some drunk
          'I didn't like the vodka, but I did drink some beer.'

        b.   <u>Männer</u> liebt sie ja   sowieso nur <u>IHN</u>.
          men   loves she PRT anyway only him
          'As for men, it is only him that she loves anyway.'

Pronominal REMs allow postnominal modifiers but not prenominal ones; determiners or quantifiers likewise cannot be contained in pronominal REMs. This, of course, simply mirrors the general syntactic co-occurrence restrictions of these pronouns, as shown in (12):

(11)   <u>Gute</u> <u>Bücher</u> hat er schon (*{<u>französische</u> / <u>drei</u>}) <u>welche</u> <u>von</u> <u>Chomsky</u>
       good books   has he already   French   three some   by Chomsky
       gelesen.
       read

(12)   A: What kinds of books did you read?
       B: (i)   *{Französische / drei} welche.
                French   three some

          (ii)   Welche von Chomsky.
                some   by Chomsky

Like ST generally, gapless splits are not restricted to arguments; adjuncts, such as free datives, can be split as well (this issue will be discussed further in section 3.3.2):

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[8]Conceivably, this *was* is a reduced form of *etwas* 'some(thing),' in which case the split may not be gapless.

(13) <u>Verwandten</u> hat er nur <u>welchen</u> <u>mit</u> <u>viel</u> <u>Geld</u> einen Kuchen gebacken.
relatives.DAT has he only some.DAT with much money a cake baked

Like simple splits, gapless splits can be derived by SS, TOP surfacing in the left middle field's medial topic position:

(14) a. obwohl ich <u>seltene</u> <u>Raubvögel</u> leider nur <u>ein paar</u> <u>Bussarde</u>
although I rare birds of prey unfortunately only a few buzzards
gesehen habe.
seen have

b. weil ich <u>französische</u> <u>Bücher</u> ja auch mal gerne <u>welche</u> lesen
because I French books PRT also sometime gladly some read
würde.
would

1.2.3 Split PPs

The cases discussed so far all involved split noun phrases, however these are not the only constituents that can undergo ST. In PP-splits, an argument or adjunct PP is split:

(15) <u>In</u> <u>Schlössern</u> habe ich noch <u>in</u> <u>keinen</u> gewohnt.
in castles have I so far in no lived
'As for castles, I haven't lived in any so far.'   (Fanselow and Ćavar 2002: 69)

The preposition obligatorily appears in both TOP and REM (see also section 2.2.3).[9]

Some further examples of PP-splits are given in (16):

(16) a. <u>In</u> <u>fremden</u> <u>Betten</u> ist er schon <u>in</u> <u>vielen</u> aufgewacht.
in stranger's beds is he already in many woken up

b. Selbst <u>für</u> <u>Freunde</u> würde ich so etwas nur <u>für</u> <u>ganz</u> <u>enge</u> tun.
even for friends would I such something only for very close do

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[9] In highly colloquial speech, the preposition can be dropped, in which case TOP bears nominative Case (see also Fanselow and Féry 2006: 67):

(i) %<u>Schlösser</u> hab' ich noch <u>in</u> <u>keinen</u> gewohnt.
castles.NOM have I yet in no.DAT lived

Citation form of TOP and its restriction to the prefield suggest that (i) is a base-generated topic construction. Preposition drop of this kind is not specific to ST; it occurs (in colloquial speech) with non-split topics as well:

(ii) %<u>MIT</u> studieren nur die besten.
MIT study only the best

    c.   <u>Mit</u> <u>anderen</u> <u>Syntaktikern</u> hat er bisher nur <u>mit</u> <u>Lasnik</u>
         with other   syntacticians has he so far only with Lasnik
         zusammengearbeitet.
         worked together

The split PP in (16a) is an adjunct (its preposition is not 'governed' by V), showing that ST is not restricted to argument categories. Notice that REM in (16c) is a PP containing an overt head noun, illustrating a gapless PP-split (*Lasnik* being a subset of *other syntacticians*).

As with the other types, TOP in PP-splits can alternatively surface in the left middle field:

(17)   a.   obwohl ich <u>in</u> <u>Schlössern</u> bisher noch <u>in</u> <u>keinen</u> gewohnt habe.
           although I in castles   so far yet in no   lived   have

      b.   weil   er <u>mit</u> <u>anderen</u> <u>Syntaktikern</u> bisher nur <u>mit</u> <u>Lasnik</u>
           because he with other   syntacticians so far only with Lasnik
           zusammengearbeitet hat.
           worked together   has

1.2.4   Multiple and Parallel Splits

Multiple splits combine ST and SS. That is, an additional medial element MED appears in the middle field:

(18)   <u>Fehler</u>   hat er <u>so</u> <u>richtig</u> <u>dumme</u> bisher nur <u>wenige</u> gemacht.
        mistakes has he PRT really dumb so far only few   made
        'As for mistakes, so far he made only few really stupid ones.'   (Pafel 1996: 167)

It appears that in such cases the original noun phrase *wenige so richtig dumme Fehler* is "scattered" across three clausal positions. As in simple splits, however, an overt head noun can be present in MED or REM in multiple splits as well, yielding a gapless split. As shown by (19c), the familiar superset–subset requirement is active here as well:[10]

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[10]I leave open whether or not both MED and REM can simultaneously contain an overt head noun, since judgments are somewhat murky. With proper intonation (as indicated), cases such as the following seem quite acceptable:

(i)   <u>/AUtos</u> hab' ich <u>so</u> <u>richtig</u> <u>schäbige</u> <u>/ROSTlauben</u> bisher nur <u>ToYO\tas</u> gehabt.
       cars   have I PRT really scabby clunkers   so far only Toyotas owned
       'As for cars, and as for really scabby clunkers, so far I've only had Toyotas.'

I tentatively assume that such cases to be grammatical but marginal due to their complexity, both structurally and informationally. The issue is left to future research.

(19) a. <u>Raubvögel</u>   habe ich <u>so</u>   <u>richtig</u> <u>große</u> bisher nur   mal   <u>ein</u> <u>paar</u> <u>Bussarde</u>
          birds of prey have I   PRT really big   so far only once a   few buzzards
          gesehen.
          seen

      b. <u>Raubvögel</u>   habe ich <u>so</u>   <u>richtig</u> <u>große</u> <u>Adler</u> bisher nur   <u>zwei</u> gesehen.
          birds of prey have I   PRT really big   eagles so far only two   seen

      c. *<u>Adler</u> habe ich <u>so</u>   <u>richtig</u> <u>große</u> <u>Raubvögel</u>   bisher nur   <u>zwei</u> gesehen.
          eagles have I   PRT really big   birds of prey so far only two   seen

Parallel splits are STCs that involve splitting of more than one constituent. In (20), both direct object (underlined) and subject (overlined) are split:

(20) <u>Sonaten</u> haben $\overline{\text{Frauen}}$ bislang nur $\overline{\text{wenige}}$ <u>welche</u> geschrieben.
      sonatas have   women so far   only few   any   written
      'As for sonatas, so far only few women have composed any.'

<div align="right">(Fanselow and Ćavar 2002: 67)</div>

Evidently, neither multiple nor parallel splits are qualitatively different from the types discussed above but merely combine the configurational options that are independently available.

1.2.5   Mixed Splits

So far, it was shown that TOP in STCs can occur either in the prefield or in the middle field. A further means of splitting noun phrases and PPs is by including TOP in a fronted VP:

(21) <u>Französische</u> <u>Bücher</u> gelesen hat Amina bisher nur   <u>drei</u> <u>langweilige</u>.
      French   books read   has Amina so far only three boring
      'As for reading French books, Amina only read three boring ones so far.'

Following van Hoof (2006), I will refer to this type of STC as "mixed split" (since, intuitively speaking, both DP and VP appear in discontinuous surface form).

All previously mentioned types of splits have mixed counterparts. That is, mixed splits can be PP-splits (22a), gapless splits (22b)/(22c), and multiple splits (22d):

(22) a. <u>In</u> <u>Schlössern</u> gewohnt hat er noch <u>in</u> <u>keinen</u>.
          in castles   lived   has he yet   in no

      b. <u>Mit</u> <u>Angestellten</u> gesprochen hat er immer nur   <u>mit</u> <u>den</u> <u>hübschen</u>
          with employees   talked   has he always only with the pretty
          <u>Frauen</u>.
          women

    c.   <u>Bücher</u> gelesen habe ich damals   nur   selten <u>welche</u> <u>über</u> <u>solche</u>
         books   read   have I   back then only rarely any   about such
         <u>Themen</u>.
         topics

    d.   <u>Fehler</u>   gemacht habe ich <u>so</u>   <u>richtig</u> <u>dumme</u> bisher zum Glück <u>keine</u>.
         mistakes made   have I   PRT really stupid so far fortunately no

The following illustrates a mixed-split version of the parallel split in (20):

(23)   <u>Sonaten</u> geschrieben haben $\overline{\text{Frauen}}$ bislang nur $\overline{\text{wenige}}$ <u>welche</u>.
        sonatas written   have women so far only few   some

Scrambling of VPs is generally a marked option, but with contrastive emphasis and a proper contextual setting, mixed SS is acceptable if marginal:

(24)   a. ?weil   er <u>Bücher</u> gelesen wohl erst <u>wenige</u> hat.
          because he books read   PRT only few   has

    b. ?weil   er <u>in Schlössern</u> gewohnt noch <u>in keinen</u> hatte.
          because he in castles   lives   so far in no   had

The facts reviewed above constitute the empirical core of this work, to be expanded in later sections. It is noteworthy that previous analyses of ST have typically only taken the simple type into account; I know of no single analysis that attempts to unify all types (which, as we will see in the next chapter, form a natural class).

1.3   Organization of the Dissertation

Chapter 2 presents the theoretically relevant properties of ST. A brief sketch of ST's pragmatic properties will lead to the conclusion that ST is not in any way "information-structurally driven." Contrary to what is typically claimed in the literature, neither TOP nor REM obligatorily bears a specific informational role. I go on to show that while ST exhibits all properties of an $\overline{\text{A}}$-dependency, there is no single source constituent that relates TOP and REM in the base (Fanselow 1988); one clear sign of this are the gapless splits illustrated in section 1.2.2 above. This, in a nutshell, is the empirical problem that so far no analysis of ST has been able to solve (and most have failed to even properly address).

    Chapter 3 develops a novel analysis of ST, based on the idea that TOP and REM are underlyingly related in a "bare-predication structure," i.e. they directly merge as DP subject and NP predicate ({DP, NP}). I argue, following Moro (2000, 2007) and Chomsky (2008, 2010, 2011), that this structure is *locally unstable*: it must be broken by movement in order to be endowed with a label. This analysis explains why TOP and REM, while not forming

a constituent, nevertheless agree in Case (the result of Multiple Agree) and are obligatorily separated, without any resort to syntacticized pragmatic features. I argue that symmetry-breaking movement applies freely, displacing NP to an $\overline{\text{A}}$-position made available by an unselective edge feature of C, which can optionally be inherited by T. It is shown that these minimal assumptions suffice to derive the entire range of STCs. In the remainder of the chapter I show that the analysis correctly accounts for the locality conditions on ST, including its circumvention of the CED (e.g., in adjunct splits), and discuss various implications and extensions of the analysis.

In chapter 4 I propose to extend the analysis developed in chapter 3 to Quantifier Float (QF). I show that QF has in common with ST the property that TOP and REM do not necessarily originate in a single source constituent. Following a suggestion in Pittner 1995, I analyze floated quantifiers as predicates that merge with their DP associates, again creating a locally unstable structure ({DP, QP}) that requires movement.

Chapter 5 summarizes the main claims of the thesis, and spells out some broader theoretical context.

Throughout, I will use trees, bracketing and set notation interchangeably, since nothing hinges on the formal details.

Chapter 2

Empirical and Theoretical Aspects

In this chapter, I discuss two dimensions of the STCs introduced in section 1.2. First, I will give a brief overview of the information-structural properties of ST, concluding that there is no fixed correspondence between form and function. Second, I turn to syntactic properties of ST and review a number of analyses that have been proposed, all of which fail to provide an adequate solution to the empirical puzzle presented by STCs.

2.1   Information Structure

A widely-held view is that STCs provide the grammatical basis for endowing individual subparts of a single constituent with different information-structural roles. This view is clearly articulated by Féry (2007) (see also Pittner 1995: 32f.):

> The discontinuity of [REM] and [TOP] finds a double motivation. First, [...]
> the need to provide both elements with equal prominence triggers the formation
> of two phrases, topicalization being the most obvious solution. [...] Second,
> the sentence-initial position is preferably associated with a rising bitonal tone
> for topic, and the preverbal one with a falling accent for focus (see Büring
> 1997).   (Féry 2007: 81f.)

As indicated by the term "preference," TOP and REM often, but not necessarily, express some particular information, such as focus. In what follows, I will briefly summarize the various information-structural realizations of STCs. I emphasize that since the main focus of this work is the syntax of STCs, what follows is *not* meant to be an exhaustive explication of their information structure, but rather a broad sketch; consequently, I will gloss over

some of the fine-grained (and controversial) distinctions found in the relevant literature.[1]
See Nolda 2007: chapter 4 for further discussion and examples.

2.1.1 Bridge-contour Splits

TOP and REM as Topic and Focus

Broadly speaking, German realizes contrastive topics with a rising accent and foci with a
falling tone (marked below by '/' and '\,' respectively). In combination, rising and falling
accents yield the "bridge contour" (Féry 1993; Jacobs 1997; Büring 1997). As noted by
Féry (quoted above), a bridge contour with TOP and REM as "pillars" is a typical realiza-
tion of STCs:[2]

(1) a. Fran/ZÖsische Bücher hat Amina bisher nur drei LANG\weilige gelesen.
         French   books   has Amina so far only three boring   read
         'As for French books, so far Amina only read three boring ones.'

     b. weil   sie fran/ZÖsische Bücher bisher nur drei LANG\weilige gelesen
         because she French   books   so far only three boring   read
         hat.
         has

     c. /BÜcher gelesen hat Fabian schon   VIE\le gute.
          books   read   has Fabian already many   good
         'As for reading books, Fabian has read many good ones.'

     d. Große /NAgetiere hat dieser Zoo nur   CapyBA\ras.
         large rodents   has this   zoo only capybaras
         'As for large rodents, this zoo only has Capybaras.'

ST used in this way emphasizes the roles of TOP and REM as (contrastive) topic and new
information, respectively (cf. Kniffka 1996: 115). The same result could not be achieved
by means of a single, continuous DP (which is not available in gapless splits like (1d)
anyway).[3]

   According to the theory developed in Büring 1997, contrastive topics and foci alike
invoke alternatives (the "topic/focus value"). Thus, in (1a) (and its SS counterpart in (1b))

---

[1]All observations below equally apply to PP-splits, although I will not specifically provide examples of
this type.

[2]See Kniffka 1996: 116ff. and Nolda 2007: chapter 4 on phonetic properties of STCs, including pitch
diagrams.

[3]STCs in which REM is a focus typically feature a focus particle such as *nur* 'only' that is associated
with REM; while natural, these particles are not obligatory. (Notice also that the focus accent can fall on
an element of the comment other than REM, see below.) I will generally abstract away from focus particles
here; see also note 2 in chapter 1.

the rising accent on *französische* signals that Amina read other (English, Russian, …)
books as well (*Bücher* being given), and the falling accent on *langweilige* that the three
French ones she read happened to be boring (rather than interesting, difficult, …), which
is presented as new information.

As mentioned earlier, German root clauses offer two left-peripheral $\overline{\text{A}}$-positions, roughly
corresponding to the edges of CP and TP (Frey 2000, 2004a). Therefore, a second con-
trastive topic besides TOP can occur in all types of splits. This can be either some element
of the comment or a further part of the split noun phrase, in the latter case yielding the
multiple-split pattern illustrated in section 1.2.4:

(2) a. Fran/ZÖsische Bücher hat A/MIna bisher nur LANG\weilige gelesen
         French   books   has Amina so far only boring   read
         (aber   Chris/TINE schon   mehrere GU\te).
          however Christine   already several   good

     b. /BÜcher hat sie fran/ZÖsische bisher nur LANG\weilige gelesen
          books   has she French   so far only boring   read
         (/ENGlische aber   einige   SPAN\nende).
           English   however several exciting

Alternative Topic/Focus Placements

So far, we have seen examples of STCs in which TOP and REM serve as starting point and
end point of the bridge contour, respectively. However, the focus accent need not fall on
(an element of) REM; alternatively, it can be placed on some other element of the comment
(Oppenrieder 1991: 68f., fn. 43). This is illustrated by the following examples:

(3) a. /STRÄNde gibt   es auch DORT\ schöne.
          beaches   gives it also there   beautiful

     b. obwohl gute /BÜcher auch DA\mals schon   einige   erschienen sind.
         although good books   also back then already several appeared   are

     c. /BÜcher gelesen hat er so   richtig /SCHLECHte ja   beSTIMMT\ schon
          books   read   has he PRT really   bad   PRT certainly   already
         viele.
         many

In these examples, REM is given (discourse-old) and non-contrastive; this differs from the
splits in the previous subsection, where REM conveys new information. Consequently, in
(3) alternatives are invoked by the focused adverbials, not by REM. When the focus accent
is placed on the finite verb and the postnuclear part of the sentence is deaccented, this yields
a verum-focus interpretation, highlighting the truth of the proposition (Höhle 1992; Féry

1993: 25):

(4) Fran/ZÖsische Bücher HAT\ er schon welche gelesen.
     French   books has he already some   read
     'As for French books, it IS the case that he read some.'

Genus–species splits (gapless splits with lexical head nouns in REM) in which REM is not focused are somewhat unusual, but acceptable in a context where REM is given. Consider the following context, in which (5b) is acceptable:

(5) a. *Context:* Kay wants to see different kinds of birds of prey, reptiles and ro-
         dents. Traveling around he manages to see different kinds of birds of prey and
         reptiles, but the only rodents he can find are capybaras. Upon his return, he
         reports:
     b. /NAgetiere hab' ich selbst im   ZOO\ nur Capybaras gefunden.
          rodents   have I   even in the zoo   only capybaras found
         'As for rodents, even in the zoo I could only find Capybaras.'

Nagetiere is given from the context and contrasted with the other genera; the adverbial *im Zoo* provides discourse-new information and is contrasted with the other locations under consideration.

In fact, there are cases of ST in which the focus cannot be placed on REM at all, namely when it consists of elements that cannot be stressed. The pronouns *welche* and *eins* can be interpreted as indefinite existentials only when unstressed:[4]

(6) a. Nette /MÄdels kenne ich {natÜR\lich welche / *natürlich WEL\che}.
         nice girls   know I   of course some
         'As for nice girls, of course I know some.'
     b. Ein schickes /AUto hat der Chef {AUCH\ eins / *auch EINS\}.
         a   fancy   car has the boss also   one
         'As for a fancy car, the boss has one, too.'   (*one* existential, not cardinal)

Just like the focus accent need not be placed on REM, TOP need not necessarily act as a contrastive topic. In mixed splits, the verb can be contrastive while TOP is given and deaccented:

(7) A: I hear that Elsing has read plenty of books.
     B: Bücher ge/LEsen hat er nur WE\nige, /DURCHgeblättert aber   schon
         books read   has he only few   skimmed   however already

---

[4]When stressed, *welche* must be interrogative and *eins* cardinal.

VIE\le.
many
'As for books, he read only few, but he skimmed many.'

(8)   A: I'm told that Christine enjoyed petting the rodents at the zoo yesterday, espe-
            cially the squirrels.

      B: Nagetiere ge/STREIchelt hat sie nur CapyBA\ras, die anderen hat sie nur
           rodents   petted   has she only capybaras   the others   has she only
           von weitem gesehen.
           from far away seen
           'As for rodents, she only petted the capybaras, the others she only saw from
           afar.'

Since *Bücher* and *Nagetiere* in the above examples are given and non-contrastive, they bear
no intonational marking; a natural option is for both to be omitted.[5] Multiple splits can be
used in a similar way (although it would be somewhat more natural to drop TOP or replace
it with expletive *da*):

(9)   A: What large rodents does this zoo have?

      B: Nagetiere haben wir so   /RICHtig große nur CapyBA\ras.
           rodents   have we PRT really   big   only capybaras
           'The only really big rodents we have are capybaras.'

     When in addition the focus is shifted to some element in the middle field other than
REM, neither TOP nor REM bears any special marking:

(10)   A: Back when Bastian and I lived together he would never read or buy books. I
             hope this has changed.

        B: Bücher ge/LEsen hat er bis   HEU\te keine, ge/KAUFT aber   VIE\le.
             books read   has he until today no   bought   however many
             'He still hasn't read any books, but he bought many.'

     The same can be illustrated using verum-focus examples. In addition to the pattern in
(4) above, one can easily devise examples in which neither TOP nor REM have a contrastive
interpretation (see also Nolda 2007: 96):

(11)   a.   Ich soll   Geld   ausgeben? Geld HABE ich aber   keins!
             I   should money spend   money have I   however no
             'You want me to spend money? But I don't HAVE any money!'

---

[5]See Fanselow 2004, in press on such information-structurally vacuous alternations in VP-fronting.

b.   A: Where are the other rodents? We've only seen the capybaras.

     B: <u>Nagetiere</u> HAT dieser Zoo nur   <u>Capybaras</u>.
         rodents   has   the   zoo only capybaras
         'Capybaras ARE the only rodents this zoo has.'

2.1.2   Focus Fronting

Narrow Focus

The simultaneous expression of contrast by TOP and REM, while typical, is not the only possible information-structural realization of ST. Alternatively, TOP can be a fronted (contrastive) focus, marked by a falling accent, the remainder of the sentence being deaccented (cf. Puig Waldmüller 2006: 78); such STCs are typically used as corrective or confirming statements, highlighting the narrow-focal emphasis on the fronted element.[6] The following discourse illustrates:

(12)   A: I hear that Christine disliked most of the movies that came out this year.

       B: Nein, <u>BÜcher</u> haben ihr nur   <u>wenige</u> gefallen (aber /<u>FILme</u> MOCH\te sie
            no   books   have   her only few   pleased   but   movies liked   she
            die <u>meisten</u>).
            the most

This option is also available for gapless splits, *pace* Fanselow and Féry (2006: 66), when REM is given by the context:

(13)   A: I think Chomsky is the only linguist Benni knows.

       B: Nein, da   kennt er auch viele andere. Aber <u>SynTAKtiker</u> kennt er nur
            no   there knows he also many others   but   syntacticians knows he only
            den <u>Chomsky</u>.
            the Chomsky
            '... but as for syntacticians, he only knows Chomsky.'

Unlike a contrastive topic, the fronted focus conveys new information linked to the discourse. Notice how this contrasts with *Filme* in the continuation in (12), which is given and contrasted with the preceding *Bücher*. A consequence of this difference is that focus-fronting ST is often acceptable when a bridge-contour split is pragmatically odd due to the absence of plausible alternatives:

(14)   a. ??/<u>LEbenswillen</u> hat sie <u>JE\den</u> aufgegeben.
            will to live   has she every   given up

---

[6]See Steube 2001 and Krifka 2007: 23f. on this use of focus.

b. LEbenswillen hat sie jeden aufgegeben.
will to live has she every given up
'She abandoned any will to live.' (cf. Fehlisch 1986: 97)

No such problem arises in (14b), where REM highlights new information; the example could be used as a continuation of, e.g., *Her problem is not just her lack of motivation*.

Since contrastive foci can appear in the left middle field (see Lenerz 1977), focus fronting by SS in embedded clauses is possible:

(15) A: I hear that Christine was disappointed because she didn't like most of the books.

B: Nein, enttäuscht war sie weil ihr FILme wohl nur so wenige
no disappointed was she because her.DAT movies PRT only so few
gefallen haben.
pleased have
'No, she was disappointed because she only liked few of the movies.'

In mixed splits with a fronted contrastive focus, this focus can be either TOP itself or the verb in the fronted VP (provided that TOP is given):

(16) A: Isn't it the case that Christine read many French comics?
B: Nein, BÜcher gelesen hat sie schon viele französische (nicht COMics).
no books read has she already many French not comics

(17) A: Isn't it the case that Christine stole many books?
B: Nein, Bücher geKAUFT hat sie schon viele (nicht geKLAUT).
no books bought has she already many not stolen

The expression of a single focus by an *in situ* REM is possible as well, as noted by Nolda (2007: 101) (referring to Kniffka 1996: 129):

(18) A: Would you like some more coffee?
B: Nee, Kaffee will ich KEInen mehr.
no coffee want I no more

Here, like in (17), TOP is given and REM is the only informational "peak." Notice that the reverse (fronting of *keinen* and leaving *Kaffee in situ*) is unacceptable, for reasons that will become clear in section 3.2.5.

An important corollary of these facts is that ST cannot be triggered (in any real sense) by a "need to provide both elements [= TOP and REM, DO] with equal prominence" (Féry, quoted on p. 11 above). Focal status of TOP alone does not suffice to predict its separation from REM, since contrastive foci have no fixed position in German:

(19)   *What did you see there?*

    a.   Eine LaWIne$_i$ haben wir t_i gesehen.
           an   avalanche have   we   seen
    b.   Wir haben eine LaWIne gesehen.

           'We saw an avalanche.'   (Fanselow and Lenertová 2010: 4)

Wide Focus

In the examples considered so far, narrow-focal emphasis is placed on TOP (or a fronted nonfinite verb). As observed by Fanselow and Lenertová (2010), however, TOP can act as the exponent of a wider focus, a situation they refer to as "subpart of focus fronting." Thus, both cases in (20) are equally felicitous answers to the question *What did you buy?*:[7]

(20)   a.   'n paar BÜcher hab' ich gekauft.
           a few books   have I   bought

    b.   <u>BÜcher</u> hab' ich <u>'n paar</u> gekauft.
           books   have I   a few bought

As Fanselow and Lenertová point out, the same effect can be observed when TOP bears rising intonation (recall that contrastive topics, like contrastive foci, invoke alternatives). This is shown by the fact that all of the following are felicitous answers to the question *What did you do?* invoking VP alternatives:

(21)   I visited the museum, and ...

    a.   'n paar /BÜcher hab' ich AUCH\ gekauft.
           a few   books   have I   also   bought

    b.   /<u>BÜcher</u> hab' ich AUCH <u>'n paar</u> gekauft.
            books   have I   also   a few bought

    c.   /<u>BÜcher</u> gekauft hab' ich AUCH <u>'n paar</u>.
            books   bought have I   also   a few

Such facts show that TOP and REM need not differ in their information-structural role; in fact, both can be subparts of a single focus. We can thus reject as inadequate any claim to the effect that "the XP-split construction is grammatical only if a single XP must fulfill two different positional requirements defined by pragmatic constraints on order" (Fanselow and Ćavar 2002: 85; see section 2.3.2 for further discussion of their approach).

---

[7]Following Puig Waldmüller (2006: 77), Fanselow and Lenertová claim that focus-fronting cases like (20b) are felicitous answers to the question *What happened?*, i.e. compatible with wide focus on the entire proposition. I find this judgment questionable and therefore set this case aside here.

The wide-focus option observed by Fanselow and Lenertová is restricted to semantically weak REMs, expressing a vague indication of quantity. This is the case in (20b) and with (weak-)pronominal REMs (as discussed in section 1.2.2) which never contribute new information, as well as in examples like (22), where a gapless split is required for purely formal reasons (providing a host for the stranded relative).[8] By contrast, the answers in (23) could not be used felicitously in the same context (*What did you buy?*):

(22)   aber <u>ZEI\tungen</u> kenn' ich [??](<u>welche</u>), die in Berlin erscheinen.
        but   newspapers know I   some   that in Berlin appear

(23)   a. #<u>BÜcher</u> hab' ich <u>drei</u>   gekauft.
             books   has   he three bought

        b. #<u>BÜcher</u> hab' ich <u>französische</u> gekauft.
             books   have I   French   bought

The cases in (23) require a context where REM is given to be appropriate (*Of what did you buy three?*, *Of what did you buy French ones?*). The same is true for genus–species splits, where REM is always lexically contentful, hence must be an independent focus, or else given (as in (13)).

The facts presented in this section and the preceding ones are significant insofar as that they highlight the independence of the syntax of ST and its pragmatic expression (see also Puig Waldmüller 2006: 76f. and Nolda 2007: chapter 4). There is no predetermined pragmatic role for either TOP or REM that could be taken to motivate the split. While this is evident in light of the observations cited above, it is not the dominant view in the literature. For instance, Molnár and Winkler (2010) claim that ST is licensed only when both TOP and REM are contrastive:[9]

> [T]he sentence-intial bare plural [= TOP, DO] must be realized with a fall-rise contour followed by a strong falling accent on the quantifier. [...] [C]ontrast is obligatory on both parts of the split NP: the noun at the left edge has the pragmatic function of a contrastive topic and the quantifier is the contrastively focused part of the comment.   (Molnár and Winkler 2010: 1393)

Similar views have been expressed elsewhere:

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[8]Oppenrieder (1991: 49, fn. 43), referring to Kniffka 1986, observes that measure-phrase REMs can be semantically weak in this sense as well, when the information they express is not prominent.

[9]Interestingly, they acknowledge (fn. 2, p. 1393) a reviewer's objection to this claim, mentioning placement of the fall on a constituent other than REM and verum focus as alternative realizations of STCs.

> One fact about these [STCs, DO] [...] is that they necessarily involve the rise-fall contour (rise on the initial constituent [= TOP, DO], fall on the quantifier [= REM, DO]).   (Krifka 1998: 100)

> XP-splits go hand in hand with a particular pragmatic structure [...]. In a split construction, the right part of XP [= REM, DO] must be focal, while the lefthand part [= TOP, DO] may be a (link-)topic or a second focus.
>
>   (Fanselow and Ćavar 2002: 85)

As we have seen, these views are too restrictive. This is particularly relevant with regard to analyses such as Fanselow and Ćavar's (2002), where STCs are derived by syntactic topic/focus features assigned to subparts of noun phrases; see section 2.3.2 for discussion. By contrast, the analysis proposed in chapter 3 relies on movement licensed by unselective edge features only, without assuming any direct role of pragmatic functions.

Nota bene: From now on, I will not indicate intonation contours; readers with native intuitions should bear in mind the patterns described in this section when judging the examples given below.

2.2 Syntax

2.2.1 A TOP–REM Asymmetry

In this section, I will sharpen the notion of ST, illustrating the range of possible TOPs and REMs. In particular, I will highlight an asymmetry between TOP and REM that will play a crucial role in the analysis to be developed in chapter 3.

One of the distinctive empirical properties of ST is that form and meaning of TOP is rigidly constrained. As noted by Fanselow (1988: 105f.) and others, TOP is obligatorily "bare" and property-denoting, i.e. not quantified or definite (see also Nolda 2007: 27f.).[10] Thus, a valid TOP is a mass noun or a singular/plural indefinite, optionally modified by adjectives (prenominally) and PPs and relatives (postnominally):

(24)   a.   <u>Autos</u> <u>die</u> <u>lange</u> <u>halten</u> kann ich mir nur <u>wenige</u> leisten.
            cars   that long last   can I   me only few   afford

---

[10]I will not go into semantic details in this work, but what seems clear is that TOP is generally not referential/existential, but property-denoting. See Krifka 1998: 100ff. for some discussion in the context of ST, and Krifka 2004 for general discussion. Nolda (2007: 140) claims that TOP can be referential in some generic way, but I fail to see why his examples require generic reference rather than denotation of a property.

b. <u>Ein</u> <u>neues</u> <u>Auto</u> kann ich mir leider   <u>kein</u> <u>richtig</u> <u>schickes</u> leisten.
   a   new   car   can I   me unfortunately no   really   fancy   afford

c. <u>Wasser</u> <u>aus</u>   <u>dem</u> <u>Hahn</u> trinke ich nur   <u>abgekochtes</u>.
   water   from the   tap   drink I   only boiled

d. <u>In</u> <u>fremden</u>   <u>Betten</u> ist er schon   <u>in</u> <u>vielen</u> aufgewacht.
   in stranger's beds   is   he already in many   woken up

By contrast, ST constructions with definite or quantified TOP are invariably degraded, irrespective of context (cf. van Hoof 1997: 8f.):[11]

(25)   a. *<u>Das</u> <u>Auto</u> kann ich mir nur   <u>das</u> <u>neue</u> <u>von</u> <u>BMW</u> leisten.
         the   car   can I   me only the   new   by   BMW afford

       b. *<u>Drei</u>   <u>Autos</u> kann ich mir <u>keine</u> <u>neuen</u> leisten.
         three cars   can I   me no   new   afford

       c. *<u>Chomskys</u>   <u>Bücher</u> (gelesen) habe ich schon   <u>viele</u> (gelesen).
         Chomsky's books   read   have I   already many   read

       d. *<u>Drei</u> <u>Raubvögel</u>   hat er nur   <u>Bussarde</u> gesehen.
         three birds of prey has he only   buzzards   seen

       e. *<u>In</u> <u>vielen</u> <u>Betten</u> ist er schon   <u>in</u> <u>fremden</u>   aufgewacht.
         in many   beds   is   he already in stranger's woken up

Notice that (25c) and (25e) show that the requirement that TOP be a bare NP equally applies in mixed splits and PP-splits.[12]

As already shown in (24b), TOP can occur with an indefinite article, which can optionally be cliticized or reduced (up to omission):

a.   {<u>Ein</u> / <u>'n</u> / <u>∅</u>} <u>Auto</u> kann ich mir höchstens <u>ein</u> <u>gebrauchtes</u> leisten.
        a   car   can I   me at best   a   used   afford
        'As for cars, I can afford a used one at best.'

Omission of the article in TOP appears to be subject to some individual and dialectal vari-

---

[11]Consequently, a name or a pronoun can only function as TOP when used predicatively:

(i)   a.   <u>Miriams</u> gab es   da   <u>viele</u>.
         Miriam.PL were EXPL there many
         'There were many people called Miriam present.'
     b.   <u>Ein</u> <u>Ich</u> hat er bisher nur   <u>das</u> <u>eigene</u> ergründen können.
         an I   has he so far only the own   fathom   could
         'The only ego he could fathom so far was his own.'

[12]I set aside here the highly marginal option of coercing numeral quantifiers into an attributive reading, in which case their occurrence in TOP is not entirely unacceptable. This is not a problem for the theory developed in chapter 3, where TOP is analyzed as a predicative NP: on the coerced reading, numerals still allow a property-denoting interpretation (cf. Higginbotham 1987: 48).

ation (see Nolda 2007: 22 and sources cited there); in my judgment, retaining at least the reduced version is the prefered option whereas omission is typically marked. I will set this complication aside here and assume that there is free alternation in TOP between *ein* and its reduced forms, including zero.

Since TOP is property-denoting, an article in TOP is always pleonastic. Consequently, it cannot be stressed, as stress triggers a cardinal or kind-referential reading (cf. Roehrs 2009a);[13] it cannot be modified by quantificational *mindestens* 'at least' nor can it be realized as existential *irgendein* (Nolda 2007: 29):

(26) a. *<u>EIN</u> <u>Auto</u> kann ich mir höchstens <u>ein</u> <u>gebrauchtes</u> leisten.
    one car can I me at best a used afford
    'There is only one (kind of) car that I can afford a used one of at best.'

   b. *<u>EIN</u> <u>Nagetier</u> kennt Jan <u>ein</u> <u>großes</u> (nämlich das Capybara).
    one rodent knows Jan a big namely the capybara
    'There is only one (kind of) large rodent Jan knows (namely the capybara).'

   c. *<u>Mindestens</u> <u>ein</u> <u>Auto</u> hat er <u>ein</u> <u>gebrauchtes</u>.
    at least one car has he a used
    *'There is at least one car which he owns a used one.'

   d. *<u>Irgendein</u> <u>Auto</u> kann ich mir leider <u>kein</u> <u>richtig</u> <u>schickes</u> leisten.
    some car can I me unfortunately no really fancy afford
    *'There is some car of which I can't afford a really fancy one.'

Notice that all illicit TOPs above make impeccable syntactic topics in non-split contexts, showing that the restriction of the topical element to bare-NP status is specific to STCs.

Importantly, REM is not constrained in this way but free to be quantified, definite, and/or referential (see various examples above; also Puig Waldmüller 2006: 71). Thus, numeral and non-numeral quantifiers can be stranded by ST (either as REM or as a part thereof), including the distributive universal quantifier *jeder* 'every' ((27a); Fehlisch 1986).

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[13]Puig Waldmüller (2006: 19) provides the following example (her (67)), which she judges acceptable:

(i) Nur <u>EIN</u> <u>Auto</u> kann sie sich heuer <u>keines</u> leisten, nämlich einen Mercedes.
  only one car cna she REFL this year none afford namely a Mercedes
  'Only one (kind of) car she cannot afford this year.'   (Puig Waldmüller's judgment)

As indicated, Puig Waldmüller takes TOP in (i) to be kind-denoting. However, in my judgment (i) is unacceptable. Unless this is a genuine difference between my idiolect and Puig Waldmüller's Viennese German, I suspect that the judgment is influenced by a relatively easy re-interpretation of REM *keines* as a kind of sentential negation, akin to the following case, which involves no ST and allows for a kind-denoting interpretation of the topic:

(ii) Nur /EIN Auto kann sie sich NICHT\ leisten, nämlich einen Mercedes.
  only one car can she REFL not afford namely a Mercedes
  'There is only one (kind of) car that she cannot afford, namely a Mercedes.'

Stranding of adjectives or postnominal modifiers shows that REM need not be quantifica-
tional at all, however (27c). If REM consists of only a determiner or demonstrative, it must
be interpreted deictically (27d) (cf. Nolda 2007: 46), as is generally true of elliptical DPs
of this type. REM can also include measure phrases (Pafel's 1996 "pseudopartitive split");
as shown in (27e), these may but need not contain a gap (cf. Nolda 2007: 54). Finally, free
relatives are also possible REMs, as shown in (27f).

(27)   a.   Männer hat sie jeden (einzelnen) begrüßt, Frauen aber keine.
            men   has she every single   greeted women but no

        b.   Gute Bücher hat er höchstens drei geschrieben.
            good books has he at most   three written

        c.   Autos verkauft er überwiegend japanische ohne   Katalysator.
            cars   sells   he mostly   Japanese without catalyzer

        d.   Bücher besitze ich nur {die / diese} (hier).
            books own   I   only   the these   here

        e.   Deutsches Bier hat er drei Flaschen (Reissdorf) getrunken.
            German   beer as he three bottles   Reissdorf drunk

        f.   ?Gäste   kenne   ich hier nur wen   mir Sonja halt schon
            guests.ACC know$_{ACC}$ I   here only who.ACC me Sonja PRT already
            vorgestellt   hat.
            introduced$_{ACC}$ has

We can state the following descriptive generalization:[14]

(28)   *TOP–REM Asymmetry*
        In STCs, TOP is a property-denoting bare NP; REM is a full DP.

At this point it should be noted that the quantifiers *alle* 'all' and *beide* 'both' behave
differently, in that they naturally occur with a definite antecedent.[15] With Kniffka (1986),
Pittner (1995) and others, I will take this to be the defining property of quantifier float,
discussed further in chapter 4.

To summarize, the central generalization of this section is that there is a fundamental
asymmetry between TOP and REM in STCs: while REM is a full DP, TOP is a property
expression. This is so independently of whether or not REM contains a gap, showing that
all types of splits listed in section 1.2 form a natural class.

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[14]See Chung and Ladusaw cf. 2004: 129 for a very similar formulation.

[15]This is a slight simplification, since *alle* (and also *jeder*) seem to participate in both QF and ST. See
section 4.1.

2.2.2 Evidence for Displacement

This section adduces evidence for displacement in STCs. It has been argued that certain kinds of elements can be merged directly into the prefield (Frey 2005) and, more specifically, that the surface form of STCs is base-generated (e.g., by Fehlisch 1986; Kniffka 1986; Haider 1990; Pafel 1996). However, it is easy to show that this is not the case. I will first illustrate locality constraints on ST, then turn to reconstruction effects. Both types of facts bring out connectivity, i.e. show that TOP is $\overline{\text{A}}$-moved to the prefield (or, in SS, to the middle field).[16] Notice that movement tests which require the fronted XP to be quantificational (e.g., weak-crossover effects, which German shows with long-distance movement) cannot be employed here, for reasons discussed in the preceding section.

Locality

ST exhibits all central properties of $\overline{\text{A}}$-movement. TOP can move across finite-clause boundaries (provided the embedding predicate has bridge properties):

(29) a. <u>Bücher</u> hat Kay gesagt [CP dass Amina immer nur <u>langweilige</u>
books   has Kay said   that Amina always only boring
<u>französische</u> liest]
French   reads

  b. <u>Linguisten</u> glaube ich [CP dass Benni höchstens <u>ein paar Syntaktiker</u>   kennt]
linguists   think I   that Benni at best   a   few syntacticians knows

However, TOP and REM must not be separated by an island boundary. In the following cases, REM is located inside an island (relative clause, complex NP, adverbial clause); the result is unacceptable:[17]

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[16]I will here only consider topicalization. While contrastive left-dislocation of TOP seems to be generally possible as well, ST is more restricted in *wh*-movement and relativization contexts. With regard to the latter, ST is generally impossible when TOP is the head of the relative but quite acceptable when it is scrambled to medial topic position inside the relative (examples from Fanselow 1987: 102 and Nolda 2007: 75):

(i) a. *<u>Mädchen</u>, die er <u>viele</u> kennt
girls   that he many knows
  b. ein Mann, der <u>Bücher</u> nur <u>politische</u> geschrieben hat
a   man   who books   only political   written   has

I will leave these asymmetries to future work.

[17]Puig Waldmüller (2006: 15) observes that extraction of TOP from a relative improves when the head of the relative is non-referential:

(i) ?<u>Eine Lösung</u> kenne ich {keinen / jemanden} der <u>eine bessere</u> hat als   ich.
a   solution know I   nobody someone   who a   better   has than I

(30)   a. *<u>Französische</u> <u>Bücher</u> kennt sie [einen Typen [der schon <u>drei</u>
           French   books knows she a   guy   who already three
           <u>langweilige</u> gelesen hat]]
           boring   read   has

       b. *<u>Bücher</u> gelesen hat Kay [die Vermutung [dass Amina nur <u>drei</u>
           books   read   has Kay the suspicion   that Amina only three
           <u>langweilige</u> <u>französische</u> hat]]
           boring   French   has

       c. *<u>Linguisten</u> ist Lilli gegangen [nachdem <u>ein</u> <u>paar</u> <u>Syntaktiker</u>
           linguists   has Lilli left   after   a   few syntacticians
           hereingekommen sind]
           in come   are

       d. *<u>In</u> <u>Schlössern</u> ist Horst in   ein Haus gezogen [nachdem er <u>in</u> <u>mehreren</u>
           in castles   is Horst into a   house moved   after   he in several
           gewohnt hatte.
           lived   had

Non-parallel extraction from a coordinate structure is likewise deviant (see further section 3.4.2):[18]

(31)   <u>Romane</u> hat Benni <u>drei</u> gelesen und will   Caro viele (*Autos) kaufen.
        novels   has Benni three read   and wants Caro many   cars   buy

   German-type scrambling is generally clause-bound, however cross-clausal scrambling is marginally possible with salient contrastive emphasis on the scrambled element:

The contrast between (i) and (30a) can, to some extent, be replicated with non-split extraction from a relative:

(ii)   Bücher$_i$ kenne ich {$^{??}$keinen / $^{??}$jemanden / *den Typen} der   gerne t_i liest.
        books   know I   nobody   someone   a man   who gladly   reads

While (ii) shows a contrast similar to that between (i) and (30a), the non-split variant appears to be at least slightly worse than the split case, regardless of the referentiality of the head of the relative. The most straightforward explanation for this is that REM in (i) guides parsing, indicating the position of the gap (notice that this is a valid explanation even on the theory proposed in chapter 3, according to which the gap of TOP is not in the same constituent as REM). I take it, then, that the contrast observed by Puig Waldmüller is not specific to ST.

[18] With regard to coordinate structures, the picture is somewhat blurred due to the possibility of "odd coordinations" in German. Schwarz (1998) notes that we find cases like the following:

(i)   <u>Lehrer</u> kennt Kehrig <u>drei</u> und zwei Studenten.
       teachers knows Kehrig three and two   students

Schwarz argues rather convincingly that such cases are derived by CP/TP-coordination and gapping in the second conjunct, in which case no violation of the CSC arises (see section 3.4.1 for further discussion of gapping and ST). In my judgment cases like (i) are fully acceptable only with an intonational break after the remnant of the first conjunct, suggesting that the reduced clause is an afterthought.

(32) ??Ich hab' gehört, dass 'ne Lösung$_i$ wohl niemand glaubt dass er t_i finden wird.
       I   have heard   that a   solution PRT nobody   thinks that he   find   will

This kind of long-distance scrambling is possible with SS as well, albeit equally marginal (my judgment):

(33) ??Ich hab' gehört, dass 'ne /LÖsung für sein Problem wohl NIE\mand glaubt dass
       I   have heard   that a   solution for his problem PRT nobody   thinks that
       er eine finden wird.
       he one find   will

<div align="right">(van Hoof 2006: 443)</div>

Consequently, there is a strong preference for MED and REM to be clause mates in a multiple split, while TOP can be $\overline{\text{A}}$-moved long-distance without decrease in acceptability:

(34)   a. Fehler   hat Lilli gesagt dass Jan so   richtig dumme bisher noch keine
             mistakes has Lilli said   that Jan PRT really dumb so far yet   no
             gemacht hätte.
             made   had

       b. ?*Fehler   hat sie so   richtig /DUMme gesagt dass Jan bisher noch KEI\ne
             mistakes has she PRT really   dumb   said   that Jan so far yet   no
             gemacht hätte.
             made   had

As is well known, certain predicates in German allow for long scrambling out of their infinitival complements (see, e.g., Grewendorf and Sabel 1994). As expected, we find the asymmetry between the subject-control verbs *versuchen* 'to try' and *zögern* 'to hesitate' in (35) replicated with ST, as shown in (36):

(35)   a. dass den Hund$_i$ keiner   [t_i zu füttern] versuchte.
             that the dog   nobody   to feed   tried

       b. *dass den Hund$_i$ keiner   [t_i zu füttern] zögerte.
             that the dog   nobody   to feed   hesitated
             'that nobody {tried / hesitated} to feed the dog'

<div align="right">(Grewendorf and Sabel 1994: 264f.)</div>

(36)   a. dass er französische Bücher im   letzten Jahr [mehrere zu lesen] versucht
             that he French   books in the last   year several to read   tried
             hat.
             has

<div align="center">26</div>

b. *dass er <u>französische</u> <u>Bücher</u> im   letzten Jahr [<u>mehrere</u> zu lesen]
     that he French   books in the last   year several to read
     gezögert hat.
     hesistated has

    With regard to operator islands, too, ST behaves as expected. Fanselow (1987), Müller and Sternefeld (1993) and others have observed that *wh*-islands block *wh*-movement but not argument topicalization (37a), whereas topic islands block both (37b):

(37)   a.   ?Radios$_i$ weiß ich nicht [$_{CP}$ warum$_k$ der Fredi t_k t_i gekauft haben sollte]
           radios know I   not   why   the Fredi   bought have should

        b.   *Radios$_i$ glaube ich [$_{CP}$ der Fredi$_k$ hat t_k t_i gekauft]
           radios think I   the Fredi has   bought

The same contrast arises with ST. TOP and REM may straddle a *wh*-island but not a topic island:

(38)   a.   ?<u>Fernseher</u> weiß ich nicht [$_{CP}$ warum die Susanne <u>mehrere</u> haben sollte]
           TVs   know I not   why   the Susanne several have should

        b.   *<u>Fernseher</u> glaube ich [$_{CP}$ der Susanne hat er <u>einen</u> geschenkt]
           TVs   think I   the Susanne has he one   given

(39)   a.   ?<u>Linguisten</u> hat sie mir nur erzählt [$_{CP}$ woher   sie <u>den Chomsky</u> kennt]
           linguists   has she me only told   from where she the Chomsky knows

        b.   *<u>Linguisten</u> hat er mir nur erzählt [$_{CP}$ die Miriam kennt <u>den Chomsky</u>]
           linguists   has he me only told   the Miriam knows the Chomsky

(40)   a.   ?<u>In Schlössern</u> frage   ich mich [$_{CP}$ warum Bastian noch <u>in keinen</u> gewohnt
           in castles   wonder I REFL   why Bastian so far in no   lived
           hat]
           has

        b.   *<u>In Schlössern</u> vermute ich [$_{CP}$ der Bastian hat noch <u>in keinen</u> gewohnt]
           in castles   suppose I   the Bastian has so far in no   lived

    The facts indicate rather unambiguously that the derviation of STCs involves $\overline{\text{A}}$-movement of TOP to the prefield (ST) or middle field (SS).[19]

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[19] Furthermore, fronting of TOP by ST or SS licenses parasitic gaps:

(i)   a.   *Sonja hat [ohne   *pg* zu kennen] schon   viele Gäste begrüßt
           Sonja has without   to know   already many guests greeted

        b.   ?<u>Gäste</u> hat Sonja [ohne   *pg* zu kennen] schon <u>viele</u> begrüßt
           guests has Sonja without   to know   already many greeted

        c.   ?weil   sie <u>Gäste</u> [ohne   *pg* zu kennen] schon <u>viele</u> begrüßt hat
           because she guests without   to know   already many greeted has

Reconstruction

Reconstruction effects provide further evidence for movement in STCs. The following facts were noted already by van Riemsdijk (1989: 115):

(41)   a.   <u>Bücher</u> <u>über</u> <u>einander</u>$_j$ sind uns$_i$ nur <u>wenige</u> bekannt.
            books about each other are us.DAT only few   known
            'As for books about each other, we only knew few of them.'

       b.   *<u>Bücher</u> <u>von</u> <u>ihm</u>$_i$ hat Elsing$_i$ nur <u>wenige</u> im   Schrank.
            books by him has Elsing only few   on the shelf

       c.   <u>Bücher</u> <u>von</u> <u>Stephan</u>$_j$ hat {*er$_i$ / sein$_i$ Vater} nur <u>wenige</u> im Schrank.
            books by Stephan has   he his father only few   on shelf

In the examples above, the object-related TOP reconstructs to a position below the subject. This leads to the reciprocal in (41a) being locally bound, and to a Condition-B violation in (41b); (41c) requires a branching subject to avoid a Condition-C violation after reconstruction of TOP.

