

Structure Removal in Complex Prefields

Gereon Müller (Universität Leipzig)

Abstract

In the complex prefield construction in German, it looks as though more than one constituent can occupy the position in front of the finite verb in declarative root clauses. Two kinds of analysis can be found in the literature: In one approach, there are indeed multiple constituents in the SpecC domain; in another approach, complex prefields are in fact single VP constituents lacking an overt V head. I argue that there is empirical evidence for both views. I develop a derivational, minimalist analysis based on an independently motivated operation Remove that is the exact counterpart of the operation Merge (Chomsky (2001)), and that I take to underlie various constructions that demand conflicting structure assignments. On this view, complex prefields involve both simple VPs (at early stages of the derivation) *and* multiple constituents (after removal of the VP projection has taken place).

1. Introduction

Normally, only one item may show up before the finite verb in German main clauses (the *verb-second* property). However, in the complex prefield construction, two (or more) items can show up in the domain preceding the finite verb in C. Some typical examples illustrating the complex prefield construction are given in (1).¹

- (1) a. [DP Den Fahrer] [PP zur Dopingkontrolle] begleitete ein Chaperon
the rider_{acc} to the doping test accompanied a chaperon_{nom}
“A chaperon accompanied the rider to the doping test.”

¹ This construction is widespread in German sports broadcasts and reports, including bike races; this is reflected by lexical choices in the examples of the present paper. Complex prefields are often perceived as marked, and they are apparently confined to certain contexts or registers. As a matter of fact, it is sometimes postulated that these constructions are not available at all in German (cf., e.g., Haider (1990; 2010), Sabel (1996)), but I take this assumption to be untenable in view of the unequivocal empirical evidence in support of their existence (cf. particularly the empirical studies reported in Müller, St. (2005); Müller, St. et al. (2015)), and in view of the fact that German native speakers tend to have clear intuitions about what is a possible complex prefield construction, and what is not. For the time being, I will abstract away from the marked nature of the phenomenon; I will briefly return to this issue at the end of the paper. Note also that there are other kinds of constructions for which it has sometimes been argued that they involve more than one item showing up in a pre-verb second position in German. For instance, this holds for apparent cases of complex prefields involving focus particles, as in (i-ab); see Jacobs (1983), Buring & Hartmann (2001), Sternefeld (2006) vs. Bayer (1996; 2015), Reis (2005), Meyer & Sauerland (2009) for different points of view as regards the question of whether one or two constituents precede the finite verb here.

- (i) a. Nur seine Mutter liebt jeder
only his mother_{acc} loves everyone_{nom}
“Only his mother loves everyone.”
b. Einer nur hat die Polizisten angegriffen
one_{nom} only has the policemen_{acc} attacked
“Only one attacked the policemen.”

- b. [DP Fast alles] [PP im Sitzen] bewältigte Joaquim Rodriguez auf dem Weg zum
almost everything_{acc} seated managed Joaquim Rodriguez on the way to the
Gipfel
peak
“Joaquim Rodriguez managed to ride almost all parts of the road to the peak without getting
out of the saddle.”
- c. [PP Mit dem Hauptfeld] [PP ins Ziel] kamen auch Fernando Escartin und Aitor
with the peloton into the finish came also Fernando Escartin and Aitor
Garmendia
Garmendia
“Escartin and Garmendia arrived at the finish with the peloton.”
- d. [PP Mit ihm] [PP in der Spitzengruppe] fuhren Martin Elmiger (IAM), Bryan Nauleau
with him in the first group rode Martin Elmiger Bryan Nauleau
(Europcar) und Serge Pauwels (MTN-Qhubeka)
and Serge Pauwels
“Martin Elmiger, Bryan Nauleau and Serge Pauwels rode with him in the first group.”

These examples involve fronted DP-PP or PP-PP sequences, but other categories and combinations of categories are also permitted (cf. Müller, St. (2005); Müller, St. et al. (2015)). In addition, whereas the examples in (1) involve exactly two items preceding the finite verb, the construction can in principle accommodate arbitrarily many items (as was first noted by Fanselow (1993); see below).