    Reconstruction for binding can likewise be observed with bound-variable pronouns in TOP, which are locally bound by the subject in the following cases:

(42)   a.   <u>Rezensionen</u> <u>seiner</u>$_i$ <u>Bücher</u>   hat jeder Professor$_i$ schon <u>mehrere</u>
            reviews   his.GEN books.GEN has every professor already several
            <u>negative</u> gelesen.
            negative read

       b.   <u>Berühmtheiten</u> <u>aus</u>   <u>seiner</u>$_i$ <u>Stadt</u> hat jeder$_i$ in Kalifornien schon mal
            celebrities   from his   town has everybody in California   already
            <u>welche</u> gesehen.
            some   seen

       c.   <u>Nagetiere</u> <u>aus</u>   <u>seinem</u>$_i$ <u>Heimatland</u>   kannte jeder Schüler$_i$ nur
            rodents   from his   home country knew   every student only
            <u>Eichhörnchen</u>.
            squirrels

    TP-level scrambling is known to exhibit $\overline{\text{A}}$-properties with regard to reconstruction (Frey 1993, 2004a). The following facts demonstrate reconstruction for binding with SS:

(43)   a.   weil   <u>Bücher</u> <u>über</u> <u>sich</u>$_i$ jeder Professor$_i$ schon <u>welche</u> gelesen hat
            because books   about himself every professor already some   read   has

---

Whether or not such cases are true instances of parasitic gaps is somewhat controversial, however (cf. Kathol 2001, Fanselow 2001: 411ff.).

b.   weil   <u>Bücher</u> <u>von</u> <u>seinen</u>$_i$ <u>Professoren</u> ja   jeder Student$_i$ schon   <u>viele</u>
        because books by his   professors PRT every student already many
        gelesen hat
        read   has

In (45b), TOP must reconstruct below the negative subject for the NPI *auch nur einen einzigen* 'only a single one' to be licensed:

(44)   {Kein Lehrer / *Jeder Lehrer} hat bisher die auf Englisch geschriebenen
       no   teacher   every teacher has so far the in English written
       Aufsätze auch nur eines einzigen Schülers gemocht.
       essays   of even a single student   liked

(45)   a.   *Context:* Most students in the English class perform well in exams.

      b.   ?Aber /<u>AUF</u>sätze <u>auch</u> <u>nur</u> eines /<u>EIN</u>zigen <u>Schülers</u> hat bisher KEIN\
         but   essays   of even a single student   has so far no
         Lehrer <u>die</u> <u>auf</u> <u>Englisch</u> <u>geschriebenen</u> gemocht.
         teacher the in   English written   liked
         'But as for essays, no teacher so far liked those written in English by even a single student.'

     Taken together, the reconstruction effects reported above provide conclusive evidence for a movement dependency relating TOP to a VP-internal base position.

     Before leaving this section, let me briefly comment on a further reconstruction-like effect which has been argued to hold in STCs. Van Riemsdijk (1989: 122) claims that adjectival modifiers contained in TOP must be structurally lower than those contained in REM. In other words, the claim is that the order of modifiers inside TOP and REM must be such that a reconstructed base constituent [$_{DP}$ REM [TOP]] obeys restrictions on adjectival ordering. Van Riemsdijk cites the following examples to support this claim:

(46)   a.   ein neues amerikanisches Auto
          a   new   American   car

      b. *ein amerikanisches neues Auto
         an American   new   car

(47)   a.   <u>Ein</u> <u>amerikanisches</u> <u>Auto</u> kann ich mir <u>kein</u> <u>neues</u> leisten
          an American   car can I me no   new afford
          'As for American cars, I can't afford a new one.'

      b. *<u>Ein</u> <u>neues</u> <u>Auto</u> kann ich mir <u>kein</u> <u>amerikanisches</u> leisten
         a   new car can I me no American   afford
         'As for new cars, I can't afford an American one.'

                                  (van Riemsdijk's judgments)

29

These data have been uncritically reproduced by several authors (e.g., Schwarz 1992; Roehrs 2009b). However, I disagree with van Riemsdijk's judgment of (47b), which my informants and I find fully acceptable. Notice that it would be very suprising if (47b) were indeed unacceptable, as claimed by van Riemsdijk: adjectival reorderings as in (46b) are possible but require focal stress on the fronted adjective (*ein ameriKAnisches neues Auto*); thus, I also disagree with van Riemsdijk's judgment of (46b), assuming proper intonation. Adjectival-ordering facts, then, are orthogonal to the issue of whether or not there is movement involved.[20]

2.2.3 Antecedent-gap Mismatches

I will now turn to a further central property of ST, which has already been exemplified through various examples above but which warrants systematic discussion. As first discussed by Fanselow (1988), TOP and REM in STCs exhibit a number of properties that are unexpected if both are taken to be discontinuous parts of a single underlying phrase. In other words, ST allows for mismatches between TOP and REM such that there is no continuous constituent [DP REM [TOP]], contrary to what one might expect in light of simple cases like (1). These *antecedent-gap mismatches* will be discussed in the present section.

Note that the term "antecedent-gap mismatch" derives from the theoretical assumption that TOP and REM form an underlying constituent, from which TOP is extracted (as suggested by the frequently used term "NP split"). I do not endorse such a theory; in fact, it will be rejected in section 2.3.1 below. Therefore, it is important to bear in mind that the term is merely a convenient label with no theoretical import.

Inflectional Mismatches

As noted by Fanselow (1988),[21] adjectival inflection in TOP and REM differs from the continuous pattern:

(48) a. <u>Polnische</u> <u>Gänse</u> gekauft hat sie <u>keine</u>.
          Polish   geese bought has she none
          (*keine polnische Gänse)

---

[20]Puig Waldmüller (2006: 18) rejects van Riemsdijk's claim on similar grounds, although she still takes (47b) to be "pragmatically odd."

[21]Fanselow and Ćavar (2002: 94) trace the observation back to Haider 1985; the earliest mention appears to be in Webelhuth 1984: 239f., fn. 2.

b. *Polnischen Gänse gekauft hat sie keine.
   Polish.AGR geese bought has she none
   ($\checkmark$ keine polnischen Gänse)   (Fanselow 1988: 99)

In these examples, the weak inflection on the adjective *polnische* in the base DP is not preserved under ST; rather, the adjective bears strong inflection in the split form (48a). Generally speaking, in terms of inflection TOP and REM are free-standing noun phrases, where strong inflection on adjectives is required in the absence of a determiner (which then bears the strong inflection itself).[22]

As a further illustration of this kind of mismatch, consider adjectives like *lila* 'purple,' which inflect optionally when part of a non-elliptical DP but obligatorily when the containing DP is elliptical:

(49)   a.   Christine trägt heute ein {lila   / lilanes}   Kleid.
            Christine wears today a   purple purple.NEUT.SG dress

      b.   Christine trägt heute ein {*lila   / lilanes}.
            Christine wears today a   purple purple.NEUT.SG

(50)   Ein Kleid hat sie sich ein {*lila   / lilanes}   gekauft.
      a   dress has she REFL a   purple purple.NEUT.SG bought

Numerals behave similarly, in that they only inflect when part of an elliptical dative (or genitive) noun phrase or when used as a REM in ST:[23]

(51)   a.   Er hat {drei / *dreien} Zeugen   geglaubt.
            he has   three   three.DAT witnesses.DAT believed

      b.   Zeugen   hat er nur {$^{??}$drei / dreien} geglaubt.
            witnesses.DAT has he only   three three.DAT believed

As before, TOP and REM in (50) and (51b) behave exactly like free-standing (morphosyntactically autonomous) noun phrases and unlike discontinuous parts of an underlyingly continuous noun phrase.

Postnominal Modifiers

Gapless splits aside, it appears at first glance that TOP generally corresponds to the "interior" of the noun phrase and REM to the higher DP shell. However, the internal order of

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[22]On the weak/strong alternation, see Gallmann 1998, Roehrs 2006: chapter 4 and Schoorlemmer 2009, among many others.

[23]In Standard German, that is; see Roehrs 2006: 265 for dialectal facts involving inflected numerals, pointing to the same conclusion.

continuous noun phrases is not necessarily preserved even in simple splits with a gap (as already shown for the order of adjectival modifiers at the end of section 2.2.2, *pace* van Riemsdijk). Witness the following:

(52)   a.   Bücher, die erfolgreich waren, kennt sie keine von Caspar.
            books that successful were knows she no by Caspar
            'She doesn't know any books by Caspar that were successful.'
       b.   *keine Bücher die erfolgreich waren von Caspar
       c.   keine Bücher von Caspar die erfolgreich waren

(Fanselow and Ćavar 2002: 97)

As shown by the deviance of (52b), a restrictive relative must not attach lower than a PP-modifier, which is problematic on the assumption that TOP in (52a) originates as a subconstituent of REM.[24] As before, TOP and REM appear to be free-standing noun phrases.

Article Doubling

A further type of mismatch involves the occurrence of an additional indefinite article *ein* in TOP, termed "determiner overlap" by van Riemsdijk (1989):

(53)   a.   Eine Katze habe ich nur eine ganz kleine gesehen
            a cat have I only a very small seen
            (*eine ganz kleine eine Katze)
       b.   Eine Katze habe ich hier noch keine schwarze gesehen
            a cat have I here so far no black seen
            (*keine schwarze eine Katze)

As indicated in the glosses, there is no possible continuous constituent [$_{DP}$ REM [TOP]]: TOP's indefinite article is "extra." Recall from section 2.2.1 that this article is optionally reduced.

It was also shown in that section that TOP is always a bare NP, i.e. not quantified or definite. Accordingly, article overlap in STCs is restricted to the indefinite article and does not extend to the definite determiner or demonstratives. Recall example (25a), repeated below:

(54)   *Das Auto kann ich mir nur das neue von BMW leisten.
       the car can I me only the new by BMW afford

---

[24]We can exclude extraposition of *von Caspar* as being responsible to the internal reordering:

(i)   Bücher, die erfolgreich waren, hat er keine von Caspar gelesen.
      books that successful were has he none by Caspar read

The only element that can occur to the left of TOP's article is the degree particle *so*:[25]

(55) <u>So</u> 'nen <u>Wagen</u> kann ich mir <u>keinen</u> leisten.
      such a   car   can I me no   afford
      'As for such a car, I can't afford one.'   (Tappe 1989: 165)

I assume that *ein* in (55) is an adjective,[26] and that *so* is a degree modifier of adjectives (cf. *so gute Autos* 'such good cars,' *kein so gutes Auto* 'no such good car').[27] Hence, (55) is not a case of determiner overlap, but of simple adjectival modification.

Plural indefinite noun phrases are generally article-less, and hence no article doubling takes place with a plural TOP.

Preposition Doubling

As already mentioned in section 1.2.3, split PPs require doubling of the preposition:

(56) a. {*(In)} <u>Schlössern</u> habe ich noch <u>in</u> <u>keinen</u> gewohnt.
          in   castles   have I   so far in no   lived
          'As for castles, I have not yet lived in any.'

     b. {*(Mit)} <u>anderen</u> <u>Syntaktikern</u> hat er bisher nur <u>mit</u> Lasnik
          with   other   syntacticians has he so far only with Lasnik
          zusammengearbeitet.
          worked together
          'As for other syntacticians, he has only collaborated with Lasnik.'

     c. obwohl er {*(mit)} <u>Freunden</u> ja   nur noch <u>mit</u> <u>wenigen</u> Kontakt hat
          although he   with friends PRT only still with few   contact has
          'although there are only few friends who he's still in contact with.'

Unlike the previously discussed phenomenon of article overlap, preposition doubling is obligatory for all speakers. Needless to say, there are no doubly-headed continuous PPs. Like the inflectional mismatches discussed before, doubling of articles and prepositions in STCs indicates morphosyntactic autonomy of TOP and REM, challenging the initial impression that STCs involve a single, discontinuous constituent.

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[25] See Lohnstein and Lenerz 2005 for general discussion concerning *so*.

[26] On the different uses of *ein*, see Roehrs 2009a.

[27] Compare also cases in which stressed *ein* and *so*-modified adjectival *ein* co-occur, as in *EIN so'n Auto reicht mir* 'one such car is enough for me.'

Number Mismatch

While doubling of articles and discontinuity in adjectival inflection might be taken to be surface-morphological effects, other mismatches concern deeper properties of TOP and REM. The first such mismatch is number disagreement between TOP and REM: the (seemingly) discontinuous parts can bear differential number specifications (*pace* van Riemsdijk 1989: 112). However, number disagreement is not unconstrained: when the heads of both TOP and REM are count nouns, the only possible disagreement pattern is that of (57a); the reverse pattern (TOP singular, REM plural: (57b)) is always sharply unacceptable. A mass TOP is compatible with singular and plural REMs.

(57)   a.   Zeitungen   kenne ich nur eine gute.
              newspapers know I   only one good
              (*eine gute Zeitungen)

      b. *Zeitung   kenne ich nur zwei gute.
              newspaper know I   only two good

(58)   Wasser hab' ich {zwei Flaschen / eine Flasche} mitgebracht.
        water have I   two bottles   a   bottle   brought

Number mismatches as in (57a) are widely accepted by speakers (cf. Fanselow and Ćavar 2002: 96), although some variation is reported by Fanselow and Frisch (2006: 295ff.) and Nolda (2007: 70f.).

As expected, number disagreement is possible in gapless splits as well:

(59)   Zeitungen liest Svenja nur die *junge Welt*.
    newspapers reads Svenja only the *junge Welt*

In multiple splits, there is a strong preference for MED to be plural whenever TOP is, while REM can disagree as before:

(60)   a.   Französische Bücher hat er so   richtig gute erst eins darüber   gelesen.
              French   books has he PRT really good only one about that read

      b. ??Französische Bücher hat er so 'n richtig gutes erst eins darüber
           French   books has he PRT a really good only one about that
           gelesen.
           read

All evidence points to the conclusion that TOP and REM (as well as MED in multiple splits) are autonomous noun phrases, each with its individual featural constitution.

Overtly-headed REMs

The most striking antecedent-gap mismatch arises when REM itself is a complete DP with an overt head noun or pronominal—the gapless splits presented in section 1.2.2. Examples are repeated below:

(61)   a.   <u>Französische</u> <u>Bücher</u> habe ich noch nie   <u>welche</u> gelesen.
          French   books have I so far never any   read
          (*welche französische[n] Bücher)

       b.   <u>Gefährliche</u> <u>Raubvögel</u>   hat Volker nur <u>ein</u> <u>paar</u> <u>Bussarde</u> gesehen.
          dangerous   birds of prey has Volker only a   few buzzards seen
          (*ein paar Bussarde gefährliche Raubvögel)

Importantly, even though there is no possible base DP of which TOP and REM could be surface-discontinuous subparts, standard diagnostics such as locality and reconstruction nevertheless bring out a movement dependency (as already shown in section 2.2.2):

(62)   a.   <u>Bücher</u> <u>über</u> <u>einander</u>$_j$ haben [Marcus und Carsten]$_i$ noch nie   <u>welche</u>
          books   about each other have   Marcus and Carsten yet   never any
          geschrieben.
          written

       b.   <u>Nagetiere</u> <u>aus</u>   <u>seinem</u>$_i$ <u>Heimatland</u>   kannte jeder Schüler$_i$ nur
          rodents   from his   home country knew every student only
          <u>Eichhörnchen</u>.
          squirrels

Such connectivity effects disprove the widely-held assumption that gapless splits are necessarily base-generated (Pafel 1996; Fanselow and Féry 2006).

In multiple splits, MED can be overtly headed as well, showing that in this type of split, too, relates autonomous XPs rather than subparts of a single XP:

(63)   <u>Bücher</u> habe ich <u>welche</u> <u>die</u> <u>mich</u> <u>wirklich</u> <u>überzeugt</u> <u>haben</u> noch <u>keine</u> <u>von</u> <u>ihm</u>
        books   have I   some   that me   really   convinced have yet   none by him
        gelesen.
        read
        (no continuous version)

It is a striking property of most works on ST that discussion of gapless splits is relegated to footnotes or not included at all; to my knowledge, only Puig Waldmüller (2006) explicitly includes them in the class of STCs, and hence in the scope of explanation (her analysis leaves other types of splits unexplained, however). In the present work, I will likewise

assume that gapless splits are proper instances of ST.[28] The antecedent-gap mismatches discussed above challenge the initial impression that STCs involve syntactic separation of subparts of a single underlying constituent.[29] Gapless splits are the clearest instance of this, corroborating the assumption that TOP and REM are in fact autonomous noun phrases, contrary to what is suggested by the simplest cases.

2.2.4 Case Agreement

In addition to the permissible mismatches discussed above, there is one rigid matching requirement in STCs: TOP and REM obligatorily agree in Case. Case mismatches are strictly unacceptable (see also Nolda 2007: 68):[30]

(64) a. *<u>Männern</u> küsst   sie nur <u>hübsche</u>.
         men.DAT kisses$_{ACC}$ she only handsome.ACC

      b. *<u>Männern</u> hilft   sie nur <u>hübsche</u>.
         men.DAT helps$_{DAT}$ she only handsome.ACC

(65) a. *<u>Kinder</u>   hat Timo schon oft <u>welchen</u> geholfen.
         children.NOM/ACC has Timo already often some.DAT helped$_{DAT}$

      b. *<u>Kinder</u>   geholfen hat Timo schon oft <u>welchen</u>.
         children.NOM/ACC helped$_{DAT}$ has Timo already often some.DAT

When a split accusative object is promoted in passive, both TOP and REM must bear nominative case; by contrast, oblique Case is preserved (as is generally the case in German):

(66) a. <u>Ein Mantel</u>   wurde nur <u>ein sehr teurer</u>   angeboten.
         a   coat.NOM was   only a   very expensive.NOM offered

---

[28]As pointed out in footnote 64 below, it is actually a theoretical question which splits are truly gapless, depending on assumptions about the nature of REM and the theory of NP-ellipsis. The distinction between regular and gapless splits is thus a pre-theoretical one.

[29]Fanselow (1993: 63) mentions a further type of putative mismatch that arises in connection with focus particles associated with TOP:

(i)   Selbst <u>Kinder</u> kennt er <u>keine</u>.
       even   children knows he none
       (*keine selbst Kinder)

Treating such cases as mismatches implies that the focus particle is contained in TOP. Here, however, I assume that focus particles are adjoined to functional projections from where they c-command their associated noun phrases (see footnote 2 in chapter 2).

[30]The subscripts on the verbs indicate the case assigned/required by that verb.

b. *<u>Einen Mantel</u>　　wurde nur　<u>ein sehr teurer</u>　　　angeboten.
　　a　　coat.ACC was　　only a　very expensive offered

c. *<u>Ein Mantel</u>　　wurde nur　<u>einen sehr teuren</u>　　　angeboten.
　　a　coat.NOM was　　only a　　very expensive.ACC offered

(67)　a.　<u>Büchern</u>　wurde nur　<u>ein paar langweiligen Romanen</u>　ein Preis
　　　　books.DAT was　only a　few boring　　　　novels.DAT a　prize
　　　　verliehen.
　　　　awarded_DAT

　　b.　*<u>Bücher</u>　　　wurde nur　<u>ein paar langweiligen Romanen</u>　ein Preis
　　　　books.NOM/ACC was　　only a　few boring　　　　novels.DAT a　prize
　　　　verliehen.
　　　　awarded_DAT

　　c.　*<u>Büchern</u>　　wurde nur　<u>ein paar langweilige Romane</u>　ein Preis
　　　　books.DAT was　　only a　few boring　　　novels.ACC a　prize
　　　　verliehen.
　　　　awarded_DAT

Split adjuncts, too, require Case matching, as shown below for a free dative:

(68)　a.　<u>Freunden</u>　hat sie nur　<u>besonders engen</u>　　einen Kuchen gebacken.
　　　　friends.DAT has she only especially close.DAT a　　cake　　baked

　　b.　*<u>Freunde</u>　　hat sie nur　<u>besonders engen</u>　　einen Kuchen gebacken.
　　　　friends.ACC has she only especially close.DAT a　　cake　　baked

I will argue in section 3.2.7 that the Case-matching requirement extends to split PPs.

In ATB ST, Case matching is a morphological, rather than a featural requirement. This is brought out by the fact that TOP and REM can disagree in (featural) Case when ST applies across-the-board, as long as the morphological form of TOP is syncretic. This is true for accusative and dative plural feminine in (69a) but not masculine in (69b):

(69)　a.　?<u>Frauen</u>　　　vertraut er nur　<u>blonden</u>　　und küsst er nur
　　　　women.ACC/DAT trusts_DAT he only blonde.DAT and kisses he only
　　　　<u>hübsche</u>.
　　　　pretty.ACC

　　b.　*<u>Männer</u> hilft　　sie nur　<u>blonden</u>　　und küsst sie nur　<u>hübsche</u>.
　　　　men.ACC helps_DAT she only blonde.DAT and kisses she only handsome.ACC

These facts are not unexpected, given that syncretic forms are generally permitted in ATB configurations:[31]

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[31]Similar syncretism effects can be observed in free relatives (Vogel 2003) and parasitic gaps (Bayer 1988).

(70) ?Frauen   hat er schon immer bewundert und vertraut.
      women.ACC/DAT has he always   admired_{ACC} and trusted_{DAT}

Case matching between TOP and REM is slightly more complicated when REM is a free relative, which imposes its own, internal Case-matching requirements (Vogel 2003). Basically, a free-relative REM is acceptable as long as the Case assigned by the matrix predicate to TOP matches that assigned internal to the free relative:[32]

(71) a. <u>Gäste</u>   kenne   ich hier nur <u>wen</u>   <u>mir</u> Sonja <u>halt</u> <u>schon</u>
          guests.ACC know_{ACC} I   here only who.ACC me Sonja PRT already
          <u>vorgestellt</u>   <u>hat</u>.
          introduced_{ACC} has
          'As for the guests here, I only know whoever Sonja introduced to me.'

      b. *<u>Gästen</u>   vertraue ich nur {<u>wen</u>   / <u>wem</u>}   <u>mir</u> Sonja <u>halt</u> <u>schon</u>
          guests.DAT trust_{DAT} I   only who.ACC   who.DAT me Sonja PRT already
          <u>vorgestellt</u>   <u>hat</u>.
          introduced_{ACC} has

Case matching between TOP and REM is a crucial property of ST, since it indicates that TOP is properly integrated into the clause (see further section 3.2). This sharply distinguishes TOP in STCs from clause-external topics, like hanging topics and free/*as for* topics, which always surface with default nominative (cf. Nolda 2007: 60):

(72) a. <u>Wetterberichten</u>   traue ich <u>keinen</u>   mehr.
          weather forecasts.DAT trust I   none.DAT anymore

      b. Wetterberichte,   ich traue keinen   mehr.
          weather forecasts.NOM I   trust none.DAT anymore

      c. Was Wetterberichte angeht,   ich traue keinen   mehr.
          as for weather forecasts.NOM I   trust none.DAT anymore

Note also that TOP, unlike the external topics, is prosodically integrated into the clause, i.e. not followed by a prosodic break (this is true independently of the intonation patterns described in section 2.1).

2.2.5 Summary

This completes our survey of the main empirical properties of STCs in German. We have seen that, contrary to what is typically claimed in the literature, the assumption that ST serves to separate contrastive informational "peaks" is too simple. There is no one-to-one

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[32]To handle facts like those in (71), the analysis proposed in chapter 3 seems to require free relatives to be DPs, a result which Ott (2011) shows can be derived in a non-stipulative way from cyclic computation (but see Šimík 2010 for a related but different proposal).

relation between form and function but at best an indirect one. Particularly telling in this regard was Fanselow and Lenertová's (2010) observation that TOP and REM can be subparts of the same informational unit, showing that fronting must motivated independently of pragmatic status.

Syntactically, a rather mixed picture has emerged. On the one hand, standard diagnostics for movement bring out an $\overline{\text{A}}$-dependency between TOP and REM (or some adjacent position). On the other hand, mismatches between TOP and its putative trace position point to the conclusion that ST is in fact not "NP split" but a dependency relating autonomous XPs. The question arises, then, from what kind of underlying structure STCs are derived, given that TOP cannot be base-generated in the prefield. The following section will discuss previous analyses of ST, all of which will be shown to fail at the task of reconciling the various properties illustrated above.

2.3 Previous Approaches

Extant accounts of ST fall into three major categories (cf. the survey in van Hoof 2006):[33]

1. *Subextraction theories*. TOP is subextracted from a single argument DP comprising TOP and REM in the base.

2. *Distributed Deletion*. TOP is a complete copy of REM, partial PF-deletion of each copy yields the "split."

3. *Hybrid theories*. TOP and REM are base-generated as independent constituents, TOP moves to the prefield/middle field.

I will discuss each type in turn, pointing out its strengths and weaknesses. The conclusion will be that all previous accounts of ST fail to achieve descriptive and explanatory adequacy.

2.3.1 Subextraction
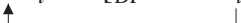
Type 1 is represented by the theory developed in van Riemsdijk 1989 and refined in Tappe 1989 and Bhatt 1990 (see also Haegeman 1995: 169ff., Kniffka 1996: 56ff., Pafel 1996).[34]

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[33]The following discussion is not meant to be exhaustive; I will omit some analyses that seem equivalent to those discussed, as well analyses relying on very different frameworks, such as the LFG treatment in Kuhn 1999, 2001 and Nolda's (2007) analysis in the framework of *Integrative Linguistik*.

[34]I set aside here the non-derivational alternative sketched in Haider 1990, according to which TOP is base-generated in its surface position and coindexed with an empty category in VP. I fail to see the advantages of

On this analysis, TOP is subextracted from a DP comprising both REM and TOP in the base:

(73) $\text{TOP}_i \ldots [_{\text{DP}} \text{REM } t_i]$

Accounts of this type successfully derive the simplest cases of ST, namely those in which TOP and REM are such that they can form a continuous underlying constituent. However, as we have seen in section 2.2.3, this is not always the case: ST allows for mismatches that militate against the idea that TOP and REM form a continuous DP in the base. Moreover, below we will see that ST does not respect standard constraints on subextraction.

Van Riemsdijk, who discusses only the least drastic mismatches, postulates a mechanism of "regeneration" in order to account for doubling of articles (recall (53)): when a subpart of DP is fronted which by itself is not a well-formed noun phrase, the missing material can be added by this mechanism to ensure acceptability. Evidently, regeneration is a mechanism stipulated to account for surface-morphological adjustments in TOP but is clearly unsuitable to account for the full range of antecedent-gap mismatches reviewed in section 2.2.3, of which article overlap was but one, relatively minor example.[35] Conceptually, the stipulative nature of the mechanism and its unique application in STCs make it clear that this proposal amounts to little more than a restatement of the facts.[36] Tappe's (1989) modification of van Riemsdijk's approach, according to which doubled material is base-generated in the landing site prior to movement of NP must be rejected on formal grounds: Merge is to the root, by definition.[37]

The anti-ordering effects with postnominal modifiers pointed out in section 2.2.3 remain unaccounted for by any type-1 theory. Moreover, number disagreement between TOP and REM and in particular gapless splits provide insurmountable challenges for subextraction theories of ST and are not addressed at all in the works cited above. The reason for this

this approach over the analyses discussed below, and it appears to suffer from the same inadequacies.

[35]See section 3.2.5 below for some comments on the idea that regeneration could be generalized to cover such mismatches, in the guise of "late insertion."

[36]Van Riemsdijk attempts to restrict the descriptive power of the mechanism by assuming that only material that can be inferred based on information contained in TOP can be regenerated—for instance, an indefinite article can be inferred from the [+singular, -definite] specification of N. Tappe (1989) objects to this on the basis of the observation that the degree particle *so* can co-occur with the indefinite article (recall (55)), in spite of it not being inferable from properties of N. However, it was argued in section 2.2.1 that *so* is a modifier of adjectival *ein*, in which case Tappe's criticism is misguided.

[37]Anachronistically speaking, Tappe's account makes use of "Late Merge," as defended in Takahashi and Hulsey 2009 and elsewhere. However, as Noam Chomsky (p.c.) points out, countercyclic Merge is a deviation from the simplest operation binary Merge, since it is in fact ternary (targeting the merge-mates X, Y and the object W which contains either X or Y).

shortcoming is evident: a subextraction theory of ST takes TOP and REM to be subconstituents of a single constituent.[38] However, notice that even if the generation of "illicit" constituents in the base is allowed in some way in order to account for mismatches (as suggested by Fanselow and Ćavar 2002: 97), the question why subsequent movement of TOP is forced remains to be addressed. Assuming that (for instance) DPs with mismatching internal number specifications as in (74) can be base-generated, why is (75a) fine whereas (75b) is unacceptable?

(74)   [$_{DP}$ eine$_{SG}$ gute$_{SG}$ [$_{NP}$ Zeitungen$_{PL}$]]

(75)   a.   <u>Zeitungen</u> kenne ich nur <u>eine gute</u>.
               newspapers know I   only one good

         b.   *Ich kenne nur eine gute Zeitungen.
               I   know only one good newspapers

In light of the facts discussed in section 2.1, the movement cannot be information-structurally driven; but then, topicalization ought to be optional, as it is in general.[39]

Even when mismatches are set aside, problems arise. Consider, for instance, mixed splits (as illustrated in section 1.2.5); example (21) is repeated here:

(76)   <u>Französische</u> <u>Bücher</u> gelesen hat Amina bisher nur <u>drei</u> <u>langweilige</u>.
         French   books read   has Amina so far only three boring
         'As for reading French books, Amina only read three boring ones so far.'

Remnant-VP fronting is typically analyzed as involving evacuation movement of the stranded XP, followed by VP-fronting (Müller 1998). The problem is that *drei langweilige* in (76) is not a constituent (and notice that REM could additionally contain postnominal modifiers). Therefore, subextraction accounts of ST are forced to assume that fronting of VP as in (76) is preceded by *two* movement steps. First, *französische Bücher* moves out of DP, adjoining to VP (or vP) and stranding *drei langweilige*; the latter then in turn moves across TOP, yielding the remnant that is eventually fronted (*französische Bücher gelesen*). While this derivation cannot be ruled out in principle, it is clearly *ad hoc* and unmotivated. The problem is aggravated by the fact that mixed splits, like regular splits, can be gapless:

(77)   <u>Raubvögel</u> gesehen hat er nur <u>ein paar Bussarde</u>.
         birds of prey seen   has he only a   few buzzards

---

[38]The only alternative base configuration would be apposition, however I show in section 3.4.3 that this is not a viable derivational source.

[39]Notice that we cannot employ the circular reasoning that movement occurs to salvage the structure, since the structure is only acceptable when movement occurs.

Evidently, such facts (like all gapless splits) fall in principle outside of the scope of a type-1 theory of ST.

A further grave problem for such approaches is posed by the fact that ST does not respect the usual constraints on subextraction.[40] In particular, as noted by Kniffka (1996: 33) and Fanselow and Ćavar (2002: 73), ST of subjects and oblique objects is fully acceptable, whereas subextraction from these types of arguments is typically degraded:[41]

(78) a. *[$_{PP}$ An Gary]$_i$ hat mich [$_{DP}$ kein [$_{NP}$ Brief t_i]] erschreckt
          to Gary has me   no   letter.NOM   frightened
        'No letter to Gary frightened me.'

     b. Briefe an Gary haben mich keine erschreckt.
        letters to Gary have me   no   frightened
        'As for letters to Gary, none of them have frightened me.'

(79) a. *[$_{PP}$ Über Polen]$_i$ ist hier noch [$_{DP}$ keinen [$_{NP}$ Büchern t_i]] ein Preis
          about Poland is here so far   no   books.DAT   a   prize
        verliehen worden
        awarded been
        'No books about Poland have been awarded with a prize here.'

     b. Interessanten Büchern über Polen ist hier noch keinen ein Preis
        interesting   books   about Poland is here so far no(ne) a   prize
        verliehen worden.
        awarded been
        'As for interesting books about Poland, no prize has been awarded to any of them so far.'

(80) a. *[$_{PP}$ An Studenten]$_i$ habe ich ihn [$_{NP}$ schrecklicher Morde t_i]
          of students   have I   him   horrible   murders.GEN
        bezichtigt
        accused
        'I accused him of horrible murders of students.'

     b. Schrecklicher Morde   an Studenten wurde er vieler bezichtigt.
        horrible   murders of students was he many accused
        'As for horrible murders of students, he was accused of many.'

---

[40]In what follows, I assume that fronting of a PP related to the head of a noun phrase is subextraction of PP from DP. Several works (esp. De Kuthy 2002) have questioned this traditional assumption, but Schmellentin 2006: chapter 3 shows convincingly that a subextraction-based analysis is more accurate. Moreover, as pointed out by Fanselow and Ćavar (2002: 102), if it were the case that PPs cannot be extracted from DPs at all (as argued by De Kuthy), this would make it all the more mysterious from the point of view of type-1 theories why NPs can be extracted (in ST).

[41]As shown in (68a), ST of dative DPs extends to free datives, which are presumably non-selected adjuncts; see section 3.3.2 below.

Parallel facts hold for *wh*-extraction. Only direct (accusative) objects are consistently transparent for subextraction in German (cf. Müller 1995, Vogel and Steinbach 1998, and Schmellentin 2006, among many others).[42] By contrast, ST is fully productive with all types of arguments.

This fact creates an additional problem for the hypothetical derivation of mixed splits that type-1 theories are forced to assume. Consider the following examples, in which a TOP associated with a subject and a dative object, respectively, is part of the fronted VP:

(81)　a.　<u>Außenseiter</u> gewonnen hat es bis　jetzt nur　<u>ein</u> <u>einziger</u>.
　　　　　outsider　　won　　　has it　until now only one single
　　　　　'As for outsiders winning it, so far there has been only one.'

(Haider 1990: 105)

　　　　b.　<u>Kleinen</u> <u>Kindern</u> geholfen hat er　schon　　<u>mehreren</u>.
　　　　　little　　children helped　　has he already several
　　　　　'As for little children, he already helped several.'

As these facts show, the two-step evacuation movement required to yield the TOP–V remnant constituent is not only *ad hoc*, it must also be allowed to proceed from transitive/unergative subjects and oblique objects, which however do not permit subextraction.

Noting the facts in (78)–(80), Fanselow and Ćavar formulate the following descriptive generalization:

(82)　　*Fanselow and Ćavar's Generalization*

---

[42] Whether or not German shows a subject–object asymmetry in the same way English does is a long-standing debate in the literature. Examples like (ia) have been used to argue that extraction from subjects is degraded (cf., e.g., Müller 1995: 40), while others have pointed to cases like (ii), which seem fairly acceptable:

(i)　　a.　*Worüber　　hat ein Buch Thomas beeindruckt?
　　　　　about what has a　　book Thomas impressed
　　　　　'A book about what impressed Thomas?'
　　　b.　Worüber　　hat Thomas ein Buch gelesen?
　　　　　about what has Thomas a　　book read
　　　　　'About what did Thomas read a book?'

(ii)　　Über Strauß hat ein Witz die Runde gemacht.
　　　　about Strauß has a　joke the round　made
　　　　'A joke about Strauß went around.'　　　　　　　　　　　　　　　(Haider 1993: 173)

There do not seem to be decisive arguments for or against either view, as acceptability varies case by case. For the purposes of this paper I assume that the subject–object asymmetry familiar from English and other languages is active in German, but that certain factors yet to be determined can render cases like (ii) acceptable. This position is also taken in Schmellentin 2006.

Meinunger (2000: 191) even questions the widely-held view that dative objects are opaque for subextraction, but I do not find his purported counterexample acceptable.

I also set aside here the question of whether the PPs used here for purposes of subextraction from DP are complements or modifiers (adjuncts); see Pafel 1996 and Fortmann 1996, among others, for discussion.

A movement barrier Σ does not block the formation of a split XP if and only if Σ itself is the barrier to be split up. (Fanselow and Ćavar 2002: 82)

There is indeed further evidence for the validity of this generalization. Specific/definite DPs typically disallow subextraction but fail to block ST (cf. Tappe 1989: 176):

(83) a. *Über Syntax hat Volker das Buch gelesen.
about syntax has Volker the book read
'Volker read the book on syntax.'

b. *Worüber hat Volker Chomskys Buch gelesen?
about what has Volker Chomsky's book read

(84) a. Gute Bücher fallen mir nur die neuen von Chomsky ein.
good books occur to me only the new by Chomsky

b. Geld habe ich nur Christines ausgegeben.
money have I only Christine's spent

The choice of the governing predicate is known to potentially induce opaqueness of an object DP for extraction (Grewendorf 1989; Pafel 1996; Müller 1995; Müller and Sternefeld 1995), although the reason for lexical constraints of this kind remains elusive. Consider the following standard contrast:

(85) Über Syntax hat er ein Buch {ausgeliehen / *geklaut}.
about syntax has he a book borrowed stolen
'He borrowed/stole a book on syntax.' (De Kuthy 2001: 28)

The contrast cannot be replicated with ST, which is mysterious if the same mechanism of subextraction underlies both cases (cf. Pafel 1996: 148):[43]

(86) a. Bücher hat er drei {ausgeliehen / geklaut}.
books has he three borrowed stolen
'As for books, he borrowed/stole three.'

PP-splits are generally problematic for type-1 theories, as PPs (adjuncts and arguments alike) are islands for extraction (cf. (87a)). If some mechanism of "relexicalization" applying to (87a) after movement is responsible for doubling of the preposition in TOP, it remains unclear why such a mechanism cannot salvage non-split PP-topicalization that strands a preposition, as in (87b).

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[43]It has been observed that the "bad" cases tend to improve somewhat in appropriate contexts, however in that case the question remains why ST does *not* require any special priming to be acceptable.

(87) a. *Schlössern$_i$ habe ich in keinen t_i gewohnt.
            castles   have I   in no   lived

      b. *In Schlössern$_i$ habe ich in t_i gewohnt.
            in castles   have I   in   lived

Given that type-1 theories must assume that subextraction from PP is generally possible, (87b) is predicted to be as good as a PP-split. Needless to say, gapless PP-splits (as in (16c)) remain unaccounted for.

Overall, then, it seems that subextraction theories face rather serious challenges and do not provide a handle on the problems posed by STCs.[44] To be clear: a van Riemsdijk-style theory *can* account for a class of STCs, namely those for which a continuous version is available (i.e., TOP can alternatively remain *in situ*) and the affected constituent is a direct (accusative) object that permits subextraction. For these cases, (73) is a derivational option that cannot be excluded. However, the important point of this section is that the class of cases that such a theory can account for is a very small subset of the actually attested cases. To provide for the productivity of ST beyond those cases that happen to be describable by subextraction, a further derivational option must be available, and it is this alternative derivational option that is the focus of this work.

2.3.2   Distributed Deletion

An innovative approach to ST is developed in Fanselow and Ćavar 2002. The starting point for this analysis is the observation, illustrated in the preceding section, that ST is not subject to familiar constraints on subextraction (Fanselow and Ćavar's Generalization, (82)). From this Fanselow and Ćavar conclude that ST does not in fact involve any subextraction, but rather movement of the *entire* original DP. The impression of a split, according to this theory, arises solely due to partial deletion of each copy at PF (*Distributed Deletion*, DD). This deletion process, Fanselow and Ćavar propose, is regulated by syntactic topic/focus features: a [FOC]-feature drives movement of the DP to a focus position (where the focus-marked parts of the DP will end up being pronounced), while a [TOP]-feature drives further movement to CP (where the complementary parts of DP will be pronounced). The mechanism is sketched abstractly in (88) and (89); (90b) illustrates schematically for the simple example in (90a):

(88) a. $[[_{DP}\ \alpha_{[FOC]}\ \beta_{[TOP]}\ ]\ V\ ] \rightarrow$ movement to focus position

      b. $[_{FocP}\ [_{DP}\ \alpha_{[FOC]}\ \beta_{[TOP]}\ ]\ Foc\ [[_{DP}\ \alpha_{[FOC]}\ \beta_{[TOP]}\ ]\ V\ ]] \rightarrow$ topicalization

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[44]Evidently, the problems discussed above arise irrespectively of assumptions about the internal structure of noun phrases; cf. van Hoof 1997 for related discussion.

c.   [$_{\text{CP}}$ [$_{\text{DP}}$ $\alpha_{[\text{FOC}]}$ $\beta_{[\text{TOP}]}$] ... [$_{\text{FocP}}$ [$_{\text{DP}}$ $\alpha_{[\text{FOC}]}$ $\beta_{[\text{TOP}]}$] Foc [[$_{\text{DP}}$ $\alpha_{[\text{FOC}]}$ $\beta_{[\text{TOP}]}$] V]]]

(89)   Partial deletion:

[$_{\text{CP}}$ [$_{\text{DP}}$ ~~$\alpha_{[\text{FOC}]}$~~ $\beta_{[\text{TOP}]}$] ... [$_{\text{FocP}}$ [$_{\text{DP}}$ $\alpha_{[\text{FOC}]}$ ~~$\beta_{[\text{TOP}]}$~~] Foc [[$_{\text{DP}}$ ~~$\alpha_{[\text{FOC}]}$~~ ~~$\beta_{[\text{TOP}]}$~~] V]]]

(90)   a.   <u>Bücher</u> hat Elsing nur   <u>wenige</u> gelesen.
          books   has Elsing only few   read
       b.   [$_{\text{CP}}$ [$_{\text{DP}}$ ~~wenige~~ Bücher] ... [$_{\text{FocP}}$ [$_{\text{DP}}$ wenige ~~Bücher~~] [$_{\text{VP}}$ [$_{\text{DP}}$ ~~wenige Bücher~~]
          ...]]]

Since no subextraction from DP takes place, the observed asymmetries between subextraction and ST follow.

The second main advantage of this account, Fanselow and Ćavar argue, is that it allows for—and, in fact, predicts—antecedent–gap mismatches. Since all material in REM is underlyingly present in TOP, doubling of articles and prepositions is possible; optionality (articles) or obligatoriness (prepositions) of this doubling is said to be dependent on local morphosyntactic well-formedness conditions. Unlike in van Riemsdijk's approach, however, doubled material is not relexicalized *ex nihilo* but pronounced in both copies:

(91)   a.   <u>Ein Auto</u> würde ich mir   ja   schon gerne mal <u>ein neues</u> kaufen.
          a   car   would I   REFL PRT PRT gladly PRT a   new   buy
          'As for a car, I'd love to buy a new one.'
       b.   [$_{\text{DP}}$ ein ~~neues~~ Auto] ... [$_{\text{DP}}$ ein neues ~~Auto~~]

The problem is that this approach predicts unattested doubling, for instance of definite articles. A case like (92a) is derived in the same way as (91a) but unacceptable:

(92)   a.   *<u>Das Auto</u> kann ich mir nur   <u>das neue von BMW</u> leisten.
          the car   can I   me only the new by BMW afford
       b.   [$_{\text{DP}}$ das ~~neue~~ Auto ~~von BMW~~] ... [$_{\text{DP}}$ das neue ~~Auto~~ von BMW]

This fact, of course, reflects the general asymmetry between TOP and REM discussed in section 2.2.1: the former is always property-denoting. Since on Fanselow and Ćavar's analysis TOP and REM are structurally/lexically identical, such a categorical asymmetry is unexpected.

Other antecedent-gap mismatches are no less problematic for the DD approach: number mismatches and gapless splits remain unaccounted for. The latter in particular seem to fall outside of the scope of the theory, as acknowledged in Fanselow and Ćavar's discussion of genus–species splits as "a mystery" (their section 6.3). The problem for the DD theory is very similar to that faced by type-1 theories: by postulating a single underlying source DP,

such "deep" mismatches are not predicted to occur (cases of lexical overlap aside). In light of these problems Fanselow and Ćavar (2002: 97) conjecture that "illicit" (mismatching) constituents can be generated in the base, provided that movement (triggered by topic/focus features) plus DD yields locally well-formed noun phrases.[45] Since they do not specify the details of such a theory, the proposal cannot be thoroughly evaluated here. It seems, however, that these additional assumptions undermine the original motivation for DD: if a DD theory has to make use of morphological "regeneration" in surface positions *and* of illicit constituents in the base *and* of PF deletion in order to derive TOP and REM from a single constituent, a theory that makes use of quirky base consituents only (and dispenses with the other ingredients) has the same predictive power. (It will be shown in chapter 3 that such a theory is more accurate in its predictions and more adequate explanatorily.)

A further problematic aspect of the DD account is its crucial reliance on syntactic topic/focus-related features. Such features must be assigned in some way to lexical items in the derivation, in violation of the Inclusiveness Condition (Chomsky 1995: 225), which restricts the features available in a given derivation to those inherent to lexical items.[46] With regard to the descriptive adequacy of this proposal, it was shown in section 2.1 that Fanselow and Ćavar's basic premise that STCs are invariably topic–focus splits is mistaken. Once this rigid coupling is given up, however, the system collapses. It was shown in section 2.1.2 that STCs do not necessarily feature more than one informationally prominent element (e.g., when a focus is fronted). In this case, no split should arise, according to the Contiguity Principle which Fanselow and Ćavar assume to constrain DD:

> [T]he XP-split construction is grammatical only if a single XP must fulfill two different positional requirements. [. . .] When a phrase bears only one operator feature, it is not split up, even if not all of its parts bear that feature. This is guaranteed if the phonetic spellout is governed by a contiguity principle [. . .]: material that is contiguous at one step in the derivation (that is, e.g., merged as a single phrase) should remain contiguous unless other principles force a violation of contiguity.   (Fanselow and Ćavar 2002: 85f.)

Equally problematic for the DD theory is Fanselow and Lenertová's (2010) observation, illustrated in section 2.1.2, that TOP can be a subpart of a larger focus (comprising both TOP and REM or the entire VP), in which case they clearly do not bear conflicting information-structural features. In other words, the featural clash required in Fanselow and

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[45]Notice that this cannot be the sole motivation for movement, as this reasoning would be circular.

[46]See Erteschik-Shir 2007: 55f. for some discussion concerning topic/focus features and grammatical architecture.

Ćavar's system to trigger DD is not necessarily present in STCs. A similar point can be made with regard to multiple splits (recall (18)), where both TOP and MED can be contrastive topics, and hence should not be linearized discontinuously.[47]

Moreover, recall that the DD approach relies on the idea that the topicalized constituent in ST constructions is actually the *full* original DP. From this it follows that the underlying structure of ST constructions and corresponding non-split topicalization constructions is identical (the difference only arising after deletion at PF)—in other words, split and non-split topicalization are predicted to be LF-equivalent.[48] This central prediction is false, however. Consider the following minimal pair:[49]

(93) a. Mehrere französische Bücher MUSS jeder Schüler lesen.
          several French   books must every student read
          'Several books, every student must read.'

                                        (jeder > mehrere, mehrere > jeder)

      b. Französische Bücher MUSS jeder Schüler mehrere lesen.
          French   books must every student several read
          'As for books, every student must read several.'

                                        (jeder > mehrere, *mehrere > jeder)

Non-split topicalization of the quantified DP in (93a) supports both surface-scope and inverse-scope readings. This is expected if scopal relations are based on c-command (cf. the *Scope Principle* of Frey 1993: 206): the topicalized DP asymmetrically c-commands the subject, and the subjects asymmetrically c-commands the trace of the topicalized DP. Crucially, however, (93b) only supports the surface-scope reading, showing that the quantifier in REM is not contained in TOP. That split and non-split topicalization differ in scope potential is, of course, the opposite of what Fanselow and Ćavar's theory predicts; their model assigns the same LF to both (93a) and (93b):[50]

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[47]The (erroneous) attempt to extend DD to multiple splits in Ott 2009a does not address these problems.

[48]The presupposition here is that DD does not affect *both* PF and LF, and this seems to be the position taken by Fanselow and Ćavar. While they do liken their proposal to partial-reconstruction phenomena for which a kind of DD at LF has been proposed (Chomsky 1993; Fox 1999; Sauerland 2004), it is not at all evident that there is any deep similarity between partial reconstruction (at LF) and DD (at PF), beyond notation. The two operations are certainly not inherently linked to each other, as shown by the Chomsky–Fox–Sauerland cases (where the restriction of a quantifier is reconstructed into the base position of the fronted operator, which however is fully pronounced in its derived position), so that matching deletion at both interface levels would require stipulation.

[49]Verum focus is used to control for intonational effects on scope; see Frey 1993 and Krifka 1998, a.o., for discussion.

[50]This property of the analysis would even lead us to expect that idiomatic expressions can retain their non-compositional meaning under ST, given that no movement disrupts the original configuration. The prediction

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(94)   [$_{DP}$ mehrere französische Bücher] ... ∀ ... [$_{DP}$ mehrere französische Bücher]

The central claim of the account—that the topicalized DP is identical to the original DP in underlying structure—is problematic for across-the-board (ATB) application of ST as well. Extraction from a coordinate structure yields an acceptable outcome only if it affects all conjuncts (the Coordinate Structure Constraint [CSC] of Ross 1967: 89). Consider an example of ATB application of ST:

(95)   <u>Bücher</u> habe ich nur   <u>interessante</u> <u>russische</u> und <u>langweilige</u> <u>französische</u>
          books   have I   only interesting Russian and boring   French
          gelesen
          read

According to the CSC, the moved constituent in (95) must have moved from both conjuncts. But notice that this requirement cannot possibly be met if ST is derived as proposed by Fanselow and Ćavar (2002), since their analysis crucially requires the *entire* DP to move. The topicalized DP in (95) cannot be identical to both conjuncts, since each contains a different set of modifiers. Thus, Fanselow and Ćavar's system effectively predicts ATB-style ST to be impossible, contrary to fact.[51]

I conclude that Fanselow and Ćavar's PF-deletion theory of ST is untenable, for both conceptual and empirical reasons (see Roehrs 2009b: appendix I for some related discussion).