Thus far, there are two competing types of analysis in the literature. On the one hand, it has been argued that prefields can be truly complex in German under certain circumstances, in violation of the general verb-second property of the language. On this view, there are two (or more) separate constituents in the prefield in (1), as a consequence of an option of multiple fronting (see, e.g., Lötscher (1985), Eisenberg (1999), Speyer (2008), and (to some extent) Wurmbrand (2004)). This type of analysis is illustrated in (2), on the basis of an approach to the left periphery that envisages multiple specifiers of C, and that identifies verb-second with movement of V to C. On the other hand, it has been suggested that prefield complexity is only apparent. On this view, there is but a single constituent in the prefield in

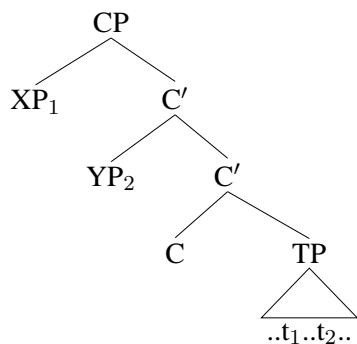
Other potentially relevant cases involve left dislocation constructions as in (ii) (see Grohmann (2000), Grewendorf (2002)), or varieties of German like Kiezdeutsch that exhibit genuine verb-third structures, as in (iii) (see Wiese (2009), Walkden (2016)).

- (ii) Den Fritz₁ den₁ hat sie t₁ getroffen
the Fritz_{acc} the has she met
“It was Fritz that she met.”
- (iii) Morgen ich geh Arbeitsamt
tomorrow I go employment centre
“I will go to the employment centre tomorrow.”

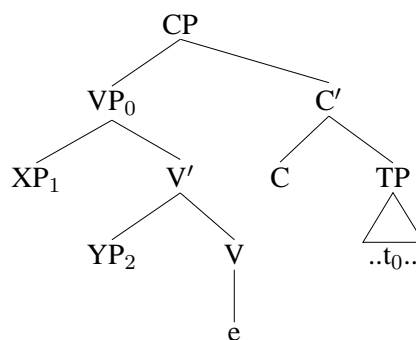
All of these constructions may or may not be amenable to an analysis of the type suggested below, but in what follows I will disregard this issue. (I will briefly address left dislocation in another context, though, and presuppose without argument that the left-dislocated item is a constituent separate from the moved pronoun throughout the derivation.)

(1), viz., a fronted VP with an empty head; see (3). This empty head may then either be a trace resulting from prior head movement (cf. Fanselow (1991), Müller (1998)), or it may be a separate empty head that does not (directly) participate in a displacement configuration (cf. Fanselow (1993), Müller, St. (2005); Müller, St. et al. (2015)).²

(2) *Multiple constituency approach*



(3) *Single constituency approach*



Against this background, I would like to advance and justify the following three claims. First, there is empirical evidence both for single constituency and for multiple constituency in complex prefields in German. Second, there is independent evidence for a derivational minimalist approach to conflicting representations in terms of structure removal, which can apply to both phrases and heads. And third, structure removal resolves the paradox: Complex prefield constructions result from (a) fronting of a VP with an empty head, followed by (b) removal of the VP shell.

I will proceed as follows. In section 2, I first list a number of arguments for a single constituency status of complex prefields (2.1), and then present a number of arguments for a multiple constituency analysis of complex prefields (2.2). Section 3 then develops a principled theory of structure removal based on Remove operations as counterparts of Merge operations. Section 4 brings the two strands of research (empirical and conceptual) together and shows how structure removal accounts for the conflicting pieces of evidence discussed in section 2. Finally, section 5 deals with some open ends and more general issues.

2. Conflicting Representations for Complex Prefields

2.1. Evidence for Single Constituency

A number of arguments in support of the hypothesis that complex prefields involve a single VP (-like) constituent with an empty head are presented in Fanselow (1993), Müller, St. (2005) and Müller, St. et al. (2015). As a matter of fact, it seems fair to conclude that the single constituency approach is the one that is most widely adopted in more theory-oriented work on complex prefields (also cf., e.g., Müller

² Frey (2017) adopts a VP fronting approach but remains neutral as regards the two options. In addition to the multiple fronting analysis, Wurmbrand (2004) also pursues the possibility that complex prefields might involve a single constituent, albeit one that is small clause-like and does not include an empty V head.

(1998), Wurmbrand (2004), Frey (2017)). In what follows, I report five empirical arguments (mostly from the existing literature) that I take to be convincing. In addition to these arguments, it should be clear that the single constituency approach has an initial conceptual advantage, given that (in contrast to the multiple constituency approach) it is fully compatible with a restrictive theory of the left periphery in German, and makes it possible in principle to maintain that the verb-second requirement of the language is strict, and inviolable.

2.1.1 Clause-Mate Condition

First, Fanselow (1993) observes that the two items in a complex prefield must be clause-mates; see (4-a) (where the two DPs in the pre-verb second position are co-arguments of the verb *geben* ('give')) vs. (4-b) (where one DP is an argument of the matrix verb *nachsagen* ('say about') and the other DP is an argument of the embedded verb *essen* ('eat')). This follows without further ado if it is a single VP constituent that undergoes the movement: There is no way in which the two DPs in (4-b) could end up as the sole constituents of a single VP. However, the contrast between (4-a) and (4-b) is unexpected if separate topicalization operations affecting XP_1 and YP_2 are involved: It is unclear what would block successive-cyclic long-distance topicalization of DP_2 in (4-b) on such a view, given that such topicalization is perfectly well formed (at least for those speakers of German that permit long-distance topicalization from *dass*-clauses in the first place) if there is no complex prefield, as in (4-c).³

- (4) a. [CP [VP₀ Fahrern₁ EPO₂] [C' sollte man besser nicht t₀ geben]]
 riders_{dat} erythropoietin_{acc} should one better not give
 “One should not give riders EPO.”
- b. *[CP Fahrern₁ EPO₂ [C' sollte man nicht t₁ nachsagen [CP dass sie t₂
 riders_{dat} erythropoietin_{acc} should one_{nom} not say about that they_{nom}
 genommen haben]]]
 taken have

³ An anonymous reviewer suggests that the clause-mate condition could be derived after all under the assumption that complex prefields involve multiple movement, in the same way that the clause-mate condition for multiple sluicing in German is derived in Heck & Müller (2003) (also see Döring (2015) on multiple argument appositions). However, the two constructions are different: In multiple sluicing constructions in German, an interrogative C needs to accommodate an additional wh-phrase that it has no triggering wh-feature for (given that German does not have multiple wh-movement otherwise). The assumption in Heck & Müller (2003) then is that in the absence of such an additional wh-feature on a matrix C, there can be no local trigger for intermediate movement steps of a wh-phrase in an embedded CP, and the lower wh-phrase will be stuck in the embedded clause when matrix C is merged, thus ultimately violating either recoverability (if it does not move out) or a locality constraint (if it undergoes one-swoop movement from its base position). In contrast, if one adopts a multiple movement approach to the complex prefield construction, there will be a trigger for all individual movement operations, in the form of a designated feature on matrix C, and this will then permit a local movement step in the embedded clause, given the system developed in Heck & Müller (2003). In a nutshell, whereas multiple wh-movement in German sluicing constructions involves a repair operation licensed by recoverability, no such reasoning can be applied in any obvious way with multiple movement in complex prefields as postulated under the multiple constituency approach.

“One should not say about riders that they took EPO.”

- c. [CP Epo₂ [C' sollte man Fahrern₁ nicht nachsagen [CP dass sie t₂ genommen
erythropoietin_{acc} should one riders_{dat} not say about that they taken
haben]]]
have
“One should not say about riders that they took EPO.”

2.1.2 Order Restrictions

A second argument for single constituency goes back to the observation that the ordering restrictions among multiple items in complex prefields are identical to those in the middle field (see Müller, St. (2005); Müller, St. et al. (2015), based on Susan Olsen (p.c.), and also to some extent Eisenberg (1999)). Thus, dative DP before accusative DP is the unmarked order, and accusative DP before dative DP the marked order, in the complex prefields in (5-a) vs. (5-b), and this corresponds to the fact that dative DP before accusative DP is also the unmarked order, and accusative DP before dative DP the marked order, in the corresponding middle fields in (5-c) vs. (5-d).⁴

- (5) a. [CP Fahrern₁ Epo₂ [C' sollte man besser nicht geben]]
riders_{dat} erythropoietin_{acc} should one better not give
“One should not give riders EPO.”
- b. ?[CP Epo₂ Fahrern₁ [C' sollte man besser nicht geben]]
erythropoietin_{acc} riders_{dat} should one better not give
“One should not give riders EPO.”
- c. dass man Fahrern₁ Epo₂ gegeben hat
that one_{nom} riders_{dat} erythropoietin_{acc} given has
“that one gave riders EPO.”
- d. ?dass man Epo₂ Fahrern₁ gegeben hat
that one_{nom} erythropoietin_{acc} riders_{dat} given has
“that one gave riders EPO.”