2.3.3   Hybrid Analyses

In this section, I discuss a further class of analyses, which—unlike both previously discussed types—takes TOP and REM to be autonomous noun phrases.

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is, of course, not borne out:

(i)   a.   Marcus kennt nur einen echten Hansdampf in allen Gassen (nämlich Carsten).
                 Marcus knows only one   real   jack of all trades   namely Carsten
       b.   <u>Hansdampf</u> <u>in</u> <u>allen</u> <u>Gassen</u> kennt Marcus nur <u>einen</u> <u>echten</u>.   (idiomatic)
       c.   <u>Hansdampf</u> kennt Marcus nur <u>einen</u> <u>echten</u> <u>in</u> <u>allen</u> <u>Gassen</u>.   (non-idiomatic only)

See Nolda 2007: 89 for some further remarks concerning idiom splits.

[51]A way to allow for such cases, suggested by Volker Struckmeier (p.c.), is to move the entire coordinate structure and apply DD such that it yields (95) at PF:

(i)   [$_{DP}$ ~~interessante russische Bücher und langweilige französische~~ Bücher] ... [$_{VP}$ [$_{DP}$ interessante russische ~~Bücher~~ und langweilige französische ~~Bücher~~] gelesen]

This solution, while technically possible, is clearly *ad hoc*, however.

Fanselow 1988; Roehrs 2009b

As the discussion in the preceding sections revealed, the main problem faced by subextrac-
tion theories of ST, as well as (to some extent) by Fanselow and Ćavar's deletion-based
theory, is the fact that there is good reason to reject the pre-theoretical assumption that
TOP and REM are discontinuous parts of a single underlying phrase. This is the route
taken by what I refer to as "hybrid" approaches to ST: on these accounts, TOP and REM
are base-generated as separate noun phrases, one of which (TOP) is fronted. While my own
account, developed in chapter 3 below, adopts a hybrid perspective in this sense as well, I
will now show that the most prominent analysis of this kind, developed in Fanselow 1988,
is conceptually and empirically inadequate.[52]

Fanselow takes REM to be an elliptical noun phrase; following Olsen (1987), NP-
ellipsis is analyzed as *pro*-replacement, licensed by inflection. While REM has the status
of a θ-marked argument, TOP is base-generated as an adjunct to V.[53] Leftward movement
of TOP then yields a simple split (96), while fronting of the entire verbal complex (V and
its NP adjunct) yields a mixed split (97):[54]

(96)   a.   <u>Französische</u> <u>Bücher</u> hat Amina schon   <u>viele</u> gelesen.
            French   books has Amina already many read
       b.   [$_{CP}$ [$_{NP}$ französische Bücher]$_i$ hat Amina [$_{VP}$ [$_{NP}$ schon viele *pro*] [$_V$ t_i [$_V$
           gelesen]]]]

(97)   a.   <u>Französische</u> <u>Bücher</u> gelesen hat Amina schon   <u>viele</u>.
            French   books read   has Amina already many
       b.   [$_{CP}$ [$_V$ [$_{NP}$ französische Bücher] [$_V$ gelesen]]$_i$ hat Amina [$_{VP}$ [$_{NP}$ schon viele
           pro] t_i]]

Fanselow (1988: 105f.) takes TOP to be a property-denoting NP that does not require
a θ-role. As he highlights, this correctly predicts the asymmetry described in section
2.2.1, assuming that only noun phrases lacking a DP-layer can be interpreted as property-

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[52]A hybrid approach I will not discuss here is sketched by van Hoof (1997: 46ff.), according to which STCs
are based on underlying appositive structures. The reason for the omission is that van Hoof herself ends up
rejecting this hypothetical analysis, noting its inadequacies. See section 3.4.3, and specifically footnote 93 in
that section, for relevant discussion.

[53]The analysis is evidently inspired by traditional accounts of word order in "non-configurational" lan-
guages like Warlpiri (Hale 1983; Jelinek 1984).

[54]Notice that this analysis assumes that an X^0 category (V) can be fronted to a phrasal position, a non-
standard assumption at least at the time Fanselow's paper was published. This assumption may be less prob-
lematic in light of recent work by Holmberg (1999) and Vicente (2007), and more generally in a framework
that does away with phrase-structural stipulations (see section 3.1.1).

denoting/predicative. I will adopt this view of TOP in chapter 3 below, but not Fanselow's specific implementation, for reasons that will presently become clear.

According to Fanselow, TOP is identified with *pro* inside REM via $\overline{\text{A}}$-binding. It is not clear, however, how this binding relation between TOP and *pro* inside REM is achieved. According to Fanselow, the to-be-topicalized noun phrase (NP$_1$) is base-generated lower than the elliptical one (NP$_2$), given that the former is an adjunct to V:

(98)

```
              VP
             /  \
         NP₂     V
        /  \    / \
  … pro …  NP₁  V
```
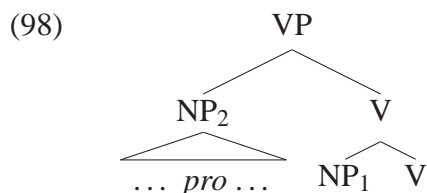
In this base configuration, NP$_1$ is in no position to bind *pro*; therefore, Fanselow reasons, it must raise. It is not clear why topicalization of NP$_1$ achieves binding, however, given that TOP reconstructs for binding purposes (recall the facts reported in section 2.2.2, specifically (41)). $\overline{\text{A}}$-binding of *pro* would thus have to be exceptionally possible despite reconstruction. Moreover, in mixed splits where TOP is contained in a fronted VP, the relevant c-command relation is not even established (reconstruction aside).

On Fanselow's account the only semantic relation between TOP and REM is the stipulated $\overline{\text{A}}$-binding of *pro* by the former; once the stipulation is dropped, nothing prevents NP$_1$ from being adjoined higher within VP and binding *pro* from its base position. Related to this, Fanselow and Ćavar (2002: 78) point out that unless some restriction is placed on the hierarchical distance between the base positions of NP$_1$ (adjunct) and NP$_2$ (argument) it remains open why NP$_1$ and NP$_2$ could not be merged in different VPs/clauses, potentially circumventing island boundaries. To illustrate, the island-violating case of ST in (99a) could then have (99b) as a possible derivational source, in which case the result should be acceptable since the fronted TOP does not cross any island boundaries:[55]

(99) a. *<u>Bücher</u> habe ich [$_{DP}$ eine Geschichte [$_{CP}$ dass Kay schon   <u>mehrere</u>
          books have I   a   story   that Kay already several
          geschrieben hat]] gelesen
          written   has read
          'As for books, I heard a story that Kay had already written several ones.'

      b. Bücher$_i$ … [$_{VP}$ [$_{DP}$ … [$_{CP}$ … mehrere *pro*$_i$ …]] [$_V$ t_i gelesen]]

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[55]Depending on how exactly the relation between NP$_1$ and the verb it is adjoined to is specified, the derivation in (99b) should imply a change in meaning; the example is plainly unacceptable on any interpretation.

Since islands do not impede NP-ellipsis resolution,[56] the derivation in (99b), and hence the evasion of islands, is falsely predicted to be available.[57] For the same reason, binding of a reflexive inside a long-distance moved TOP by an R-expression in the higher clause ought to be possible, contrary to fact:

(100)   <u>Geschichten über sich</u>$_{i/*k}$ hat Volker$_k$ gelesen dass Kay$_i$ schon <u>mehrere</u>
         stories   about himself has Volker read   that Kay already several
         geschrieben hätte.
         read   has

Nothing in Fanselow's account prevents TOP from originating in the higher clause, taking *Volker* as its antecedent and binding *pro* inside REM, in which case both binding possibilities ought to arise. In fact, however, TOP must reconstruct "all the way."

    The defect of the theory that surfaces here is that it assumes no direct syntactic relation between TOP and REM which would force them to originate in the same thematic position. Rectifying this defect (and thus ruling out derivations like that in (99b)) is one of the ways in which the account developed in chapter 3 improves on Fanselow's analysis.

    There are further straightforwardly false predictions of Fanselow's theory. Referring to Kiss 1981, he points out that NP$_1$'s base position (adjunct to V) prohibits oblique Case-marking of NP$_1$ but only allows for structural accusative. He takes this prediction to be borne out and cites cases like the following (Fanselow's judgments):

(101)   a. *<u>Polnischen Arbeitern</u>   hat Jaruzelski noch <u>keinen</u> eine Lektion erteilen
             Polish   workers.DAT has Jaruzelski yet   no.DAT a   lession teach
             wollen.
             wanted
             'As for Polish workers, so far Jaruzelski didn't want to take any of them to
             task.'
         b. *<u>Polnischer Arbeiter</u>   wurde gestern   <u>keiner</u> gedacht.
             Polish   workers.GEN was   yesterday no.GEN commemorated
             'As for Polish workers, none were commemorated yesterday.'

                                                        (Fanselow 1988: 102)

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[56]This should be the case even if it were parasitic on binding of an empty pronominal, see Cinque 1990: chapter 3.

[57]In fact, this is the case even if some reason can be found for why NP$_1$ and NP$_2$ must originate in the same VP, at least on the specific implementation proposed by Fanselow. He assumes that the trace of TOP is (A-)bound by NP$_2$ (= REM), not by NP$_1$ (= TOP); the only relation TOP bears to a VP-internal element is the binding of *pro* inside REM. But, as pointed out in the preceding footnote, this dependency should not be sensitive to islands.

This contradicts the facts presented in section 2.3.1, and indeed the opposite judgment is given in Fanselow 1993: 64.[58] Thus, Fanselow's (1988) theory makes exactly the wrong prediction with regard to ST of oblique arguments.

As also observed by Kniffka (1996: 34), however, Fanselow's claim about Case-marking of NP$_1$ also rules out ST of subjects: as an adjunct to V in underlying form, NP$_1$ should never be assigned nominative case.[59] As was shown in section 2.2.4, however, TOP and REM always agree in Case; contrary to this, Fanselow predicts invariant accusative-Case marking (as in (102b)):

(102)   a. <u>Ein guter Student</u>   hat <u>kaum</u> <u>einer</u>   eine Frage   gestellt.
           a   good student.NOM has barely any.NOM a   question put

         b. *<u>Einen guten Studenten</u>   hat <u>kaum</u> <u>einer</u>   eine Frage   gestellt.
           a   good student.ACC has barely any.NOM a   question put

Split subjects, then, remain unaccounted for as well.[60] The Case-agreement facts suggest that TOP is not an adverb/adjunct but originates in the very position to which Case is assigned, and where it is consequently Case-marked along with REM.

Like the locality problem discussed above, the Case-related problems of Fanselow's account all emanate from the lack of a direct, bijective relation between TOP and REM, linking them to the same position. In chapter 3, a theory will be proposed which does link both TOP and REM to a single Case/θ position, while not implying a violation of the Theta Criterion.

There is, moreover, syntactic evidence against Fanselow's claim that TOP originates as an adjunct to V. The evidence concerns an argument/adjunct asymmetry arising in connection with extraction from *wh*-islands (in German). While extraction of arguments from

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[58]This judgment is supported by Kniffka (1996: 33, appendix) and Nolda (2007: 64) (who provide naturalistic data of ST applying to oblique arguments), Pittner (1995: 38, fn. 11) (who also refers to Link 1974 and Engel 1990 for converging judgments), and Fanselow and Ćavar (2002: 73) (Fanselow and Ćavar's Generalization, (82)).

[59]Notice that non-subordinated nominal adverbials invariably bear accusative or genitive case but never nominative:

(i)   Benni hat {jeden Tag   / eines Tages} einer alten Oma   über die Straße geholfen.
      Benni has every day.ACC one day.GEN an   old granny.DAT across the street helped

[60]In principle, Fanselow's theory could be modified such that REM is a modifier adjoined to either V (in object splits) or v (in subject splits). This proposal, however, massively overgenerates, at least unless supplemented with further conditions that restrict the occurrence of V-modifying NPs with object topicalization and that of v-modifying NPs with subject topicalization. In short, this modification amplifies the problem that on Fanselow's theory, TOP and REM are not bijectively related, but only by the putative binding relation between TOP and *pro* inside REM. Case agreement in adjunct splits remains unaccounted for either way.

wh-islands leads only to negligible deviance, such extraction is significantly worse when an adjunct is extracted (cf. Müller and Sternefeld 1993: 494):[61]

(103)   a.   ?Radios$_i$ weiß ich nicht [$_{CP}$ wie man t_i repariert]
                  radios know I   not   how one   repairs

         b.   *Damit$_i$ weiß ich nicht [$_{CP}$ wie man t_i Radios repariert]
                  with that know I   not   how one   radios repairs

ST across a *wh*-island is clearly not as degraded as (103b); recall (38a), repeated here:

(104)   ?<u>Fernseher</u> weiß ich nicht [$_{CP}$ warum die Susanne <u>mehrere</u> haben sollte   ]
             TVs   know I   not   why   the Susanne several have   should

If TOP were underlyingly adverbial, (104) ought to be on a par with (103b). The actual deviance of (38a) is very mild, however, and on a par with (103a). This fact is further evidence against Fanselow's claim that TOP is an adjunct/adverb (see section 3.3.2 for some further facts).

   We now have sufficient reason to reject Fanselow's version of the hybrid approach. The gravest defect of his theory (and its variants, see below), to repeat, is that it does not provide a plausible reason for why fronting of TOP is obligatory, for the reasons discussed above. Antecedent–gap mismatches, however, show just that:

(105)   a.   <u>Polnische Gänse</u> gekauft hat sie <u>keine</u>.
                  Polish   geese bought has she no
         b.   *Sie hat keine polnische Gänse gekauft.

(106)   a.   <u>Ein Auto</u> kann Daniel sich   allenfalls <u>ein gebrauchtes japanisches</u> leisten.
                  a   car   can Daniel REFL only   a   used   Japanese   afford
         b.   *Daniel kann sich allenfalls ein gebrauchtes japanisches ein Auto leisten.

(107)   a.   <u>In Schlössern</u> habe ich noch   <u>in keinen</u> gewohnt
                  in castles   have I   so far in no   lived
         b.   *Ich habe noch in keinen in Schlössern gewohnt.

(108)   a.   <u>Zeitungen</u>   kenne ich nur   <u>eine gute</u>.
                  newspapers know I   only one good
         b.   *Ich kenne nur eine gute Zeitungen.

(109)   a.   <u>Bücher</u> habe ich noch nie   <u>welche</u> gelesen.
                  books have I   yet never any   read
         b.   *Ich habe noch nie welche Bücher gelesen.

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[61]Müller and Sternefeld judge (103a) as '??,' noting the contrast with adjunct extraction. The judgment given below is my own; indeed to my ear cases like (103a) are impeccable with a contrastive rise on the fronted argument.

(110)   a.   <u>Syntaktiker</u>   kenne ich nur   <u>den</u> <u>Chomsky</u>.
              syntacticians know I   only the Chomsky
         b.   *Ich kenne nur den Chomsky Syntaktiker.

Fanselow's account fails to explain the unacceptability of the b-examples (this point is also made by Fanselow and Ćavar 2002: 78). Given that his reasoning based on binding of *e* in REM is not sound (and also in light of the facts presented in section 2.1), there is no reason why the adverbial NP$_1$ could not remain *in situ*.

The issue of obligatory movement in STCs is addressed in Roehrs 2009b. Roehrs follows Fanselow in assuming that TOP and REM are base-generated as independent noun phrases (an argumental, elliptical DP and an adverbial NP). Deviating from Fanselow's implementation, Roehrs assumes that DP (= REM) is base-generated as a complement to V, while NP merges as a specifier of this configuration. With Fox and Pesetsky (2005), he assumes that at this point an "ordering statement" *NP > DP* is produced, which may not be violated at subsequent Spell-Out points (see Fox and Pesetsky 2005 for details of this model of "cyclic linearization"). Roehrs assumes that DP must always move, for reasons of case; this movement, however, inverts the order of NP and DP (*DP > NP*). In order to avoid conflicting ordering statements, therefore, NP (or VP containing NP) must be moved across DP in the next phase; otherwise, the structure is unlinearizable.

While Roehrs's proposal addresses an important issue (why is movement of NP obligatory?), it solves the problem by mere stipulation. First, there is no reason to assume that DP arguments must move for Case (in German); there is simply no evidence for this crucial assumption.[62] Once this assumption is dropped, the entire proposal collapses, since the conflicting ordering statement *DP > NP* is not produced. Second, it remains unclear why DP and NP necessarily merge in exactly the order Roehrs assumes—another crucial but stipulated component of his analysis. Finally, the general validity of Fox and Pesetsky's proposal is questionable; German plainly does allow for movements that are not order-preserving, and the distinction between order-preserving and non-order-preserving movement remains a stipulation in their account.[63] In short, I see no reason to adopt any of Roehrs's premises, without which, however, his proposal collapses.

As a final problem for the Fanselow–Roehrs account, note that it relies crucially on the presence of an empty category in REM. This is so because binding of (or identification

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[62]In fact, such an assumption might falsely predict general freezing of objects; but direct objects are transparent. There is likewise no evidence for the alternative hypothesis that DP moves string-vacuously to a VP-internal focus position, as assumed in Fanselow and Ćavar 2002.

[63]But see Müller 2001 for some related discussion concerning German; Fanselow and Lenertová (2010) adopt a modified version of Fox and Pesetsky's model.

with) this empty category is what yields the predicative semantic relation between TOP and REM. However, we saw in section 1.2.2 that REM need not contain a gap. The semantic relation between TOP and REM in gapless splits is the same as in those cases of ST where REM is elliptic: TOP denotes a property of REM (see section 3.2 below for elaboration of this point). Fanselow and Roehrs have no way of accounting for this fact, since they crucially rely on the presence of an empty category im REM, bound by TOP. Their accounts thus in principle exclude a large class of STCs.[64]

Puig Waldmüller 2006

Puig Waldmüller (2006) proposes a variation of Fanselow's approach, drawing on the notion of "semantic incorporation." I will here confine myself to some brief remarks concerning her syntactic analysis, defering the discussion of semantic incorporation to section 3.4.4.

Similar to Fanselow, Puig Waldmüller assumes that TOP starts out as an adjunct to V, incorporated into the verbal complex. She recognizes that Fanselow's analysis is problematic in that it assumes no direct relation between TOP and REM beyond the purported binding of *pro*, an assumption rejected by Puig Waldmüller in order to account for both regular and gapless splits. Her alternative is that the relation between TOP and REM is established by an empty *pro* inside REM when it is elliptical but by some notion of "pragmatic [*sic*] controlled coreference" (p. 64) when REM is gapless. It remains unclear what this means, however, given that TOP is not referential but property-denoting (as Puig Waldmüller also assumes).[65]

To establish a dependency between TOP and REM, Puig Waldmüller (2006: 62) assumes a coindexation mechanism (borrowed from Cecchetto and Chierchia 1999) that links the two constituents to the same argument slot, via some sort of θ-role transmission. The required coindexation mechanism violates the Inclusiveness Condition and lacks principled motivation. Moreover, by relying on θ-roles it excludes adjuncts from ST; however, as mentioned above and shown further in section 3.3.2, PP-adjuncts and free datives can

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[64] Corver and van Koppen (2009) propose that NP-ellipsis in certain languages is not actual ellipsis; rather, an inflectional morpheme (which attaches morphologically to the ellipsis remnant) replaces the head noun, essentially acting as a (weak) pronoun. If this is the case in German (as suggested by facts like (50) and (51b)), REM never contains an empty category and the Fanselow–Roehrs analysis in fact excludes *all* splits. By contrast, the theory developed in chapter 3 below is neutral with regard to the nature of NP-ellipsis.

[65] Puig Waldmüller resorts to the claim that "this property [denoted by TOP, DO] is referential in that it refers to an abstract discourse referent," but no principled reason is offered for this assumption (note also that the purported discourse referent cannot be resumed pronominally, as shown in section 3.2.1). She seems to assume (p. 66) that "pragmatic controlled coreference" also plays a role in reconstruction of TOP, but her remarks are too incomprehensible to evaluate them here.

be affected by ST. Thus, Puig Waldmüller's attempt to improve on Fanselow's approach by means of coindexation/θ-transmission is both stipulative and empirically inadequate. Also, recall from the previous section that there is evidence from extraction out of *wh*-islands against the idea that TOP is underlyingly an adjunct, an assumption which Puig Waldmüller's approach inherits from Fanselow's. As pointed out above, this adjunct-to-V status of TOP in underlying form does not lead us to expect obligatory Case agreement between TOP and REM when oblique objects, subjects, or adjuncts are split.

As vague as Puig Waldmüller's analysis is in its syntactic details, as clear is it that it shares with Fanselow's the failure to account for the fact that TOP and REM are necessarily separated by displacement; no explanation is offered for TOP's inability to remain *in situ* (recall (105)–(110)), and movement is merely presupposed. Puig Waldmüller's analysis is thus clearly inadequate (see section 3.4.4 in the next chapter for some further comments).

Nakanishi 2005, 2007

The hybrid analysis proposed by Nakanishi (2005, 2007) will be discussed here in all brevity, since its inadequacy is easy to establish. Nakanishi proposes that REM is an adverbial modifier in VP quantifying over events. She limits her attention to cases of ST where REM is a "measure phrase" of some sort, e.g. a numeral. Therefore, the account in principle excludes STCs with non-quantificational REMs (e.g., REMs containing only pre- or postnominal modifiers); gapless splits likewise fall out of the scope of the analysis and seem entirely incompatible with the approach. Moreover, nothing in the analysis predicts the observed TOP–REM asymmetry, since TOP is a regular argument of the verb. While these defects alone suffice to reject Nakanishi's analysis, let us briefly consider the reasoning that leads her to analyze REM as some kind of event modifier.

Nakanishi's claim that REM modifies VP is motivated by purported semantic effects arising from the interaction of REM and the verb. A key contrast she discusses is the following:

(111)   a.   Drei Studenten haben den Rektor   umgebracht.
                three students   have   the principal killed

         b. ??Studenten haben den Rektor   drei   umgebracht.
                students   have   the principal three killed
                'As for students, three killed the principal.'   (Nakanishi 2005: 339)

Nakanishi's reasoning is that the deviance of (111b) relative to (111a) is due to the fact that REM *three* modifies the VP *killed the principal*, essentially like the adverbial *dreimal* 'three times,' which yields a deviant interpretation according to which the principal was

killed three times. There is a simpler and more plausible explanation, however: on the interpretation intended by Nakanishi, *Studenten* is a contrastive topic, implying that there were other (groups of) people that also killed the principal. That this is the correct explanation is, in fact, corroborated by Nakanishi's own observation that (111b) is fully acceptable in a context where the principal is a zombie and can be killed multiple times (Nakanishi 2005: 339, fn. 7). Moreover, the fact that the deviance of (111b) vanishes when TOP bears a focus accent rather than a topic accent provides further confirmation for the alternative explanation, and against Nakanishi's:

(112)   A: Didn't three construction workers kill the principal last week?
         B: Nein, StuDEN\ten haben den Rektor   drei   umgebracht.
               no   students   have   the principal three killed

When TOP is a fronted focus, it also invokes alternatives; however, in this case the alternatives are excluded, and (unlike in case of a contrastive topic) there is no implication that the proposition is true for other focus values as well (see Büring 1997 on the differences between contrastive topics and foci). Nakanishi's analysis is thus misguided, not taking into account the information-structural "flexibility" of STCs as described in section 2.1.[66]

In sum, Nakanishi's analysis is thus not only incomplete (in that it disregards all cases of ST in which REM is not exclusively quantificational) but also wrong for those cases that it situates within its explanatory scope. Moreover, it is no exception to the general failure of extant hybrid approaches to correctly predict locality constraints on ST, and to explain why TOP cannot remain *in situ* but is forced to move.

2.4   Summary

As the discussion in this chapter has shown, ST is a multifaceted phenomenon. REM can contain a gap or be gapless (pronominal or lexically headed); TOP can be fronted alone or as part of a preposed VP (mixed splits); splits can involve more than two elements (multiple splits) and apply to more than one argument (parallel splits). What all of these constructions have in common is that TOP is property-denoting and fronted to the prefield or to the left middle field by syntactic ($\overline{\text{A}}$-)movement.

It was shown that the resulting syntactic configuration supports a variety of informa-

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[66]Nakanishi uses a similar reasoning to explain differences between split and non-split topicalization concerning collective and distributive readings of numeral quantifiers. However, Puig Waldmüller (2006: 22) demonstrates that in these cases, too, the readings depend not on semantic but on information-structural properties, as brought out by the fact that the relevant interpretations, like in the case above, can be altered by intonation (placement of topic/focus accents).

tion structures; the common assumption that ST invariably separates a contrastive topic and a focus is too simplistic. It feeds directly into Fanselow and Ćavar's (2002) attempt to relegate the phenomenon to PF, where topic–focus separation is achieved by featurally-triggered partial deletion. This solution is both descriptively inadequate (as the facts in section 2.1 show) and conceptually undesirable (due to the necessary violation of the Inclusiveness Condition); it was shown to be empirically inadequate for other reasons as well, such as the scopal *non*-equivalence of ST and non-split topicalization.

Simple splits, in which REM contains a gap, have led researchers to claim that ST is a simple case of subextraction. The commonly neglected fact that REM need not contain a gap, however, strongly militates against this kind of approach, as do the various other morphosyntactic facts reviewed in section 2.2.3, all indicating that TOP and REM are *not* parts of a single constituent. These facts are doubly problematic: even if the theory allows for the generation of the relevant structures in the base, an explanation must be offered for why their subsequent separation is obligatory (irrespective of their information-structural status). As we have seen, the hybrid approaches suggested so far invariably fail at this task. Further inadequacies of these approaches include the failure to account for Case agreement between TOP and REM, and to correctly predict the locality conditions on ST. Both these shortcomings are due to the fact that none of the available analyses assumes a direct link between TOP and REM that goes beyond inadequate solutions like $\overline{\text{A}}$-binding of *pro* (Fanselow), pragmatic coreference (Puig Waldmüller) or event modification (Nakanishi).

The conclusion is simple: what is needed is an analysis of ST that establishes a direct dependency between TOP and REM (linking them to the same thematic slot) on the one hand, while generating them as autonomous but obligatorily separated constituents on the other.

Chapter 3

The Syntax of Split Topics: A Novel Approach

3.1 Symmetry and Asymmetry in Syntax

Before turning to the novel analysis of ST that is the main focus of this chapter, it is necessary to outline the conceptual framework in which the proposal will be couched. This is so especially because some of the assumptions I will adopt have not permeated the mainstream of syntactic theorizing and therefore require some explication and justification.

3.1.1 Beyond Phrase-structure Grammar: Merge

Traditionally, the generation of syntactic structures has been taken to be governed by phrase-structure rules.[1] In Chomsky 1965: 120ff., for instance, the "categorial component" of the grammar was taken to be a set of recursive and context-free phrase-structure rules, potentially subject to language-specific variation. The standardly adopted format was that of rewrite rules:

(1) a. S → NP VP
     b. VP → V NP
     c. PP → P NP
     d. ...

In the *Aspects* model such production rules were separated from the lexicon, so that the terminal string was eventually derived by lexical insertion. The production rules encode

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[1]See Lasnik 2000 and Carnie 2010 for excellent overviews of the development of phrase-structure grammar.

dominance (inclusion) and precedence relations, as well as categorial information: the symbol to the left of the arrow is the category of the right-hand string (the *is-a* relation signified by '→').

It was quickly noted, however, that these unrelated rules of the categorial component fail to capture a fundamental generalization about constituents of natural language, namely the simple fact that a phrase XP (e.g., an NP) invariably contains a head of category X (N), as opposed to a head of some other category Y. The reason for this defect is that a phrase-structure grammar as a formal system *per se* is too powerful: a rule like NP → V PP, producing an unattested output, is formally as well-formed as the rules in (1).

X-bar theory (Chomsky 1970; Jackendoff 1977) was an attempt to overcome this defect of the system and capture the *endocentricity* (headedness) of syntactic phrases, by imposing a metarule on the categorial component. Using the variable X (ranging over categories) and a recursive "bar level," this rule format states that all XPs are produced in the same way:

(2)   a. $XP \rightarrow \ldots \overline{X} \ldots$

        b. $\overline{X} \rightarrow \ldots \overline{X} \ldots$

        c. $\overline{X} \rightarrow \ldots X \ldots$

The cross-categorial schema in (2) defines a significantly more restrictive form of phrase-structure grammar and allows for category-neutral definitions of the notions *head*, *complement*, *specifier* and *modifier*.

More recently, however, Chomsky (2004, 2005, 2008, 2007, 2010, 2011) has proposed in a series of papers and talks that the categorial component—that is, $\overline{X}$-theory as stated in (2)—should be dispensed with altogether. The main motivation for this reductive move is the stipulative nature of the rules, in particular their encoding of linear order and the rule of "projection." The former, Chomsky argues, ought to arise only in the mapping to PF, since linear order seems to play no role in narrow syntax (a claim that is not uncontroversial; see Kayne 2010; Zwart 2011 for an alternative). The latter ought to be derived from deeper principles, for otherwise there is no reason *why* some element X should project in the way stipulated by (2). A further problem is that the rules in (2) introduce symbols (in particular, the bar-level diacritic) into the derivation that are not inherent properties of the lexical items involved, in violation of the Inclusiveness Condition (Chomsky 1995: 225). If phrase-structure grammar can be dispensed with *in toto*, this implies a significant reduction of the explanatory burden placed on UG.

More specifically, Chomsky (2004 *et seq.*) proposes to replace the phrase-structure component (as well as the transformational component) with a single operation, called *Merge*, which forms binary sets consisting of syntactic objects:

(3)   Merge(X, Y) = {X, Y}

Chomsky (2004) notes that this single operation, applying recursively, yields hierarchical structures and—if it applies to both items drawn from the lexicon and items already constructed—transformations.[2] Descriptively, two kinds of Merge can be distinguished: *external* Merge (EM) constructs a set from two distinct objects X, Y; *internal* Merge (IM) relates two non-distinct elements X, Y.[3]

   To illustrate, assume that EM combines X and Y, yielding the object Z.[4] A further application of Merge can combine the previously-merged X and the previously-constructed object Z, the former being a term of the latter (hence, a case of IM):[5]

(4)   {X, {Z, {⟨X⟩, Y}}}

X is now a syntactically discontinuous object (a "chain"), formally a set of occurrences, individuated by their respective context (sister).[6] Notice that the angled brackets in (4) are used for expository purposes only, to mark "lower" occurrences (traces) of a single object; they are not part of the actual syntactic object. Importantly, internal Merge does not introduce new objects into the derivation; it merely creates new occurrences of objects.

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[2]For this reason, the abandonment of phrase-structure grammar in favor of a Merge-based system has sometimes been characterized as a return to the traditional notion of *Generalized Transformation* of Chomsky 1975 (cf. Gärtner 2002; Chomsky 2007: 6; Carnie 2010: 98).

[3]No separate operations are needed (*pace* Collins and Stabler 2009), as the two types differ only in the respective input (distinct vs. non-distinct).

[4]I adopt the notation of Chomsky (2000: 133), according to which we write a set $\{\alpha, \beta\}$ with the label γ as $\{\gamma, \{\alpha, \beta\}\}$.

[5]Notice how this differs from repeated external Merge of X, in which case no discontinuous object arises. This is simply the difference between *John saw John* (where *John* is merged twice) and *John saw ⟨John⟩* (where *John* moves).

[6] As pointed out to me by Noam Chomsky (p.c.), the use of the notion "occurrence" here is similar to Quine's (1940) informal definition of the notion *occurrence of a variable*:

> [A]n occurrence of *x* in *y* is an initial segment of *y* ending in *x*. The third "occurrence" of *x* in *y*, e.g., is construed as that initial segment of *y* which remains when … everything after the third occurrence of *x* is lopped off. A "later occurrence" of *x* differs from an "earlier" one in being a longer initial segment of *y*.   (Quine 1940: 297)

This is essentially the definition assumed in Chomsky 2000: 115; see Nunes 2004: 50ff. for some complications. As noted by Chomsky, the definition entails that a higher occurrence of a moved element properly contains the lower ones, an asymmetry which should be reflected in different properties of heads and tails of chains (Chomsky, p.c.), one example being the (non-)intervention effects discussed in Holmberg and Hróarsdóttir 2003, another the invisibility for labeling discussed below.

   See also Gärtner 2002, Frampton 2004, and Leung 2007, among others, for implications of this approach for movement, copies etc.

3.1.2 Labeling by *Minimal Search*

By definition, the objects formed by Merge are mere sets and consequently do not contain any information about linear order or headedness. Formally, a set is fully symmetric: in {X, Y}, neither X nor Y is more prominent; in short, sets do not have heads, the way objects defined by phrase-structure rules do (by stipulation). As Chomsky points out, some projection-like asymmetry between X and Y nevertheless still seems desirable:

> If an element Z (lexical or constructed) enters into further computations, then some information about it is relevant to this option [...]. The optimal assumption is that this information is provided by a designated minimal element of Z, a lexical item W (Z itself, if it is an LI), which is detectable by a simple algorithm; the *label* of Z [...]. The label W of Z enters into EM in selection in various ways as well as into intepretation of Z. Since W contains all information relevant to further computation involving Z, W is also necessarily the *probe* that selects a *goal* in any internal modification of Z.
>
> (Chomsky 2007: 8f.)

As emphasized by Chomsky, labels mark the designated element of a complex object, determining its role in further computation and interpretation. Arguably, labels also play a role at both interfaces: at the semantic interface, labels allow local thematic relations (reducing to sisterhood); at the phonetic interface, they facilitate prosodic decisions (noun phrases and clauses receive different intonation contours, etc.); see also Chomsky 2008: 141.

Optimization (reduction) of search space is a further consequence of the syntactic representation of labels. If both probes and goals for non-local syntactic dependencies are labels (as proposed by Chomsky, quoted above), the search space for probe–goal relations is significantly reduced, since downward probing need not go beyond the label (bearing all relevant features of the head). Labels, then, seem to be required on grounds of efficiency. See Hornstein 2009: chapter 3 for related discussion.

Moreover, labels have traditionally been taken to encode the difference between substitution and adjunction (creation of a new segment). Some such distinction must be made in a Merge-based system as well, and it is hard to see how this could be achieved without some notion of labeling (on Set-Merge = substitution vs. Pair-Merge = adjunction, see Chomsky 2000: 133; also section 3.4.3 below on the latter option).[7]

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[7]This is true even in a system like Hornstein and Pietroski's (2009), where adjunction is taken to yield an unlabeled object, whereas complementation/substitution is always accompanied by assignment of a label. I will not adopt their proposal here, however.

How, then, can a Merge-based system be amended to provide categorial information about the objects its constructs, without resorting to stipulated rules of projection?[8]

Chomsky (2008, 2007) suggests that labels can be determined by means of a natural algorithm based on the notion of *Minimal Search*. The observation is that in order to determine the label of the a binary set formed by Merge, in most cases it will suffice to pick the member of the set that is an atomic lexical item (LI).[9] Consider the following informal statement of this algorithm (adapted from Chomsky 2008: 145):

(5)   *Labeling by Minimal Search*
        For any syntactic object $K = \{\alpha, \beta\}$, α is the label if α is an LI and β is an XP.

For a simple case like {V, DP}, (5) will determine V to be the label, hence identify {V, DP} as VP—a result that was stipulated by X-bar theory, now derived from a natural algorithm which arguably reflects deeper efficiency principles (hence need not be stipulated as part of UG).[10]

3.1.3   Labeling Conflicts and Their Resolution

Interestingly, and as highlighted by Chomsky (2007: 23), (5) fails whenever neither member of the syntactic object under consideration is an LI, i.e. when Merge yields {XP, YP}[11]

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[8]A hybrid system employing Merge and projection rules was the "Bare Phrase Structure" model outlined in Chomsky 1995: chapter 4. In line with Chomsky's later work, I will here assume that all residues of phrase-structure grammar ought to be eliminated from the system.

[9]Boeckx (2008: 96) proposes a slightly different labeling algorithm, according to which labeling is parasitic on probe–goal relations (label = probe; his *Probe–label Correspondence Axiom*). Such an approach requires empirical justification of the postulated probe–goal relations and fails in principle if probes *are* labels (as in Chomsky 2007). See Collins 2002 and Di Sciullo and Isac 2008, among others, for further alternative conceptions of labeling.

[10]There are two interpretations of the claim that labels can be determined by Minimal Search. One is that this eliminates labels from syntax: given that they can be deduced by an arguably optimal mechanism, there is no need to assume that they are part of syntactic representations. This, indeed, appears to be the perspective taken in Chomsky 2007: 23. By contrast, the interpretation assumed here is that labels *are* syntactically represented. This does not imply a return to phrase-structure grammar: on the present approach, labels are not stipulated but follow from Minimal Search, as stated in (5). Importantly, UG on this view does not specify any phrase-structural rules or schemata, and neither does (5) have to be stated in UG: by hypothesis, it comes "for free," reflecting natural principles of computation. Notice, moreover, that labels do not violate Inclusiveness, since a label is always identical to a lexical item already present in the derivation and does not imply any modification of merged elements.

[11]Or when both α and β are LIs, in which case symmetry-breaking movement of the kind proposed below might be required (Yang 1999; Moro 2000; Barrie 2005). See Kayne 2008 for a different technical solution for some of such cases, and Narita 2011 for extensive discussion of potential ramifications of (5), most of which I set aside here.

(see already Moro 2000: 33 for the same observation). Chomsky suggests that if either XP or YP was raised by IM, the probe might simply be preserved (the right result, empirically);[12] however, this leaves open what happens when XP and YP are merged by EM. I will follow Chomsky and Moro in assuming that no label can be assigned to {XP, YP} created by EM. Notice that this assumption declares all types of "specifiers" problematic; in fact, the notion has no natural interpretation in this framework. I will not directly address this issue here, however; see chapter 5 for some remarks.

Assume that syntactic objects must be labeled, to provide information for further computation and interpretation, as outlined above.[13] Recall that, from the perspective of Minimal Search as stated in (5), the problem with a structure {XP, YP} is its symmetry: neither set member can be identified as the label by Minimal Search. As proposed by Chomsky (2010, 2011),[14] following the logic of Moro (2000, 2007), movement of either XP or YP "breaks" the problematic symmetry and thus allows for the detection of a label. Let us see how this works.

As outlined above, IM yields a discontinuous object. Suppose XP raises from {XP, YP}. Then there is a new object, W, the set of occurrences of XP, each defined by its respective context (its sister; see note 6):

(6)   {XP, ... $\boxed{\{\langle XP \rangle, YP\}}$ }

Notice that reference to W as an "object" is merely a manner of speaking: we are still left with two objects (XP and YP, ignoring the objects that contain them), one of them discontinuous. Importantly, however, the original {XP, YP} object boxed in (6) is now asymmetric, in that it only properly contains YP; the occurrence of XP is not equivalent to the object itself (= W, which is only contained in the structure in (6) as a whole, formed by IM). Then, assuming that both IM of XP and labeling apply at the phase level, the algorithm in (5) will necessarily determine YP (= Y) as the label of {⟨XP⟩, YP}.

In accord with these considerations, I will here adopt the Chomsky–Moro idea that movement can "break" symmetric structures in order to render them compliant with (5),

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[12]Chomsky (2010, 2011) considers this a stipulation that should be dispensed with; I leave the issue open here.

[13]Chomsky (class lectures at MIT, fall 2010) has suggested that a label might not be required for certain categories which do not seem to enter into further computation, such as φ-complete TP (which is dependent on CP) or root CP (which does not enter into any further computation). I will abstract away in what follows from this possible qualification, since the arguments/adjuncts under consideration here clearly do not fall into this category of potentially label-less objects.

[14]See also Chomsky 2008: 160, fn. 34 and Berwick and Chomsky 2010: fn. 16.

essentially as in (6).[15] For the reasons given above, I will also assume that any syntactic object formed by Merge must be categorially identified by a label in order to enter into further computation. Chomsky (2008, 2007) proposes that all operations apply at the phase level (vP and CP), driven by the phase heads v, C. In line with this framework, I assume that labels are determined at the phase level as well, i.e. when the constructed syntactic object is transferred to the mapping components. It follows that symmetry-breaking movement, like other applications of IM, takes place at the phase level.

3.2   ST as Symmetry-breaking Movement

In this section, I will develop a novel theory of ST, based on the general assumptions about Merge, labels and symmetry-breaking movement outlined above. I will show how this account derives the facts discussed in chapter 2, as well as further facts presented in the course of the discussion.

3.2.1   Bare predication: {DP, NP}

One major result of the empirical survey in chapter 2 was that "split topics" are not what their name suggests: TOP and REM are not parts of a single, discontinuous constituent, but rather two autonomous noun phrases. Like previous hybrid approaches (discussed in section 2.3.3), I will assume this to be true in what follows. Moreover, I will assume that simple splits and gapless splits differ only in that REM is elliptical in the former but non-elliptical in the latter case (more on this below).

Recall from section 2.2.1 that while TOP and REM are autonomous constituents, there is an asymmetry between them: TOP is a property-denoting bare NP, REM a full DP. The corresponding generalization we arrived at in that section is repeated here for convenience:

(7)   *TOP–REM Asymmetry*
      In STCs, TOP is a property-denoting bare NP; REM is a full DP.

In part following Fanselow (1988: 105f.), I assume that the observed restriction on TOP follows from it being a predicate, i.e. an "open expression" in the traditional sense. To illustrate, consider the following examples of a simple and a gapless split, respectively:

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[15]This line of reasoning does not imply teleological operations ("look-ahead"). Symmetry-breaking movement applies freely, the output being deviant when it fails to apply; this is fully compatible with Chomsky's (2004) conceptual arguments for free application of Merge (both EM and IM), with varying effects at the interfaces.

(8) a. <u>Gute</u> <u>Zeitungen</u> kennt Fabian nur <u>eine</u> <u>aus</u> <u>Berlin</u>.
         good newspapers knows Fabian only one from Berlin

     b. <u>Nagetiere</u> mag Christine vor allem <u>Eichhörnchen</u> <u>und</u> <u>Capybaras</u>.
         rodents   likes Christine especially squirrels   and capybaras

In both cases, TOP denotes a property of the individual(s) denoted by REM: the *eine aus Berlin* that Fabian knows has the property GOOD NEWSPAPER; the *Eichhörnchen und Capybaras* that Christine likes have the property RODENT. Intuitively, STCs feature an individual-denoting DP (an argument) and an NP expressing a property of the individuals denoted by that argument; by topicalizing the predicate, it restricts the interpretation of the comment to that property, as further elaborated in section 3.2.5.

As pointed out in section 2.3.3, the idea that TOP is some kind of logical predicate was already present in Fanselow's work and adopted by others (e.g., Haider 1990: 108 and Pittner 1995: 32). Recall from that section that hybrid approaches typically take TOP to be underlyingly part of the verbal complex, by analyzing it as an adjunct to V of sorts.

Deviating from this problematic implementation, I propose that TOP (NP) and REM (DP) merge directly, a configuration which is interpreted as a predication:[16]

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[16] Interestingly, Chung and Ladusaw (2004) devise a somewhat similar structure as the semantic basis of the noun-incorporation cases they discuss. In their structure, however, DP is adjoined to NP, and N raises to V:

(i)   V'   (Chung and Ladusaw 2004: 148)
         ┌────────┴────────┐
         V   NP
      ┌──┴──┐   ┌───┴───┐
      V N_i NP   DP
                     ┌──┴──┐
                   … t_i …
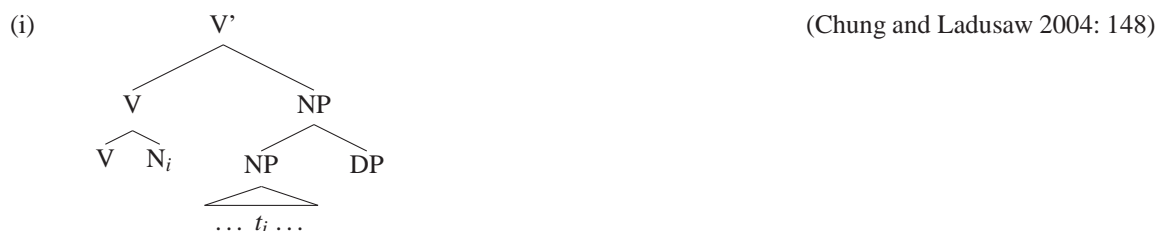
Adjunction of DP is taken to account for its inability to move, which is not the case with REM in ST (see Puig Waldmüller 2006: 68f. and below). I will not discuss Chung and Ladusaw's proposal here, which is based on Chamorro. See section 3.4.3 on why adjunction is not adequate for the analysis of ST, and section 3.4.4 for some comments on incorporation in the context of ST.
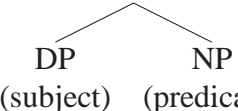
Interestingly, in a footnote Fanselow and Ćavar (2002) suggest a similar solution:

> [I]f an XP can be linked thematically to predicate P only if XP is merged in the projection of P, then two XPs sharing a thematic role must be merged in the same maximal projection.
>
> (Fanselow and Ćavar 2002: 102, fn. 10)

Depending on how this remark is interpreted, it can be taken to foreshadow the present analysis, except that the notion "maximal projection" will crucially be dispensed with.

A structure similar to (i) and (9) as the source of ST also seems to be what Grewendorf (1995: 1299) has in mind.

(9)

```
        ╱‾‾‾╲              (= {DP, NP})
      DP      NP
   (subject)  (predicate)
```

We can now restate the descriptive generalization (7) in terms terms of (9):

(10)   The noun phrases acting as TOP and REM in the surface form of STCs stand in a predicate–argument relation in underlying form, such that TOP is the NP predicate of its DP "subject" REM.

I will henceforth refer refer to (9) as a "bare predication structure" (BPS). Formally speaking, a BPS is simply a set {DP, NP} defined by Merge; consequently, no linear ordering between DP and NP is implied in (9). Note that my claim is *not* that NP is adjoined (pairmerged) to DP, in which case the structure would be inherently asymmetrical—see section 3.4.3 on this option.

The terms "DP" and "NP" as used here meant to be convenient short hands, chosen to concisely represent the difference between nominal arguments and nominal predicates. A natural way of thinking about this difference is suggested by Higginbotham (1985) and Holmberg (1993): predicative NPs (Higginbotham's open $\overline{\text{N}}$s) contain a variable which is bound by something combining with that NP (an expression that itself is closed).[17] The variable can be bound, for instance, by determiners, but not by indefinite articles or adjectives, as brought out by the fact that these can occur in predicative NPs (Higginbotham 1987: 47). The BPS {DP, NP} is a configuration in which the open variable of NP is bound not by a D but by DP, yielding a predication in the most general sense (Higginbotham's "θ-binding"). The predication is true to the extent that DP denotes *values* of NP (things of which it is true, cf. Higginbotham 1985: 555). Notice that DP is a "subject" here only in the sense that NP predicates a property of it; it is not assigned some semantic role of the type assigned by verbal predicates to their arguments.[18]

Following these considerations, an interpretable BPS, while syntactically symmetric, requires the two noun phrases it combines to be asymmetrical in the Holmberg/Higginbotham sense (open/predicative vs. closed/argumental). A structure {DP, DP}, combining two closed expressions, cannot be interpreted in this way; the only option is adjunction/Pair-

---

[17]The difference between argumental and predicative noun phrases is often captured in syntactic terms, roughly in accord with the DP/NP dichotomy, adopted here for convenience (cf. Stowell 1989; Zamparelli 1995).

[18]The relation between DP and NP is also fundamentally different from that between *mother* and *Mary's* in *Mary's mother*, which are not related predicatively (Williams 1980). However, in such cases there is, I assume, functional structure between the possessor and the head noun, mediating the relation between the two; no such structure is present in {DP, NP} (whence the name "*bare* predication structure").

Merge (see section 3.4.3) or mediating functional structure.[19] Thus, direct Set-Merge of two noun phrases requires a BPS, deriving the generalization in (7).[20]

The fact that I am using the special label "BPS" here should not create the impression that I am proposing an unheard-of structure: (9) is a direct counterpart to the standard subject–predicate structure {DP, vP}, i.e. the set of external argument and vP.[21] Both structures express a predication, manifest in {DP, NP} as DP's binding of NP's open variable, in {DP, vP} by assignment of a thematic/event-participant role to DP.

As we will see presently, DP in (9) correponds to REM, NP to TOP after movement. I assume that REM is always a proper argument, i.e. it always denotes individuals (or sets of individuals) rather than properties (*pace* Puig Waldmüller 2006: 71). In all cases below, REM can be resumed by a pronoun, even if (superficially speaking) only an adjective, a numeral or an indefinite noun phrase is stranded:

(11) a. <u>Filme</u> habe ich <u>gute</u>$_i$ gesehen. Sie$_i$ liefen im *Metropolis*.
    movies have I good seen they ran in the *Metropolis*

   b. <u>Bücher</u> habe ich schon <u>drei</u>$_i$ gelesen. Sie$_i$ haben mir gefallen.
    books have I already three read they have me pleased

---

[19] The present approach evidently conflicts with conceptions of predication that require the relation to *always* be mediated by some functional head (as argued by Bowers 1993 and den Dikken 2006). Contrary to this view, I take it that {XP, YP} can express a predication iff either XP or YP is inherently predicative, in the Holmberg/Higginbotham sense; functional structure (e.g., a copular element relating two DPs) is only required when neither XP nor YP is inherently predicative/property-denoting.

[20] Puig Waldmüller (2006: 60f.) claims that the anaphoric relation between TOP and REM is what accounts for the former being property-denoting (although she goes on to provide a different explanation). With regard to the following example (her (178)), she notes: "[*Computer*] is quantified over via *viele*, which does not result in a property topic phrase and cannot be anaphorically taken up by the MF phrase [= REM, DO]."

(i) *<u>Viele</u> <u>Computer</u> will sie sich heuer <u>welche</u> leisten.
  many computers wants she REFL this year some afford

But it is easy to see that the relation between TOP and REM cannot be the explanation for the sharp unacceptability of (i). First, we find the same effect in gapless splits with a lexical head in REM, where there is no anaphoric dependency between TOP and REM. Second, and more importantly, an element like *welche* is flexible enough to relate only to the right "portion" of an antecedent DP, as the following example shows:

(ii) Mitsch hat viele Computer. Patrick hat auch welche.
  Mitsch has many computers Patrick has also some

[21] Indeed, Chomsky (2010, 2011) suggests that a reasoning similar to that below might carry over to this configuration, requiring symmetry-breaking movement and deriving some of the facts noted by Alexiadou and Anagnostopoulou (2001); see chapter 5 for some further remarks.