The same goes for the order of DP and PP in (6): DP before PP is unmarked, and PP before DP is highly marked, in complex prefields, as in (6-a) vs. (6-b), in the same way that DP before PP is the unmarked order, and PP before DP is highly marked, in the middle field, as in (6-c) vs. (6-d). This follows straightforwardly if the prefield constituent *is* the middle field constituent.

⁴ Note that the concept of markedness of different orders presupposed in this subsection, and the symbols ? and ?* used in (5) and (6) to encode it, should not be correlated with reduced grammaticality. In fact, depending on information-structural conditions, these marked orders may all be perfectly acceptable, both in the middle field and in a complex prefield. Rather, following Höhle (1982), relative markedness of orders is to be understood as follows: A sentence α is less marked than a sentence β if (a) α, β are both grammatical, (b) α, β differ only with respect to the order of some items, and (c) α can have more foci than β (i.e., can occur in more context types), given appropriate stress assignment.

- (6) a. [DP₁ Den Fahrer] [PP₂ zur Dopingkontrolle] begleitete ein Chaperon
the rider_{acc} to the doping test accompanied a chaperon_{nom}
“A chaperon accompanied the rider to the doping test.”
- b. ?*[PP₂ Zur Dopingkontrolle] [DP₁ den Fahrer] begleitete ein Chaperon
to the doping test the rider_{acc} accompanied a chaperon_{nom}
“A chaperon accompanied the rider to the doping test.”
- c. dass ein Chaperon [DP₁ den Fahrer] [PP₂ zur Dopingkontrolle] begleitet hat
that a chaperon_{nom} the rider_{acc} to the doping test accompanied has
“that a chaperon accompanied the rider to the doping test.”
- d. ?*dass ein Chaperon [PP₂ zur Dopingkontrolle] [DP₁ den Fahrer] begleitet hat
that a chaperon_{nom} to the doping test the rider_{acc} accompanied has
“that a chaperon accompanied the rider to the doping test.”

In contrast, the generalization requires additional assumptions in a multiple constituency analysis. Now, it does indeed seem to be the case more generally that multiple movement that is (i) of the same type and that (ii) targets the same domain tends to preserve the pre-movement order; cf. Lakoff (1971), Müller (2001), Williams (2003), and Heck & Himmelreich (2017), on phenomena like quantifier movement, wh-movement, scrambling and object shift. Therefore, it is perhaps not a priori clear that such an analysis could not successfully be extended to complex prefields. However, such an approach would not be obvious either in view of the fact that the two items in complex prefields may have different information-structural roles (cf. Bildhauer & Cook (2010), Winkler (2014)). Therefore, it is dubious whether they can plausibly be taken to qualify as being strictly “of the same type”.

2.1.3 Massive Prefield Placement

Third, Fanselow (1993) and Müller, St. (2005) (also cf. Müller, St. et al. (2015)) note that more than two items may show up in a complex prefield; see, e.g., (7). Again, this conforms to expectations if the fronted item is a VP with an empty head (since VPs can in principle include arbitrarily many items). And again, this fact potentially creates problems for the multiple fronting approach because such an approach would then have to envisage verb-fourth, verb-fifth, etc. as further alternatives to verb-second and verb-third, with problematic consequences under the assumption that each movement operation has to be triggered by an inherent feature of the head (here: C) that provides the landing site.⁵

⁵ Of course, this particular problem does not arise if one assumes that multiple specifiers do not have to be brought about by individual features in each case, but can come for free. Essentially, the two options here amount to (i) feature-driven Merge vs. (ii) free Merge. The latter approach initially leads to massive overgeneration, and relies on filters that eventually check an output representation generated by free Merge and decide about the legitimacy of the operation. An approach to multiple specifiers that is not feature-driven would be incompatible with the approach developed in section 3 below; and as a matter of fact, in Müller (2015) it is argued that structure removal provides an argument against free Merge.

- (7) [PP₁ Im April] [DP₂ jede Woche] [DP₃ den Fahrern] [DP₄ ein EPO-Paket] hätte er
 in april every week the riders_{dat} an EPO package should he_{nom}
 lieber nicht schicken sollen
 better not send have
 “He should better not have sent the riders an EPO package every week in April.”

Thus, to generate (7), C would have to come equipped with four movement-triggering features, which would have to mirror the structure-building features earlier used by V to generate the VP. While this may be technically feasible, it looks like a simple generalization would thus be overlooked.