A further case in point are the symmetrical "bare small clauses" argued for in Moro 2000. Moro argues that such symmetric subject–predicate structures underlie copular clauses, where raising of either the subject or the predicate gives canonical or inverse copular sentences, respectively. See section 3.2.10 for some further discussion.

c.　Nagetiere haben wir nur Capybaras$_i$ gesehen. Sie$_i$ waren groß und dick.
　　rodents　have we only capybaras seen　they were big and fat

Intuitively, the reference of the pronouns in (11) is determined by REM, not by TOP; e.g., in (11c) it is said of the observed capybaras that they were big and fat, not of "rodents." This is shown more transparently by the following examples, where number disagreement between TOP and REM allows unambiguous identification of the antecedent of the pronoun:

(12)　a.　Gute Bücher$_k$ habe ich erst eins$_i$ gelesen. {*Sie$_k$ waren / Es$_i$ war} von
　　　　good books　have I only one read　they were　it was by
　　　　Stephen King.
　　　　Stephen King

　　b.　Reptilien$_k$ hatten sie nur eine Schlange$_i$. {*Sie$_k$ waren / Sie$_i$ war} im
　　　　reptiles　had　they only a　snake　they were　it was in the
　　　　Terrarium.
　　　　terrarium

Evidently, the facts bring out that while REM is referential, TOP is not. This is what we expect from the present perspective: while TOP is an open nominal expression, REM is always a closed one.[22]

　　Merge applying freely, I assume that BPSs of the kind in (9) can be generated in any broadly thematic position (including those of thematically integrated adjuncts).[23] This makes two immediate (and correct) predictions. Like Fanselow's analysis, the present account explains the fact that while STCs involve two autonomous noun phrases, no violation of the Theta Criterion results. While for Fanselow this follows from his assumption that the bare NP is part of the verbal complex, the present account links both noun phrases (as {DP, NP}) to a single thematic position, internal to which a predication is expressed.

　　This analysis correctly predicts that the members of a BPS agree in Case, for the simple reason that both originate in the same position, to which Case is assigned by v/V or C/T:

---

[22]Notice how (12) differs from the non-split cases in (i), showing that TOP is a predicate in (12) while the topic in (i), while identical in form, is actually an argument:

(i)　a.　Gute Bücher$_i$ habe ich schon gelesen. Sie$_i$ waren von Stephen King.
　　　　good books　have I already read　they were by Stephen King
　　b.　Reptilien$_i$ hatten sie da. Sie$_i$ waren im　Terrarium.
　　　　reptiles　had they there they were in the terrarium

[23]Note that I include here the complement-to-copula position, since "predicative" DPs (which are not bare NPs) can be split as well (Nolda 2007: 67):

(i)　Fruchtsalat ist das keiner.
　　fruit salad　is that none

(13) vP

VP   v

NP DP V ...... [ACC]

(14) TP

vP   T

NP DP VP v ...... [NOM]

...
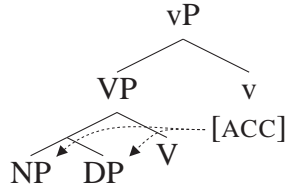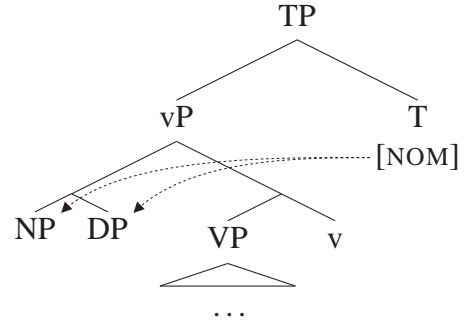
Assuming that Case is assigned as a reflex of Agree (*as per* Chomsky 2000), I pro-pose that the above configurations instantiate Multiple Agree, as defined by Hiraiwa (2001, 2005):

(15) *Multiple Agree*
      Multiple Agree with a single probe is a single simultaneous syntactic operation; Agree applies to all the matched goals at the same derivational point *derivationally simultaneously*.

(16) Agree(α, β, γ), where α is a probe and both β and γ are matching goals for α
      $\alpha > \beta > \gamma$ (Hiraiwa 2001: 69f.)
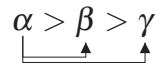
Case assignment to both DP and NP is simultaneous, and neither DP nor NP could act as an intervener. Unlike previous analyses, the present approach, then, straightforwardly predicts Case agreement in STCs. Notice that Multiple Agree or some equivalent mecha-nism is independently required for Case assignment in coordinate structures. With regard to oblique objects, I assume with Chomsky (2000: 102) that inherent Case is assigned by V, as part of θ-marking.[24]

Importantly, neither member of the set graphically represented in (9) is an LI.[25] There-fore, as pointed out in the preceding section, the algorithm in (5) (based on Minimal Search) fails to apply a label to (9), leaving it uncategorized and hence unable to enter into further computation/interpretation.[26] As a result, selectional properties of a verb merged with

---

[24] As was mentioned already, adjunct PPs and free datives can be split in addition to argumental categories (see section 3.3.2 for the facts). I leave open how Case is assigned in these cases and will simply assume that it is lexically "given," as in Larson's (1985) analysis of bare-NP adverbs in English.

[25] It could be objected to this claim by pointing to cases in which NP (= TOP) is a bare noun. I assume, however, that a noun is a complex syntactic object, comprising (at least) an undifferentiated root and a nomi-nalizing head *n* (as per Marantz 1997, 2007); cf. Hornstein and Pietroski 2009: 126. Kayne (2008) arrives at a similar conclusion by stipulating that nouns enter the derivation as singleton sets.

[26] One can, of course, always stipulate that either XP is the specifier of the other; but avoiding such

(9) will not be satisfied as long as (9) remains unlabeled; if a BPS is generated in object position, for instance, no formal sisterhood relation between V and either DP or NP is established:

(17)

```
          VP
         /  \
       /      \
     ?         V
    / \
  NP   DP
```
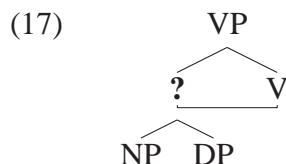
Adjoined PPs and free-dative adjuncts, which can be split by ST (see section 3.3.2), likewise require a label to be integrated into the structure. With Chomsky (2000: 133), I assume that adjuncts are introduced by Pair-Merge, a variant of Merge which yields a pair <XP, YP>, where YP is adjoined to XP (reflecting the asymmetry inherent to adjunction). Since adjuncts enter into semantic interpretation and formal operations (e.g., movement), they must be labeled objects.

Therefore, a BPS in any broadly thematic (argumental/adverbial) position must be asymmetricized by movement of either DP or NP at the phase level (vP or CP). Suppose NP raises from a BPS generated in object position when v is merged to the structure in (18) (irrelevant details omitted below):

(18)

```
          VP
         /  \
       /      \
     /         V
    / \
  DP   NP
```

(19)

```
            vP
           /  \
         /      \
        NP       \
        ↑        / \
               VP    v
              /  \
            DP    V
           /  \
         DP   ⟨NP⟩
```
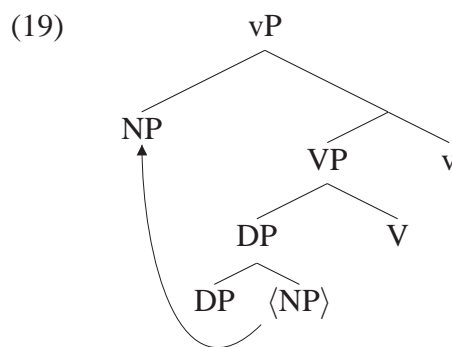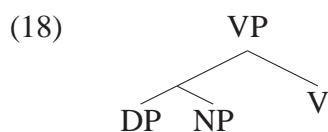
At the phase level (19), NP is a chain (a set of occurrences, one of which is the sister of DP). The labeling algorithm considers the now-asymmetric object {DP, ⟨NP⟩}; DP being the only object contained in the set, it automatically provides the label (D). Crucially, since only vP contains NP (= all of its occurences), it is inaccessible to Minimal Search of {DP, ⟨NP⟩}.

---

stipulations—and, in fact, the stipulative notion of *specifier* altogether—is the reason for abandoning phrase-structure rules (and "projection") in the first place. Reference to selection to derive a label is likewise illegitimate when syntactic selection is abandoned in favor of a interpretive/configurational view of thematic structure (Chomsky 2004: 111).

At the next phase, NP raises to either the left-peripheral (ST) or the medial (SS) topic position.[27] On this analysis, then, an NP merged in a BPS is displaced obligatorily, as required for labeling. Let us now turn to actual examples for further illustration.

3.2.2 Simple Splits

Let us consider the mechanics of this system in some more detail, using the examples in (8). Pursuing the line of reasoning presented above, I claim that each case underlies a BPS generated in object position. Consider first the structure underlying (8a), repeated in (20), prior to the vP-phase level:

(20)   Gute Zeitungen   kennt Fabian nur   eine aus   Berlin.
        good newspapers knows Fabian only one from Berlin

(21)
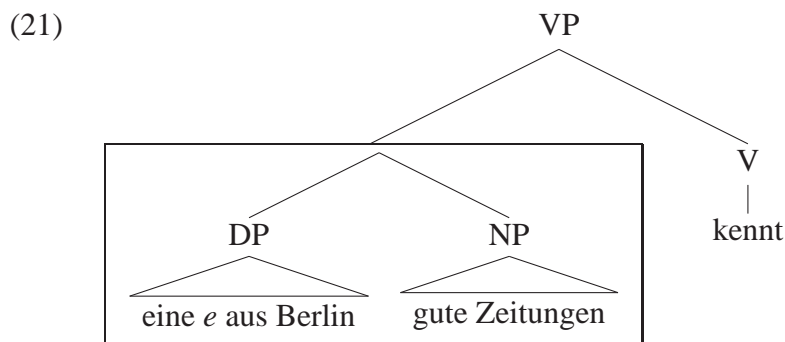
In this case, DP is elliptic, represented as "*e*." Here and throughout this work, I remain agnostic about the exact nature of NP-ellipsis in German; *e* could stand for a true empty category (Olsen 1987; Lobeck 1995; Panagiotidis 2003) or a full lexical noun phrase that is deleted at PF under identity; alternatively, "elliptical" noun phrases might be headed by an inflectional element (Corver and van Koppen 2009; cf. footnote 64 in chapter 2). What matters is that the BPS boxed in (21) expresses a predication, NP predicating the property GOOD NEWSPAPER of the DP *eine (e) aus Berlin*.

Minimal Search (as informally defined in (5)) fails to determine the label of the BPS in (21), since neither DP nor NP is an LI. Therefore, the structure must be asymmetricized by movement at the vP-phase level. At this stage, NP raises to the edge of the phase:[28]

---

[27]Zwart (1998) analyzes topicalization as base-generation of the "fronted" XP and clause-internal operator movement, akin to the general schema for A̅-movement in Chomsky 1977. I will here assume a direct-movement analysis of topicalization, if only because I fail to see how the indirect-movement analysis captures the range of connectivity effects observed with topicalization.

[28]See the next section on why it is NP, not DP, that raises.

(22)

vP
├── NP
│   └── gute Zeitungen
└── vP
    ├── DP
    │   └── Fabian
    └── VP ... v
        ├── VP
        │   ├── DP
        │   │   ├── DP
        │   │   │   └── eine *e* aus Berlin
        │   │   └── ⟨NP⟩
        │   └── V
        │   └── kennt
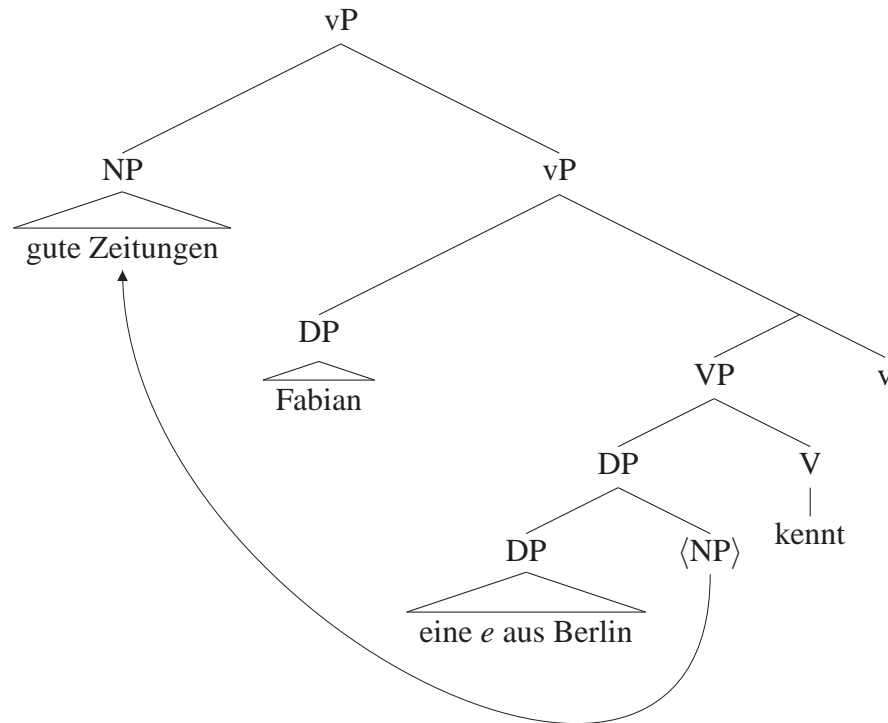
NP now being a discontinuous element, DP is the only syntactic object remaining in the complement position of V (now {DP, ⟨NP⟩}, with only an occurrence of NP left, but not the actual object, which is now a chain contained in vP). Consequently, the BPS is labeled by DP. At the phase level, then, the selectional properties of V are satisfied: after movement of NP, its complement is identified as a DP, hence the target of selection by V. Notice that this does not affect the interpretation of the predication internal to the now-labeled BPS, since IM of NP leaves a copy in place.

At the CP level, NP is further raised to the edge of the root phase, yielding the structure underlying the string in (20) (irrelevant details are omitted to save space; dashed arrows signify operations at an earlier stage of the derivation):

(23)

```
                          CP
              ┌───────────┴──────────────┐
             NP                          │
         ┌────┴────┐              ┌───────┴────────┐
     gute Zeitungen              C                 TP
                              kennt          ┌──────┴──────┐
                                            DP             vP
                                          Fabian     ┌──────┴──────┐
                                                    ⟨NP⟩           VP
                                                             ┌──────┴────┐
                                                            DP           V
                                                      ┌──────┴────┐      tᵥ
                                                     DP          ⟨NP⟩
                                                eine e aus Berlin
```
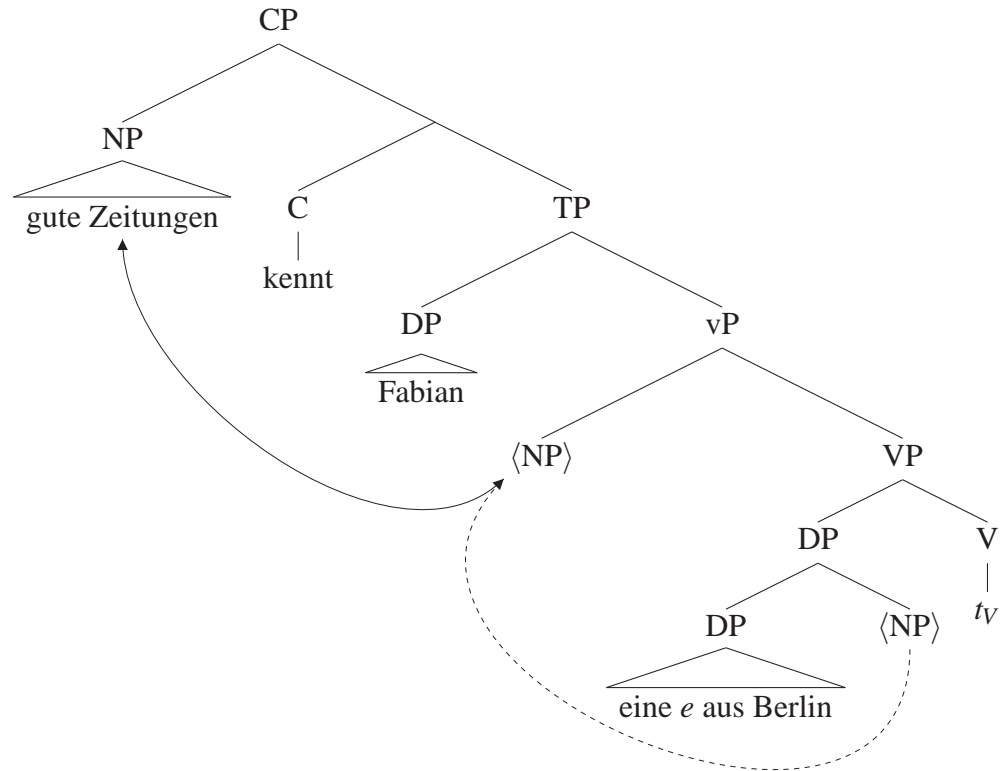
Notice that NP cannot stop in the edge of vP, as is true of intermediate positions in successive-cyclic movement in general. The reason in this case, I assume, is that C-T's unvalued φ-features probe for the subject in the vP edge but can only agree with it when NP raises (its occurrence/trace not counting as an intervener for Agree, for the reasons given above). Alternatively, NP raises to the medial topic position, which for the sake of concreteness I will take to be IM (perhaps, adjunction) to TP. This yields the SS counterpart to (8a) given in (25):[29]

---

[29]The *Wackernagel*-fronted pronoun is shown as cliticized onto C, although nothing hinges on the details of this.

(24)

```
                              CP
                    ┌─────────┴─────────┐
                    C                   TP
                  ╱───╲         ┌────────┴────────┐
                weil er        NP                 TP
                           ╱────┴────╲      ┌──────┴──────┐
                        gute Zeitungen    t_SUBJ          vP
                                                   ┌───────┴───────┐
                                                 ⟨NP⟩              VP
                                                            ┌───────┴───────┐
                                                            DP              V
                                                       ┌────┴────╲          │
                                                      DP        ⟨NP⟩      kennt
                                                   ╱───┴───╲
                                                eine e aus Berlin
```
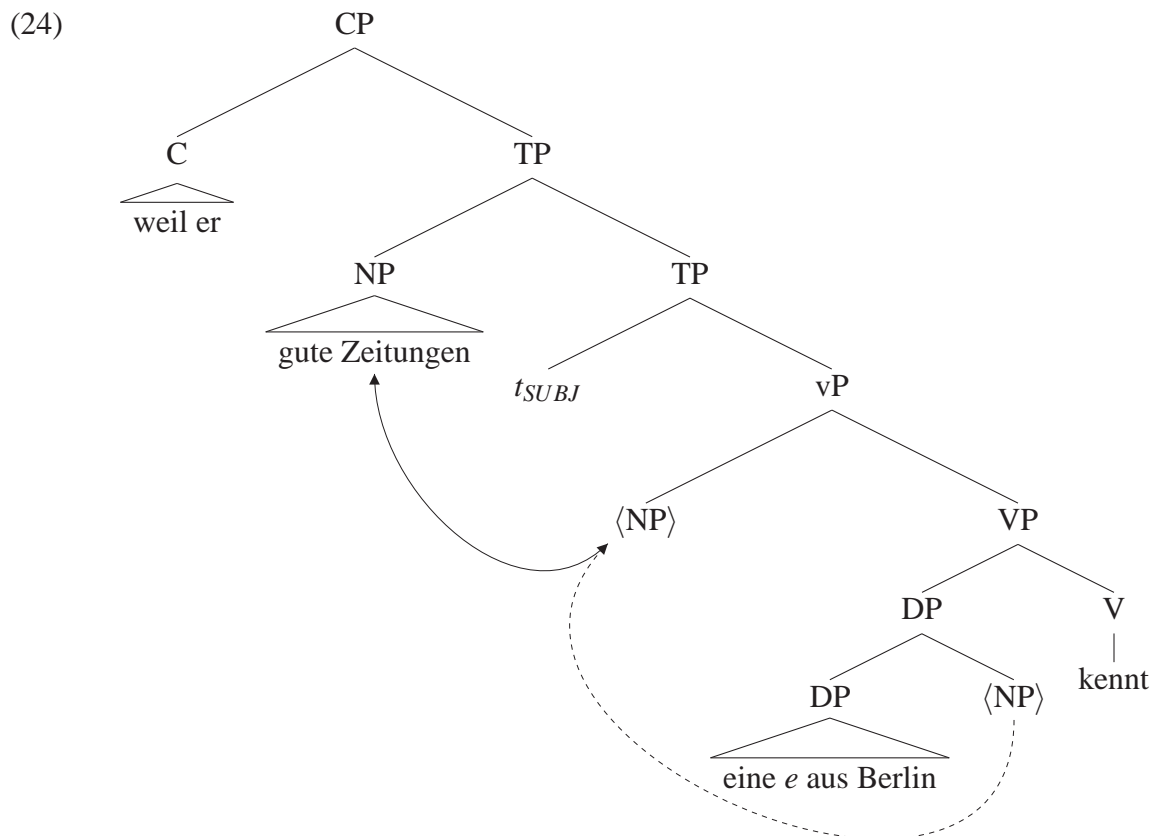
(25) weil   er gute Zeitungen nur eine aus Berlin kennt.
      because he good newspapers only one from Berlin knows

German makes two $\overline{\text{A}}$-positions available, corresponding to the edges of CP and TP (cf. Frey 2000, 2004a). Following Chomsky (2008, 2007), I assume that $\overline{\text{A}}$-movement is licensed by an Edge Feature (EF) of a phase head (essentially, an indiscriminate probe that raises any XP in its domain to its edge, cf. Chomsky 2008: 151). Chomsky further proposes that C and T are not independent heads but rather a single, discontinuous element; T can "inherit" features of C—typically, φ-features. If T can also inherit C's EF, the possibility of TP-level scrambling follows immediately (see Platzack 2009 and Ott 2009b for independent evidence, following a suggestion in Chomsky 2008: 157). Note that EF must be present on *both* C and T in main clauses when TP-level scrambling applies. The same is true for multiple splits (see section 3.2.4 below), where TOP and MED raise to CP and TP, respectively.[30] Since scrambling to TP yields a new discourse-relevant interpretation, it

---

[30]It is thus not necessary to postulate an additional functional head between C and T, *pace* Fanselow (in press).

can be taken to be optional (Chomsky 2004: 112f.). The present system is thus fully in line with Fanselow and Lenertová's (2010) and Fanselow's (in press) claim that left-peripheral movement is not triggered by syntactico-pragmatic features, but by unselective EF alone.

In either case (ST or SS), it is the syntactic symmetry of the underlying BPS that makes movement obligatory, turning a symmetric {DP, NP} structure into an asymmetric one ({DP, ⟨NP⟩}). That is, we have a straightforward answer to the question why TOP must raise (in one of the ways shown above), i.e. why the predicative NP in (20)/(25) cannot remain *in situ*:

(26)   *Fabian kennt nur eine gute Zeitungen aus Berlin.
         Fabian knows only one good newspapers from Berlin

In (26), the symmetry of {DP, NP} has not been broken; hence, no label can be determined for the structure in object position, and no object can enter into selection by V.

3.2.3   Gapless Splits

The derivation of (8b), repeated in (27), proceeds exactly like that shown above for (8a). That is, it starts out with the syntactically symmetrical (hence unstable) BPS boxed in (28a), generated in object position. Its symmetry must be broken at the phase level (28b), followed by subsequent topicalization (28c).

(27)   <u>Nagetiere</u> mag Christine vor allem <u>Eichhörnchen</u> <u>und</u> <u>Capybaras</u>.
        rodents   likes Christine especially squirrels   and capybaras

(28)   a.

b.

```
                              vP
                  _____
                 NP                      vP
              ___|___         _____|_____
            Nagetiere       DP                      VP
              ↑          ___|___            _____|_____
              |        Christine          DP               V
              |                        ___|___             |
              |                      DP    ⟨NP⟩           mag
              |                  ____|____    |
              |           Eichhörnchen und Capybaras
              |_____|
```

c.

```
                        CP
              _____|_____
             NP                    \
          ___|___         _____|_____
        Nagetiere        C                    TP
          ↑              |          _____|_____
          |             mag        DP                     vP
          |                     ___|___          _____|_____
          |                   Christine       ⟨NP⟩              VP
          |                                    ⋮           _____|_____
          |                                    ⋮          DP        t_V
          |                                    ⋮       ___|___
          |                                    ⋮     DP    ⟨NP⟩
          |                                    ⋮  ___|___    ⋮
          |                                    ⋮ Eichhörnchen und Capybaras
          |_____⋮
```

78
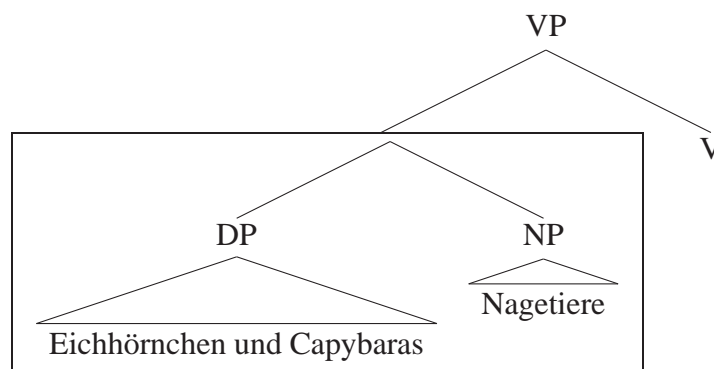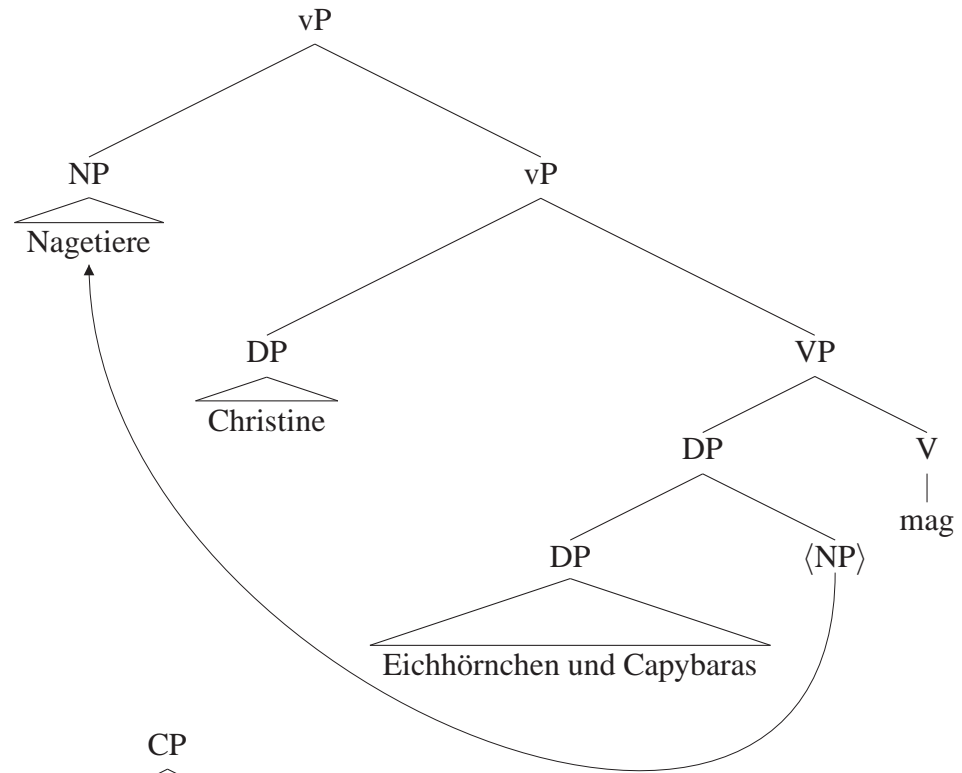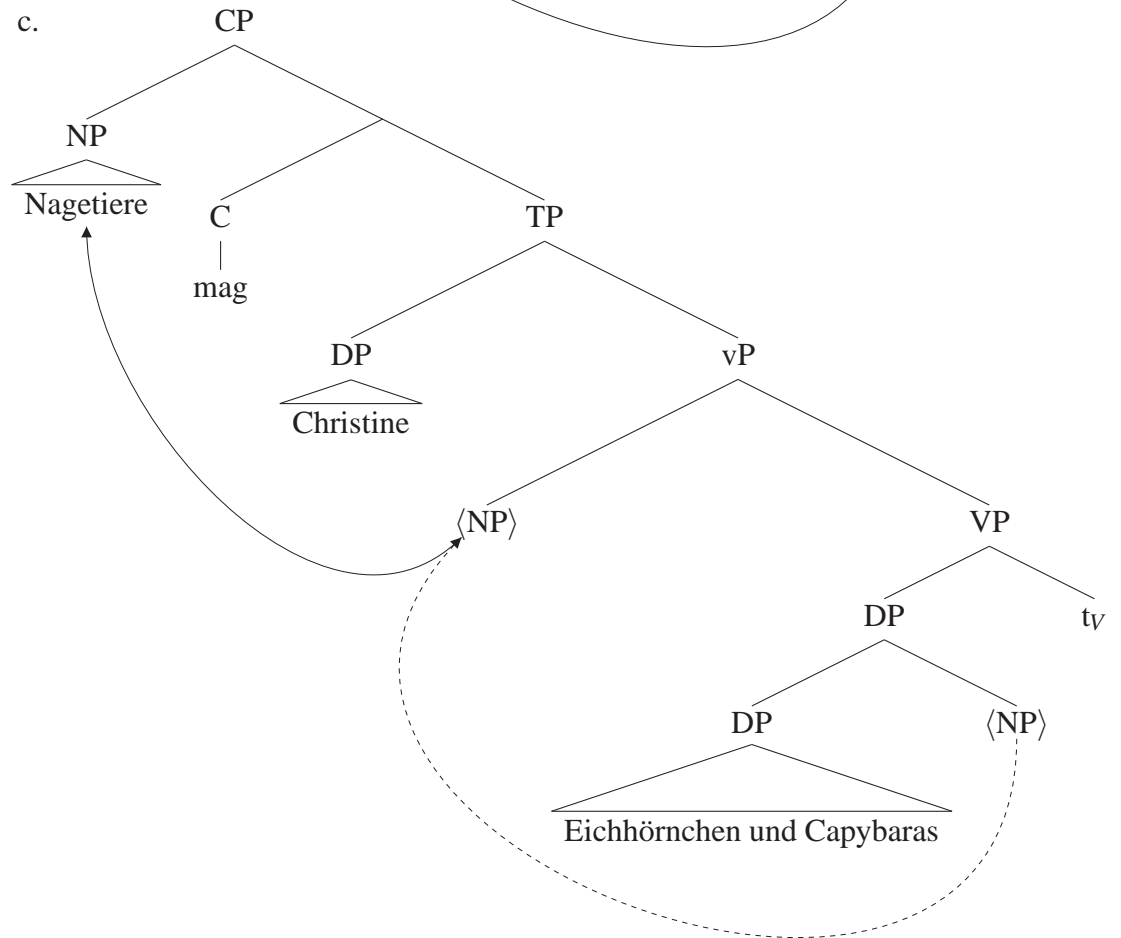
The alternative option is scrambling of NP to TP (the medial topic position), licensed by C's EF, inherited by T. The result is the SS counterpart to (8b):

(29)   weil   sie Nagetiere vor allem Eichhörnchen und Capybaras mag.
        because she rodents especially squirrels   and capybaras likes

As before, movement is forced by the symmetry of the original BPS, which does not allow for the detection of a label by Minimal Search. Again, we correctly predict that TOP must not remain *in situ*, leaving the symmetrical BPS in place:

(30)   *Christine mag vor allem (Nagetiere) Eichhörnchen und Capybaras (Nagetiere).
         Christine likes especially rodents   squirrels   and capybaras

Recall that gapless splits are problematic for almost all previous approaches to ST discussed in section 2.3. This is so because REM is either predicted to contain a trace of TOP (van Riemsdijk 1989), to be identical to TOP (Fanselow and Ćavar 2002), or to contain an empty category which must be bound by TOP (Fanselow 1988). This defect is overcome by the present approach, which reduces the difference between simple and gapless splits to the free application of NP-ellipsis in German (see Olsen 1987 and Lobeck 1995: chapter 4). Unlike Fanselow's account, the present one does not require REM to contain an empty category, since the relation between TOP and REM is not one of binding but one of predication, expressed by the original BPS {DP, NP}.

This predicative relation is also brought out in pseudopartitive splits. Pseudopartitives are typically ambiguous between a container reading and a content reading (Castillo 2001); consequently, *drei Flaschen Bier* in (31) is compatible with both predicates *getrunken* and *zerbrochen*, depending on whether *Flaschen* or *Bier* is parsed as the head of DP.

(31)   Silz hat drei Flaschen Reissdorf {getrunken / zerbrochen}.
        Silz has three bottles   Reissdorf drunk   broken
        'Silz broke/drank three bottles of Reissdorf.'

Consider now the gapless pseudopartitive split in (32), which only allows the content reading:

(32)   Bier hat Silz drei   Flaschen Reissdorf {getrunken / *zerbrochen}.
        beer has Silz three bottles   Reissdorf drunk   broken

According to the present analysis, TOP *Bier* is predicated of the DP *drei Flaschen Reissdorf*. This predication, however, is only meaningful when *Reissdorf* (which denotes a kind of beer) is the head; if instead *Flaschen* is analyzed as the head, the resulting interpretation (of *Flaschen* as having the property BEER) is nonsensical, blocking the container reading.

3.2.4 Subject Splits and Parallel Splits

The derivations shown above illustrated ST of objects, but, as shown in section 2.3.1, subjects can be split as well. While this fact is problematic for previous analyses, it follows on the present account—the only difference is that the BPS is generated in subject position (which I take to be the edge of vP, in line with standard assumptions), and that Case is assigned by C–T, entering into Multiple Agree with DP and NP (yielding subject–verb agreement).

To illustrate, take the following example, in which a BPS is generated in subject position (edge of vP[31]):

(33)   a.   Gute Studenten haben nur   wenige eine Frage   gestellt.
            good students   have   only few   a   question asked

   b.
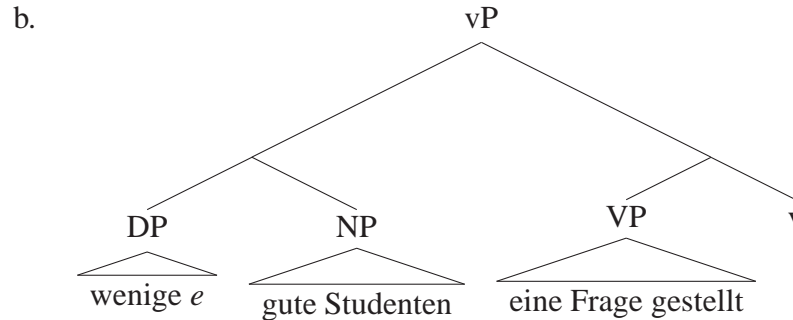
NP denotes the property GOOD STUDENT, predicated of its subject, (the individuals denoted by) the DP *wenige (e)*. Since no label can be applied to the subject position by Minimal Search of the BPS, movement of NP must asymmetricize the BPS at the CP-phase level (TP omitted to save space):

---

[31]I set aside here the important question of how a label is determined for {XP, vP}; this is a general problem that awaits solution (Chomsky 2010, 2011); see chapter 5. I will therefore simply stipulate the vP label.

(34)

CP

NP — gute Studenten

C — haben

vP

DP

DP — wenige *e*

⟨NP⟩

VP — eine Frage gestellt

v
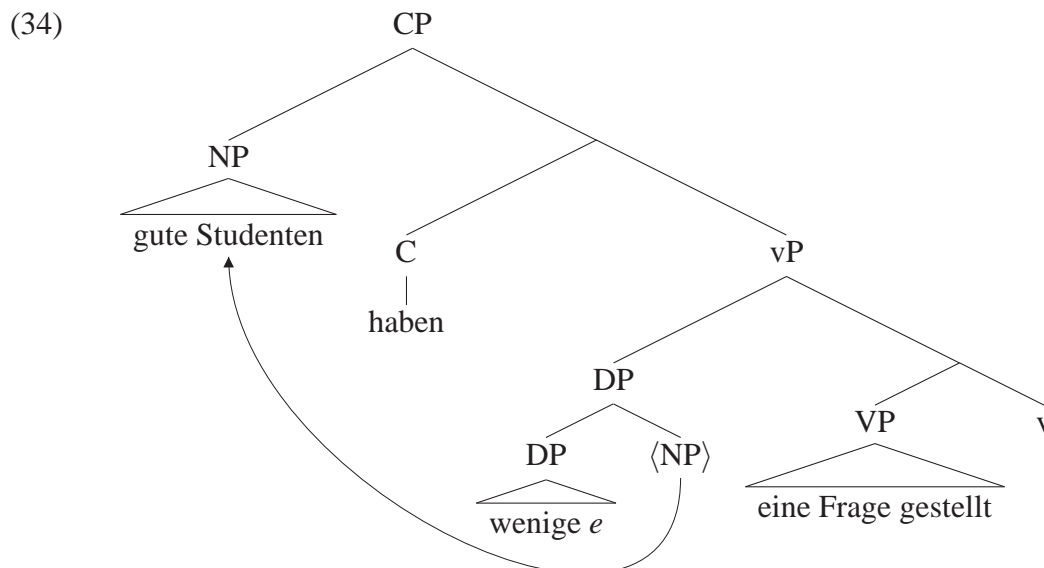
   In this particular example, it happens to be the case that the continuous counterpart of (33a) is acceptable:

(35)   Es   haben nur   wenige gute Studenten eine Frage   gestellt.
        EXPL   have   only   few   good students   a   question   asked

However, (35) and the continuous DP *wenige gute Studenten* cannot be the derivational source of (33a), since subextraction from subjects is not generally possible. Hence, the source must be the BPS in (33b), forcing movement of NP, despite the fact that the obligatoriness of this movement is concealed, in this case, by the acceptability of the structurally distinct but string-identical (35). Section 3.3.2 will make explicit why such movement from BPSs in non-object positions is permitted and does not violate the CED.

   It also follows naturally on this account that more than one XP can be split in a single derivation. As shown in section 1.2.4, simultaneous splitting of a subject and an object is possible; example (20) from that section is repeated below:

(36)   Sonaten haben Frauen bislang nur wenige welche geschrieben.
        sonatas have   women so far   only few   any   written
        'As for sonatas, so far only few women have composed any.'

The derivation of parallel splits is straightforward: both subject and object positions are underlyingly occupied by BPSs, both of which are asymmetricized at the phase level (CP and vP, respectively). Recall that T can inherit EF from C, in which case two $\overline{\text{A}}$-positions are available, licensing the movement to the CP and TP edge, respectively. The derivation of (36) is sketched below, abstracting away from successive-cyclic movement via the vP edge:

(37)

```
                            CP
              ┌──────────────┴──────────────┐
            NP                               
         ╱──────╲              ┌─────────────┴────────────┐
        Sonaten                C                          TP
                               │            ┌─────────────┴──────────────┐
                             haben         NP                            vP
                                        ╱─────╲           ┌──────────────┴──────────────┐
                                        Frauen           DP                            VP
                                                    ┌─────┴─────┐              ┌─────────┴─────────┐
                                                   DP         ⟨NP⟩            DP                   V
                                                ╱──────╲                 ┌─────┴─────┐            │
                                                wenige e               DP         ⟨NP⟩       geschrieben
                                                                     ╱─────╲
                                                                     welche
```
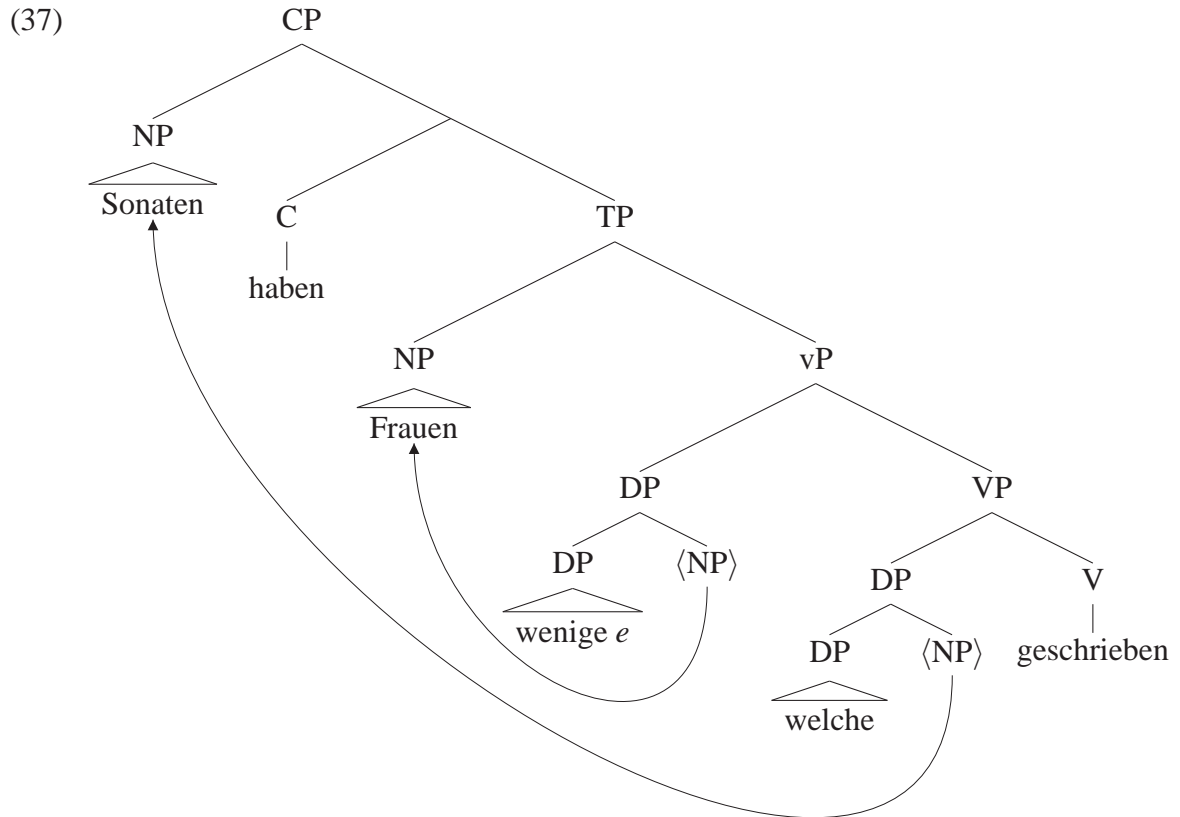
As before, it is correctly predicted that the BPSs must be asymmetricized by move-ment:[32]

(38) *Es   haben bislang nur   wenige Frauen welche Sonaten geschrieben.
       EXPL have so far   only few   women some   sonatas written

A remaining issue I would like to address in connection with subject splits concerns subject–verb agreement. All cases discussed so far in this section are unremarkable in this regard and are captured straightforwardly: Multiple Agree of C–T with DP and NP values T's φ-features. However, recall that TOP and REM need not match in their number specifications; in particular, TOP can be plural while REM is singular. As a consequence, there is indeterminacy as to whether C–T agrees with DP or NP in number. Indeed, in my own judgment, the outcome is degraded either way, although singular agreement with REM is somewhat more acceptable:

(39)   a.   Studenten {$^?$hat / $^{??}$haben} nur einer protestiert.
            students   has   have   only one   protested

---

[32]Notice that the subject noun phrase in (38) itself is acceptable, however, as pointed out before, it could not have been split by subextraction.

b. <u>Hollywood-Filme</u> {$^?$hat / $^{??}$haben} mir bisher nur *Schweigen der Lämmer*
hollywood movies has have me so far only *Silence of the Lambs*
gefallen.
pleased

The same judgment is reported in van Hoof 1997: 17, but speaker judgments vary. Müller (1986: 38) finds a clear contrast in the following:

(40) <u>Kopiergeräte</u> {ist / *sind} im Moment nur <u>eins</u> in Ordnung.
copiers is are at the moment only one in order

Nolda (2007: 71f.) reports the results of a questionnaire study, which shows that most speakers share Müller's judgment: a majority prefers singular agreement with REM, while few speakers find both options equally acceptable. The clearest case, he reports, is when TOP is mass and REM plural; in this case, virtually all speakers strongly prefer singular agreement on the finite verb, even though mass subjects trigger singular agreement (41b):[33]

(41) a. <u>Weißwein</u> {*ist / sind} auch <u>vier</u> <u>Flaschen</u> da.
white wine is are also four bottles there
b. Weißwein$_i$ {ist / *sind} auch noch t_i da.

Idealizing slightly, it seems then that the mismatch is resolved most naturally for most speakers by agreement with REM. This is not unexpected from the present perspective. Consider the relevant base configuration in which C–T probes the BPS in the vP edge:

(42) [$_{CP}$ C–T$_\varphi$ [$_{vP}$ [DP$_{SG}$ NP$_{PL}$] […]]]

This structure yields indeterminacy, since DP and NP are symmetrically merged, hence equidistant targets for the φ-probe; Multiple Agree with both DP and NP results in contradictory feature values on T. For some speakers, this situation is unresolvable. Recall, however, that I follow Chomsky (2008, 2007) in assuming that C–T is a single, discontinuous probe. One consequence of this view is that probing of EF(C) (triggering IM) and of φ(T) is derivationally unordered: "the edge and Agree features of the probe can apply in either order" (Chomsky 2008: 151). For speakers with clear contrasts, then, IM of NP to the CP edge can precede probing of φ; when NP raises, it becomes discontinuous and the BPS is labeled by DP, making it the only possible goal for φ(T):

(43) [$_{CP}$ NP$_{PL}$ [C–T$_\varphi$ [$_{vP}$ [$_{DP_{SG}}$ DP$_{SG}$ ⟨NP⟩] […]]]

The contrasts in (40) and (41a), then, indicate that (at least for those speakers that share the

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[33]When REM is singular, singular agreement is the only acceptable option, as in non-split topicalization of mass-denoting DPs.

intuitions) the derivational order of IM to the CP edge and Agree can resolve the clash that would otherwise arise from Multiple Agree with DP and NP.[34]

We now have principled explanations for various properties of STCs. The TOP–REM asymmetry as stated in (7) is a reflection of the predicative status of TOP. The fact that splits can be gapless reduces to the availability of optional NP-ellipsis.[35] Obligatory separation of the two constituents was shown to be a necessary consequence of the local instability of their original configuration: since two XPs are merged, neither member of the resulting set {DP, NP} is a lexical item; hence, Minimal Search fails to detect a label, and IM must apply at the phase level to turn NP into a discontinuous object.

While obligatory separation of NP and DP is thus derived, the analysis as stated so far leaves open a crucial question: why is it NP, rather than DP, that moves? This question will be tackled in the next section.

3.2.5 Fronting and Topic–Comment Structure

So far, I have been presupposing that labeling requires symmetry-breaking movement *of NP* (the predicate); however, the analysis merely predicts *a* member of the BPS {DP, NP} to move. If the motivation for displacement is to break the structural symmetry of the underlying BPS, movement of *either* NP *or* DP ought to achieve this result. In this section I argue that this is exactly correct.

Let us first consider example (8a), repeated in (44a). The underlying BPS is shown in (44b). The question is why the variant in (45), where DP is fronted and REM is the NP predicate, is bad:

---

[34] There is further suggestive evidence for the corollary of Chomsky's framework that EF(C) and φ(T) can apply in either order. Recall that REM is generally capable of scrambling. As Kniffka (1996: 52) notes, the same is true for a subject-related REM, indicated by the fact that it can precede modal particles (which flag the vP edge):

(i)   <u>Hunde</u> haben ihn <u>viele</u> wohl geBISSen.
        dogs   have   him many PRT   bitten

If both TOP and REM were to raise simultaneously to the CP and TP edge, respectively, this would leave the original BPS as containing neither DP nor NP, and hence unlabeled ({ ⟨DP⟩, ⟨NP⟩ }, a symmetrical structure). Since both operations apply at the phase level, however, either movement can precede detection of the label, followed by movement of the (labeled) remnant BPS. One option (IM to CP applies first) is shown below (recall that I take *Wackernagel*-fronted pronouns to be adjoined to C):

(ii)   a.   [CP [NP Hunde] [haben$_C$+ihn [TP [vP wohl [vP [DP [DP viele *e*] ⟨NP⟩] ...]]]]]

        b.   [CP [NP Hunde] [haben$_C$+ihn [TP [DP [DP viele *e*] ⟨NP⟩] [vP wohl [vP ⟨DP⟩ ...]]]]]

[35]On elliptical TOPs, see section 3.2.9.

(44) a. <u>Gute Zeitungen</u> kennt Fabian nur <u>eine aus</u>   <u>Berlin</u>.
          good newspapers knows Fabian only one from Berlin

      b.
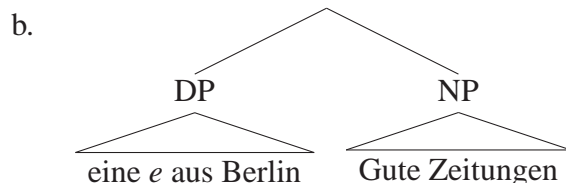
(45) *<u>Eine gute aus</u>   <u>Berlin</u> kennt Fabian nur <u>gute Zeitungen</u>.
      a   good from Berlin knows Fabian only good newspapers

In either case, the symmetry of the underlying BPS is broken by movement. The question, now, is whether the contrast in (44) is due to syntactic or extra-grammatical constraints; ideally, it is the latter, in which case we can maintain the simplest hypothesis about symmetry-breaking movement, namely that it applies freely.

Note, first, that the DP fronted in (45) is not *per se* unsuitable for topicalization (presupposing a discourse topic like *Zeitungen* 'newspapers'):

(46) Eine gute aus   Berlin$_i$ kennt Fabian t_i
      a   good from Berlin knows Fabian
      'Fabian knows a good one from Berlin.'

This shows that the deviance of (45) is (in some way) due to the stranded NP predicate. I propose in what follows that movement of DP in (45) is ruled out (marked deviant) by general pragmatic constraints on topic–comment structure.

While there is intricate discussion of how to precisely characterize the relation between topic and comment (see Jacobs 2001; Krifka 2007), a generally accepted fact is that topic and comment must be such that the latter is *about* the former: "the speaker announces a topic and then says something about it" (Hockett 1958: 201). For the sake of concreteness, let us state this as the Generalized Aboutness Requirement (GAR):[36]

(47) *Generalized Aboutness Requirement (GAR)*
       Topic and comment must be such that the comment is about the topic.

---

[36]Compare Gundel's (1988) definitions of "topic" and "comment:"

> *Topic:* An entity, E, is the topic of a sentence, S, iff, in using S, the speaker intends to increase the addressee's knowledg about, request information about, or otherwise get the addressee to act with respect to E.
> *Comment:* A predication, P, is the comment of a sentence, S, iff, in using S the speaker intends P to be assessed relative to the topic of S.   (Gundel 1988: 210)

Let me illustrate briefly, if only to show how trivial (47) is. Consider the following:[37]

(48)   a.   *As for cars, Mary likes roses.

       b.   As for John's relatives, Mary only talked to Bill.

In (48a), the topic (*cars*) sets up an interpretive frame, into which the comment (and in particular its neutral focus, *roses*) does not "fit." The statement in (48b) is extremely odd if Bill is *not* taken to be a member of the set of John's relatives; the natural interpretation is that *John's relatives* is what the comment is about, and that consequently *Bill* is used to refer to a relative of Mary.

   What I want to suggest is that the GAR, construed in this simple and general sense, is what accounts for the deviance of DP-fronting in (45) as well: fronting of DP, unlike fronting of NP, does not yield a pragmatically appropriate topic–comment organization. As shown in Reinhart 1981 (cited in Erteschik-Shir 2007: 19f.), free-topic constructions (FTCs) like (48a) and (48b) above, which explicitly set up a topic by means of a dedicated topic-marking phrase (*as for X*), are a diagnostics for proper topic–comment organization.[38] While such constructions do not involve any syntactic displacement, they are virtually equivalent to STCs in their pragmatic force (as also observed in Haider 1985: 237, Oppenrieder 1991: 72, Pittner 1995: 33, and Shaer et al. 2009: 4).

   With this in mind, consider first the acceptable STC in (44a), repeated below. It has the equally acceptable FTC counterpart in (49b), where TOP is explicitly topic-marked:

(49)   a.   <u>Gute</u> <u>Zeitungen</u>   kennt Fabian nur <u>eine</u> <u>aus</u>   <u>Berlin</u>.
            good newspapers knows Fabian only one from Berlin

       b.   Was gute Zeitungen angeht, Fabian kennt nur eine aus   Berlin.
            as for good newspapers   Fabian knows only one from Berlin
            'As for good newspapers, there's only one from Berlin that Fabian knows.'

As shown at length in Nolda 2007: chapter 3, TOP in (49a) behaves like the free topic in (49b), in that it provides the interpretive frame for the comment comprising REM. Informally speaking, TOP denotes a property which defines the domain to which the comment is restricted.[39] Adopting Jacobs's (2001) terminology, we can take TOP to be a *frame-setting* expression, where frame-setting is understood as one of the ways in which a comment can

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[37]Deviating from standard practice, here and in what follows I use '*' as a mark of degraded acceptability, irrespective of the source of deviance (grammaticar or pragmatics), which cannot be intuited.

[38]I deliberately avoid the term "hanging topic" here, in order to avoid confusion with hanging-topic left-dislocation as discussed in Frey 2004b.

[39]See Nolda (2007: 78ff.) on truth-conditional differences between STCs and non-split counterparts (where available).

be about a topic, as required by the GAR:

(50)   *Frame-setting*
         In $(X\ Y)$, X is the *frame* for Y iff X specifies a domain of (possible) reality to
         which the proposition expressed by Y is restricted.   (Jacobs 2001: 656)

The frame-setting effect of TOP need not be stipulated: it is a direct corollary of its pred-
icative status. As a property-denoting expression, it introduces the set of all individuals
that the comment can be about.[40] According to (50), TOP in (49a) provides the interpretive
frame for the comment (the property GOOD NEWSPAPER), within which the comment can
be meaningfully interpreted, as required by the GAR. For convenience, let us state this as
follows:

(51)   In an STC $[_{\text{CP}}\ TOP\ [_{\alpha}\ \dots\ REM\ \dots\ ]]$, TOP is the frame for α (the comment).

TOP's role as a frame-setter is independent of any additional pragmatic marking it may or
may not bear (recall facts discussed in section 2.1). See Nolda 2007: chapter 3 for extensive
discussion and arguments in favor of this view.

    Consider now the unacceptable (45), repeated below, in which DP is fronted instead of
NP. Its FTC counterpart is equally unacceptable:

(52)   a.   *<u>Eine aus   Berlin</u> kennt Fabian nur   <u>gute Zeitungen</u>.
              one   from Berlin knows Fabian only good newspapers

         b.   *Was eine aus Berlin angeht, Fabian kennt nur   gute Zeitungen.
              as for one from Berlin   Fabian knows only good newspapers

Evidently, fronting of DP in (52a) does not yield a pragmatic appropriate topic–comment
organization, as attested by (52b). The parallel unacceptability of (52a) and the correspond-
ing FTC in (52b), then, shows that the symmetry-breaking movement that underlies STCs
need not be constrained *syntactically*; rather, its output is subject to the GAR, like any other
topic–comment structure. Nothing more needs to be said about the deviance of (52a).

    Note that the result is the same when TOP and REM bear matching number specifica-
tions:

---

[40]Compare the following case, in which the "free predicative" *ungekühlt* is fronted:

(i)   Ungekühlt mag ich nur   Hansa-Pils.
        uncooled   like I   only Hansa pilsner

Like TOP in STCs, the predicate introduces the domain of intepretation; the comment is necessarily under-
stood within that frame.

(53)   a.   <u>Zeitungen</u> <u>aus</u> <u>Berlin</u> kennt Fabian nur <u>wenige gute</u>.
             newspapers from Berlin knows Fabian only few   good

        b.   Was Zeitungen aus Berlin angeht, Fabian kennt nur wenige gute.
             as for newspapers from Berlin   Fabian knows only few   good
             'As for newspapers from Berlin, there are only few good ones that Fabian
             knows.'

(54)   a.   *<u>Wenige gute</u> kennt Fabian nur <u>Zeitungen</u> <u>aus</u> <u>Berlin</u>.
             few   good knows Fabian only newspapers from Berlin

        b.   *Was wenige gute angeht, Fabian kennt nur Zeitungen aus Berlin.
             as for few good   Fabian knows only newspapers from Berlin

Given that FTCs do not involve displacement[41] and replicate the contrast between licit and illicit symmetry-breaking movement in ST, we can conclude that the relevant constraining factor is not some syntactic constraint but the GAR.[42] This means that cases like (52a) and (54a) are grammatical (in the technical sense: generated by the grammar) but deviant for pragmatic reasons, in particular because they exhibit an improper topic–comment organization.

Let me briefly reiterate this point with the gapless-split example (8b), repeated in (55a) below. Again, we find that it has an equally acceptable FTC counterpart:

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[41]As brought out, for instance, by the lack of reconstruction effects; compare the FTC in (ia) and the hanging-topic construction in (ib) to ST:

(i)   a.   ??Was Bücher über $sich_i$ angeht, $Silz_i$ hat noch keine gelesen.
            as for books about himself   Silz has yet   none read
       b.   ??Bücher über $sich_i$, $Silz_i$ hat noch keine gelesen.
            books about himself Silz has yet   none read
       c.   Bücher über $sich_i$ hat $Silz_i$ noch keine gelesen.
            books about himself has Silz yet   none read

Neither (ia) nor (ib) is incomprehensible, since ellipsis resolution can, to some extent, achieve local binding of the reflexive. Nevertheless, (ic) is clearly more natural. In terms of topic–comment organization, however, all cases in (i) are fully equivalent.

[42]In light of facts like (54b), one might entertain the hypothesis that the GAR alone suffices to derive the predicative nature of TOP, which would diminish the force of the argument in section 3.2.1. However, as noted by Krifka (2007: 42), topics that contain quantifiers can stand in an aboutness relation to the comment just like non-quantified topics; thus, the GAR alone does derive the TOP–REM asymmetry. The same is shown by the following example:

(i)   a.   Was die vielen Zeitungen aus Berlin angeht, ich kenne nur wenige gute.
            as for the many newspapers from Berlin   I   know only few   good
       b.   *<u>Die</u> <u>vielen</u> <u>Zeitungen</u> <u>aus</u> <u>Berlin</u> kenne ich nur <u>wenige gute</u>.
            the many newspapers from Berlin know I   only few   good

The observed acceptability patterns follow when the GAR (a pragmatic constraint on expressions) is combined with the hypothesis of section 3.2.1 that TOP is a logical predicate. See below for a further argument.

(55)   a.   <u>Nagetiere</u> mag Christine vor allem <u>Eichhörnchen</u> <u>und</u> <u>Capybaras</u>.
             rodents   likes Christine especially squirrels   and capybaras

         b.   Was Nagetiere angeht, Christine mag vor allem Eichhörnchen und
             as for rodents   Christine likes especially squirrels   and
             Capybaras.
             capybaras

As before, topicalization of DP instead of NP is as deviant as the corresponding FTC:

(56)   a.   *<u>Eichhörnchen</u> <u>und</u> <u>Capybaras</u> mag Christine vor allem <u>Nagetiere</u>.
             squirrels   and capybaras likes Christine especially rodents

         b.   *Was Eichhörnchen und Capybaras angeht, Christine mag vor allem
             as for squirrels and capybaras   Christine likes especially
             Nagetiere.
             rodents

By itself, *Eichhörnchen und Capybaras* can, of course, be topicalized:

(57)   Eichhörnchen und Capybaras mag Christine.
         squirrels   and capybaras likes Christine

But it is immediately evident that the examples in (56) violate the GAR, while those in (55) do not. In (55), the property RODENT sets up a frame, delimiting the interpretation of the comment. By contrast, in (56) the proposition *Christine likes especially rodents* is not about *squirrels and capybaras*—the examples violate the GAR.[43]

     Haugen (2009) makes a somewhat similar suggestion, appealing to the Gricean Maxim of Quantity as the source of the obligatory hypernym–hyponym (or genus–species) order of nominals in certain noun-incorporation contexts. In fact, Haugen goes as far as claiming

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[43]The reasoning in this section applies to SS without modification: a scrambled TOP acts as a frame-setter just like a topicalized one, and scrambling of DP yields no GAR-conforming topic–comment structure.

(i)   a.   weil   sie <u>Nagetiere</u> vor allem <u>Eichhörnchen</u> <u>und</u> <u>Capybaras</u> mag.
            because she rodents   especially squirrels   and capybaras likes
         b.   *weil   sie <u>Eichhörnchen</u> <u>und</u> <u>Capybaras</u> vor allem <u>Nagetiere</u> mag.
            because she squirrels   and capybaras especially rodents   likes

Scrambling of DP in (ib) is as unacceptable as topicalization in (56a), both corresponding to (56b).
   A remaining problem for this account was pointed out to me by Roland Hinterhölzl (p.c.). If DP is given (discourse-old), it ought to be possible to scramble it, leaving NP *in situ*. The outcome is deviant, however:

(ii)   A: Did Muffin see all the different rodents they have at the zoo yesterday?
         B: ??Er hat gesagt, dass er <u>die</u> <u>Nagetiere</u> gestern   nur <u>Capybaras</u> gesehen hat.
            he has said   that he the rodents   yesterday only capybaras seen   has

It is not clear if (ii)-B is truly unacceptable or rather stylistically blocked by some other, prefered construction (pseudopartitive split, in particular). I leave this issue open.

that late insertion of lexical material proceeds post-syntactically[44] according to this prag-matic principle, yielding the genus–species pattern in the Hopi cases he discusses. In terms of grammatical architecture, this is a rather daring proposal;[45] moreover, it is evident that TOP and REM in German STCs are very different from the incorporated bare roots that Haugen is concerned with: first, they are not necessarily related by a hypernymic rela-tion but merely by pragmatically licensed inclusion (recall (8) in chapter 1); second, they are autonomous in their internal structure; third, TOP can contain elements dependent on reconstruction (reflexives, bound-variable pronouns, etc.), which must be syntactically rep-resented in TOP's base position. Adopting Haugen's late-insertion analysis for the cases under consideration here, then, is clearly not an option, even when conceptual qualms are set aside.[46]

Returning to the present proposal, it has emerged from the discussion above that no syntactic constraints need to be envoked in order to ensure that symmetry-breaking move-ment applies in the "right way:" general constraints on topic–comment structure (the GAR) suffice. It follows naturally that a property-denoting NP that is meaningfully predicated of a DP will also be an appropriate frame-setter (in Jacobs's sense): by predicating a property of DP, it necessarily situates the entities denoted by DP within the interpretive frame set up by symmetry-breaking movement. However, it is important to see that while the two go hand in hand, they are not quite the same. Consider the following pair, adapted from Nolda 2007: 87:

(58)   a.   Was Bergsteiger angeht, Lilli kennt nur Schauermärchen.
           as for mountaineers   Lilli knows only horror stories

       b.   *<u>Bergsteiger</u> kennt Lilli nur <u>Schauermärchen</u>.
           moutaineers knows Lilli only horror stories

Given the acceptability of (58a), the deviance of (58b) cannot be attributed to an illicit topic–comment structure, since frame-setting by NP occurs in (58b). This is where the

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[44]See Harley and Noyer 1999 for the suggestion that late insertion extends to lexical categories (*l-morphemes*).

[45]The original motivation behind late insertion I take to be the realization that the surface expression of functional morphemes is generally determined by grammatical context, however this is plainly not the case with lexical material (roots), which do not compete in any meaningful way but reflect the speaker's choice in language use. It seems to me that late insertion of lexical material effectively leads to an unsound amalgamation of competence and performance processes. But addressing this concern here in more detail would take us too far afield.

[46]The observation that REM can be gapless already led van Riemsdijk (1989: 110) to speculate that his regeneration mechanism is not restricted to morphological adjustments but can affect "certain choices in lex-ical meaning" as well; applying Haugen's approach to gapless splits would be an (untenable) implementation of this idea.

difference comes into play that the analysis developed here postulates between (58a) and (58b): while the topic in (58a) is base-generated in its clause-external position, *Bergsteiger* in (58b) moves from a BPS, i.e. it is underlyingly predicated of the DP *Schauermärchen*. The deviance of (58b) is thus due to a deviant predication, according to which the individuals denoted by *Schauermärchen* have the property MOUNTAINEER. The interpretive conditions that must be satisfied are not redundant: a BPS {DP, NP} must express a meaningful predication, *and* the post-movement structure must conform to the GAR.[47]

3.2.6 Mixed Splits

The conclusion reached in the previous section was that symmetry-breaking movement from the BPS {DP, NP} is constrained not syntactically, but pragmatically: it applies freely, the results varying in acceptability. In the cases considered so far, the GAR was shown to account for the deviance of fronting of DP instead of NP. However, since the GAR is a pragmatic condition that evaluates surface strings (utterances), it should be possible to find environments in which movement of DP can be detected, but where further operations yield a GAR-conforming outcome.

This prediction is straightforwardly confirmed by the mixed splits presented in section 1.2.5; a standard example is repeated below:

(59) Französische Bücher gelesen hat Amina bisher nur drei langweilige.
      French   books read   has Amina so far only three boring
      'As for reading French books, Amina only read three boring ones so far.'

Recall that such cases were shown to be quite problematic for earlier accounts of ST, in particular for subextraction theories, since the stranded REM is not a constituent. By contrast, it is a constituent on the present account, where REM is an autonomous DP (an elliptical one, in this case). We can now analyze mixed splits as straightforward instances of remnant-VP fronting, following Müller (1998).[48] At the vP-phase level, DP leaves the

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[47]Although Nolda proposes a very different implementation, my analysis thus derives his conclusion:

> Von Entitäten, auf die sich ein Sprecher in einer Äußerung einer [split-topic construction, DO] mit dem Bezugsausdruck [= REM] bezieht, kann er nur dann die intendierte Behauptung machen [...] wenn er sich auf diese Entitäten zugleich mit dem Themaausdruck [= TOP, DO] bezieht. Mit dem Themaausdruck selbst bezieht er sich auf sämtliche Entitäten im Umfang von dessen semantischem Gehalt. (Nolda 2007: 87)

[48]It is not easy to see how the facts could be explained by a theory that does without remnant movement (e.g. Fanselow 2002), assuming (as seems clear) that TOP and REM are in the same logical relation (predication) in both regular and mixed splits.

BPS and raises to the phase edge:

(60)

```
                              vP
                ┌─────────────┴──────────────┐
               DP                            vP
          ┌────┴────┐              ┌──────────┴──────────┐
      drei langweilige e          DP                     VP
              ↑              ┌─────┴─────┐         ┌───────┴───────┐
              │           Amina         NP                         V
              │                   ┌──────┴──────┐                  │
              │                ⟨DP⟩            NP              gelesen
              │                          ┌──────┴──────┐
              └──────────────── französische Bücher
```
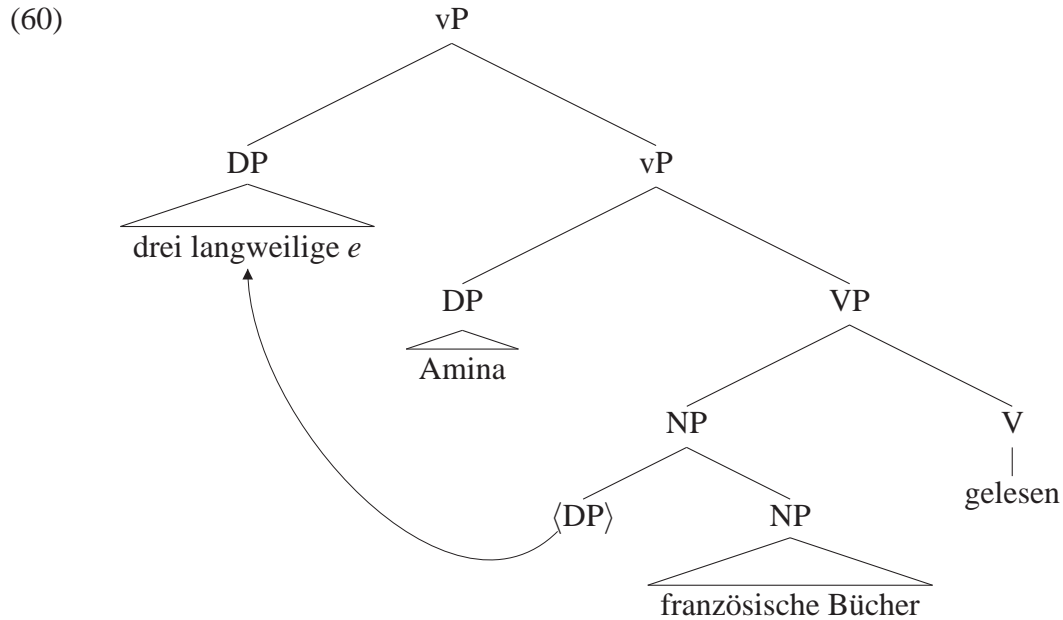
Notice that the object position is now labeled by NP, not DP. While this may seem problematic at first sight, it is not: although NP is a predicate, it is saturated, having combined with its subject to form the original BPS. Therefore, NP can be selected by V like any other nominal argument.

If DP were to move on to (medial or left-peripheral) topic position, we would arrive at an illicit topic–comment structure, as shown in the preceding section. However, if instead we front the now-remnant VP across the shifted DP, the result (= (59)) is fine:

(61)

```
                                    CP
              ┌─────────────────────┴──────────────────────┐
             VP                                             │
      ┌───────┴────────┐                        ┌───────────┼───────────┐
  ⟨DP⟩ französische Bücher gelesen              C                       TP
              ↑                                 │              ┌─────────┴─────────┐
              │                                hat            DP                   vP
              │                                            ┌───┴───┐        ┌───────┴───────┐
              │                                         Amina     DP               vP
              │                                              ┌─────┴─────┐    ┌─────┴─────┐
              │                                          drei langweilige e  t_SUBJ   t_VP
              └──────────────────────────────────────────────┘
```
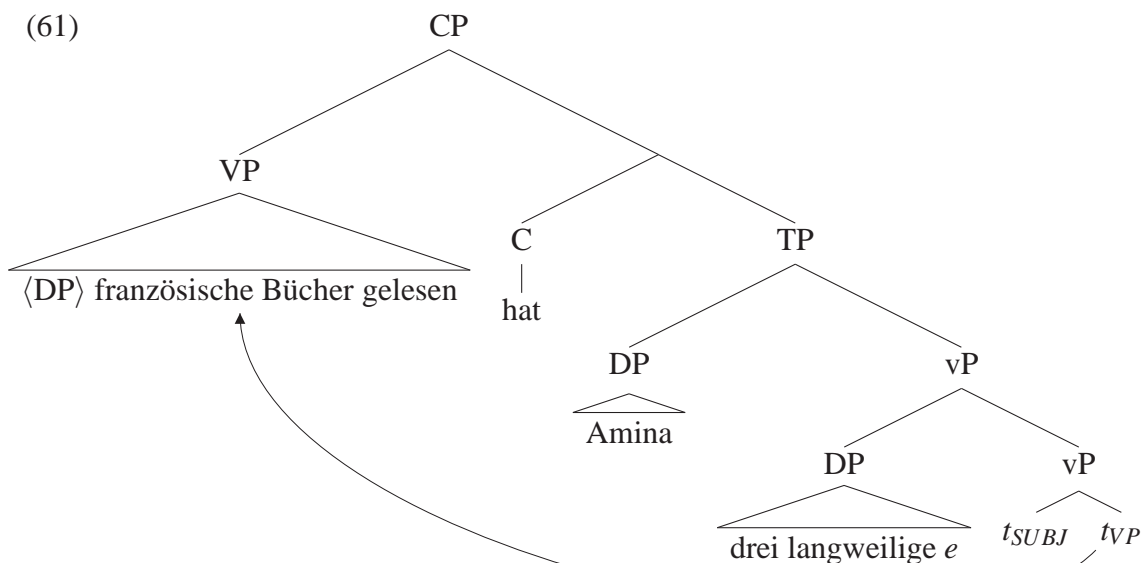
The well-formedness of the corresponding FTC shows that (61) derives a frame-setting expression, properly relating topic and comment in this way:

(62)   Was französische Bücher (lesen) angeht, Amina hat drei   langweilige gelesen.
       as for (reading) French books   Amina has three boring   read

The analysis proposed above thus not only correctly predicts that movement in STCs is obligatory, it is also flexible enough to allow for a non-stipulative derivation of mixed splits. Mixed splits show that symmetry-breaking movement is not constrained in a way that categorically requires movement of NP; either DP or NP can move (at the phase level), as long as NP-fronting ensures a frame-setting configuration. The hypothesis that symmetry-breaking movement in STCs is constrained only indirectly by pragmatic principles thus receives independent support from mixed splits.

Moreover, as with simple splits, it is immaterial for mixed splits as well where the original BPS is located in the structure. It was noted in section 2.3.1 above that mixed splits can strand a subject-related REM, as in the following examples (cf. Wurmbrand 2004; Nolda 2007: 58f.):

(63)   a.   Außenseiter gewonnen hat es bis   jetzt nur   ein einziger.
            outsider   won   has it until now only one single

       b.   Vertreter angerufen haben hier bisher noch keine.
            salesmen called   have here so far yet none

On the present account, this follows without any additional assumptions. (63a) is derived exactly like (59), except that the original BPS is base-generated in a different position, namely the edge of vP (subject position). After DP (as well as the pronominal object) moves out, vP is fronted, while NP (a saturated predicate) provides the label for the subject position and is selected/θ-marked by v. No problem arises when an object is split in addition to the subject, although the examples become quite complex:

(64)   ?Ein Millionär   einem Studenten   Geld   geschenkt hat bisher noch
        a   millionaire.nom a   student.DAT money.ACC given   has so far yet
        nie einer   welches.
        never any.NOM any.DAT

In pragmatic terms, such cases set up separate frames for each TOP, relating it to its respective REM by predication.

So far, we have seen how the novel approach to ST developed here handles simple, gapless, and mixed splits; let us now turn to PP-splits and multiple splits.

3.2.7 Split PPs

ST of PPs, as described in section 1.2.3, was shown to be problematic for extant accounts of ST: subextraction theories do not predict extraction from PP to be possible, and Fanselow and Ćavar's Distributed Deletion account does not immediately predict doubling of P to be obligatory.

From the point of view of a hybrid theory that takes TOP to be a predicate (like Fanselow's 1988 and the present one), the most pressing question is how the TOP–REM asymmetry can be enforced even though the noun phrases are (seemingly) embedded by prepositions. PP-splits, like all other splits, are constrained such that NP inside the fronted PP must be property-denoting:

(65)   a.   <u>In Schlössern</u> habe ich schon   <u>in vielen</u> gewohnt.
            in castles   have I   already in many lived

        b.   *<u>In vielen Schlössern</u> habe ich schon   <u>in schönen</u> gewohnt.
            in many castles   have I   already in nice   lived

(66)   a.   Selbst <u>für Freunde</u> würde ich so   etwas   nur   <u>für ganz enge</u> tun.
            even   for friends would I   such something only for very close do

        b.   *Selbst <u>für seine Freunde</u> würde ich so   etwas   nur   <u>für ganz enge</u> tun.
            even   for his   friends would I   such something only for very close do

In terms of the present approach, it is not obvious how this can be made to follow if the underlying BPS is {PP, PP}, a structure which reflects no argument/predicate asymmetry—arguably, only adjunction of one PP to the other should be available (yielding PP apposition; cf. section 3.4.3). Some other way must be found, then, to explain the TOP–REM asymmetry even in this case.

The problem encountered here is similar to that discussed in Neeleman 1997 in connection with θ-marking: prepositional heads occur in between selector (V) and selectee (DP), hence enforce non-local selection.[49] Likewise, the problem encountered here arises on the traditional view that prepositions are heads that combine with a noun phrase and label the resulting set {P, NP}, yielding a PP.

Alternative conceptions of prepositions are possible, however. In the system outlined in Grimshaw 2000, for instance, Ps are part of the "extended projection" of a nominal. If this view is taken seriously, it invites a rethinking of "PPs" as extended noun phrases, in

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[49]In fact, as Bruening (2009) points out, determiners pose similar problems when taken to be the heads of noun phrases. I set these rather serious problem aside here, since nothing in my analysis hinges crucially on the "DP hypothesis." See Chomsky 2007: 25f. for some comments, and Georgi and Müller 2010 for an alternative approach to noun-phrase structure.

which case they would be of the same ("extended") category. One way of making this more precise, building on the observation that "adpositions are by all accounts closely related to case markers" (Baker 2003: 304), would be to take functional prepositions introducing arguments and adjuncts to be the morphological manifestation of inherent Case.[50] For concreteness's sake, let me state this proposal as follows:

(67)   In an argument or adjunct PP, P is the morphological spell-out of inherent Case, inserted in the morphological component.

A similar position is taken in Caha's (2009) theory of Case; see also Blake 1994: section 1.2, 183. Adopting (67), it is easy to see why PP-splits show the same TOP–REM asymmetry as other splits. Since the prepositions are not syntactically present but only inserted in the PF-mapping, the underlying BPS is exactly the same in "PP"-splits and other types. The derivation of (65a) is illustrated below, where "[LOC]" stands for a locative-Case feature:

(68)   a.   [$_{VP}$ [[$_{DP_{[LOC]}}$ mehrere e] [$_{NP_{[LOC]}}$ Schlösser]] gewohnt]

          b.   [$_{CP}$ [$_{NP_{[LOC]}}$ Schlösser] ... [$_{VP}$ [[$_{DP_{[LOC]}}$ mehrere e] ⟨NP⟩] gewohnt]]

          c.   PF: **in** Schlössern ... **in** mehreren

The entire BPS is assigned Case by V,[51] in this case (a variety of) locative Case (68a); (68b) is the post-movement structure. At PF (68c), both TOP and REM are spelled-out according to their featural specifications, the preposition *in* acting as the exponent of the Case feature. Preposition doubling thus reduces to Case agreement between TOP and REM (which was shown to be obligatory in section 2.2.4). Conversely, we predict that postpositions (which are adverbial) should not show this behavior, and indeed no doubling in ST is possible:

(69)   a.   <u>Berge</u>   ist er schon   <u>viele</u> hinauf geklettert.
                 mountains is he already many up   climbed

          b.   ?<u>Berge</u>   hinauf ist er schon   <u>viele</u> geklettert.
                 mountains up   is he already many climbed

          c.   *<u>Berge</u>   hinauf ist er schon   <u>viele</u> hinauf geklettert.
                 mountains up   is he already many up   climbed

   Recall from section 1.2.3 that PP-splits extend to adjunct PPs; an example is repeated below:

---

[50]Evidently, the proposal does not extend to "prepositional" elements in other functions, e.g. verbal particles or subordinating prepositions. I am only concerned here with categories that are candidates for ST.

[51]Recall that I assume with Chomsky (2000: 102) that inherent Case is assigned by V, not v.

(70) In fremden Betten ist er schon   in vielen aufgewacht.
      in stranger's beds   is he already in many woken up
      'As for stranger's beds, he has woken up in many.'

Bošković (2006) notes that adverbial adjunct NPs in Serbo-Croatian can be licensed in two ways, either by a specific preposition or by inherent-Case marking. He concludes that "When they [the prepositions, DO] function as adjunct semantic role identifiers, they are [...] essentially interpretable inherent Case markers" (Bošković 2006: 531). This is the perspective I propose to adopt for both (65a) and (70), where P is then taken to spell out inherent Case.

Assuming (67), it does not come as a surprise that adjunct-PP splits are generally acceptable with simple prepositions but much less so with complex prepositions.[52] Witness the following pairs, where synonymous complex and simple prepositions are compared:

(71) a. ??Aufgrund einer Erkrankung würde ich höchstens aufgrund   einer richtig
         because of an   illness   would I   at most   because of a   truly
         schweren meinen Job aufgeben.
         severe   my   job quit

      b. Wegen   einer Erkrankung würde ich höchstens wegen   einer richtig
         because of an   illness   would I   at most   because of a   truly
         schweren meinen Job aufgeben.
         severe   my   job quit

(72) a. ??Mithilfe   eines Hammers kann man so   eine Wand nur mithilfe
         by means of a   hammer   can one such a   wall   only by means of
         eines großen einreißen.
         a   big   demolish

      b. Mit einem Hammer kann man so   eine Wand nur mit einem großen
         with a   hammer   can one such a   wall   only with a   big
         einreißen.
         demolish

While comprehensible, the a-examples are distinctly worse than the b-examples and have a strong flavor of redundancy, presumably reflecting the fact that complex prepositions are genuine nominal subordinators rather than Case markers.

There are further advantages in adopting (67). With regard to argument PPs, treating P as a post-syntactically realized morphological exponent of inherent Case removes the locality problem for θ-role assignment. (67) also makes sense from a crosslinguistic per-

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[52]The issue does not arise in the case of argument PPs, since these are always introduced by simple prepositions.

spective. It is well-known that the meanings associated with prepositions in a language like German are expressed by means of inherent cases in other languages—e.g. the ten different Cases to express locational relations in Hungarian (Babby 1994); similarly, instrumental and comitative Cases found in many languages correspond to German *mit*, etc. (Caha 2009: 35). Of course, even *within* German alternations between inherent Case and prepositions are found:

(73) a. der Bruder von Muffin ≡ Muffins   Bruder
          the brother of   Muffin   Muffin.GEN brother

      b. Benni hat einen Brief an Caro geschickt. ≡ Benni hat Caro   einen Brief
          Benni has a   letter to Caro sent   Benni has Caro.DAT a   letter
          geschickt.
          sent

      c. Benni hat für Caro einen Kuchen gebacken. ≡ Benni hat Caro   einen
          Peter has for Caro a   cake   baked   Benni has Caro.DAT a
          Kuchen gebacken.
          cake   baked

If (67) is true for German, the ban on preposition stranding in that language follows straightforwardly from the fact that affixes need an overt host (Lasnik's 1981 *Stray-affix Filter*).[53]

Moreover, (67) explains straightforwardly why prepositions contrast with postpositions in not moving independently and not being deletable in gapping (both facts from Hartmann 2000: 148):

(74) a. *Über$_i$ geht   Timo t_i den Fluss
          over   walks Timo   the river

      b. Hinauf$_i$ geht   Timo die Rampe t_i
          up   walks Timo the ramp

(75) a. *Miriam geht   über   die Straße und Timo ~~geht~~   ~~über~~   den Fluss
          Miriam walks across the street and Timo walks across the river

      b. Miriam geht   die Treppe hinauf und Timo ~~geht~~   die Rampe ~~hinauf~~
          Miriam walks the stairs   up   and Timo walks the ramp   up

---

[53]This raises the question, set aside here, what happens in cases where prepositions *can* be stranded in German, but it is sufficiently clear that these are restricted to specific configurations (in that the element that moves away always originates in a pre-P position, i.e. stranded "prepositions" are effectively postpositions). Moreover, something else must be going on in languages (like English) which *do* allow P-stranding. Either P is pronounced in the lower occurrence for some morphological reason, or prepositions are true heads in this language (i.e., (67) does not hold for English). The near-optionality of P-stranding, at least in English, would suggest that it is a matter of morphology/pronunciation.

German *wh*-copying provides additional evidence for (67). As is well-known from work of McDaniel (1986, 1989) and others, German allows *wh*-copying constructions with simple *wh*-phrases but not with complex ones:

(76) a. Wen$_i$ glaubt Lars wen$_i$ Patrick t_i gesehen hat?
          who thinks Lars who Patrick   seen   has
          'Who does Lars think that Patrick saw?'

      b. *Wessen Buch$_i$ glaubst du   wessen Buch$_i$ Lars t_i liest?
          whose book think   you whose book Lars   reads
          'Whose book do you think that Lars reads?'

Adopting (67), we correctly predict simple *wh*-phrases embedded by prepositions to pattern with simple *wh*-phrases:

(77) ?Mit wem$_i$ glaubst du   mit   wem$_i$ Gary t_i spricht?
       with who   think   you with who   Gary   talks
       'Who do you think Gary is talking to?'

A further advantage of taking prepositions to be morphological realizations of inherent Case is that it rationalizes otherwise puzzling facts concerning binding "out of" PPs. The following example illustrates:

(78) Du solltest nicht mit jedem$_i$ über seine$_i$ Ansichten streiten.
      you should not   with everybody about his   views   argue
      'You shouldn't argue with everybody about his views.'   (Frey 1993: 106)

As indicated, the bound-variable pronoun is locally bound by the universal quantifier. On standard assumptions concerning PP-structure, this binding should not be possible, since the quantifier is embedded inside PP. If PPs are DPs and P is a morphological reflex of inherent Case, binding in (78) is expected.

Overall, it appears that the problem of PP-splits can be plausibly solved by an analysis of (simple) prepositions as Case markers, a solution that resonates with Baker's typological observation concerning the relatedness of prepositions and inherent Case as well as German-internal considerations. While we now have an explanation for P-doubling in ST, the question why ST of PP-adjuncts does not violate the Adjunct Condition has not yet been addressed; I will return to it in section 3.3.2 below.

3.2.8 Multiple Splits

Recall from section 1.2.4 that dependencies created by ST can span more than two elements, by simultaneous application of ST and SS to a single argument. In multiple splits,
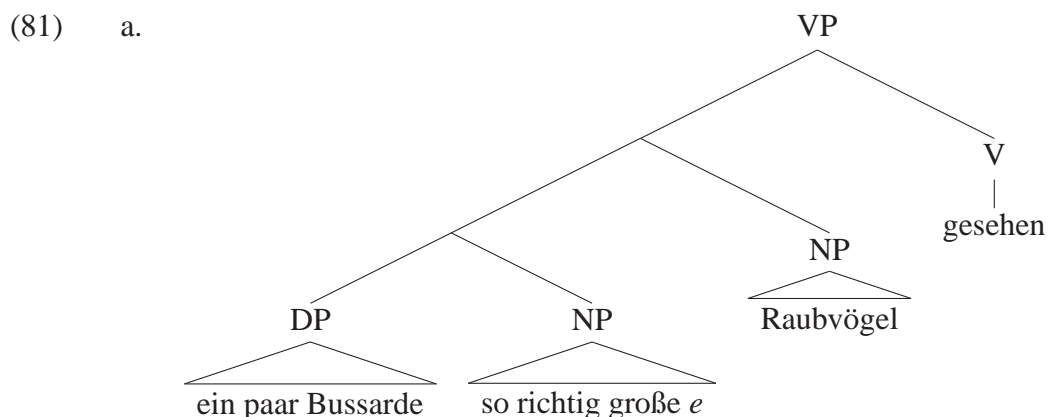
an additional element MED can occur in the left middle field. Consider example (19a) from that section:

(79) Raubvögel   habe ich so   richtig große nur   mal ein paar Bussarde gesehen.
      birds of prey have I   PRT really big   only once a   few buzzards seen
      'As for birds of prey, as for really big ones, I've only seen a few buzzards once.'

Recall also that the evidence for TOP and REM being autonomous constituents was shown to carry over to MED. Therefore, multiple splits must involve a third noun phrase, which, moreover, is obligatorily bare and property-denoting:

(80) *Raubvögel   habe ich die ganz großen nur   mal ein paar Bussarde gesehen.
       birds of prey have I   the really big   only once a   few buzzards seen

The present approach suggests a straightforward analysis of multiple splits. TOP and MED are both predicative noun phrases, whereas REM is an argument DP. There are two possible ways in which these noun phrases can be combined to yield a closed expression: either the NPs form a complex predicate of sorts that is combined with DP, yielding {DP, {NP, NP}}; or, alternatively, DP merges with one of the predicates, and the resulting closed expression is merged with the second predicate, giving {{DP, NP}, NP} (again, a closed expression). I will not decide between these two alternatives here, but adopt the second option for the sake of concreteness. In either case, the result is the same: at the phase level, both NPs raise to the edge to asymmetricize the BPS; subsequently they move on to their final (left-peripheral and medial) topic positions. The result is the configuration *NP ... NP ... DP*. The derivation of example (79) is sketched below, irrelevant details omitted:

(81)   a.

b.

vP

NP$_i$

so richtig große *e*

vP

NP$_k$

Raubvögel

VP

DP

DP

ein paar Bussarde

⟨NP$_i$⟩

⟨NP$_k$⟩

V

gesehen

c. CP

NP$_k$

Raubv.

C

habe ich

TP

NP$_i$

so richt. gr. *e*

TP

t_{SUBJ}

vP

⟨NP$_i$⟩

vP

⟨NP$_k$⟩

VP

[$_{DP}$ ein paar B. ⟨NP$_i$⟩ ⟨NP$_k$⟩] ges.
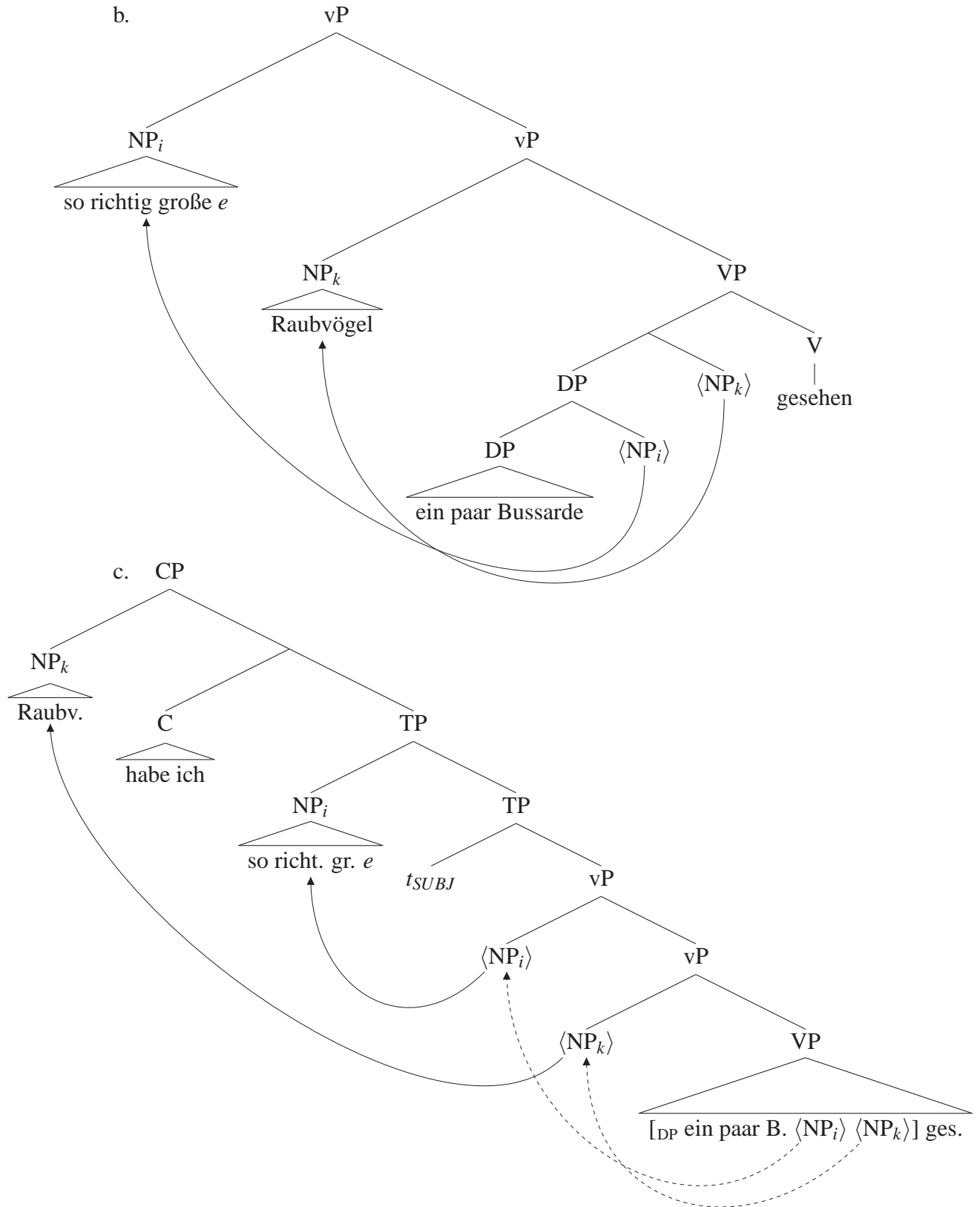
Notice that although only the derivation leading to (79) is shown above, IM of each NP as well as DP applies freely, licensed by EF. This is in accord with the earlier conclusion that in fact all symmetry-breaking movement applies freely, the GAR being the constraining factor that determines the interpretation of the outcome.

Recall from section 3.2.5 that TOP in STCs acts as a frame-setter, specifying the domain that the comment is about. In a multiple split like (79), there are two frame-setting predicates, namely TOP and MED. As also observed by Nolda (2007: 75), this yields a "layered" interpretation, schematically represented below based on (51):

(82)   In a multiple split $[_{CP}\ TOP\ [_{TP}\ MED\ [_{\alpha}\ \dots\ REM\ \dots\ ]]]$, MED is the frame for α (the comment), and TOP is the frame for both MED and α.

When symmetry-breaking movement of both predicates as in (79), the structure can be interpreted according to (82), in the way indicated in the (clumsy) English translation: the first frame is set up by the NP *Raubvögel*, the second one by the NP *so richtig große*, and within these frames the comment, *Ich habe Bussarde gesehen* 'I have buzzards seen,' is interpreted. For (79) to be felicitous, then, it must be the case that buzzards (the denotation of REM) are understood to have the property BIRD OF PREY (= TOP) and, more specifically, REALLY BIG (BIRD OF PREY) (= MED). Since this is the case, frame-setting by TOP and REM yields a proper topic–comment structure, satisfying the GAR.

Since movement applies freely, there are other outcomes as well; the possible results are listed below, with corresponding FTCs:

(83)   a.   <u>Raubvögel</u>   habe ich <u>so</u>   <u>richtig große</u> nur   mal   <u>ein paar</u> <u>Bussarde</u>
              birds of prey have I   PRT really big   only once a   few   buzzards
              gesehen.
              seen

        b.   Was Rauvögel angeht, so   richtig große habe ich nur   mal   ein paar
              as for birds of prey   PRT really big   have I   only once a   few
              Bussarde gesehen.
              buzzards seen

(84)   a. ??<u>Raubvögel</u>   habe ich <u>ein paar</u> <u>Bussarde</u> nur   mal   <u>so</u>   <u>richtig große</u>
              birds of prey have I   a   few   buzzards only once PRT really big
              gesehen.
              seen

        b. ??Was Rauvögel angeht, ein paar Bussarde habe ich nur   mal   so   richtig
              as for birds of prey   a   few   buzzards have I   only once PRT really
              große gesehen.
              big   seen

(85) a. <u>So</u> <u>richtig</u> <u>große</u> habe ich <u>Raubvögel</u>   nur   mal   <u>ein</u> <u>paar</u> <u>Bussarde</u>
           PRT really big   have I   birds of prey only once a   few buzzards
           gesehen.
           seen

      b. Was so richtig große angeht, Raubvögel   habe ich nur   mal   ein paar
           as for really big   birds of prey have I   only once a   few
           Bussarde gesehen.
           buzzards seen

(86) a. *<u>So</u> <u>richtig</u> <u>große</u> habe ich <u>ein</u> <u>paar</u> <u>Bussarde</u> nur   mal   <u>Raubvögel</u>
           PRT really big   have I   a   few buzzards only once birds of prey
           gesehen.
           seen

      b. *Was so richtig große angeht, ein paar Bussarde habe ich nur   mal
           as for really big   a   few buzzards have I   only once
           Raubvögel   gesehen.
           birds of prey seen

(87) a. *<u>Ein</u> <u>paar</u> <u>Bussarde</u> habe ich <u>Raubvögel</u>   nur   mal   <u>so</u>   <u>richtig</u> <u>große</u>
           a   few buzzards have I   birds of prey only once PRT really big
           gesehen.
           seen

      b. *Was ein paar Bussarde angeht, Raubvögel   habe ich nur   mal   so   richtig
           as for e few buzzards   birds of prey have I   only once PRT really
           große gesehen.
           big   seen

(88) a. *<u>Ein</u> <u>paar</u> <u>Bussarde</u> habe ich <u>so</u>   <u>richtig</u> <u>große</u> nur   mal   <u>Raubvögel</u>
           a   few buzzards have I   PRT really big   only once birds of prey
           gesehen.
           seen

      b. *Was ein paar Bussarde angeht, so   richtig große habe ich nur   mal
           as for e few buzzards   PRT really big   have I   only once
           Raubvögel   gesehen.
           birds of prey seen

As indicated, only (83) (= (79)) and (85) are acceptable outcomes. As attested by the b-examples, all other outcomes are deviant due to a topic–comment organization that violates the GAR in one way or another. Importantly, the GAR also determines the interpretation of (85), in which TOP is elliptical: the example cannot receive the same interpretation as (83). Rather, TOP must be interpreted as introducing a property such as ANIMAL, which allows TOP to act as the superordinate frame-setting expression (as per (82)). The interpretation

of (85), then, is as in (89) (which is somewhat marginal due to its complexity):

(89) ?So richtig große Tiere   habe ich Raubvögel   nur mal ein paar Bussarde
      PRT really big   animals have I   birds of prey only PRT a   few buzzards
      gesehen.
      seen
      'As for really big animals, as for birds of prey, I've only seen a couple of buzzards
      once.'

There is thus no need to assume that displacement of TOP and MED is syntacti-
cally constrained; rather, the distribution of displaced NPs (as well as the deviance of DP
fronting) is solely determined by the discourse properties of the resulting expression, the
GAR assigning a (potentially deviant) interpretation to any outcome.

Multiple splits, then, are elegantly handled by the present approach, while typically
neglected in earlier works (despite the occasional mention, e.g. by Fanselow and Ćavar
2002: 67).

3.2.9   Ellipsis in TOP and REM

It was already shown above that the present analysis correctly predicts the parallel existence
of regular and gapless splits, a simple corollary of the free application of NP-ellipsis in
REM. Since TOP, too, is an independent constituent (a predicative NP), it allows for NP-
ellipsis as well (as was already shown for example (85) in the preceding section):

(90) a. Wirklich gute kann ich mir   keine neuen leisten.
          really   good can I   REFL no   new   afford
          'As for really good ones, I can't afford any new ones.'

      b. Richtig gute gelesen habe ich erst wenige.
          really good read   have I   only few
          'As for really good ones, I've read only few so far.'

Here, both TOP and REM are elliptical; for such cases to be acceptable, TOP must be
anaphorically related to a discourse topic—an appropriate context for (90a) would be the
question *What about cars?*, for instance. Consider now the following, where TOP is ellip-
tical but REM is not (intonation indicated for convenience):

(91) a. Do you know any good syntacticians?

      b. Richtig /GUte kenne ich nur   den CHOM\sky (aber /MITTelmäßige
          really   good know I   only the Chomsky   but   mediocre
          VIE\le).
          many

(92)   a.   Does he offer good Japanese or German cars?

        b.   <u>Gute ja/PAnische</u> HAT\ er <u>welche</u> (gute /DEUTsche aber KEI\ne).
              good Japanese   has   he some   good German   but   none

The elliptical TOP is anaphorically related to the discourse topic (*syntacticians*/*cars*), and each comment can be interpreted within the frame it sets up; hence, both examples conform to the GAR:[54]

(93)   a.   Was richtig gute angeht, ich kenne nur den Chomsky.
              as for really good (ones) I   know only the Chomsky

        b.   Was gute Japanische angeht, er hat welche.
              as for good Japanese (ones) he has some

A multiple-split variant of (92b) allows for additional contrastive emphasis on *gute*:

(94)   a.   <u>Ja/PAnische</u> hat er <u>so   richtig /GUte</u> wohl nur <u>Toyotas</u>.
              Japanese   has he PRT really   good PRT   only Toyotas

        b.   Was japanische angeht, so   richtig gute hat er wohl nur Toyotas.
              as for Japanese (ones) PRT really good has he PRT   only Toyotas

As before, the GAR provides the boundaries of interpretation, in that interpretation of TOP according to the discourse topic *cars* sets up the interpretive frame to which the comment is confined, exactly as in the corresponding FTC in (94b).

Finally, I would like to note that TOP need not be expressed overtly, i.e. the entire fronted predicate can be elided. It is well-known that German allows for topic drop, i.e. omission of discourse-old, non-contrastive prefield constituents (Huang 1984). This is shown in (95), where the DP *Linguisten* 'linguists' corresponding to the discourse topic is fronted and deleted.

(95)   A: Tell me something about *linguists*.

        B: Mag ich nicht. (= ~~Linguisten~~$_i$ mag ich nicht t_i)
              like I   not

The same is possible with ST (at least in colloquial language; cf. Kniffka 1996: 67ff.). Inversion (yielding V1 order) and the fact that topic drop is island-sensitive indicate that operator movement must take place in both answers:[55]

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[54]Curiously, Fanselow and Féry (2006: 66f.) deem such "intermediate splits" unacceptable. However, my informants and I find their example (parallel to those given above) fine, provided the elliptical TOP is as a frame-setter.

[55]I attribute fact that the island-violating example is not crashingly bad to some alternative parse, e.g. expletive drop (~~Da~~ *kenn' ich* ...).

(96) A: Tell me something about *cars*.

B: Hab' ich schon immer nur Toyotas gehabt. (= ~~Autos~~*i* ... [<u>Toyotas</u> *t*ᵢ])
have I always   only Toyotas had

B: ??Kenn' ich 'nen Typen der nur Toyotas hat.
know I a   guy   who only Toyotas has

We have now seen that neither TOP nor REM (nor MED) are exempt from the general availability of NP-ellipsis in German. As expected, any member of the original BPS can be elliptical and TOP can be dropped like other fronted operators, granted that the context provides a discourse antecedent that results in frame-setting, and hence interpretation in accord with the GAR.

3.2.10   The Motivation for Movement

If the present proposal is on the right track, the general pattern of computation underlying ST is exceedingly simple: a BPS {DP, NP} semantically relating DP and NP is generated in any broadly thematic position and subsequently asymmetricized by movement at the phase level. The analysis overcomes a crucial deficit of previous theories: for the BPS to be labeled, movement of NP (or DP, in mixed splits) *must* apply. The analysis thus provides a principled reason for TOP's inability to remain *in situ*:[56]

(97) a. <u>Eine Katze</u> habe ich hier noch <u>keine schwarze</u> gesehen.
a   cat   have I here yet no   black   seen
b. *Ich habe hier noch keine schwarze eine Katze gesehen.

(98) a. <u>Zeitungen</u> kenne ich nur <u>eine gute</u>.
newspapers know I   only one good
b. *Ich kenne nur eine gute Zeitungen.

(99) a. <u>Raubvögel</u>   hat Jürgen nur <u>Bussarde</u> gesehen.
birds of prey has Jürgen only buzzards seen
b. *Jürgen hat nur Bussarde Raubvögel gesehen.

We have seen in this section that the present theory accounts for the central properties of ST in a non-stipulative way. It was shown that the required symmetry-breaking movement need not be regulated by narrow-syntactic constraints but follows automatically from general constraints on topic–comment organization—a conclusion that is highly desirable in a

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[56]Recall from section 2.3.1 that this fact is concealed by the small subset of cases for which a van Riemsdijk-style extraction derivation is available. For these cases, the derivational option outlined here is available as well, vacuously.

conceptual framework that seeks to attribute as little structure to UG as possible (Chomsky 2005, 2007; Ott 2007).

As pointed out in section 3.1.3, the present approach is partly inspired by Moro's *Dynamic Antisymmetry* framework, where it is likewise assumed that {XP, YP} structures require movement to be asymmetricized. More specifically, Moro (2000) argues that copular clauses involve "bare small clauses" that require symmetry-breaking movement. His main evidence is provided by alternations such as the following, derived by freely moving either DP from the abstract structure in (101):

(100)   a.   Der Grund für die Ausschreitungen waren die Fotos.
                the reason for the riots   were   the pictures

          b.   Die Fotos   waren der Grund für die Ausschreitungen.
                the pictures were   the reason for the riots

(101)   [COP [DP DP]]

Importantly for Moro, Italian (despite being a *pro*-drop language) does not allow an empty surface subject in copular clauses, requiring movement.

Moro argues that {XP, YP} structures are broken up by movement in order to render them compliant with the LCA, which requires asymmetric c-command relations among non-terminals. The latter, which Kayne (1994) takes to be a constraint governing the base,[57] Moro reinterprets as a PF-interface constraint filtering out illicit (unlinearizable) structures. Thus, in Moro's *Dynamic Antisymmetry* framework, unstable structures can be generated but must be asymmetricized prior to linearization as part of the narrow syntax–PF mapping.

Setting aside the adequacy of Moro's analysis of copular clauses (see den Dikken 2006 for critical discussion), it is evident that his analysis and the present one are very similar in spirit. They differ conceptually, however: while the present proposal derives the need for asymmetry from the need for a label, Moro assumes the LCA to be the driving force. A problematic implication of this idea seems to me to be that it does not require symmetry-breaking movement to occur in narrow syntax: if asymmetry is only required by PF (as Moro explicitly assumes), then the relevant movements could be delayed and apply as part of the PF-mapping (assuming that PF-movement is generally an option). For the case at hand, this is not a viable option, however: fronting of TOP was shown in section 2.2.2 to exhibit all properties of syntactic $\overline{\text{A}}$-movement (island-sensitivity, unboundedness, etc.),

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[57]Likewise, Kayne (2010: 16) stipulates: "The merger of two phrases is unavailable."

and in section 3.3.2, to have an effect on scope.[58] There is thus good reason to believe that ST is not PF-movement, a conclusion which would not necessarily follow if the need to asymmetricize a BPS were derived from linearization. The present approach situates symmetry-breaking movement in narrow syntax, since this is where labels are required. Moreover, in section 3.3.2 I will argue that the absence of a label is the reason for why a BPS never prohibits movement of either DP or NP, despite the fact that (labeled) DPs generated in identical positions are islands for extraction. Overall, then, it seems preferable to derive symmetry-breaking movement from labeling rather than from PF requirements.[59]

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[58]I would like to mention one further empirical argument against treating ST as PF-movement, based on the interaction of movement of TOP and relative-clause extraposition. It is generally the case that a DP modified by a relative cannot be independently topicalized:

(i)   ?*Zeitungen$_i$ kenne ich t_i die in Berlin erscheinen.
        newspapers know I   that in Berlin appear

This follows on two assumptions: a) movement of segments is banned; b) extraposition cannot precede leftward movement in derivational order (cf. Müller 1997; Büring and Hartmann 1997). (i), then, could only be derived by illicitly moving the lower DP-segment (Büring and Hartmann 1997: 23ff.). By contrast, if *Zeitungen* were moved at PF, the result would no longer follow, since now (presumably) the movement could apply after extraposition. Topicalization of *Zeitungen* in (i), then, cannot be PF-movement. One might still consider this option for ST, however, given that here REM provides a host for the stranded relative:

(ii)   Zeitungen   kenne ich welche die in Berlin erscheinen.
        newspapers know I   some   that in Berlin appear

To rule out stranding of a relative by TOP, it must be shown that stranded relatives as in (ii) invariably adjoin to REM. A way of establishing this fact is by considering cases in which TOP and REM mismatch in number; since relative pronouns (and, in case of subject relatives, relative-internal predicates) agree with the head of the relative, surface agreement unambiguously signals which phrase a relative is associated with. Consider the following contrast (also found with gapless and mixed splits):

(iii)   Zeitungen   kennt Fabian nur eine gute die in Berlin {erscheint   / *erscheinen}.
        newspapers.PL knows Fabian only one good that in Berlin appears.SG   appear.PL

We see that the relative agrees with REM (singular) but cannot agree with TOP (plural). As expected, the opposite agreement pattern is found when the relative is pied-piped:

(iv)   Zeitungen   die in Berlin {erscheinen / *erscheint} kennt Fabian nur eine gute.
        newspapers.PL that in Berlin appear.PL   appears.SG knows Fabian only one good

Now, the contrast in (iii) follows on the assumptions mentioned above: if movement of segments is banned (as shown by (i)) and if extraposition derivationally follows leftward movement, TOP in (iii) cannot strand its relative-clause modifier. If fronting of TOP were PF-movement, however, it should conceivably be able to occur after extraposition of the relative clause, in which case the above contrasts would no longer follow (regardless of whether the extraposition is taken to be narrow-syntactic movement or PF-movement itself; cf. Truckenbrodt 1995; Göbbel 2007).

[59]Moro (2000: 33) seems to also assume that his "bare small clauses" are label-less; however, he does not take this to be the trigger for movement.

Moro (2007) considers an alternative source of instability. He argues that probe–goal relations must be established such that there is only one goal per probe; if there is more than one goal, this yields an "Ambiguous-goal Violation;" the same reasoning is adopted in Mayr 2009 to derive obligatory VP-externalization in French Stylistic Inversion. IM, on this view, removes one possible goal by turning the raised XP into a discontinuous constituent. The facts presented here, however, militate against this idea: it was shown that Multiple Agree can relate a probe to more than one goal, assigning Case to both DP and NP in a BPS {DP, NP}; given that Multiple Agree is an independently supported concept, it appears that its application could only be blocked by stipulation. If my reasoning is on the right track, structural asymmetry cannot be a precondition for Agree.[60]

3.3   Predictions and Extensions

This section serves two related purposes. The first is to spell out the predictions of the theory in some more detail and to check them against the facts presented in chapter 2. The second goal is to extend the theory to a range of empirical properties of STCs which have not been dealt with so far.

3.3.1   Antecedent-gap Mismatches

While different in implementation, the present approach is firmly rooted in the tradition of previous hybrid approaches to ST, in particular Fanselow's (1988). Consequently, it resembles those previous accounts in how it handles the antecedent–gap mismatches described in section 2.2.3: TOP and REM exhibit properties of autonomous noun phrases because they *are* generated as separate constituents. Since previous proposals have rarely bothered to make the details of this explicit, I will here briefly recapitulate the relevant mismatches and show how they follow.

Inflectional Mismatches.   Evidently, the analysis correctly predicts the autonomy of TOP and REM's respective internal morphology, given that each is generated as an independent noun phrase. Some relevant facts are repeated below, the gloss indicating the inflectional

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[60]It should also be noted in this connection that Moro's putative {DP, DP} small clauses, while allowing for the DPs to mismatch in number, never show the kind of agreement indeterminacy observed in section 3.2.4 with subject splits (resolvable for some, but not all speakers). This can be taken as an indication that his structures, unlike those under consideration here, are in fact not symmetric.

difference to the continuous form:[61]

(102)   a.   <u>Polnische</u> <u>Gänse</u> gekauft hat sie <u>keine</u>.
             Polish   geese bought has she none
             (continuous: keine polnische*n* Gänse)

         b.   <u>Zeugen</u>   hat er nur <u>dreien</u>   geglaubt.
             witnesses.DAT has he only three.AGR.DAT believed
             (continuous: drei Zeugen)

         c.   <u>Geld</u>   habe ich <u>keins</u>.
             money have I   none
             (continuous: kein Geld)

Not only does the analysis predict the inflectional autonomy of the two noun phrases, it also solves the second part of the conundrum: it explains why one of the two "mismatching" noun phrases must appear in displaced position.

(103)   a.   *Sie hat keine polnische Gänse gekauft.
             she has no   Polish   geese bought

         b.   *Er hat dreien   Zeugen geglaubt.
             he has three.AGR.DAT witnesses believed

         c.   *Ich habe keins Geld.
             I   have none money

Notice that this is a significant advantage over previous hybrid theories, which account for mismatches but fail to predict obligatory movement of TOP.

Order of Modifiers.   Recall also Fanselow and Ćavar's observation that postnominal modifiers internal to TOP and REM are independent of the ordering restrictions holding for continuous DPs:

(104)   a.   <u>Bücher</u>, <u>die</u> <u>erfolgreich</u> <u>waren</u>, kennt er <u>keine</u> <u>von</u> <u>Caspar</u>.
             books   that successful were   knows he no   by   Caspar
             'He doesn't know any books by Caspar that were successful.'

         b.   *keine Bücher die erfolgreich waren von Caspar

         c.   keine Bücher von Caspar die erfolgreich waren

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[61]Interestingly, a right-node raising counterpart to (102b) differs in that it does not strictly require the obligatory inflection (to my ear at least):

(i)   Lars hat drei-(*en) ~~Zeugen~~ und Jenny hat vier Zeugen   geglaubt.
       Lars has three-AGR   and Jenny has four witnesses believed

I leave this contrast to future work.

Evidently, such facts are no challenge to the theory: TOP is a property predicated of the individuals denoted by *keine (e) von Caspar*, each an independent constituent ({DP, NP}).

Doubling and "Regeneration."   Two types of doubling phenomena were shown in section 2.2.3 to arise in the context of ST: "regeneration" of indefinite articles and doubling of prepositions.[62] The former was shown to be in free alternation with cliticization/omission, while the latter is robustly obligatory.

Consider first indefinite articles in TOP, examples of which are repeated below:

(105)   a.   (Eine) Katze habe ich nur   eine ganz kleine gesehen.
   a   cat   have I   only a   very small seen

b.   (Eine) Katze habe ich hier noch keine schwarze gesehen.
   a   cat   have I   here so far no   black   seen

Optionality of *ein* is expected: TOP and REM are autonomous noun phrases, and *ein* optionally occurs in predicative noun phrases in German. As predicted by the present analysis, then, article doubling merely reflects the alternation familiar from predicative NPs:[63]

(106)   a.   Vivek ist (ein) Arzt.
   Vivek is   a   doctor

b.   (Ein) Arzt   ist gerade   keiner da.
   a   doctor is right now none   here

By contrast, predicative plural or mass NPs are always article-less, exactly like TOP in ST.

As shown in section 2.2.1, the degree particle *so* is a modifier of adjectival *ein*, hence its occurence in TOP is straightforwardly predicted:

(107)   a.   So   'nen Wagen kann ich mir keinen leisten.
   such a   car   can I   me no   afford
   'As for such a car, I can't afford one.'

b.   So   gute Autos kann ich mir leider   keine leisten.
   such good cars   can I   me unfortunately none afford

The attested pattern, then, is exactly what the present theory predicts, given that predicative NPs can be modified by adjectives.

As for doubling of prepositions, I suggested in section 3.2.7 that this doubling is the result of inherent-Case marking of the BPS, of which P is the morphological exponent. On

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[62]I will here simply use "doubling" as a cover term that includes regeneration cases, although the latter are of course not always instances of doubling, strictly speaking.

[63]But see Hallab 2010 for some complications and qualifications, which I set aside here.

this view it trivially follows that both TOP and REM bear a prepositional Case-marker, both being identically Case-marked in virtue of sharing the same base position.

As before, the account correctly predicts for all cases that TOP must surface *ex situ*, reflecting the symmetry-breaking movement required to evade labeling failure:

(108) a. *Ich habe hier noch keine schwarze eine Katze gesehen.
            I   have here yet   no   black   a   cat   seen

      b. *Gerade   ist keiner (ein) Arzt   da.
            right now is no   a   doctor here

      c. *Ich kann mir leider   keine so   gute Autos leisten.
            I   can   me unfortunately no   PRT good cars   afford

      d. *obwohl er ja   nur noch mit wenigen mit Freunden Kontakt hat
            although he PRT only still   with few   with friends   contact has

Number Mismatch. A further type of mismatch illustrated in section 2.2.3 was number disagreement between TOP and REM. Recall that such disagreement is "one-way," in that only the pattern in (109), with TOP plural and REM singular, is acceptable:

(109) a. <u>Zeitungen</u>   kenne ich nur <u>eine</u> <u>gute</u>.
            newspapers know I   only one good

      b. <u>Zeitungen</u>   liest Fabian nur <u>die</u> *junge* *<u>Welt</u>*.
            newspapers reads Fabian only the *junge Welt*

(110) *<u>Zeitung</u>   kenne ich nur <u>zwei</u> <u>gute</u>.
            newspaper know I   only two   good

Such mismatches are predicted by the present account, again for the simple reason that TOP and REM are generated as separate noun phrases. Note that for the predication expressed by {DP, NP}, it is irrelevant whether NP is singular or plural—in either case, it denotes a property.

As for the contrast in (109) vs. (110), it appears that the GAR again suffices to explain why number disagreement works in only one way (TOP plural, REM singular). This is so because the contrast is mirrored by corresponding FTCs:

(111) a. Was Zeitungen angeht, ich kenne nur eine gute.
            as for newspapers   I   know only one good

      b. *Was (eine) Zeitung angeht, ich kenne nur zwei gute.
            as for a newspaper   I   know only two   good

Intuitively, the plural TOP in (109) and (111a) comprises the singular instantiations of that property, and hence is capable of acting as a frame-setter for the comment involving

singular REM. By contrast, the singular NP in (110) and (111b) fails to do so, since it does not "include" REM in this intuitive sense. While I will leave a precise characterization of this constraint to future work, it seems reasonably clear that the observed contrast in (109) is a consequence of frame-setting, or failure thereof.

In multiple splits, there is a strong preference for MED to be plural whenever TOP is, while REM can disagree as before:

(112)   a.   <u>Französische Bücher</u> hat er <u>so</u>　<u>richtig gute</u> erst <u>eins darüber</u>　gelesen.
             French   books   has he PRT really good only one about that read

        b.   ??<u>Französische Bücher</u> hat er <u>so</u>　'n <u>richtig gutes</u> erst <u>eins darüber</u>
             French   books   has he PRT a really good only one about that
             gelesen.
             read

The corresponding FTCs show the same contrast. There appears to be a preference for the two parts of the discontinuous predicate to agree in number, perhaps due to some sort of perceptual continuity (since both TOP and MED are frame-setters). What is clear is that a plural REM is always incompatible with a singular MED, as predicted by the GAR:

(113)   a.   *<u>Französische Bücher</u> hat er <u>so</u>　'n <u>richtig gutes</u> schon　<u>viele darüber</u>
             French   books   has he PRT a really good already many about that
             gelesen.
             read

        b.   *Was französische Bücher angeht, so　'n richtig gutes hat er schon　viele
             as for French books   PRT a really good has he already many
             darüber　gelesen.
             about that read

Finally, the theory of course again predicts obligatory movement of TOP:

(114)   a.   *Ich kenne nur eine gute Zeitungen.
             I   know only one good newspapers

        b.   *Er hat erst eins so   richtig gute französische Bücher darüber　gelesen.
             he has only one PRT really good French   books about that read

Gapless Splits.   It is not necessary to reiterate in detail why the present theory predicts the existence of gapless splits, which reduces to the optionality of NP-ellipsis in German. DP and NP cannot both remain *in situ* (in any order), for the familiar reason that the symmetry of the underlying BPS must be broken:

(115)   a.   *Ich kenne nur (große Nagetiere) Capybaras (große Nagetiere).
             I   know only large rodents   capybaras

      b.   <u>Große</u> <u>Nagetiere</u> kenne ich nur <u>Capybaras</u>.

(116)   a. *Ich habe nur (große Nagetiere) Capybaras (große Nagetiere) gesehen.
            I   have only large rodents   capybaras   seen
    b.   <u>Große</u> <u>Nagetiere</u> gesehen habe ich nur <u>Capybaras</u>.

Nothing else needs to be said. It is remarkable, however, that the explanation of gapless splits and contrasts like those above is a major advantage of the present analysis over previous ones: as reviewed in section 2.3, gapless splits remain mysterious for both van Riemsdijk's subextraction-based theory and Fanselow and Ćavar's PF-deletion account, as well as for Fanselow's original hybrid analysis (as it required an empty category inside REM to relate TOP and REM semantically). The only other analysis that assumes directly parallel derivations for regular and gapless splits is Puig Waldmüller's (2006), which, however, offers no reason for movement of TOP; it predicts (115a) and (116a) to be as acceptable as (115b) and (116b).

    A remaining issue worth addressing is the question why, for some speakers, gapless splits and in particular genus–species splits (where both TOP and REM are lexically contentful) are perceived as more marked than other types of splits.[64] Conceivably, the construction presents a mild parsing problem, since the gap of the fronted TOP is less salient than in other, more frequent preposing constructions, such as (non-split) topicalization.[65] The assumption that such factors influence acceptability judgments of genus–species splits does not at all conflict with the analysis presented above, according to which the "gap" left by TOP is in the underlying BPS: there is no reason to assume that syntax "cares about"

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[64]Van Riemsdijk (1989) and Roehrs (2009b) rule out genus–species splits altogether, citing examples such as the following (the examples in Roehrs 2009b: 1, (2b) and Fanselow and Ćavar 2002: 100, (99a) are equivalent):

(i)   *<u>Bücher</u> hat er noch <u>keine</u> <u>Romane</u> geschrieben.
      books has he yet no   novels written
      'As for books, he hasn't read any novels yet.'   (van Riemsdijk 1989: 111)

This is a typical out-of-context judgment; the problem in this case is the presuppositional effect triggered by the negative quantifier. In context, such cases become fully acceptable:

(ii)   /<u>BÜcher</u> hat er zwar   noch keine <u>Ro/MAne</u> geschrieben, wohl   aber REI\seführer.
       books has he though yet no   novels   written   however but travel guides
      'As for books, he hasn't written any novels yet, but he has travel guides.'

(Note that REM here bears a contiuation rise, in anticipation of the adversatively conjoined second clause.) Judgments like van Riemsdijk's of (i), thus, are misleading at best.

[65]In other words, gapless splits might then exhibit a kind of garden-path effect, in that the topicalized XP leads to the expectation of a gap, which then however is not fulfilled, at least not superficially. The less similar REM is to a gap, the stronger the effect: gapless splits with pronominal REMs are typically perceived as less marked than cases with full-DP REMs.

ease of parsing (in fact, it is well-known that syntactic derivations commonly yield structures that create parsing problems, such as center embedding, garden-path sentences, etc.). An indication that such extraneous factors play a role is the fact that for virtually all informants I consulted and which were reluctant to accept genus–species splits at first glance, acceptability increased significantly (usually up to full acceptability) when the examples were presented in an appropriate context and with proper intonation. See Nolda 2007: 55 for a similar assessment.

3.3.2 Movement and Locality

In this section, I spell out the predictions of the present approach concerning locality. Since these follow quite transparently from the proposed derivation, I will do so in all brevity.

Islands

With regard to the locality conditions on the dependency between TOP and its base position, most theories reviewed in section 2.3 were shown to be accurate: van Riemsdijk's subextraction-based theory as well as Fanselow and Ćavar's deletion account correctly predict fronting of TOP to show $\overline{\text{A}}$–properties. At the same time, those accounts were shown to be inadequate for other reasons; therefore, the purpose of this section is to show how the current approach overcomes the deficits of previous *hybrid* analyses.

Recall from the discussion in section 2.3.3 that Fanselow's (1988) theory, which takes TOP to be underlyingly adverbial, does not clearly predict the dependency between TOP and REM to be island-sensitive. As observed by Fanselow and Ćavar, what the theory lacks is a principled reason for why TOP and REM must originate in the same thematic domain: since TOP is not an argument but an adverb of sorts, it could be merged in a different VP. (117a) could then have the derivation in (117b):[66]

(117)　　a.　*<u>Bücher</u> habe ich [$_{\text{DP}}$ eine Geschichte [$_{\text{CP}}$ dass Kay schon　<u>mehrere</u>
　　　　　　　books　have　I　　a　story　　　　that　Kay already several
　　　　　　　geschrieben hat]] gelesen
　　　　　　　written　　has　read
　　　　　　　'As for books, I heard a story that Kay had already written several ones.'

　　　　b.　Bücher$_i$ … [$_{\text{VP}}$ [$_{\text{DP}}$ … [$_{\text{CP}}$ … mehrere *pro$_i$* …]] [$_{\text{V}}$ t_i gelesen]]

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[66]Notice that the adverb should not affect the valency of the verb, i.e. the deviance cannot be blamed on the fact that *gelesen* in (117a) has an "extra argument." The same holds with regard to Puig Waldmüller's (2006) analysis in terms of "Restrict" (see section 3.4.4).

Since TOP and REM are only related via binding of *pro* inside REM (or by "pragmatic control" when REM is gapless, in Puig Waldmüller's 2006 variation), (117a) should be acceptable. Likewise, (118) is predicted to have a derivation in which TOP originates in the matrix VP, in which case binding by the matrix subject should be possible:

(118)   Geschichten über sich$_{i/*k}$ hat Volker$_k$ gelesen dass Kay$_i$ schon   mehrere
         stories   about himself has Volker read   that Kay already several
         geschrieben hätte.
         read   has

Evidently, the present approach avoids these problems. TOP is not an adjunct that merges independently of REM, but rather originates as a predicate to REM, both forming the argumental BPS. This yields the desired result, since it necessarily links TOP and REM to a single thematic/Case position. As a consequence, the derivation in (117b) is not available, and TOP in (118) must originate in the lower clause.

Note that TOP has a dual role in the interpretation of splits with elliptical REMs: it binds its predicate trace inside the BPS and serves as the antecedent of the ellipsis site inside REM (presumably, a side-effect of frame-setting). While the antecedent–trace relation is sensitive to islands the ellipsis resolution is not, as shown in (119a). But the latter relation is ancillary, as confirmed by (119b):

(119)   a.   Bücher hat Jan schon   viele gelesen, aber noch keine französischen.
              books   has Jan already many read   but yet   no   French

         b.   *Bücher hat Jan schon   viele Filme   gesehen, aber noch keine gelesen.
              books   has Jan already many movies seen   but yet   no   read

According to the present approach, there are two possible parses for (119b): either TOP is moved from a BPS in the matrix clause, or it is underlyingly a predicate of the DP *keine e*. The latter case violates the Adjunct Condition, hence is deviant. The former option, corresponding to the underlining *Bücher* ... *Filme*, yields an interpretation according to which the property BOOK is predicated of the individuals denoted by the DP *Filme*, again resulting in deviance.

By contrast, when the argument DP in the matrix clause is replaced with a DP denoting individuals of which the property can be truthfully predicated, the result is as fine as (119a):

(120)   Bücher hat Jan schon   viele Romane gelesen, aber noch keine französischen.
         books   has Jan already many novels read   but yet   no   French

Thus, while the present approach (like Fanselow's and Puig Waldmüller's) assumes that TOP the elliptical REM are related by construal, it does not assume that this is the *only* relevant dependency; there is also an $\overline{\text{A}}$-dependency between TOP and its trace, which is

necessarily adjacent to REM.

Finally, the present account correctly predicts the relative acceptability of ST out of *wh*-islands, where TOP behaves exactly like other extracted arguments (121a) or predicates (121b):

(121) a. ?Radios$_i$ weiß ich nicht [$_{CP}$ wie man t_i repariert]
           radios   know I   not   how one   repairs

       b. ?Stolz$_i$ weiß ich nicht [$_{CP}$ warum er t_i ist]
           proud know I   not   why   he   is

       c. *Damit$_i$ weiß ich nicht [$_{CP}$ wie man t_i Radios repariert]
           with that know I   not   how one   radios repairs

(122) a. ?Fernseher weiß ich nicht [$_{CP}$ warum die Susanne mehrere haben sollte   ]
           TVs   know I   not   why   the Susanne several have   should

       b. ?Nagetiere frage   ich mich [$_{CP}$ warum dieser Zoo nur Capybaras hat]
           rodents   wonder I REFL   why   this   zoo only capybaras has

It was pointed out in section 2.3.3 that the acceptability of (122) is problematic for hybrid theories that assume TOP to be an adjunct in the base. No such problem arises for the present approach.[67]

Scope

Recall that the scopal non-equivalence of split and non-split topicalization posed a problem for Fanselow and Ćavar's (2002) Distributed Deletion theory, according to which splits only arise at PF. The minimal pair (93) from section 2.3.2 is repeated below:

(123) a. Mehrere französische Bücher MUSS jeder Schüler lesen.
           several French   books must every student read
           'Several books, every student must read.'

                                                    (jeder > mehrere, mehrere > jeder)

---

[67]What is less clear is the status of adjunct splits that straddle an operator island. The analysis could predict these to be either on a par with (121a)/(121b) or with (121c), depending on whether the relevant factor for the contrast is the argument/predicate status of the trace or its thematic status (θ-marked/not marked). The facts are murky, and no clear contrast is easily detected in the following minimal pair:

(i) a. Mit Autos weiß ich nicht wer mit gebrauchten gehandelt hat.
         with cars know I   not   who with used   dealt   has
         'As for cars, I don't know who dealt with used ones.'
     b. Mit Autos weiß ich nicht wen sie   mit gestohlenen erwischt haben.
         with cars know I   not   who they with stolen   caught   have
         'As for cars, I don't know who they caught because of stolen ones.'   (no judgment)

Due to the unclarity of both predictions and facts, I leave the issue to future research.

b.   Französische Bücher MUSS jeder Schüler mehrere lesen.
     French   books   must   every student several read
     'As for books, every student must read several.'

(jeder > mehrere, *mehrere > jeder)

Evidently, no such problem arises on the present account. Since the quantifier in (123b) is the stranded DP, there is no way for it to outscope the subject. In general, we expect REM to behave exactly like any DP/PP with regard to scope.

While German is generally scope-rigid, it is well-known that intonation can alter the relative scope of scope-bearing elements independently of surface word order (Frey 1993). The following is an example of this, where intonation enables REM to scope over the universally quantified subject:

(124)   /BUCH müssen /ALle Studenten EINS\ lesen.
          book   must   all   students   one   read
         'There is a book that all students must read' ($\exists > \forall$; Puig Waldmüller 2006: 22)

The phenomenon is generally known as "scope inversion under the rise–fall contour" (Krifka 1998); as before, REM behaves exactly like a regular DP. Without special intonation, its scope is determined according to linear position:[68]

(125)   a.   Schallplatten hat Volker nicht viele.
              records   has Volker not   many
              'As for records, Volker doesn't have many.'   (nicht > viele, *viele > nicht)

         b.   Schallplatten hat Volker viele nicht.
              records   has Volker many not
              'As for records, there are many that Volker doesn't have.'

(*nicht > viele, viele > nicht)

What about TOP? It has been claimed in the literature (see esp. Puig Waldmüller 2006) that it is always "scopeless," meaning that it cannot take scope above other operators (see section 3.4.4 below on the origins of this claim). Examples like the following indeed suggest that this is so:

---

[68]Notice that the analysis developed above makes a prediction concerning the order of operations in cases like (125b), where REM has scrambled: first, NP must raise to the phase edge, allowing for the BPS to be labeled; then the remnant BPS ([DP DP ⟨NP⟩]) scrambles. This order is required because simultaneous movement of both DP and NP to the phase edge would leave the original BPS (containing only occurrences of DP and NP) symmetric and hence unlabeled, leading to an "empty" object position. While the conclusion follows necessarily on theory-internal grounds (and is compatible with the assumption that operations at the phase level can apply in any order, cf. Chomsky 2008: 151), I do not see any way of testing it: since the scrambled remnant bears the label of DP, it behaves exactly as if DP scrambled on its own. I will therefore not dwell on the issue here, but see footnote 34 for related considerations.

(126) *EIN Buch müssen AL\le Studenten eins lesen.
      a   book must   all   students one read
      'As for a (specific) book, all students must read one (it).'

<div align="right">(*∃ > ∀, Puig Waldmüller 2006: 22)</div>

Stressing *eine* yields a cardinal/referential reading; as pointed out in section 2.2.1, no such reading—and hence no such stress placement—is possible for TOP. This is what the present analysis predicts, since predicative NPs (in German) never allow stress to be placed on their article, as this contradicts the predicative interpretation:

(127) Benni ist {Ø / ein / *EIN} Lehrer.
      Benni is   a   teacher

Thus, narrow scope of TOP in (126) simply follows from its predicative status, which precludes a referential/specific interpretation. Given that TOP is a predicate, it cannot be quantified; it can, however, contain quantifiers that take scope over lower ones (and hence cannot be said to be "scopeless"). This is shown in the following examples:

(128)   a.   Bücher mindestens eines Autors   hat fast   jeder Schüler schon
               books   of at least   one author.GEN has almost every student already
               welche gelesen.
               some   read
               'As for books of at least one author, almost every student has read some.'

<div align="right">(mind. 1 > jeder, jeder > mind. 1)</div>

        b.   Autos mindestens zweier Hersteller   kann sich niemand die
               cars   at least   two   manufacturers.GEN can   REFL niemand the
               brandneuen leisten.
               brand new afford
               'As for cars of at least two manuf., nobody can afford the brand new ones.'

<div align="right">(mind. 2 > NEG, NEG > mind. 2)</div>

As indicated, both examples have a reading in which the quantifier inside TOP scopes over the subject (*For at least one author / at least two manufacturers, it is the case that …*).[69] ST thus behaves exactly like non-split topicalization in that it allows for a wide-scope reading of an object fronted across a subject (Frey 1993).[70]

---

[69]As Volker Struckmeier (p.c.) points out, when the quantifier in TOP bears narrow-focal emphasis (falling accent), this is virtually the only accessible reading.

[70]It might be objected that since under present assumptions TOP is a predicate rather than an argument, it should reconstruct obligatorily (cf., e.g., Sportiche 2006). But it can be easily shown that a fronted predicate can take wide scope:

We conclude that neither TOP (NP) nor REM (DP) in STCs is "scopeless;" either one can take wide or narrow scope relative to other operators. While this does not come as a surprise from the perspective of the analysis proposed here, it is remarkable in so far as that several previous analyses of ST falsely predict the opposite. We saw that Fanselow and Ćavar's deletion analysis falsely predicts ST and non-split topicalization to be scopally equivalent; moreover, claims about the obligatory "scopelessness" of TOP (Puig Wald-müller 2006) or even of *both* TOP *and* REM (Van Geenhoven 1995; cf. footnote 97) must be rejected as inadequate.

One further scope-related aspect of ST that I would like to mention concerns the interaction of multiple quantifiers within a noun phrase. As discussed in Wurmbrand 2008, German allows for inverse linking when a quantified noun phrase is embedded inside another:

(129) Kay besitzt viele Bücher mehrerer Autoren.
       Kay owns   many books several   authors.GEN
       'Kay owns many books written by several authors.'   (viele > mehrere)

       'For several authors, Kay owns many books (by those authors).'

                                                                (mehrere > viele)

As indicated, (129) is ambiguous. A simple way of accounting for this difference is by assuming that *mehrerer Autoren* can adjoin either to NP (in which case it takes scope below *viele*) or to DP (in which case it takes wide scope). Consider now ST. (130a), where (descriptively speaking) only the head noun is fronted, is as ambiguous as (129); by contrast, (130b) is disambiguated:

(130)   a.   <u>Bücher</u> besitzt Kay <u>viele</u> <u>mehrerer Autoren</u>.
              books   owns   Kay many several   authors.GEN
                                             (viele > mehrere, mehrere > viele)

         b.   <u>Bücher</u> <u>mehrerer</u> <u>Autoren</u>   besitzt Kay <u>viele</u>.
              books   several   authors.GEN owns   Kay many
                                             (viele > mehrere, *mehrere > viele)

Like other scopal asymmetries, the contrast in (130) militates against a PF-deletion analysis. Under present assumptions, however, the effect does not come as a surprise, and is in fact easily accounted for by both a van Riemsdijk-style subextraction analysis and the analysis proposed here. (Recall that the conclusion of section 2.3.1 was that for those cases

---

(i)   [$_{AP}$ Stolz auf mindestens ein Kind]$_i$ ist fast   jeder t_i gewesen.
            proud of   at least   one child   is almost everybody   been
         'Almost everybody was proud of at least one child.'   (mind. 1 > jeder, jeder > mind. 1)

in which nothing blocks subextraction and TOP and REM form a contiguous noun phrase, such a derivation cannot be ruled out.) On either theory, the fronted NP in (130b) is a constituent, which suffices to block inverse linking (since the genitive modifier cannot be adjoined to DP):

(131)   a.   [$_{NP}$ Bücher mehrerer Autoren]$_i$ ... [$_{DP}$ viele t_i]

         b.   [$_{NP}$ Bücher mehrerer Autoren]$_i$ ... [[$_{DP}$ viele e] t_i]

In this respect and others, a subextraction analysis and the present approach make parallel predictions, since both assume movement of an NP constituent. What is important is that only the present analysis predicts effects like the above to generalize to other STCs that cannot be analyzed as instances of subextraction. Consider the gapless split in (132), which exhibits an ambiguity parallel to that found in (130a):

(132)   <u>Schallplatten</u> besitzt Volker <u>einige</u> <u>Klassiker</u> <u>mehrerer</u> <u>Künstler</u>.
        records   owns Volker some classics   several   artists.GEN
        'As for records, Volker owns some classics by several artists.'

<div align="right">(einige > mehrere, mehrere > einige)</div>

Here, REM is a full DP, and *mehrerer Künstler* attaches ambiguously to either NP or DP. When it appears as part of TOP, however, no scope ambiguity arises, exactly as in (130b). This is, of course, what is expected on the assumption that the fronted NP is a predicate of the stranded DP:

(133)   a.   <u>Schallplatten</u> <u>mehrerer</u> <u>Künstler</u>   besitzt Volker <u>einige</u> <u>Klassiker</u>.
           records   several   artists.GEN owns Volker some classics
           'As for records by several artists, Volker owns some clasics.'

<div align="right">(einige > mehrere, *mehrere > einige)</div>

         b.   [[$_{DP}$ einige Klassiker] [$_{NP}$ Schallplatten mehrerer Künstler]]

The locally unstable BPS in (133b) precludes any higher attachment (and hence wide scope) of *mehrerer Künstler*. Notice that this is solely a matter of constituency, on which subsequent fronting of NP has no effect.

ST ≠ Subextraction

I have argued above that the analysis developed here predicts ST to apply productively to all types of arguments, including subjects, oblique objects, and even to certain adjuncts; the only difference lies in the base position of the BPS. However, I have not yet made explicit why symmetry-breaking movement is possible in all of these cases, despite the

fact that arguments other than accusative direct objects and adjuncts in general are islands for extraction.[71] Let us therefore return to Fanselow and Ćavar's (2002) Generalization discussed in section 2.3.1, repeated below:

(134)   *Fanselow and Ćavar's Generalization*
         A movement barrier Σ does not block the formation of a split XP if and only if Σ itself is the barrier to be split up.   (Fanselow and Ćavar 2002: 82)

From the perspective of the present analysis, the relevant question is why a BPS is not a barrier (in the sense of (134)) when generated in a position where XPs usually exhibit barrierhood (roughly as defined by Huang's 1982 CED). The answer is simple: for an XP to act as a barrier for movement of a YP it contains, there must be an XP in the first place. But a BPS is not an XP, in the sense that it is not a labeled, identifiable object that could act as a barrier for movement.

Let us first (re-)collect the relevant facts. It was already noted in section 2.3.1 that subjects and oblique objects are extraction islands in German:

(135)   a. *[$_{PP}$ An Gary]$_i$ hat mich [$_{DP}$ kein [$_{NP}$ Brief t_i]] erschreckt
             to Gary has me   no   letter.NOM   frightened

         b. *[$_{PP}$ Über Polen]$_i$ ist hier noch [$_{DP}$ keinen [$_{NP}$ Büchern t_i]] ein Preis
             about Poland is here so far   no   books.DAT   a   prize
             verliehen worden
             awarded been

         c. *[$_{PP}$ An Studenten]$_i$ habe ich ihn [$_{NP}$ schrecklicher Morde t_i]
             of students   have I   him   horrible   murders.GEN
             bezichtigt
             accused

---

[71]It should be noted that judgments given in the literature are very often confounded by other factors, such as scrambling. For instance, Kniffka (1996: 84) judges the following case unacceptable and concludes on the basis of this that ST of accusative objects is potentially degraded with "contentful" verbs:

(i)   *<u>Lehrer</u> respektieren Schüler <u>alte</u> an unserer Schule.
          teachers respect   students old at our   school

While I agree with Kniffka's negative judgment, it is clearly not due to ST. Notice that REM has scrambled across the locative adverb; once we undo this scrambling, make the subject and REM definite (which is pragmatically more natural in this context) and (optionally) add a focus-sensitive particle, the result is fully acceptable:

(ii)   <u>Lehrer</u> respektieren die Schüler an unserer Schule vor allem <u>die alten</u>.
          teachers respect   the students at our   school especially the old

With such confounds controlled for, the generalization (134) holds.

Granting some variability in the status of subjects (see footnote 42 in the previous chapter), the islandhood of oblique objects is robust. This is one of the facts that lead Vogel and Steinbach (1998) to conclude that datives (selected or not) are in fact adjuncts; a similar case could be made for the adjuncthood of genitive objects. Be that as it may, both subjects and dative/genitive objects freely allow for ST; the facts are repeated below:[72]

(136) a. <u>Briefe</u> <u>an</u> <u>Gary</u> haben mich <u>keine</u> erschreckt.
           letters to Gary have me   no   frightened

       b. <u>Interessanten</u> <u>Büchern</u> <u>über</u> <u>Polen</u> ist hier noch <u>keinen</u> ein Preis
           interesting   books   about Poland is here so far no(ne) a   prize
           verliehen worden.
           awarded been

       c. <u>Schrecklicher</u> <u>Morde</u>   <u>an</u> <u>Studenten</u> wurde er <u>vieler</u> bezichtigt.
           horrible   murders of students   was   he many accused

As noted by Fanselow and Ćavar (2002), ST of subjects extends to subjects of individual-level predicates:[73]

(137) a. <u>Ärzte</u>   dürften schon <u>ein</u> <u>paar</u> altruistisch sein.
           doctors might PRT   a   few altruistic be
           'As for doctors, it seems that some are altruistic.'

       b. <u>Skorpione</u> sind ziemlich <u>viele</u> giftig.
           scorpions are rather   many poisonous
           'As for scorpions, many are poisonous.'   (Fanselow and Ćavar 2002: 73)

It was also noted in section 2.3.1 that ST easily splits definite DPs and is insensitive to the opaqueness that arises for certain predicate–argument combinations:

(138) a. <u>Gute</u> <u>Bücher</u> fallen mir   nur <u>die</u> <u>neuen</u> <u>von</u> <u>Chomsky</u> ein.
           good books   occur to me only the new   by Chomsky

---

[72]Such facts cannot be explained away by assuming that the information-structural marking of TOP obviates extraction constraints. First, it was shown in section 2.1 that ST does not necessarily assign any predefined pragmatic role to TOP; moreover, it is known that pied-piping is obligatory when extraction would lead to a movement violation (Heck 2004):

(i)   Whose book did you buy?
       a. [DP Chuck Norris' Buch]$_i$ habe ich t_i gekauft.
           Chuck Norris's book   have I   bought
       b. *Chuck Norris'$_i$ habe ich [DP t_i Buch] gekauft.

[73]Contrary to what is claimed by Nakanishi (2005), who relies on judgments given in Diesing 1992: 40. The Diesing–Nakanishi examples, like those in the text, are fully acceptable to me, an intuition that is shared by Puig Waldmüller (2006: 20) and Nolda (2007: 66).

b. <u>Geld</u> habe ich nur <u>Christines</u> ausgegeben.
  money have I   only Christine's spent

(139) a. Über Syntax hat er ein Buch {ausgeliehen / *geklaut}.
     about syntax has he a   book borrowed   stolen
     'He borrowed/stole a book on syntax.'

   b. <u>Bücher</u> hat er <u>drei</u> {ausgeliehen / geklaut}.
     books   has he three borrowed   stolen
     'As for books, he borrowed/stole three.'

The situation is identical in gapless splits (Ott and Nicolae in press); some representative examples are given below:[74]

(140) a. <u>Studenten</u>   tragen nur <u>BWLer</u>   gerne Polohemden.
     students.NOM wear   only business students.NOM gladly polo shirts

   b. <u>Raubvögeln</u>   ähnelt   eine Amsel   allenfalls <u>Bussarden</u>.
     birds of prey.DAT resembles a   blackbird at most   buzzards.DAT

   c. <u>Gefallener</u> haben sie   hier zum Glück noch nie   <u>welcher</u> gedenken
     fallen.GEN have   they here fortunately yet   never any.GEN commemorate
     müssen.
     need

   d. <u>Autos</u> habe ich bisher nur <u>Stephans</u> <u>Porsche</u> fahren dürfen.
     cars   have I   so far only Stephan's Porsche drive   could

   e. <u>Bücher</u> wurden nur <u>drei</u> <u>Romane</u> {ausgeliehen / geklaut}.
     books   were   only three novels   borrowed   stolen

Even more striking, however, are adjunct splits. A first case in point are adjunct PPs: while these, like all PPs, robustly disallows subextraction, ST is possible. (16a) from section 1.2.3 is repeated in (141b):

(141) a. *[PP Von wem]$_i$ ist er schon   [PP in fremden   Betten t_i] aufgewacht?
         by   whom is he already   in stranger's beds   woken up

   b. <u>In fremden</u> <u>Betten</u> ist er schon   <u>in vielen</u> aufgewacht.
     in stranger's beds   is he already in many woken up

Free datives are optional dative objects, whose (typically beneficiary) interpretation is independent of the interpretation of VP, and that are never selected (cf. Vogel and Steinbach 1998); an example is given in (142):

---

[74]Fanselow and Ćavar (2002: 100) claim that dative gapless splits are unacceptable; their example (99c) (which is acceptable to me) is similar to (140b), except that it lacks the focus-sensitive adverb *allenfalls*, which may contribute to their impression that the example is degraded.

(142) Caro hat Freunden   von Benni einen Kuchen gebacken.
       Caro has friends.DAT of   Benni a   cake   baked
       'Caro baked a cake for friends of Benni's.'

Qua adjuncts (cf. Vogel and Steinbach 1998; Meinunger 2000: 190), free datives are robust extraction islands (143a). Nevertheless, ST is possible (143b).

(143) a. *[PP Von Benni]$_i$ hat Caro [NP einem Freund t_i] einen Kuchen gebacken.
              of   Benni has Caro   a   friend.DAT   a   cake   baked

       b. <u>Freunden</u>   <u>von Benni</u> hat Caro nur <u>den besonders</u>   <u>netten</u> einen Kuchen
           friends.DAT of   Benni has Caro only the particularly nice   a   cake
           gebacken.
           baked

Finally, even adverbial noun phrases seem to allow for ST (*pace* Nolda 2007: 67).[75] While examples are somewhat hard to construct due to contextual restrictions, the following is acceptable to me and my informants:

(144) (Sonntags   muss ich nie   arbeiten.) Aber <u>Samstag</u>   habe ich nur jeden
        on Sundays need I   never work   but Saturday.ACC have I   only every
       <u>zweiten</u>   im   Monat frei.
       second.ACC of the month free
       '(I never need to work on Sundays.) However, I only get every second Saturday
       of the month off.'

Needless to say, extraction from such categories is strongly degraded:

(145) *Was$_i$ hast du [NP jeden zweiten t_i im   Monat] frei?
        what.ACC have you   every second.ACC   of the month free

To be clear: ST does respect extraction constraints that concern "outer islands," i.e. islands that contain the split category. This was shown in section 2.2.2 for standard island conditions, such as the Adjunct Condition. We also witness a subject–object asymmetry of the familiar type when TOP is extracted from within a subject/object clause:[76]

(146) a. *<u>Bücher</u> überrascht (es) mich dass Stefan schon   <u>mehrere</u> <u>spanische</u>
            books surprises   it me   that Stefan already several Spanish
            gelesen hat.
            read   has

---

[75]In this they contrast with genitive modifiers/complements of N (Nolda 2007: 68), a fact which I have no account for. It follows from the proposal made in this section if DPs generally disallow subextraction (as claimed by De Kuthy 2002), since the BPS would be embedded under a DP barrier.

[76]The deviance of (146a) arises irrespectively of extraposition of the subject clause.

b. Bücher glaube ich dass Stefan schon mehrere spanische gelesen hat.
    books think I   that Stefan already several Spanish read   has

Taking all of this together, how can we derive (134)?

It turns out that the analysis developed above provides a natural answer to this question. What the bad examples given above show, descriptively and generally speaking, is the following:

(147)   In a syntactic object [$_{ZP}$ ... XP ...], ZP can be a barrier for extraction of XP.

Now, what I claim takes place in ST is that an element XP raises from a symmetric and hence unlabeled object:

(148)   XP ... [⟨XP⟩ YP]

Evidently, (148) falls outside of the scope of (147): there is simply no element present that could block the movement. In other words, a bare set {DP, NP}, which bears no label, is not an identifiable category that could act as a barrier—it is no category at all but only becomes one *after* movement has applied and a label can be detected. Yet another way of saying the same thing is that while (147) states a possible restriction on extraction of XP from ZP, (148) involves no extraction in this sense at all: neither XP nor YP are formally embedded inside an object that could block subextraction; the BPS, unlike a labeled category, is nothing more than the elements it consists of. Therefore, XP in (148) is as free to raise as any non-embedded XP. This includes the case where a BPS is merged in adjunct position: an XP moving from this BPS moves like an adjunct, not like an element extracted from an adjunct.

At the same time, it follows that a category that embeds a BPS, like the subject clause in (146a) or any other island, will act as a barrier as usual. We thus correctly predict ST's insensitivity for "inner islands" on the one hand and its sensitivity to "outer islands" on the other.

This explanation for the contrasts reported above is, in effect, the same as that offered by the PF-deletion account of Fanselow and Ćavar discussed in section 2.3.2, although arrived at on different grounds: the CED is voided by ST simply because no subextraction is involved. If ST raises an XP from an unlabeled BPS, (134) falls out automatically.[77]

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[77]The next step, of course, must be to show that the same is true for other {XP, YP} configurations. For instance, could anything block movement of either DP or vP from {DP, vP}? For possessors the situation is clearly different (in languages like German or English), showing that these are genuine left branches in an asymmetric structure. This and other questions are left to future work.

3.4 Further Issues

3.4.1 Gapping and Fragments

I would now like to briefly comment on gapping[78] that leaves TOP and REM as remnants ("gapped" ST, gST), since this is a frequent use of STCs.[79] Consider the following example, which I assume has the underlying structure indicated in (149b):

(149) a. (<u>Romane</u> hat Thomas <u>viele</u> gelesen,) aber <u>Sachbücher</u>   nur <u>wenige</u>.
    novels has Thomas many read but non-fiction books only few
   b. aber Sachbücher ~~hat Thomas~~ nur wenige ~~gelesen~~

The elided elements are given, the remnants contrastive relative to their correspondents in the antecedent clause. On the assumption that focus-sensitive particles like *nur* adjoin to functional projections (Büring and Hartmann 2001; Kleemann-Krämer 2010), it follows that *Sachbücher nur wenige* is not a constituent. The same is shown by the fact that it cannot occur in pre-V2 position:[80]

(150) *Sachbücher (nur) wenige hat Thomas gelesen.
   non-fiction books only few has Thomas read

 All types of ST can occur in the form of gST. This is illustrated for gapless splits, PP-splits, SS, and mixed splits below:

(151) a. <u>Raubkatzen</u> hat Jamie schon <u>viele</u> gesehen, aber <u>Raubvögel</u> noch
    cats of prey has Jamie already many seen but birds of prey yet
    nie <u>welche</u>.
    never any

---

[78] The definition of gapping I will assume is that of Hartmann (2000: chapter 4), given here in a slightly simplified version:

(i) *Gapping* (adapted from Hartmann 2000: 144)
  a. Delete the finite verb at PF.
  b. Delete additional given elements at PF such that the remnants and the correspondents of Gapping succumb to the following conditions:
    1) the remnants are maximal syntactic constituents (XPs)
    2) the remnants are contrastive relative to the correspondents

[79] I will set aside here the "nominal odd coordinations" discussed by Schwarz (1998), which he very plausibly analyzes as instances of gapping. See chapter 2, footnote 18.

[80] Unless the second noun phrase is parenthetical (indicated by comma intonation), in which case the appositive complex is a single constituent (host category and adjunct).

b. <u>Phonologen</u> kennt Julieta <u>drei</u>, <u>Semantiker</u> <u>zwei</u> und <u>Syntaktiker</u> nur
phonologists knows Julieta three semanticists two and syntacticians only
<u>den</u> <u>Chomsky</u>.
the Chomsky

c. <u>In Schlössern</u> hat Ceren noch <u>in keinen</u> gewohnt, aber <u>in Bungalows</u>
in castles has Ceren yet in none lives but in bungalows
schon <u>in dreien</u>.
already in three

d. Ich glaube, dass er <u>Filme</u> schon <u>viele</u> gesehen hat, aber <u>Theaterstücke</u>
I think that he movies already many seen has but plays
wohl <u>höchstens</u> <u>zwei</u>.
PRT at most two

e. <u>Bücher</u> gelesen hat Vivek in seiner Jugend nur <u>wenige</u>, <u>Frauen</u> geküsst
books read has Vivek in his youth only few women kissed
dafür <u>viele</u>.
however many

Multiple splits are possible as well (perhaps with minor degradation due to increased complexity), with TOP, MED and REM surfacing as remnants:[81]

(152) (Fredi hat schon einiges gemacht das nicht ideal war,) aber <u>Fehler</u>
Fredi has already various done that not ideal was but mistakes
zum Glück <u>so</u> <u>richtig</u> <u>dumme</u> bisher noch <u>keine</u>.
fortunately PRT really dumb so far yet none
'Fredi has done all kinds of things that were less than ideal, but as for really dumb
mistakes, fortunately he didn't make any so far.'

Such facts are hardly compatible with the assumption that gapping involves coordination of vPs (plus ATB verb movement), as proposed by Johnson (1996, 2009): except for REM, the gapping remnants in (152) are vP-external, as indicated by the interspersed particles/adverbs. The simplest assumption, then, is that TOP and MED occupy the edges of CP

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[81]Alternatively, a contrastive subject can be retained instead of MED:

(i) ?(Alle Kinder kaufen sich in letzter Zeit viele Haustiere. Reptilien hat sich der Marcus schon
all children buy REFL in recent time many pets reptiles has REFL the Marcus already
so einige zugelegt.) Aber <u>Nagetiere</u> zumindest der Carsten bisher nur <u>Capybaras</u>.
PRT several bought but rodents at least the Carsten so far only capybaras
'All children have been buying a large number of pets recently; Marcus already bought a couple of
reptiles. But as for rodents, at least as far as Carsten is concerned, (he bought) only capybaras so far.'

and TP, as usual, with deletion applied to given material (see the definition in note 78).[82] That gapping in German involves CPs is brought out independently by the fact that fronted *wh*-phrases are retained under gapping (example adapted from Hartmann 2000: 158, attributed to Daniel Büring):

(153) Ich verwechsle immer was Benni Caro zum   Geburtstag geschenkt hat, und
       I   confuse   always what Benni Caro to the birthday   given   has and
       *(was) sie ihm.
         what she him
       'I keep confusing what Benni gave Caro for her birthday, and what she (gave) to
       him.'

Evidently, gST can be easily handled by the present account. TOP and REM are necessarily separated by movement (in the usual way, by displacement to the edge of CP/TP, licensed by EF of C/T) and, provided they are contrastive, retained when deletion applies. A deletion account as outlined in Hartmann 2000: chapter 4 seems to be empirically more adequate than a vP-coordination approach.

The same analysis can be applied to fragment answers to multiple questions (or questions permitting pair-list answers). Consider the following (I use the symbol > to visually separate TOPs and REMs):

(154)   A: What kinds of animals did you see at the zoo?
        B: Reptilien > ein paar Krokodile und Schlangen, Affen   > Gorillas und
            reptiles   a few crocodiles and snakes   monkeys   gorillas and
            eine Horde Schimpansen, und Raubkatzen > nur   einen Luchs.
            a   horde chimpanzees and cats of prey only a   lynx

(155)   A: What did you buy and how much?
        B: Fisch > ein halbes Pfund und Fleisch > drei Kilo.
            fish   a half   pound and meat   three kilos

Merchant (2004: 710), who effectively assimilates fragment answers to sluicing, considers the possibility of multiple fragments in German a problem, since the language does not allow multiple fronting to the edge of CP. However, we can simply analyze such fragments as gapping, parallel to the cases above: TOP and REM are the contrastive remnants of deletion, applied to given material.

(156)   Fisch ~~habe ich~~ ein halbes Pfund ~~gekauft~~ und Fleisch ~~habe ich~~ drei Kilo ~~gekauft~~

---

[82] An analysis of the above examples as some kind of pseudogapping is clearly not plausible, given that German does not have VP-ellipsis. Also, there is no evidence that REM leaves VP (or vP), as indicated by linearly preceding VP-level adverbs.

On this analysis, the problems pointed out by Merchant (multiple fronting, absence of V2) do not arise, since no multiple fronting to CP is required and the finite verb is deleted.

Interestingly, the gapping/fragment cases discussed here differ from a range of facts discussed by Richards (2010: chapter 2). Richards notes that configurations in which two elements of the same class (e.g., two noun phrases) surface in adjacent position are often deviant. One example is multiple sluicing (MS) in English, which is acceptable if the remnants are of distinct categories; two DP remnants are deviant:

(157)   a.   Everyone was dancing with somebody, but I don't know [DP who] [PP with whom]

            b.   *Everyone insulted somebody, but I don't know [DP who] [DP whom]

                                                  (Richards 2010: 43)

Like Moro (2000), Richards argues that points of symmetry lead to linearization failures. Unlike Moro, however, Richards argues that this symmetry is not of the type {XP, YP} but arises when a phrase of type α asymmetrically c-commands a linearly adjacent phrase of the same type, in which case a "contradictory" instruction is provided to PF:

(158)   *Distinctness*

        If a linearization statement $\langle \alpha, \alpha \rangle$ is generated, the derivation crashes.

                                                    (Richards 2010: 5)

    "This condition rejects trees in which two nodes that are both of type α are to be linearized in the same Spell-Out domain, and are in an asymmetric c-command relation (so that a linearization statement relating them is generated)."   *(ibid)*

Richards argues at some length that what counts as being of the same type is subject to crosslinguistic variation. As he notes, the contrast in (157b) does not arise in German (and other languages):

(159)   a.   Jeder   hat mit jemandem getanzt, aber ich weiß nicht [DP wer   ]
              everyone has with somebody danced but I know not   who.NOM
              [PP mit wem   ]
                 with who.DAT

            b.   Jeder   hat jemanden beleidigt, aber ich weiß nicht [DP wer   ] [DP
              everyone has somebody insulted but I know not   who.NOM
              wen   ]
              who.ACC

From the difference between (157b) and (159b) Richards concludes that Case-marking in German (not available in English) can render DPs sufficiently distinct not to produce contradictory linearization instructions, in accord with (158). Richards (2010: 46) compares cases like (159b) to German MS with remnants that bear identical Case specifications; while the judgments are subtle and interference from processing factors cannot be excluded, the latter case indeed seems degraded:

(160) ??Es ist einem Ritter   gelungen einem König   zu helfen, aber ich weiß
          it is a   knight.DAT succeeded a   king.DAT to help   but I   know
          nicht mehr welchem Ritter   welchem König.
          not   more which   knight.DAT which   king.DAT

Prima facie, the gST cases discussed above seem to conflict with Richards's reasoning. TOP and REM, the linearly adjacent remnants of gapping, are nominal categories with identical Case values; nevertheless, no violation of (158) results:

(161)   a.   (<u>Semantiker</u> kennt Volker <u>Chierchia</u> <u>und</u> <u>Krifka</u> und) [_{NP}
                   semanticist knows Volker Chierchia and Krifka and
                   <u>Syntaktiker</u>   ] [_{DP} <u>den</u> <u>Fanselow</u>   ]
                   syntacticians.ACC   the Fanselow.ACC

         b.   (<u>Rentnern</u>   vertraut Kay nur <u>wenigen</u> und) [_{NP} <u>Politikern</u>   ] [_{DP}
                   pensioners trusts   Kay only few   and   politicians.DAT
                   <u>gar</u> <u>keinen</u>   *e*]
                   not any.DAT

From the perspective of the approach advanced here, however, the acceptability of (161) constitutes no evidence against Richards's analysis. Richards (2010: 69ff.) explicitly argues that structural asymmetries between noun phrases suffices for distinctness, in particular a difference in functional structure (such as DP vs. NP). The contrast between (160) and (161) shows that the remnants in the latter case are distinct in this sense, so that my central assumption—that TOP and REM are noun phrases of different constitution (NP predicate and DP "subject")—receives indirect support from Richards's distinctness requirement. Conversely, the gST facts show that hybrid approaches which, unlike the present one, assume an asymmetric c-command relation between TOP and REM in underlying structure, cannot appeal to (158) as the reason for movement of TOP.

3.4.2   Remarks on ATB Application of ST

According to the Coordinate Structure Constraint (CSC) of Ross (1967: 89), extraction from a coordinate structure must affect both conjuncts. The constraint is active in STCs:

(162) *<u>Französische</u> <u>Bücher</u> hat Marcus schon   viele Filme   gesehen und will
       French   books   has Marcus already many movies seen   and wants
       Carsten <u>drei</u> kaufen.
       Carsten three buy

While TOP can be "reconstructed" into the ellipsis site inside REM in the second conjunct
by ellipsis resolution, there is no base position for TOP in the first conjunct; assuming that
topicalized XPs are operators, (162) is an instance of vacuous quantification (Chomsky
1995: 151f.). No such problem arises in (163), where TOP is extracted from both conjuncts:

(163) <u>Bücher</u> <u>über</u> <u>sein</u>$_i$ <u>Leben</u> schreibt ein guter Politiker$_i$ für gewöhnlich <u>mehrere</u>
       books about his   life   writes   a   good politician usually   several
       und möchte jeder Schauspieler$_i$ <u>welche</u> erscheinen sehen.
       and wants   every actor   some   appear   see

Interestingly, the CSC is active as well when both conjuncts are (seemingly) gapless.
Thus, we find the following contrast:

(164)   a. <u>Nagetiere</u> kennt Susanne nur   <u>Capybaras</u> <u>und</u> (mag Svenja nur)
           rodents   knows Susanne only capybaras and   likes Svenja only
           <u>Eichhörnchen</u>.
           squirrels

        b. *<u>Nagetiere</u> kennt Susanne nur   <u>Capybaras</u> <u>und</u> (mag Svenja nur)
           rodents   knows Susanne only capybaras and   likes Svenja only
           <u>Bussarde</u>.
           buzzards

Since the CSC requires the parallelism of both conjuncts, the extractee *Nagetiere* must be
a logical predicate in both conjuncts. This interpretation is readily available in (164a) but
nonsensical in (164b) (which would be acceptable, however, in a context where the property
RODENT can be felicitously predicated of buzzards). This is what we expect, since TOP
moves from {DP, NP} in each conjunct.

While the judgments are not as sharp as one would like them to be, it appears that (165)
contrasts for at least some speakers with both cases in (166) (traces are used to indicate the
intended interpretation, determiners to disambiguate for Case):

(165) <u>Politikern</u>   vertraut der Fabian generell <u>gar</u> <u>keinen</u> und glaubt   die Lea
       politicians.DAT trusts   the Fabian generally PRT none   and believes the Lea
       nur <u>wenigen</u>.
       only few

(166) a. ?(?)<u>Politikern</u>   vertraut der Fabian <u>gar</u> <u>keinen</u>   und glaubt die Lea
             politicians.DAT trusts   the Fabian PRT none.DAT and believes the Lea
             immer (*t*).
             always

     b. ?(?)<u>Politikern</u>   vertraut der Fabian immer (*t*) und glaubt die Lea <u>gar</u>
             politicians.DAT trusts   the Fabian always   and believes the Lea PRT
             <u>keinen</u>.
             none.DAT

The same contrast arises with gapless splits, although again judgments are not clear-cut:

(167) a. <u>Autos</u> besitzt der Thomas nur <u>Toyotas</u> und verkauft der Lars nur
        cars owns the Thomas only Toyotas and sells   the Lars only
        <u>deutsche</u>.
        German

     b. <u>Autos</u> besitzt der Thomas nur <u>deutsche</u> und verkauft der Lars nur
        cars owns the Thomas only German and sells   the Lars only
        <u>Toyotas</u>.
        Toyotas

(168) a. ?(?)<u>Autos</u> besitzt der Thomas nur <u>Toyotas</u> und verkauft der Lars (*t*).
         cars owns the Thomas only Toyotas and sells   the Lars

     b. ?(?)<u>Autos</u> besitzt der Thomas (*t*) und verkauft der Lars nur <u>Toyotas</u>.
         cars owns the Thomas   and sells   the Lars only Toyotas

The interpretable but less natural cases in (166) and (168) are less parallel than their counterparts in (165) and (167), in that the ATB-moved TOP binds traces of different status (predicate/argument) in each conjunct. If the contrasts are real, the facts in (166) and (168) raise interesting questions for the proper formulation of the CSC, regardless of whether it is construed as a derivational (Johnson 2002) or representational (Munn 1993; Fox 2000) constraint. This is so in particular because each of the component structures (in the sense of Fox 2000: 50[83]) is well-formed:

(169) a. Autos besitzt der Thomas (*t*).
        cars owns the Thomas

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[83]Fox's version of the CSC is given below:

(i) a. Extraction out of a coordinate structure is possible only when the structure consists of two independent substructures, each composed of the coordinates together with material above it up to the landing site (the *component structures*).
    b. Grammatical constraints are checked independently in each of the component structures. (Fox 2000: 50)

       b.   <u>Autos</u> verkauft der Lars nur <u>Toyotas</u>.
              cars   sells   the Lars only Toyotas

Hence, the deviance of (166) and (168) cannot be blamed on some violation internal to each conjunct. One could then consider supplementing the CSC with a condition that requires variable binding to be unambiguous, in the sense that the variables in each component structure must be of the same type (argument/predicate), a condition which in turn should derive from the ban on vacuous quantification.[84,85] However, since the contrasts are not very sharp and speaker's judgments are not consistent, I will not pursue this matter any further here and leave it at these tentative remarks.

What is clear is that the degradation witnessed in (166b) does not arise with right-node raising (RNR), as shown in (170a). This is expected, given that, unlike ATB constructions, RNR involves no movement but deletion (see Hartmann 2000: chapter 3, Abels 2004, a.o.), as shown in (170b). By contrast, (171) is unacceptable.

(170)   a.   Svenja sammelt und Christine verkauft französische Bücher.
               Svenja collects and Christine sells   French   books
      b.   Svenja sammelt ~~französische~~ ~~Bücher~~ und Christine verkauft französische Bücher

(171)   *Svenja sammelt <u>viele</u> und Christine verkauft <u>Bücher</u>.
        Svenja collects many and Christine sells   books

The deviance of (171) cannot be explained by appeal to traces, as no movement is involved here. An alternative explanation is readily available, however: in German RNR constructions, the last elements in each conjunct *modulo* the right-node-raised string must be contrastively focused (see Hartmann 2000: 110 for demonstration). Thus, in (170a), *sammelt*

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[84]One would like to know if ATB mixed splits improve compared to (166) and (168), given that the trace in each conjunct is a predicate irrespective of ST. Unfortunately, however, speakers do not have stable judgments of cases like the following:

(i)   a.   <u>Einen</u> <u>Film</u>   schauen konnte Kay dieses Jahr noch <u>keinen</u> und würde Elena gerne jeden Tag.
            a   movie watch   could Kay this   year yet   none   and would Elena like   every day
      b.   <u>Einen</u> <u>Film</u>   schauen würde Elena gerne jeden Tag und konnte Kay dieses Jahr noch <u>keinen</u>.
           a   movie watch   would Elena like   every day and could Kay this   year yet   none
           'As for watching a movie, Kay couldn't watch any so far this year, and Elena would like to do
           so every day.'   (no judgment)

Speakers I consulted found these cases acceptable but strongly marked. The facts are too shaky to draw any conclusions at this point.

[85]Another possibility is that the contrasts above have to do with focus and parallelism. More specifically, one could hypothesize that the focus in each component structure must denote alternatives to that of the other, not unlike the condition on RNR mentioned below. This can be the case (presumably) in (167) but not in (168).

is contrasted with *verkauft*; in (171), however, the foci are *viele* and *verkauft*, which yields no meaningful contrast.[86]

For completeness' sake I add that there is no acceptable RNR counterpart to (167b):[87]

(172)   a.   *Timo besitzt nur <u>deutsche</u> und Horst verkauft nur   Toyotas <u>Autos</u>.
                Timo owns   only German and Horst sells   only Toyotas cars
         b.   Timo besitzt nur deutsche ~~Autos~~ und Horst verkauft nur Toyotas Autos

Toyotas and *deutsche* can be meaningfully contrasted (since Toyotas are clearly not German cars). However, even if this were the case, no symmetry-breaking movement has applied in the second conjunct, and hence there is no interpretable (labeled) object noun phrase. By contrast, when *Autos* is leftward-moved (as required), RNR of the BPS remnant becomes possible:

(173)   a.   <u>Autos</u> fährt   der Timo und verkauft der Horst ausschließlich <u>Toyotas</u>.
                cars   drives the Timo and sells   the Horst exclusively   Toyotas
         b.   Autos fährt der Timo [~~Toyotas~~ t_i] und verkauft der Horst ausschließlich [Toyotas t_i]

Acceptability of (173) is what we expect, given that here, unlike in (172), both BPSs are asymmetricized by movement.

3.4.3   A Note on Pair-Merge (<DP, DP>)

The observation that movement of TOP is obligatory was an important point in the above discussion, and its deduction from basic principles is the main virtue of the present analysis.

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[86]More precisely, (171) fails to conform to the requirement that the focus values of each conjunct be identical. The following case illustrates this requirement independently of ST:

(i)   *weil   Sara ihrer Freundin den HANcock Tower und Gary seinem FREUND die Harvard Bridge
        because Sara her   friend   the Hancock Tower and Gary his   friend   the Harvard Bridge
        zeigt.
        shows
        'because Sara shows the Hancock Tower to her friend and Gary shows the Harvard Bridge to his friend.'   (Hartmann 2000: 113)

[87]Nothing can be said about (167a), since its RNR parse is indistinguishable from a parse in which *Toyotas* alone is the direct object and which consequently involves no deletion at all:

(i)   a.   Timo besitzt nur   Toyotas und Horst verkauft nur   deutsche Autos.
              Timo owns   only Toyotas and Horst sells   only German cars
       b.   ≡ Timo besitzt nur Toyotas ~~Autos~~ und Horst verkauft nur deutsche Autos
       c.   ≡ Timo besitzt nur Toyotas und Horst verkauft nur deutsche Autos

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However, it could be objected to the general validity of this claim with regard to examples like the following (where '#' indicates a prosodic break):

(174)   a.   ?Kehrig hat gestern   RAUBvögel *(#) ein paar BUSSarde *(#) gesehen.
            Kehrig has yesterday birds of prey   a   few buzzards   seen

        b.   ?Bastian hat die Wand mit einem Hammer *(#) mit einem großen *(#)
            Bastian has the wall with a   hammer   with a   big   *(#)
            eingerissen.
            demolished

As indicated, such constructions require comma intonation to be acceptable; moreover, each noun phrase has its own pitch accent. The structure is thus appositive, the second noun phrase parenthetical.[88] Additional evidence for this claim comes from the fact that the second noun phrase can alternatively (in fact, more naturally) appear in the right periphery as a base-generated afterthought (de Vries 2009). In this position, too, the noun phrase must be separated from the preceding clause by an intonational break:

(175)   Kehrig hat gestern RAUBvögel gesehen *(#) ein paar BUSSarde.

A natural assumption is that the parenthetical noun phrase in these examples is an adjunct.[89] That is, the two noun phrases in (174) are not combined by Set-Merge ({XP, YP}), but by Pair-Merge (i.e., <XP, YP>, where YP is adjoined to XP; see Chomsky 2000: 133). Notice that Pair-Merge, unlike Set-Merge, retains the label of the host category, of which it creates a new segment. Therefore, it never leads to the labeling problems discussed in section 3.1.2. As reflected in the pair notation, Pair-Merge is inherently asymmetrical.[90]

Could it be, then, that ST is actually based on such appositive structures, rather than on BPSs? The answer is clearly negative, for (at least) two reasons. First, it is easy to find cases of ST which do not have an acceptable appositive counterpart:[91]

(176)   a.   Bücher hat Amina keine französischen gelesen.
            books has Amina no   French   read

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[88]The appositive noun phrases can only occur in the order in (174); the reverse order is unacceptable. De Vries (2007) refers to nominal apposition as a subtype of "specifying coordination," where the second noun phrase specifies the first. The effect falls under the GAR, in that the two noun phrases stand in an asymmetric aboutness relation.

[89]See Beckmann 1997: chapter 8 for some arguments in favor of treating parentheticals as adjuncts. De Vries (2007) argues for a separate operation called b-Merge, but ideally no such extra mechanism should be necessary.

[90]If parenthetical noun phrases are analyzed as "orphans" (Haegeman 1991), the same conclusion follows, since no symmetrical structure obtains; I will set this alternative aside here.

[91]The b-examples are bad irrespective of the order of the appositive DPs.

b. *Amina hat Bücher # keine französischen # gelesen.

(177) a. <u>Französische Bücher</u> hat Amina noch nie   <u>welche</u> gelesen.
       French   books has Amina yet   never any   read
       b. *Amina hat noch nie französische Bücher # welche # gelesen.

(178) a. <u>Zeitungen</u>   kennt Fabian nur <u>eine gute</u>.
       newspapers knows Fabian only one good
       b. *Fabian kennt Zeitungen # nur eine gute.

(179) a. <u>Studenten</u> gibt es   ohnehin schon <u>zu wenige</u>.
       students   are there anyway already too few
       b. *Es gibt ohnehin schon Studenten # zu wenige.

As exemplified by (177b), existential pronouns like *welche* cannot occur in appositive con-figurations, however they productively occur as REM in STCs. (178b) illustrates the fact that DP apposition does not tolerate number mismatch, unlike STCs. The fact that the b-examples above are unacceptable militates against the idea that they reflect the derivational basis of the a-examples, given that DP apposition/Pair-Merge is inherently asymmetric and does therefore not necessitate displacement.

Second, in appositive configurations *both* the anchor *and* the parenthetical noun phrase are full DPs that can be quantified or/and definite.[92] Therefore, an analysis that derives STCs from appositive structures necessarily fails to predict the TOP–REM asymmetry, and specifically the fact that TOP in STCs is property-denoting:

(180) a. Kehrig hat ein paar Raubvögel   # drei Bussarde # gesehen.
       Kehrig has a   few birds of prey   three buzzards   seen
       b. *<u>Ein paar Raubvögel</u> hat Kehrig <u>drei Bussarde</u> gesehen.

(181) a. Amina hat schon   viele Bücher # z.B. drei französische # gelesen.
       Amina has already many books   e.g. three French   read
       b. *<u>Viele Bücher</u> hat Amina schon <u>z.B. drei französische</u> gelesen.

(182) a. Viele Studenten # über   zehntausend # haben protestiert.
       many students   more than ten thousand   have   protested
       b. *<u>Viele Studenten</u> haben <u>über zehntausend</u> protestiert.

A final asymmetry (noted in Nolda 2007: 125) concerns agreement. Recall from section 3.2.4 that, for many speakers at least, number disagreement of TOP and REM in a subject

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[92]The same is true for appositive PPs:

(i)   Lars ist schon   in vielen Betten # vor allem in vielen fremden   # aufgewacht.
     Lars is already in many beds   especially in many stranger's   woken up

split leads to a preference for agreement with singular REM; by contrast, in appositive structures the finite verb always agrees with the anchor, never with the adjoined DP:

(183) a. <u>Kopiergeräte</u> ist im   Moment nur <u>eins</u> in Ordnung.
           copiers   is at the moment only one in order
       b. *Kopiergeräte # nur eins # ist im Moment in Ordnung.

I conclude that ST is not based on appositive structures. Pair-merging two noun phrases yields an inherently asymmetric structure with one element adjoined to the other; this structure is necessarily labeled by the host category, and no movement is required.[93] To derive the central properties of ST, namely the TOP–REM asymmetry and the obligatoriness of movement, DP and NP must be combined by Set-Merge, yielding an unlabeled object.

3.4.4   Bare Predication or "Semantic Incorporation"?

Several researchers have proposed to derive the obligatory "bareness" of TOP in STCs from its being incorporated (in some sense) into the verbal complex.[94] Fanselow (1987: 103) devises a syntactic reanalysis rule that displaces the NP core of an argument into the verbal complex—an implementation that is hardly compatible with current assumptions about syntax and will not be discussed any further here.[95] By contrast, Van Geenhoven (1995) and Puig Waldmüller (2006) employ the notion of "semantic incorporation," an idea that can be traced back to Haider (1985: 237).[96]

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[93] The facts presented in this section provide direct evidence against the hypothetical approach to ST sketched—and eventually rejected—in van Hoof 1997, according to which REM in STCs is a "restrictive elliptical appositive" (REA), as discussed in van Riemsdijk 1998. But, as noted by van Hoof herself, REAs appear to have little in common with REM. One crucial difference is that according to van Riemsdijk 1998: 20 REAs are *obligatorily* elliptical, excluding gapless splits from the scope of the analysis. Thus, I concur with van Hoof that the approach is untenable. See also Nolda 2007: 122 for arguments against an appositive source of STCs (he discusses Pérennec 1988, which has not been accessible to me).

[94] A further fact that contributed to the impression that there is some similarity between ST and noun incorporation is that the latter shows doubling effects similar to genus–species splits (Mithun's 1984 "classificatory noun incorporation," cf. Fanselow and Ćavar 2002: 99).

[95] But see Roehrs 2009b for some discussion and empirical arguments against Fanselow's approach. One problem noted by Roehrs is that the adjacency between NP and V required by Fanselow's rule is not necessarily observed, for instance when REM contains postnominal modifiers.

Given that reanalysis is taken to precede movement, the analysis in Fanselow 1987, 1993 in fact takes all instances of ST to be VP-fronting. In non-mixed splits, the nonfinite verb in the fronted VP is deleted; in mixed splits, it is not. No argument for this assumption is provided, however, beyond the observation that mixed splits are possible. The proposed deletion operation is highly dubious, since it targets a nonfinite verb (unlike regular gapping, which targets finite verbs) and cannot apply when VP is *in situ*. Moreover, parasitic-gap licensing by a fronted TOP (see footnote 19 in chapter 2) militates against this analysis, since the gap corresponds to DP.

[96] Nolda (2007: 139) also cites Rosengren 1993: 277ff. and Gallmann 1999: 288f. in this connection.

Van Geenhoven (1995) attempts to assimilate ST to her analysis of incorporation in West Greenlandic, where objects "visibly" (morphologically) incorporate into verbs and, as a result, fail to take scope over any operator c-commanding the verbal complex. With regard to ST in German, Van Geenhoven argues that both TOP and REM are incorporated into the verbal predicate; unlike what is found in West Greenlandic, this incorporation is taken to be purely abstract. With regard to REM, incorporation falsely predicts it to be a bare NP that takes narrow scope only.[97] Observing this inadequacy, Puig Waldmüller (2006) develops an analysis in which only TOP is semantically incorporated into V, based on Chung and Ladusaw's (2004) semantic system designed for incorporated indefinites in Chamorro.[98] Syntactically, she follows Fanselow in assuming that TOP is underlyingly a bare-NP adjunct to V, while REM merges as the DP argument of this modified verb (Puig Waldmüller 2006: 58).[99] The fact that TOP is a bare NP, however, need not indicate incorporation; as pointed out above, TOP simply behaves like a predicative NP. Moreover, the occurrence of bare unmodified NPs[100] in the prefield is not restricted to STCs, hence need not be taken to indicate incorporation (the first two examples are from Nolda 2007: 23):

(184)   a.   Predigt ist gerade fertig   geworden.
              sermon is just   finished been

Haider's primary evidence is the existence of mixed splits; he takes the fact that antecedent–gap mismatches are possible to show that the fronted constituent in such cases is a "complex verb." From the perspective of the present analysis, both facts are rationalized without any appeal to "incorporation," and the existence of mixed splits is reduced to the general availability of remnant-VP fronting in German. The definiteness effects observed by Haider for subjects included in fronted vPs should reduce to the requirement that definite subjects raise to TP (Wurmbrand 2004).

[97] The single piece of evidence Van Geenhoven cites (for German) is the following example:

(i)   *Fehler   haben die Studenten zwei nicht gemacht.
          mistakes have   the students   two not   made
          'As for mistakes, there are two which the students didn't make.'   (Van Geenhoven's judgment)

Since (i) is supposedly unacceptable, Van Geenhoven concludes that REM must take narrow scope under negation. Her judgment is clearly mistaken, however (as also pointed out in Kuhn 2001: 210, Chung and Ladusaw 2004: 129, and Puig Waldmüller 2006: 48): the example is perfectly acceptable on the intended interpretation (*zwei > NEG*).

[98] More specifically, Puig Waldmüller relies on Chung and Ladusaw's (2004) operation Restrict, which combines a verb and a predicate such that the latter restricts the interpretation of the former, while not saturating it. The net effect is the same as that of semantic incorporation in Van Geenhoven's sense, as acknowledged by Chung and Ladusaw (2004: 17).

[99] Puig Waldmüller fails to address the question how incorporation works in multiple splits, where, presumably, both TOP and MED would have to be incorporated NPs, somehow linked to the same argument slot. Parallel splits, while mentioned, are not discussed in any detail either.

[100] Modified predicate NPs in German require an article.

> b. Kundenkarte   haben sie nicht, oder?
>   membership card have you not   do you
>
> c. Krise muss nicht traurig sein.
>   crisis need not   sad   be

Puig Waldmüller's claim that TOP is incorporated is mainly based on the purported fact that it is invariably "scopeless" with regard to other quantifiers (i.e. it obligatorily takes narrow scope). However, it was shown in section 3.3.2 that this is not the case; while TOP itself is predicative and hence non-quantified, it can contain quantifiers that take scope over other operators. This fact alone refutes the central prediction of the incorporation approach.

What is more, it seems that several central properties of ST do not resonate with an incorporation analysis (see also Nolda 2007: 142). This is true, in particular, for ST's indiscriminateness with regard to the grammatical status of elements it can affect: as we have seen, ST applies not only to direct objects but extends to oblique objects and transitive subjects, and even to adjuncts (PPs and free datives; recall the facts in section 3.3.2). In fact, even small-clause subjects and objects can be split by ST:[101]

(185) a. <u>Für</u> <u>einen</u> <u>Lügner</u> halte   ich ihn allerdings <u>für</u> <u>einen</u> <u>schlechten</u>.
          for a   liar   consider I   him however   for a   bad
          'As for liars, I consider him a bad one.'

       b. <u>Frauen</u> halte   ich vor   allem <u>blonde</u> für schlechte Lügner.
          women consider I   especially blonde for   bad liars
          'As for women, I consider especially blonde ones bad liars.'

It is implausible at best to assume that a small-clause argument can incorporate into the matrix predicate.[102]

Even if some reason for this discrepancy between ST and typical cases of incorporation could be found, it would raise the question why TOP and REM agree robustly in Case (this problem was already pointed out in the discussion in section 2.3.3). If TOP were an incorporated category, we would expect it to invariably surface with structural object or default Case. Chung and Ladusaw (2004: 89) in their discussion of Chamorro incorporation (on which Puig Waldmüller's analysis is based) point out that one of the two noun phrases

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[101]*Pace* Roehrs (2009b: 30, fn. 17), who judges a suboptimally constructed example.

[102]Not only is ST insensitive to grammatical function, it is likewise not limited to a particular semantic class of either objects or predicates (or VP denotations, such as habitual activities), unlike what is typically found with incorporation (see sources cited in Carlson 2006: 44). For instance, Chung and Ladusaw (2004: 82f.) note that incorporation in Chamorro is limited to two specific verbs of possession. The productivity of ST stands in stark contrast to what is expected from the point of view of an incorporation analysis. Puig Waldmüller offers no reason for why German should be typologically unique in allowing semantic incorporation (on her terms, the operation Restrict) to apply without bounds.

invariably bears unmarked morphological case. Similarly, Barrie and Spreng (2009: 380) observe that incorporated objects in German progressive forms are not stably Case-marked but often realized with default nominative. By contrast, TOP and REM (as well as MED in multiple splits) always agree in Case, as shown in section 2.2.4. While Puig Waldmüller is forced to resort to *ad hoc* coindexation mechanisms, these results fall out naturally from the analysis proposed here, where Case is assigned under Multiple Agree.

There are further aspects of the above discussion that are problematic for an incorporation analysis. Recall, for instance, the gapping facts discussed in section 3.4.1, where the verb is deleted but TOP is retained. As Maria Polinsky (p.c.) points out, if TOP is taken to be semantically incorporated, it is unexpected that deletion can nevertheless target individual subparts of the complex predicate. Presumably, it should likewise be impossible for TOP to be narrowly focused (which it can be, cf. section 2.1.2), as this seems to contradict the cohesion of TOP and V that should result from semantic incorporation.[103]

There is good reason, then, to reject the idea that semantic incorporation is involved in STCs, even when limited to TOP/NP. The analysis proposed here seems to make more accurate predictions in all respects while still accounting for the bare-NP status of TOP.

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[103]Barrie and Spreng (2009: 378) point out the following contrast between non-incorporated objects and incorporated objects in the German progressive:

(i) a. Ich lese oft Bücher.
   I read often books
   'I often read books.' (oft > Bücher)
   'When I read it's often books (but sometimes magazines).' (Bücher > oft)
   b. Ich bin oft am Bücher lesen.
   I am often PRT books read
   'I often read books.' (oft > Bücher)
   *'When I read it's often books (but sometimes magazines).' (Bücher > oft)

Barrie and Spreng take the ambiguity of (ia) to be scopally grounded, however the relevant factor seems to be focus: the "wide-scope" reading of (ia) arises naturally when *Bücher* is contrastively stressed, a focus placement that is not available for (ib): stress on *Bücher* in this case is interpreted as focus on the entire predicate. While this is what one would expect from an incorporated object, the effect is crucially not found in (ii), which patterns with (ia) rather than with (ib):

(ii) Bücher lese ich oft welche.
   books read I often some
   'As for books, I often read (books).' (oft > Bücher, Bücher > oft)

If TOP were incorporated, one would not expect it to have the same degree of independence from the verb as the object in (ia).

3.4.5 Crosslinguistic Properties of ST

While the focus of the discussion in this essay is on ST in German, I would like to highlight the fact that the peculiarities that led me to pursue an approach in terms of local instability are not an idiosyncratic quirk of this language, but rather represent the general case crosslinguistically. Fanselow and Féry (2006), who present the most wide-ranging crosslinguistic survey of ST (or phenomena of similar surface appearance), show that it is almost universally the case that REM in STCs takes the form of an independent noun phrase.

Consider some illustrative examples (all taken from Fanselow and Féry 2006: 55ff.). In Hungarian (and other languages), adjectives which are not overtly Case-marked in simple DPs nevertheless surface with Case morphology when they act as a REM in ST:

(186)   a.   Láttam nagy bicikliket.
                I saw big bike.ACC

           b.   <u>Bicikliket</u> láttam <u>nagyokat</u>.
                bike.ACC I saw big.ACC
                'I saw a big bike.'

Similarly, it is crosslinguistically very common for nominalizing morphemes to appear in REM, evidently owing to its status as an independent noun phrase. Consider Yucatec Maya as an example:

(187)   a.   Pedro-e' ts'o'k u xokik   ya'bkach áanalte'o'b.
                Pedro-TOP term A.3 read.INCOMPL many   book.PL

           b.   <u>Áanalte'o'b</u>-e' Pedro-e' ts'o'k u xokik   <u>ya'bkachi'</u>.
                book.PL-TOP Pedro-TOP term A.3 read.INCOMPL many.NMNLZ
                'Pedro read many books.'

Such facts are evidently directly parallel to the obligatory-inflection effects in German presented in section 2.2.3.

Nouns in Nogai generally do not bear plural number marking when quantified but do have to appear with plural morphology when N(P) and the quantifier are separated by ST:

(188)   a.   Köp noRaj kitapdy ul aldy.
                many Nogai book.SG he bought

           b.   <u>NoRaj</u> <u>kitaplardy</u> ul <u>köp</u> aldy.
                Nogai book.PL   he many bought
                'He bought many Nogai books.'

P-doubling in ST is frequent crosslinguistically, however it is not always obligatory

(as one might expect if it is a morphological effect, as argued in section 3.2.7). Consider examples from dialectal Croatian (189a) and Georgian (189b):

(189) a. <u>Va gradu</u>   Tome   oš <u>va nikakovom</u> nij   stovano.
           in castle.LOC Thomas yet in no.LOC   has.NEG lived

       b. <u>Saxl-shi</u> vcxovrob <u>lamaz-shi</u>.
           house-in I am living nice-in

Number mismatch between TOP and REM is also not limited to German ST; consider the following example from Albanian:

(190) <u>Libra</u> kam   lexuar vetëm <u>një</u>.
       books have I read   only one
       ‘I have read only one book.’

The same language also shows article doubling in STCs:

(191) <u>Një makinë</u> nuk kam <u>një amerikane</u>.
       a   car   not has an American
       ‘He does not have an American car.’

These and many similar cases from a diverse range of languages lead Fanselow and Féry to conclude that

> [B]oth right and left parts of [...] discontinuous noun phrases must always be adjusted to the needs of structurally independent DPs.
>
>   (Fanselow and Féry 2006: 61)

They note that this general picture is problematic for movement (subextraction) theories of ST. The present approach, however, resolves the problem: autonomous surface form of TOP and REM is exactly what is expected when each is generated as an independent noun phrase. Antecedent–gap mismatches are no reason to abandon a movement approach.

The most extreme type of antecedent–gap mismatch, and therefore the clearest piece of evidence in favor of a hybrid analysis, are gapless splits. In their survey, Fanselow and Féry (2006) find that genus–species splits, in which TOP denotes a (pragmatically defined) superset of the denotation of REM, are crosslinguistically common. Some of their examples are reproduced below (glosses simplified):

(192) a. <u>Vogels</u> kent   hij alleen maar <u>nachtengalen</u>.
           birds   knows he only   but   nightingales
           ‘As for birds, he only knows nightingales.’   (Dutch)

b. <u>Lintuja</u> hän   tuntee vain <u>satakielen</u>.
   birds   (s)he knows only nightingale.SG
   'As for birds, he only knows nightingales.'   (Finnish)

c. <u>Satamashoebi</u>, icis   mxolod <u>lurji</u> <u>burtebI</u>.
   toy   knows only   blue ball
   'As for toys, he only knows blue balls.'   (Georgian)

d. <u>Pinngussanit</u> nalunngilai <u>tungujortut</u> <u>arsat</u>.
   toys   knows he   blue   balls
   'As for toys, he only knows blue balls.'   (Greenlandic)

e. <u>Madarat</u> csak <u>csalogányt</u> láttot.
   bird   only nightingale saw
   'As for birds, he only saw a nightingale.'   (Hungarian)

f. <u>Tori</u>-wa   kare-wa <u>kanaria</u>-dake(-o) sitteru.
   birds-TOP he-TOP canary-only   know
   'As for birds, he only knows canaries.'   (Japanese)

g. <u>Catongcha</u>-nun ku-ka <u>Toyota</u>-man santa.
   car-TOP   he   Toyota-only buys
   'As for cars, he only buys Toyotas.'   (Korean)

h. <u>Bilar</u> köper han bara <u>Toyota</u>.
   cars buys he   only Toyota
   'As for cars, he only buys Toyotas.'   (Swedish)

Fanselow and Féry are reluctant to consider gapless splits instances of ST, but their sole reason for this distinction is their adherence to the traditional idea that STCs involve genuine discontinuous noun phrases, a theoretical hypothesis disputed by the present analysis. While Fanselow and Féry dismiss genus–species splits as "(semi-)free topics," the present analysis shows that a unification of all STCs is possible when the hybrid approach is adopted. We have seen in chapter 2 that all properties of STCs point to the need for a unified analysis, and moreover militate against a base-generation analysis. Moreover, the inclusion of gapless splits (as on the present account) is the more plausible option also with regard to the crosslinguistic picture. As Fanselow and Féry note, the possibility of gapless splits in a language correlates rather directly with splits in which REM contains a gap (i.e., what they consider "discontinuous noun phrases"):

> Constructions in which two lexical nouns appear in a discontinuous noun phrase are [crosslinguistically, DO] quite widespread. They may be considered a typical companion of discontinuous noun phrases involving a single lexical noun only.   (Fanselow and Féry 2006: 66)

It remains to be shown, of course, that the analysis can indeed capture the relevant properties of gapless and other splits crosslinguistically; for instance, one would like to know if

the TOP–REM asymmetry observed in German STCs, and hence the predicate–argument relation between TOP and REM, is crosslinguistically stable. However, at the very least, it removes the conceptual barrier that leads Fanselow and Féry to posit an empirically unsupported dichotomy (and has led most of the earlier literature to neglect gapless splits alltogether). By dissociating ST from the notion of "discontinuous noun phrase," it provides a novel perspective on this class of phenomena, from which the existence of variants like those in (192) is not puzzling at all, but in fact expected.

One may still wonder why, if the present analysis is correct in deriving the existence of STCs from fundamental principles of syntax, there are languages (like English) in which STCs do not seem to be fully productive. The emergence of locally unstable structures and the application of symmetry-breaking movement could not plausibly be subject to crosslinguistic variation in any deep sense. What needs to be borne in mind, however, is the fact that if constructions of a certain type are "not attested" in a given language, this does not necessarily indicate any deep grammatical variation. As Fanselow (2009) rightly emphasizes, "linguistic communities do not always realize all the possibilities which their grammars allow," highlighting the influence of stylistic preferences on acceptability judgments. On this very plausible view, only a subset of the usable structures provided by a speaker's I-language are realized in actual use and considered acceptable by that speaker. In many languages, the derivational mechanism argued for in this thesis might be an unrealized possibility in Fanselow's sense: while BPSs and the resulting surface forms may be a productive option for all grammars, their acceptability might be suppressed by stylistic choices that lead speakers to prefer alternative expressions with a similar informational value.[104] See Fanselow 2009 for further pertinent discussion (which, however, makes reference only to the simple-split variety of ST). Needless to say, such a claim is, at present, hard to falsify or test empirically. But this is not a shortcoming of the present analysis; rather, it reflects the fact that there is at present no theory of variation that incorporates the performative and stylistic factors that Fanselow draws attention to.

Thus, until more is understood the crosslinguistic non-universality of German-type ST cannot be used as an argument against the present analysis. In light of Fanselow and Féry's generalizations cited above, it seems quite likely that a crosslinguistic extension of the present analysis will prove fruitful, although it has to be left to future work (but see Ott 2010 for some preliminary observations concerning Japanese STCs).

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[104]This effect can even be observed for many speakers of German that are confronted with gapless splits, which are less frequent in use but generally accepted upon reflection.

3.5 Summary

The conclusion of chapter 2 was that no extant theory of ST is descriptively and explanatorily adequate. In the present chapter, a novel theory was developed which derives the phenomenon from a small set of fundamental assumptions concerning the workings of syntax.

It was shown in the preceding chapter that a subextraction-based theory of ST is untenable. That is, a (simplified) DP structure like (193a) cannot be the sole source of ST, for reasons pointed out in that chapter. In this chapter, I proposed that the problem can be solved by directly merging a term (DP) and a property (NP), as in (193b):

(193)   a. $[_{\text{DP}} \ldots [_{\text{NP}} \ldots]]$
        b. $[[_{\text{DP}} \ldots \{e \,/\, \text{NP}\}] [_{\text{NP}} \ldots]]$

The structure in (193b) is a "bare-predication structure:" NP denotes a property that is predicated of its DP "subject." This semantic asymmetry is required for the structure to be interpretable, deriving the TOP–REM asymmetry. By contrast, the only possible (interpretable) combination of two DPs is Pair-Merge/adjunction, yielding an appositive structure.

For neither (193a) nor (193b) does it make any difference whether or not there is ellipsis internal to DP, given the general availability of this mechanism in the language. This is an important detail, since it enables a fully unified analysis of those splits that leave an overt gap and those that do not. Ellipsis in NP was likewise shown to apply freely.

A central point of the analysis is that (193b) (unlike (193a)) is a syntactically symmetrical structure, for which no label can be determined by means of Minimal Search. As a result, it cannot enter into further computation, such as selection by a verb or adverbial interpretation, or movement. Adopting the Chomsky–Moro perspective on such unstable structures, I argued that ST is required to resolve the local instability; schematically:

(194)   *Phase level:*

        a.   *[DP NP]
        b. $^{\checkmark}$NP … $[_{\text{DP}}$ DP $\langle$NP$\rangle]$

Such symmetry-breaking movement is not only necessary but also possible irrespectively of the position of the BPS. This is so because NP does not move *out of* an object X, where X is a potential barrier for extraction (e.g., an indirect object). This object X exists only *after* the label of the BPS is determined, which is necessarily a logically later step of the derivation (since the labeling presupposes symmetry-breaking movement). We thus arrived at a unified account of all argument and adjunct splits.

As shown in (194b), after NP has moved the remaining structure is {DP, ⟨NP⟩}, which contains only DP as a proper object; consequently, DP provides the label for the syntactic position in which the BPS was originally generated. Movement of NP is constrained by standard locality constraints on $\overline{\text{A}}$-movement, since it binds its trace adjacent to DP.

I argued that movement of NP, as opposed to movement of DP, is required by pragmatic constraints on topic–comment organization, in particular the GAR, which requires topics and comments to be meaningfully related (aboutness in a general sense). It was argued that due to the predicative nature of NP, STCs are frame-setting expressions, in which NP/TOP specifies the domain of interpretation for the comment. These assumptions alone were shown to suffice to (indirectly) constrain symmetry-breaking movement, which consequently can apply freely. This obviates the need for syntactic stipulations and provides enough flexibility to allow for short movement of DP in the derivation of mixed splits, and was also shown to account for the attested patterns in multiple splits.

The proposed machinery does not go beyond what seems minimally needed to implement a "duality of semantics" in Chomsky's (2007) sense, and conforms to Fanselow and Lenertová's (2010) dictum that "notions of information structure play no role in determining what is fronted to the left periphery of a clause [...]." Syntactically, the analysis shows that it is fruitful to abandon the intuitive idea that ST yields discontinuous noun phrases (in the literal sense).

Chapter 4

An Extension to Quantifer Float

4.1 Floated Quantifiers: Basic Properties

In this chapter, I will outline some empirical properties of quantifier float (henceforth, QF) in German and argue that it, like ST, is the result of symmetry-breaking movement from an underlying {XP, YP} structure that expresses a predication.

In German, the quantifiers *alle* 'all' and *beide* 'both,' and, with some qualifications, *jeder* 'every' can be stranded by their topicalized or scrambled associates, yielding a pattern similar to ST (as before, I will refer to the two "parts" as TOP and REM, highlighted by underlining):[1]

(1) a. <u>Die Studenten</u> haben {<u>alle</u> / <u>beide</u>} protestiert.
         the students.NOM have   all.NOM   both.NOM protested

     b. weil   er <u>die Schüler</u>   gestern {<u>alle</u> / <u>beide</u>} bestraft hat.
         because he the students.ACC yesterday   all.ACC   both.ACC punished has

     c. <u>Den Kindern</u>   habe ich {<u>allen</u> / <u>beiden</u>} geholfen.
         the children.DAT have I   all.DAT   both.DAT helped

     d. <u>Die Männer</u>   wurden <u>jeder</u>   mit einem Orden ausgezeichnet.
         the men.NOM were   every.NOM with a   medal awarded

Compared to *alles* and *beide*, *jeder* exhibits a number of peculiarities; since these are ill-understood and not directly relevant to the discussion here, they will be largely set aside; see Fehlisch 1986 for extensive discussion. I will likewise set aside the question why floated quantifiers can in general not be associated with fronted PPs (Link 1974: 107f.), a

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[1]See Merchant 1996 and Bobaljik 2003 for some general discussion of QF in German, and Kniffka 1986 and Pittner 1995 for explicit comparison of ST and QF.

fact which I have no account for.[2]

A good deal of the literature on QF spawned by Sportiche 1988 tackles the question of whether floated quantifiers (FQs) are stranded by their associates, or whether they should rather be analyzed as quantificational adverbs in VP (see Bobaljik 2003 and sources cited there). In the latter case, QF would not involve any literal stranding. Presumably, both strategies are employed in different languages (as argued by Fitzpatrick 2006) or even in a single language, and in fact German appears to be a case in point. So-called "invariant *alles*" is a morphologically invariant quantificational particle that occurs in *wh*-questions and does not agree with its associate (see Reis 1992; Pittner 1995):

(2) a. Wer   (alles) hat dir   (alles) geholfen?
        who.NOM all   has you.DAT   helped

    b. Wem   (alles) hast du   (alles) geholfen?
        who.DAT all   did you.NOM   help

In what follows, we will not be concerned with invariant *alles* (which Reis argues is a clitic-like adjunct to *wh*-phrases) but only with genuine QF. (See Pittner 1995: 36f. for arguments against a uniform treatment of German floated quantifiers as adverbial.)

What I will consider genuine QF, and what I will be concerned with in what follows, is stranding of *alle*/*beide*/*jeder*, which agree in Case with their definite associates, as shown in (1). As in the case of ST, I assume that obligatory Case agreement between two separated elements indicates that both originate in the same thematic position (where "same" means same level of embedding).[3]

The information-structural properties of QF appear to be quite similar to those of ST (as outlined in chapter 2, section 2.1). Thus, TOP in QF is typically marked in some way, either by a rising tone (identifying it as a contrastive topic) or by a falling tone (identifying it as a fronted focus); if TOP is a contrastive topic, a falling tone on REM or some other element in the comment completes the bridge contour (cf. Féry 1993: 133); verum focus results in no special marking of either TOP or REM. I will leave an investigation of the information-structural potential of QF to future work.

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[2]I do not share Link's intuition that an FQ cannot be associated with a genitive DP.

[3]I limit my attention here to the stressed version of *alle*. As pointed out by Merchant (1996: 187) (who attributes the observation to Link 1974), there is a second, unstressed version of *alle* which immediately follows its associate.

(i)   Die Regierungsvertreter   alle verschwiegen die Vorgänge.
       the government representatives all concealed   the proceedings

Such cases are unacceptable when *alle* is stressed. I have nothing to say here about this construction.

While superficially similar, QF differs from ST in a number of ways. The most salient difference is that TOP (the fronted associate) in QF is definite, referring to a demarcated set of individuals (Krifka 1998: 102). Consequently, TOP in QF, unlike TOP in ST, can be a possessive or pronominal DP:

(3)   a.   <u>Die Schüler</u> hat der Lehrer gestern   <u>alle</u> geprüft.
              the students has the teacher yesterday all   tested

        b.   <u>Seine Kinder</u> liebt Peter <u>beide</u> sehr.
              his   children loves Peter both much

        c.   <u>Ihnen</u>   habe ich <u>allen</u>   geholfen.
              them.DAT have I   all.DAT helped

Unlike *beide*, however, *alle* and *jeder* are compatible with bare-NP antecedents as well, i.e. they participate in both QF and ST (cf. Puig Waldmüller 2006: 24; Fehlisch 1986: 95):

(4)   a.   <u>Die Süßigkeiten</u> mag ich <u>alle</u>.
              the sweets   like I   all

        b.   <u>Süßigkeiten</u> mag ich <u>alle</u>.
              sweets   like I   all

(5)   <u>Buch</u>   kannst du <u>jedes</u>   nehmen.
          book.ACC can   you every.ACC take
          'You can take any book.'

While (4a) refers to a specific set of sweets, (4b) can be abstractly paraphrased as "I like all *x*, such that *x* has the property SWEETS," where the latter provides the interpretive frame, as discussed in section 3.2.5. In (5), *jeder* partitions the denotation of TOP, yielding the reading "You can take any *x*, such that *x* has the property BOOK." In contrast to *alle* and *jeder*, *beide* requires a definite TOP.

When adjectives or postnominal modifiers are stranded along with the quantifier, TOP must be bare, indicating that we are now looking at instances of ST rather than QF (6); where "bareness" is not an option, only the bare QP can be stranded (7):

(6)   a.   (*<u>Die</u>) <u>Schüler</u> hat der Lehrer gestern   <u>alle</u> <u>guten</u> geprüft.
              the   students has the teacher yesterday all   good tested

        b.   (*<u>Die</u>) <u>Kinder</u> hat Peter nur <u>die</u> <u>beiden</u> <u>ältesten</u> bestraft.
              the   children has Peter only the both   oldest   punished

(7)   <u>Ihnen</u> hat er <u>allen</u> (*<u>freundlichen</u>) geholfen.
          them has he all   friendly   helped

I assume that all cases in which more than a bare QP is stranded and TOP is predicative

to be *bona fide* cases of ST, derived as proposed in chapter 3, i.e. by symmetry-breaking movement of the NP-predicate from {DP, NP}. From now on I will only be concerned with genuine QF, where TOP is a definite DP.

4.2 QF as Symmetry-breaking Movement

4.2.1 Evidence for Movement

The main theoretical motivation for contiguity of FQs and their associates in underlying form is the fact that FQs, like quantifiers contained in noun phrases, quantify over their associate (Sportiche 1988: 426).[4] In line with this consideration, it can be shown that QF involves an $\overline{\text{A}}$-dependency relating TOP to a VP-internal position. The following facts illustrate reconstruction of TOP for binding:

(8) a. <u>Die</u> <u>Artikel</u> <u>über</u> {<u>sich</u>$_i$ / <u>ihn</u>$_{*i}$} hat Jürgen$_i$ <u>alle</u> gelesen.
         the articles about himself   him   has Jürgen all   read

     b. *<u>Die</u> <u>Artikel</u> <u>über</u> <u>Jürgen</u>$_i$ hat er$_i$ <u>beide</u> gelesen.
         the articles about Jürgen has he both   read

(9) a. <u>Die</u> <u>Schüler</u> <u>in</u> <u>seiner</u>$_i$ <u>Klasse</u> muss jeder$_i$ Lehrer <u>alle</u> einmal im Jahr
         the students in his   class   must every teacher all   once   per year
         benoten.
         grade

     b. <u>Seinen</u>$_i$ <u>besten</u> <u>Studenten</u>   hat jeder Professor$_i$ <u>beiden</u>   ein Buch
         his   best   students.DAT has every professor both.DAT a   book
         geschenkt.
         given

(10)   weil   <u>die</u> <u>Rezensionen</u> <u>seiner</u>$_i$ <u>Bücher</u>   ja jeder Professor$_i$ <u>alle</u>
       because the reviews.ACC of his   books.GEN PRT every professor all.ACC
       gelesen hat.
       read   has

   While it is clear that TOP and the floated quantifier cannot be separated by an island boundary, it is also the case that long-distance movement of TOP is somewhat degraded, a fact that is unexpected for $\overline{\text{A}}$-movement:

---

[4]That is not to say that continuous and discontinuous quantified DPs are necessarily semantically equivalent—in fact, they need not be (see, e.g., Pittner 1995: 30). Whether or not this is a problem for either a subextraction analysis or that proposed below is a question I leave to future work.

(11)　　a.　*Die <u>Bücher</u> kennt　Fredi nur　einen Typen [$_{CP}$ der　<u>alle</u> gelesen hat]
　　　　　　　the　books　knows Fredi only one　guy　　　who all　read　　has

　　　　　b.　*<u>Den Kindern</u>　　　ist Silz gegangen [$_{PP}$ nachdem er　<u>beiden</u>
　　　　　　　the　children.DAT is　Silz left　　　　　after　　　he both
　　　　　　　einen Streich gespielt hatte]
　　　　　　　played a joke on　　　had

(12)　　a.　??<u>Die Bücher</u> hat　Benni behauptet [$_{CP}$ dass Caro <u>alle</u> gelesen hat]
　　　　　　　the　books　has Benni claimed　　　that Caro all　read　　has

　　　　　b.　??<u>Seinen Eltern</u>　　glaubt Lilli [$_{CP}$ dass Jan <u>beiden</u>　nicht traut]
　　　　　　　his　　parents.DAT thinks Lilli　　　that Jan both.DAT not　trusts

I have no explanation for the (near-)clause-boundedness of QF, and do not know of any
principled explanation proposed elsewhere. I will proceed on the assumption that this
property of QF is independent of the analysis proposed below, and that, despite this quali-
fication, QF involves $\overline{\text{A}}$-movement.

4.2.2　Evidence for a Hybrid Approach

Prima facie, the simplest theory of QF derives TOP and REM by subextraction of DP
from a larger constituent (essentially as proposed in Sportiche 1988, adapted to German in
Merchant 1996). Indeed, in some cases such a derivation appears to be available, indicated
by the fact that TOP can alternatively remain *in situ*:

(13)　　a.　<u>Seine Bücher</u> hat　Noam <u>alle</u> ins　　Regal gestellt.
　　　　　　　his　books　has Noam all　on the shelf　put

　　　　　b.　Noam hat　alle seine Bücher ins　　Regal gestellt.
　　　　　　　Noam has all　his　books　on the shelf　put

　　　　　c.　Alle seine Bücher hat　Noam ins　　Regal gestellt.
　　　　　　　all　his　books　has Noam on the shelf　put
　　　　　　　'Noam put all his books on the shelf.'

The accusative object in (13b) and (13c) must then be a single, labeled DP; I leave open
here what its internal structure is, since the focus is on the pattern represented by (13a).[5]
Notice, also, that the constituent under consideration here is a direct accusative object,
meaning that nothing rules out extraction of *seine Bücher* from a larger base XP in (13a):

(14)　　DP$_i$ ... [$_{?P}$ Q t_i]

---

[5]Notice that in the present framework no notion of specifier is available, hence the question arises how
the DP is labeled. One option is adjunction of the QP to DP (as in Sportiche 1988).

Importantly, however, (13a) does not represent the general case. As in the case of ST, it turns out that the simple analysis in (14) captures only a subset of QFCs; other cases necessitate a further derivational option. First, constituents other than direct objects can be split by QF while being opaque for subextraction. An example of a dative object was given in (1c) above; QF is also an option for genitive objects and free-dative adjuncts:

(15) a. <u>Dieser Gefallenen</u>   wurde gestern <u>aller</u>   gedacht.
          these   fallen ones.GEN was   yesterday all.GEN commemorated

     b. <u>Den Freunden von Benni</u>   hat Caro <u>beiden</u>   einen Kuchen gebacken.
          the friends   of Benni.DAT has Caro both.DAT a   cake   baked

As in the case of ST, lexically-induced prohibitions on subextraction do not appear with QF:

(16) a. Über Syntax hat er ein Buch {ausgeliehen / *geklaut}.
          about syntax has he a   book   borrowed   stolen
          'He borrowed/stole a book on syntax.'

     b. <u>Die Bücher</u> hat er <u>alle</u> {ausgeliehen / geklaut}.
          the books   has he all   borrowed   stolen

There is, then, some initial reason to doubt that QF is invariably based on subextraction as in (14). An even more convincing reason, however, is that QF tolerates antecedent–gap mismatches not unlike those found with ST (cf. Pittner 1995: 29f.; Nolda 2007: 136). First, the morphological form of *alle* and *beide* varies depending on whether or not the quantifier is floated, similar to what was shown in section 2.2.3 for ST:

(17) a. Elisabeth hat die beiden   Kinder eingeladen.
          Elisabeth has the both.WEAK children invited

     b. <u>Die Kinder</u>   hat Elisabeth {<u>beide</u>   / *<u>beiden</u>}   eingeladen.
          the children.ACC has Elisabeth   both.STRONG   both.WEAK invited

(18) a. Gestern   habe ich {all' / allen} diesen Studenten   geschmeichelt.
          yesterday have I   all   all.DAT these students.DAT flattered

     b. <u>Diesen Studenten</u> habe ich gestern   {*<u>all'</u> / <u>allen</u>} geschmeichelt.
          these students   have I yesterday   all   all.DAT flattered
          'Yesterday, I flattered all of these students.'   (Merchant 1996: 182)

As shown above, in the continuous form in (17a) *beide* bears weak adjectival inflection, whereas it assumes the form of a free-standing noun phrase when stranded (17b) (cf. *Ich habe beide gesehen* 'I have [them] both.ACC seen'). Similarly, while agreement of *alle* with its associate is optional in the continuous form (18a), it is obligatory when stranded (18b), again exactly as in its free-standing occurrence (cf. *Ich habe all*(-e) gesehen* 'I have

[them] all seen').[6]

The clearest evidence in favor of a hybrid analysis is provided by cases in which no continuous base constituent is available. Such cases do indeed exist and have led several researchers (e.g., Kniffka 1986 and Bhatt 1990: 213) to claim that a movement analysis of QF is untenable. The following examples illustrate antecedent–gap mismatches with QF:

(19)   a.   Cedrics Bücher kennt sie alle.
            Cedric's books knows she all
            (*alle Cedrics Bücher)

        b.   Marcus, Carsten und Stefan kamen alle zu spät.
            Marcus Carsten and Stefan came all too late
            (*alle Marcus, Carsten und Stefan)

        c.   Den Kindern hat sie beiden geholfen.
            the children has she both helped
            (*beiden den Kindern)

        d.   Thomas, Bastian und Stephan haben jeder zu Weihnachten ein Fahrrad
            Thomas Bastian and Stephan have every for Christmas a bike
            bekommen.
            gotten
            (*jeder Thomas, Bastian und Stephan)

As indicated, none of the above cases has an *in situ* counterpart (alternatively: in all cases, movement of TOP is obligatory). The same is true when the floated quantifier is accompanied by a numeral:

(20)   Die Bücher hat er alle vier gelesen.
        the books has he all four read
        (*alle vier die Bücher)

Relative-clause TOPs are a further interesting case:

(21)   Die dort in der Schlange stehen haben alle keine Arbeit.
        those there in the line stand have all no work
        'All those who are standing in line there are unemployed.'

At first glance, there is no mismatch here, since *alle* can combine with restrictive relatives: *alle, die dort in der Schlange stehen* 'all those who are standing in line over there.' However, this cannot be the source of (21), since relatives cannot be topicalized to the exclusion

---

[6]Merchant (1996), who assumes a Sportiche-style subextraction analysis of QF, accounts for this behavior by assuming that the associate moves through a specifier of Q (the quantifier), thereby triggering agreement. In the framework adopted here, the notion of specifier, and hence the notion of SPEC-head agreement, has no natural interpretation. Moreover, the examples below reveal that QF involves two noun phrases rather than one continuous source consituent.

of their head:

(22)   a.   [Den Mann, der sich verdächtig benahm]$_i$ hat sie t_i heimlich beobachtet.
             the man   who REFL suspicious behaved has she   secretly observed
    b. *[Der sich verdächtig benahm]$_i$ hat sie [den Mann t_i] heimlich beobachtet.

The conclusion must be that TOP in (21) is a free relative, and hence that TOP and REM
are independent constituents. Similarly, *jeder* can be stranded by a free-relative associate,
a constellation that cannot surface in continuous form:

(23)   Wer <u>da</u>   in <u>der</u> <u>Schlange</u> steht hat <u>jeder</u> keine Arbeit.
       who there in the line   stands has every no   work
       (*jeder wer da in der Schlange steht)

    Finally, floated *jeder* allows for mismatching number of DP and QP (see also section
4.2.4 below). Unlike *alle* and *beide*, *jeder* is syntactically singular; since it distributively
quantifies over pluralities, its associate DP is necessarily plural:

(24)   a.   <u>Den</u> <u>übergewichtigen</u> <u>Mitarbeitern</u> wurde <u>jedem</u> eine Diät verschrieben.
           the overweight   employees was   every a   diet administered
           (*jedem den übergewichtigen Mitarbeitern)

    b.   Jedem übergewichtigen Mitarbeiter   wurde …
          every overweight   employee.DAT was

As indicated in (24b), in the continuous form the entire DP is singular.

    The conclusion we arrive at is the same we arrived at in section 2.3.1: a Sportiche/Merchant-
style extraction analysis of QF derives only a subset of the cases that are possible; in order
to explain the full range of facts, an alternative derivational option must be available.

4.2.3   Bare Predication and Symmetry-breaking Movement

Notice that the theory developed in chapter 3 cannot be applied verbatim to QF: since TOP
is a definite DP, it cannot be a predicate in underlying structure. Instead, I suggest that the
reverse pattern holds in cases of QF: TOP is the logical argument (DP) of the predicative
quantifier (QP). The underlying structure, then, is a BPS:[7]
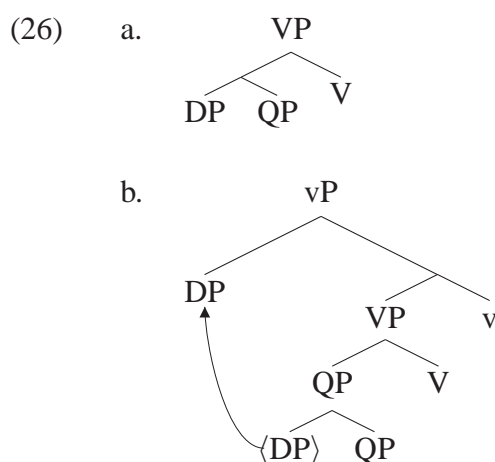
(25)   {DP, QP}

This implements an intuition expressed in Pittner 1995: 37ff., according to which floated
quantifiers stand in a predicative relation to their associates; this does not seem to be incom-

---

[7]The intuition that with regard to the argument/predicate status of the XPs involved QF is essentially the
reverse of ST is also expressed by Zifonun et al. (1997: 1618).

patible with the standard view of quantifiers in formal semantics as (higher-order) predicates (Heim and Kratzer 1998), although I will leave the semantic details of the proposal to future work.[8] Notice that the phrasal nature of floating quantifiers is "visible" in complex forms such as *fast alle* 'almost all,' *alle beide* 'all both,' *alle bis auf einen* 'all except one,' etc., which are all possible REMs in QFCs.

We can now follow the line of reasoning explored in chapter 3, according to which unstable structures like (25) require displacement in order to be labeled at the phase level. Assuming that (25) merges in object position (26a), then, its instability triggers raising to vP (26b):

(26)   a.   VP
```
           VP
          /  \
        /  \   V
      DP   QP
```

      b.   vP
```
            vP
           /  \
        DP      \
         ↑      VP    v
         |     /  \
         |   QP    V
         |  /  \
         ⟨DP⟩   QP
```

While (25) cannot be labeled by Minimal Search, the object position is labeled by QP after movement has applied: DP now being discontinuous, {DP, QP} is reduced to asymmetrical {⟨DP⟩, QP}, properly containing only QP. EF of C raises DP further; inheritance of EF by T yields the scrambling variety of QF, as in (10).

It immediately follows that DP and QP always agree in Case: merging {DP, QP} in any position will lead higher probes to agree with each DP and QP via Multiple Agree (as discussed in section 3.2.1); alternatively, oblique Case is assigned to {DP, QP}. It also follows, for reasons given in section 3.3.2, that {DP, QP} cannot act as a barrier for movement of either DP and QP, since it bears no label; at the same time, any movement from {DP, QP} will necessarily respect "outer islands." This derives the facts presented in sections 4.2.1 and 4.2.2.

To illustrate, consider the example in (17b), repeated in (27) below. According to the line of reasoning explored here, the quantifier and its associate DP must be underlyingly

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[8]The analysis bears some loose resemblance to that developed in Miyagawa 1989: chapter 2 (where FQ and associate are required to be in a mutual c-command relation), except that it obviates the need for ternary branching.

related as in (28a), a symmetrical structure which is broken at the vP-phase level, as shown in (28b).

(27) Die Kinder   hat Elisabeth beide   eingeladen.
      the children.ACC has Elisabeth both.ACC invited

(28) a.

$$
\begin{array}{cc}
\text{DP} & \text{QP} \\
\text{die Kinder} & \text{beide}
\end{array}
$$

b.
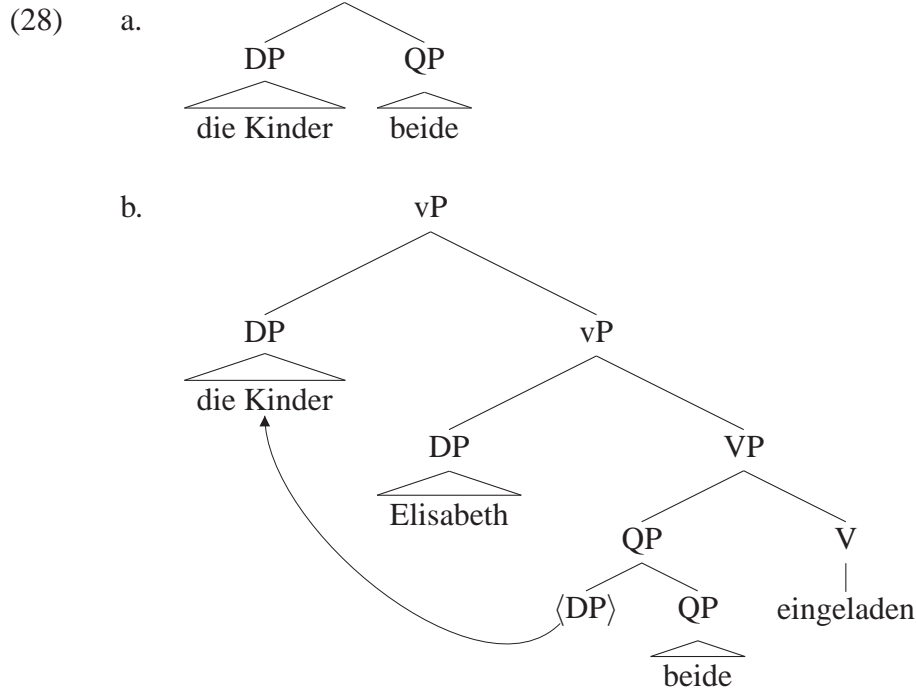
DP having raised to the phase edge, the BPS is now labeled by the remaining QP, which enters into selection/θ-marking by V.[9] When C-T is merged, C's EF attracts DP to its edge, yielding the final order (irrelevant details omitted):

(29) [$_{CP}$ [$_{DP}$ die Kinder] [hat Elisabeth [$_{vP}$ ⟨DP⟩ [$_{VP}$ [⟨DP⟩ [$_{QP}$ beide]] eingeladen]]]]   (= (17b))

Since DP must move, we correctly derive the otherwise puzzling fact that TOP must surface *ex situ*.

As noted, the analysis derives the facts presented in section 4.2.2. If non-accusative arguments or adjuncts are split by QF, the derivation proceeds exactly as shown above, the only difference being the base position of the BPS. The following is a sketch of the derivation of the subject split in (19b), where a BPS in the edge of vP is asymmetricized at the CP-phase level:

---

[9]Recall from section 3.2 that what is selected is the entire BPS, a closed expression and hence an argument category, despite the fact that QP in isolation is predicative.

(30)   a.   [_{vP} [[_{DP} Marcus, Carsten & Stefan] [_{QP} alle]] [_{VP} [_{VP} kamen] zu spät]]

        b.   [_{CP} [_{DP} Marcus, Carsten & Stefan] kamen [_{vP} [_{QP} ⟨DP⟩] [_{QP} alle]] [_{VP} *t_V*] zu
              spät]]

On this view, then, the fact that no continuous version exists follows from the necessity of solving the labeling problem raised by the BPS. The gapping remnants in (31a) can be separated by a sentence adverb and moreover cannot occur in pre-V2 position, showing that separation is obligatory:

(31)   a.   (Benni und Fredi waren beide nicht da,)   aber [_{DP} Marcus, Carsten und
               Benni and Fredi were   both   not   there but   Marcus Carsten and
              Stefan] glücklicherweise [_{QP} alle]
              Stefan   fortunately   all

        b.   *Marcus, Carsten und Stefan alle waren glücklicherweise da.
               Marcus Carsten and Stefan all   were   fortunately   there

   Ideally, symmetry-breaking movement should apply blindly in QF, in the same way it was argued in section 3.2.5 to apply blindly in ST—a conceptually desirable conclusion, as it obviates the need for narrow-syntactic constraints on QF, which imply an enrichment of UG. Recall from that section that the parallel (un-)acceptability of STCs and FTCs was taken to indicate that pragmatic constraints (the GAR, repeated below) regulate symmetry-breaking movement, based on Reinhart's (1981) aboutness test. It is easy to see that a similar explanation can be assumed for movement in QFCs:

(32)   *Generalized Aboutness Requirement (GAR)*
         Topic and comment must be such that the comment is about the topic.

(33)   a.   Die Kinder   hat Elisabeth beide eingeladen.
              the children has Elisabeth both invited

        b.   Was die Kinder angeht, Elisabeth hat beide eingeladen.
              as for the children   Elisabeth has both invited

(34)   a.   *Beide hat Elisabeth die Kinder   eingeladen.
               both   has Elisabeth the children invited

        b.   *Was beide angeht, Elisabeth hat die Kinder   eingeladen.
               as for both   Elisabeth has the children invited

(35)   a.   Marcus, Carsten und Stefan kamen alle zu spät.
              Marcus Carsten and Stefan came   all too late

        b.   Was Marcus, Carsten und Stefan angeht, sie   kamen alle zu spät.
              as for Marcus, Carsten and Stefan,   they came   all too late

(36)   a. *<u>Alle</u> kamen <u>Marcus</u>, <u>Carsten</u> und <u>Stefan</u> zu spät.
            all   came   Marcus Carsten and Stefan too late

        b. *<u>Was alle angeht</u>, Marcus Carsten und Stefan kamen zu spät.
            as for all   Marcus Carsten and Stefan came   too late

We can thus assume that movement of QP instead of DP violates (32), in the sense that the resulting structure yields no proper aboutness relation between TOP and the comment.[10] I will not investigate the more specific question here whether QFCs are frame-setting expressions in Jacobs's (2001) sense; it suffices for present purposes that they fall under the GAR, as do all constructions that relate a topic to a comment.

    The approach also provides a straightforward answer to the question why ST-style gapless splits are not possible with QF (this is also true when the complex modified forms mentioned above are used). When TOP is a DP, REM can only be a predicative QP (given (25)); since the quantifier is the head of QP, no head noun can occur in REM. Examples like the following indeed seem to be unacceptable regardless of context and intonation:

(37)   a. *<u>Die</u> <u>Nagetiere</u> haben wir <u>alle</u> <u>Capybaras</u> gesehen.
            the rodents   have we all capybaras seen

        b. *<u>Die</u> <u>Bücher</u> habe ich <u>beide</u> <u>Romane</u> gelesen.
            the books have I   both novels read

Either case would require an underlying {DP, DP} structure, which expresses neither predication (which requires an argument–predicate asymmetry) nor apposition (which requires Pair-Merge), and is consequently uninterpretable.[11]

    Conversely, when TOP is a predicative NP, REM cannot be a QP, since {NP, QP} yields no closed expression (argument). Consequently, gapless splits are possible even when REM contains *alle* or *beide*, provided that TOP is a bare predicate and REM is not a bare QP (recall also the facts in (6)):

---

[10]A remaining problem is the possibility of "reverse QF" with pronominal associates:

(i)   a. <u>Die</u> habe ich <u>alle</u> schon begrüßt.
            those have I   all already greeted
        b. <u>Alle</u> habe ich <u>die</u> schon begrüßt.
            all   have I   them already greeted

(ii)   <u>Jeder</u> haben <u>wir</u> einen Tee getrunken.
       every have we a   tea drunk

I have at present no explanation for this fact, which Pittner (1995: 39) takes to be pragmatically grounded.

[11]Notice that the situation may be different in copular clauses: if Moro's (2000) analysis is correct (den Dikken 2006: but see), these are based on {DP, DP} structures, but the copular merged to this "bare small clause" effectively turns the DP that remains *in situ* into a predicative category.

(38) a. (*<u>Die</u>) <u>Nagetiere</u> haben wir sogar <u>alle</u> <u>drei</u> Capybaras gesehen (<u>die</u> <u>der</u>
          the rodents   have we even all three capybaras seen   that the
          <u>Zoo</u> <u>hat</u>).
          zoo has

      b. (*<u>Die</u>) <u>Bücher</u> habe ich <u>beide</u> <u>neuen</u> <u>von</u> <u>Chomsky</u> gelesen.
          the books have I   both new by Chomsky read

The observed facts fall out from the logic of the approach here: the BPS must be semantically asymmetric to be interpretable, combining an open expression with a closed expression that saturates it. This allows for {DP, NP} (yielding ST) and {DP, QP} (yielding QF), but not for *{DP, DP} (unless pair-merged) or *{NP, QP} (unless further combined with DP, see below). We also explain why *alle/beide/jeder*, which are QP predicates, differ from other "determiners" that cannot float:

(39) *<u>Die</u> <u>Kinder</u>   haben {<u>seine</u> / <u>diese</u>} ein Gedicht aufgesagt.
      the children have   his   these a   poem   recited

REM in (39) can only be parsed as an elliptical DP, in which case the underlying structure would be the uninterpretable {DP, DP}.

As expected in light of the discussion in section 3.4.3, Pair-Merge is available as an alternative asymmetricizing strategy.[12] In this case, the restrictions on interpretable combinations are obviated: no argument–predicate asymmetry is required in DP apposition (<DP, DP>) or when one of the DPs is a right-peripheral afterthought.

(40) a. Wir haben sogar die Nagetiere *(#) alle drei   Capybaras *(#) gesehen.
          we have even the rodents   all three capybaras   seen
      b. Wir haben sogar die Nagetiere gesehen *(#) alle drei Capybaras.

4.2.4   An Agreement Asymmetry

Recall from section 3.2.4 that Multiple Agree of C–T with DP and NP inside a BPS generated in subject position can lead to featural clash when DP and NP do not match in number:

(41) a. ?<u>Studenten</u> hat nur <u>einer</u> protestiert.
          students   has only one   protested

      b. ??<u>Studenten</u> haben nur <u>einer</u> protestiert.
          students   have only one   protested

---

[12]In the classic analysis of QF developed in Sportiche 1988, the quantifier is an adjunct to DP. This structure is inherently asymmetric and should not require movement, contrary to fact. Moreover, analyzing FQs as adjuncts implies movement of the lower segment when the associate moves, an unwelcome result.

The quantifier *jeder* is typically taken to be syntactically singular (Fehlisch 1986). However, when it is associated with a fronted plural DP, no unclear agreement situation as in (41) arises; rather, C–T must have its features valued by the fronted DP:

(42) <u>Die Orte</u>   {haben / *hat} <u>jeder</u>   seine Besonderheiten.
      the places.NOM have   has every.NOM its   distinctive features.ACC
      'These places, each has its own distinctive features.'   (Fehlisch 1986: 119)

Witness the difference to both the continuous form and the elliptical occurence in (43b):

(43) a. Jeder Ort   {*haben / hat} seine Besonderheiten.
          every place   have   has its   distinctive features

      b. Was die Orte (da) angeht, jeder {*haben / hat} seine Besonderheiten.
          as for the places (there) every   have   has its   distinctive features

The contrast between (42) and (43a) shows that the structure from which QF in (42) is derived is different from the continuous form *jeder Ort* in (43a); if it were the same structure, subject–verb agreement should be the same. Under my assumptions here, however, it cannot be the same structure, since extraction from subjects is not possible and TOP is an independent DP (as signaled by its extra definite article, cf. **jeder die Orte*). Therefore, the only input to QF in (42) can be a BPS {DP, QP}.

The simplest explanation for the contrast, then, is that *jeder* in (42) is a stranded QP in (42) but a full/elliptical DP in (43), and that a QP predicate, unlike a full noun phrase, lacks a formal number feature. This may be the case either because number is a feature of lexical nouns/roots or represented as a functional category present in DP but not in predicative QP. Note that the fact that *jeder* is syntactically singular (in Fehlisch's 1986 sense) does not contradict this claim, since mass nouns, too, trigger syntactic singular agreement. This contrast, then, provides further evidence for my claim that REM in QFCs is a bare QP. Note, however, that QPs are not entirely devoid of φ-features (*jeder* encodes gender), and hence Case is assigned to {DP, QP} via Multiple Agree with C–T as usual.

4.2.5 Mixed QF Splits

Given everything that has been said so far, we expect that QF allows for mixed splits in the same way ST does, such that TOP is included in a fronted VP that strands REM. It was argued in section 3.2.6 for mixed ST that such structures involve movement of the argumental part of the BPS to the phase edge, followed by remnant-VP movement. The same is possible with QF, as shown below:

(44) a. <u>Die Bücher</u> gelesen hat Joost <u>alle</u>.
          the books   read   has Joost all

      b. <u>Den Kindern</u>   geholfen hat Sonja offenbar   <u>beiden</u>.
          the children.DAT helped   has Sonja apparently both.DAT

These cases follow straightforwardly when symmetry-breaking movement from {DP, QP} is taken to apply freely: QP raises to the phase edge, followed by movement of VP containing the asymmetricized BPS and the nonfinite verb:

(45) a. [$_{vP}$ [$_{QP}$ beiden] ... [$_{VP}$ [$_{DP}$ [$_{DP}$ den Kindern] ⟨QP⟩] geholfen]]

      b. [$_{CP}$ [$_{VP}$ [$_{DP}$ [$_{DP}$ den Kindern] ⟨QP⟩] geholfen] ... [$_{vP}$ [$_{QP}$ beiden] ... ⟨VP⟩
          ]]   (= (44b))

A continuation of (45a) in which QP raises to topic position yields a pragmatically unacceptable outcome:

(46) a. *<u>Beiden</u> hat Sonja offenbar   <u>den Kindern</u> geholfen.
          both   has Sonja apparently the children helped

      b. *Was beide angeht, Sonja hat offenbar   den Kindern geholfen.
          as for both   Sonja has apparently the children helped

4.3 Complex Splits

Let us now briefly consider some more complex instances of QF. Recall from section 1.2.4 that ST allows for parallel splits, asymmetricizing two BPSs in a single derivation. The same is possible with QF, although speakers perceive some increased processing difficulty (esp. when scrambling of one REM yields a crossing dependency):

(47) a. <u>Den Kindern</u>   haben sie   wohl alle   beiden   geholfen.
          the children.DAT have   they.NOM PRT all.NOM both.DAT helped
      b. ?<u>Den Kindern</u> haben sie <u>beiden</u>$_j$ wohl alle t_i geholfen.

(48) *weil   wohl sie   alle beiden den Kindern geholfen haben.
       because PRT they all   both   the children helped   have

Such cases pose no problems for the present approach: BPSs can be generated in any broadly thematic position, and German offers two EF-licensed edge positions. Hence, parallel splits are correctly predicted to be possible.

   Given the unified analysis suggested here, it is likewise predicted that QF and ST can apply simultaneously to different arguments/adjuncts. This prediction is borne out,

as shown below:[13]

(49)   <u>Wichtige</u> <u>Bücher</u> haben <u>die</u> <u>Studenten</u> jedenfalls <u>alle</u> nur <u>wenige</u> gelesen.
        important books   have   the students   at any rate all   only few   read

Here, the left-peripheral TOP is bare (and must be so), identifying it as the antecedent of *wenige*; consequently, no ambiguity arises. The derivation of (49) is straightforward, splitting {DP, QP} (in subject position) and {DP, NP} (in object position):

(50)   a.   [$_{vP}$ [[$_{DP}$ die Studenten][$_{QP}$ alle]] [$_{VP}$ [[$_{DP}$ wenige *e*][$_{NP}$ wichtige Bücher]] V]]

        b.   [$_{CP}$ [$_{NP}$ w.B.] ... [$_{TP}$ [$_{DP}$ d.S.] ... [$_{QP}$ ⟨DP⟩ [$_{QP}$ alle]] ... [$_{DP}$ [$_{DP}$ wenige *e*] ⟨NP⟩]]]

More interestingly for our purposes here, however, is the fact that QF and ST can also apply simultaneously to a *single* element, as shown below:

(51)   <u>Bücher</u> hat er <u>die</u> <u>richtig</u> <u>guten</u> wohl <u>alle</u> gelesen.
        books   has he the really good PRT   all   read

Here, TOP is bare, MED is definite, and REM is the stranded quantifier. MED may have an overt head noun, which, in accord with the GAR, be interpretable within the frame provided by TOP:

(52)   <u>Bücher</u> hat er zumindest <u>die</u> <u>richtig</u> <u>guten</u> <u>Romane</u> wohl <u>alle</u> gelesen.
        books   has he at least   the really good novels PRT   all   read

Both cases conform to the GAR, i.e. both (51) and (52) are pragmatically well-formed, as attested by the acceptability of their FTC counterparts:

(53)   Was Bücher angeht, die richtig guten (Romane) hat er wohl alle gelesen.
   as for books   the really good   novels   has he PRT   all   read

The derivation of (51) and (52) involves symmetry-breaking movement from a complex structure combining the "subject" *die richtig guten {Romane/e}* and its predicates, *Bücher* and the quantifier *alle*. For present purposes the internal structure of this complex base structure is not crucial, but let us assume for the sake of concreteness that the structure is as follows:

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[13]Such cases are most natural when the antecedent DP of QF is in medial topic position, rather than the NP predicate of ST. I assume that this is so simply because definites scramble more naturally than predicates, and hence follows from independent factors.

(54)
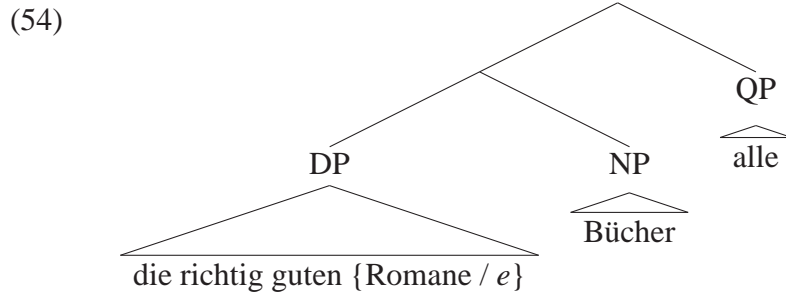
Evidently, two of the three XPs involved in this structure must raise in order to yield a labeled object (notice that movement of {DP, NP} is not an option, since it is unlabeled). We can assume that this movement applies freely, constrained only by the GAR and hence yielding (51) and (52) among other grammatical but pragmatically illicit outcomes (details omitted below):

(55)
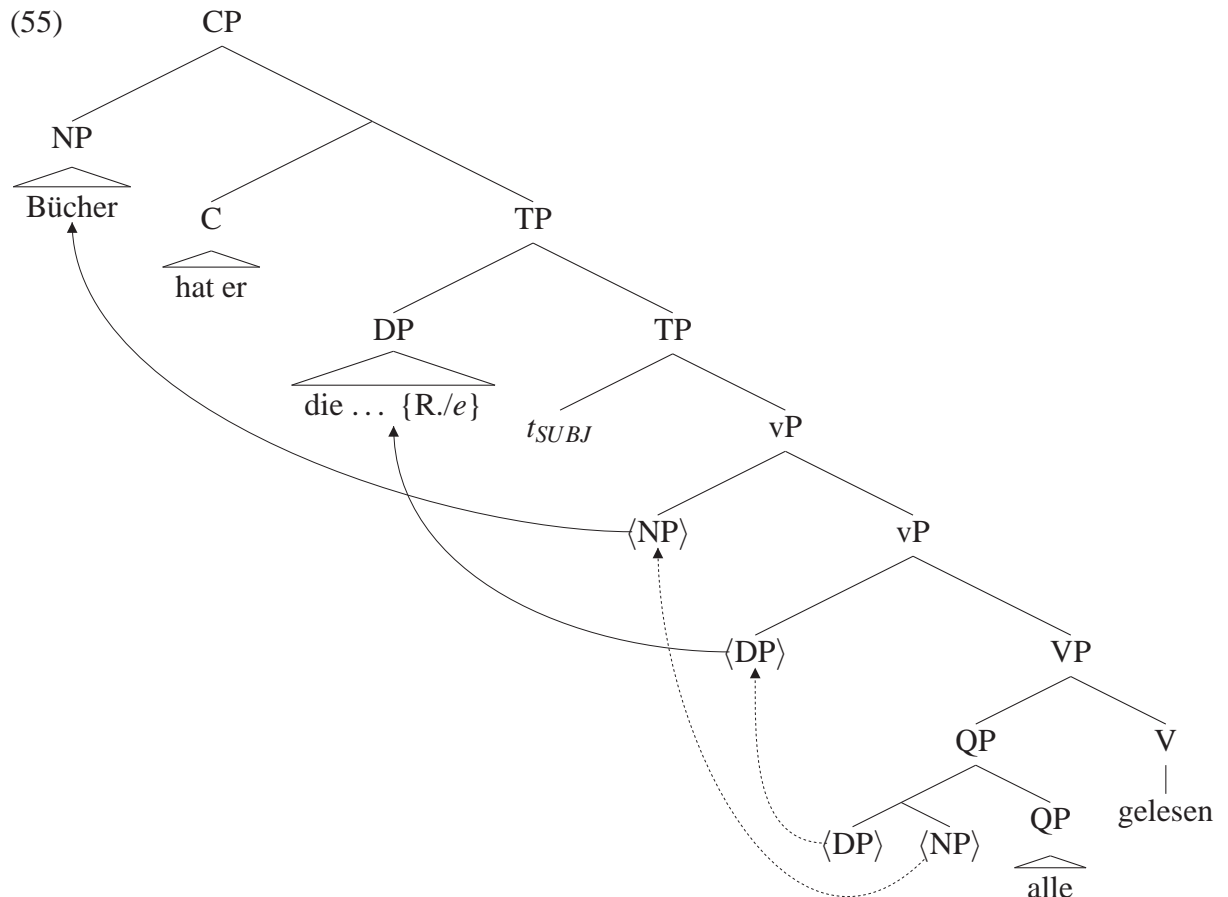
Other derivations lead to pragmatically deviant results, such as (56a), which is as degraded as (56b):

(56)   a.   *<u>Die</u> <u>richtig</u> <u>guten</u> (<u>Romane</u>) hat er <u>Bücher</u> wohl <u>alle</u> gelesen.

     b.   *Was die richtig guten (Romane) angeht, er hat Bücher wohl alle gelesen.
        as for the really good (ones/novels)   he has books   PRT all read

As a further illustration of the role of pragmatic factors, consider the following examples of combined applicaton of ST and QF, together with equivalent FTCs:

(57)   a.   *<u>Die</u> <u>Bücher</u> hat er <u>richtig gute</u> wohl <u>alle</u> gelesen.
        the books has he really good PRT all read

     b.   *Was die Bücher angeht, richtig gute hat er wohl alle gelesen.
        as for the books   really good has he PRT   all read

(58)   a.   <u>Richtig gute</u> hat er zumindest <u>die</u> <u>Romane</u> wohl <u>alle</u> gelesen.
        really   good has he at least   the novels   PRT all read

     b.   Was richtig gute angeht, zumindest <u>die</u> <u>Romane</u> hat er wohl <u>alle</u> gelesen.
        as for really good   at least   the novels   has he PRT   all read
        'As for really good (books), he read at least all the novels.'

Evidently, (57a) violates the GAR; we can assume it to be grammatical but pragmatically deviant, parallel to (57b). (58a) is an illustration of how the GAR forces a particular interpretation for an elliptical TOP: here, the ellipsis must be interpreted as some hypernym (or contextually licensed superset) of MED, e.g. *Bücher* 'books.' The same holds for (58b). If some such superset is provided by discourse, the relevant interpretive frame obtains and both (58b) and (58b) are acceptable. Recall the directly parallel facts discussed in section 3.2.9.

However, the analysis also rules out cases which are not excluded pragmatically. To see this, consider the example in (59a) (which contrasts minimally with (51) and (52)) and its acceptable FTC counterpart in (59b):[14]

(59)   a.   *<u>Die</u> <u>Bücher</u> hat er <u>die</u> <u>richtig guten</u> wohl <u>alle</u> gelesen.
        the books has he the really   good PRT all read

     b.   Was die Bücher angeht, die richtig guten hat er wohl alle gelesen.
        as for the books   the really good has he PRT   all read
        'As for the books, apparently he read all the really good ones.'

In (59a) both TOP and MED are definite, i.e. full DPs. Hence, there is no interpretable BPS that (59a) could be derived from: merging two individual-denoting DPs yields an

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[14](59a) is to be distinguished from (i), where MED is a prosodically separated parenthetical element:

(i)   <u>Die</u> <u>Bücher</u> hat er # die richtig guten zumindest # wohl <u>alle</u> gelesen.
      the books has he   the really good at least   PRT all read

uninterpretable structure. Notice that this situation arises irrespective of how the DPs *die Bücher* and *die richtig guten e* and the quantifier *alle* are combined:

(60)   a. *[[[$_{DP}$ die Bücher] [$_{DP}$ die richtig guten]] [$_{QP}$ alle]]

        b. *[[[$_{DP}$ die Bücher] [$_{QP}$ alle]] [$_{DP}$ die richtig guten]]

        c. *[[[$_{DP}$ die richtig guten] [$_{QP}$ alle]] [$_{DP}$ die Bücher]]

Thus, like STCs, QFCs must satisfy both interpretive conditions: they require a proper BPS for the predicative relation between DP and QP, and a proper surface (post-movement) organization to satisfy the GAR.

4.4 Summary

While barely scratching the surface, the discussion in this chapter has nevertheless shown (or so I hope) that the analysis of ST developed in chapter 3 can be fruitfully applied to QF. The situation here turned out to be similar, in that a standard subextraction analysis of QF derives only a subset of the possible cases but failed to address those in which a movement dependency is established between two autonomous constituents, DP and QP. Therefore, an analysis deriving QFCs from unlabeled {DP, QP} structures was proposed and shown to make accurate predictions. As in the case of ST, the resulting derivations were shown to be naturally constrained by pragmatic conditions relating to the GAR; consequently, no syntactic machinery beyond basic operations was necessary to predict the main properties of QF. While many questions have doubtless been left open by this preliminary sketch, a unified analysis of ST and QF in terms of local instability seems quite feasible.

Chapter 5

Conclusion

In this work, I have argued that German "split topics" provide evidence for the idea that certain structures generated by Merge create problems for labeling (Chomsky 2010, 2011). Once the traditional equation of split topics and discontinuous noun phrases is given up, a hybrid account based on locally unstable structures was shown to derive the empirical facts with remarkable accuracy. To the extent that the analysis is on the right track, it suggests that a Merge-based grammar accepts such points of local instability up to the phase level, where they must be broken by IM (as originally proposed by Moro and Chomsky).

Thus, if the present analysis is on the right track, it strongly suggests that Merge applies freely and is not constrained so as to only generate asymmetrical head–XP structures (as maintained by Kayne 1994, 2010 and Narita 2011, among others). Conceptually, this is a desirable result: no UG stipulations are required; syntax is indirectly constrained by external, independent factors. The simplicity of the analysis I take to be its main virtue: it relies on little more than the basic mechanics of Merge and labeling, adheres to the Inclusiveness Condition, and follows the general guideline that "EM yields generalized argument structure [...]; and IM yields discourse-related properties" (Chomsky 2008: 140).

It goes without saying that the general line of reasoning adopted here has massive implications for grammar as a whole, few of which have been explored so far. According to standard assumptions, {XP, YP} structures are ubiquitous, for instance in the guise of "specifiers." But, as Chomsky (2010, 2011) emphasizes, this notion has no natural interpretation when phrase-structure grammar is dispensed with in favor of Merge. This predicts instability in various configurations, often contrary to what is suggested by the empirical facts. Possessors, for instance, should be generally unstable; but they might be raised from a lower position, IM preserving the label, or adjoined (which yields asymmetry); in German, possessors may be a type of D-head (Hartmann and Zimmermann 2002).

Chomsky (2010, 2011) highlights the same problem for external arguments, standardly

taken to combine with vP to form {DP, vP}. If the reasoning adopted here is correct, then this argument–predicate combination, too, must be unstable. Chomsky (class lectures, MIT, fall 2010) has suggested that this local instability may derive part of the EPP: if DP raises, the result is {⟨DP⟩, vP}, labeled by v. Alternatively, languages may chose to externalize an internal argument, in which case merging DP and vP "looks like" merging DP directly to v (since vP is reduced to {v, ⟨OBJ⟩}); cf. note 21 in chapter 3. *Prima facie* problematic for this proposal is that some languages (like German) do not seem to strictly require either subjects or any other type of argument to be externalized from vP (see Wurmbrand 2006).

Other {XP, YP} structures might not require a label at all, e.g. (finite) TP, which does not seem to be relevant to any computation independently of CP (Chomsky 2008, 2007). Similarly, it is not clear why root CP would need a label (Chomsky, class lectures), hence IM to its edge might yield an unlabeled output, permissible in this case. But it might not be permissible in successive-cylic movement, where {XP, CP} blocks selection of C by a higher V (Blümel 2011); likewise, raising to the vP edge might yield a locally unstable configuration, requiring either the raised XP or vP itself to move (Ott 2009a). A somewhat different take is suggested in Lohndal 2010 and Narita 2011, where it is argued that instability is evaded by cyclic reduction of structure.

Needless to say, the success of the analysis of split topics proposed in this essay hinges crucially on the general validity of the Chomsky–Moro reasoning concerning symmetry in a non-phrase-structural grammar, and how it can be reconciled with the *prima facie* problems just mentioned and many others. At the very least, I hope to have shown here that this reductive approach can shed a new light on old problems, while acknowledging that it raises many new ones yet to be explored.

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