2.1.4 Complex Long-Distance Topicalization

Recall from section 2.1.1 that complex prefields obey a clause-mate condition, in the sense that two items participating in the construction may not originate in different clauses. In contrast, as noted by Fanselow (1993), if *both* items come from an embedded clause, they can show up in a complex prefield of a matrix clause without any problems (also see Sabel (2016)); see (8-ab) (with extraction from a *dass* clause and from a verb-second clause, respectively).

- (8) a. [CP [VP₀ Fahrern₁ EPO₂] denke ich [C' t₀ dass man besser nicht t₀ geben sollte]]
 riders_{dat} erythropoietin_{acc} think I that one better not give should
 “I think that one should better not give riders EPO.”
- b. [VP₀ Den Fahrer₁ zur Dopingkontrolle₂] dachte sie [CP t₀ hat ein Chaperon t₀
 the rider_{acc} to the doping test thought she has a chaperon_{nom}
 begleitet]
 accompanied
 “She thought that a chaperon has accompanied the rider to the doping test.”

This is expected if complex prefields are derived via VP topicalization, as indicated in (8-ab). As shown in (9-ab), regular VP topicalization is possible in these contexts.

- (9) a. [CP [VP₀ Fahrern₁ EPO₂ geben] denke ich [C' t₀ dass man besser nicht t₀ sollte]]
 riders_{dat} erythropoietin_{acc} give think I that one better not should
 “I think that one should better not give riders EPO.”
- b. [VP₀ Den Fahrer₁ zur Dopingkontrolle₂ begleitet] dachte sie [CP t₀ hat ein
 the rider_{acc} to the doping test accompanied thought she has a
 Chaperon t₀]
 chaperon_{nom}
 “She thought that a chaperon has accompanied the rider to the doping test.”

In contrast, suppose now that (8-ab) were to involve separate successive-cyclic long-distance topicalization operations applying to XP₁ and XP₂. In this case, ungrammaticality would wrongly be predicted. The reason is that a combination of intermediate movement steps of the two items to the embedded SpecC position, followed by movement of first one, then the other of the two items to the final landing site, would be expected to give rise to a strict topic island effect, as it shows up with topicalization from

clauses with embedded topicalization in German (and several other Germanic languages; see Kroch & Iatridou (1992), Müller & Sternefeld (1993), Vikner (1995)).

- (10) a. *Fahrern₁ denke ich [_{CP} (t₁) EPO₂ sollte man besser nicht t₁ t₂ geben]
 riders_{dat} think I erythropoietin_{acc} should one better not give
- b. *EPO₂ denke ich [_{CP} (t₂) Fahrern₁ sollte man besser nicht t₁ t₂ geben]
 erythropoietin_{acc} think I riders_{dat} should one better not give

The embedded CP in either (10-a) or (10-b) would have to correspond to an intermediate representation under the multiple constituency approach, and this should ceteris paribus generate a topic island effect in (8-a), (8-b) in the same way that it is triggered in (10-ab).⁶

At this point, it is worth pointing out that the arguments for single constituency based on the clause-mate condition (section 2.1.1) and long-distance topicalization (this section) reinforce one another because what could conceivably be said to counter one argument under the multiple constituency approach turns out to be radically incompatible with what have to be assumed to counter the other argument. Thus, suppose that the argument for single constituency based on the clause-mate condition (see (4)) is addressed from a multiple constituency perspective by making the assumption that successive-cyclic long-distance topicalization from an embedded clause is blocked in the presence of some other XP that can satisfy matrix C's topic requirement. (I have argued in footnote 3 that this assumption is inherently problematic, because of the elementary difference between multiple sluicing and (alleged) multiple topicalization related to recoverability; but let us ignore this for the sake of the argument here.) Suppose next that the argument for single constituency based on long-distance topicalization (see (8)) is addressed from a multiple constituency perspective by making the assumption that successive-cyclic long-distance topicalization from an embedded clause is in fact not blocked in the presence of some other XP that can satisfy matrix C's topic requirement. (I have just argued that this can hardly be maintained because any such derivation would be expected to exhibit a topic island effect, but let us again ignore this for the sake of the argument.) It is clear that these two assumptions invariably lead to a contradiction. Assuming for concreteness the approach developed in Heck & Müller (2003) (see footnote 3), it would have to be

⁶ Two additional remarks. First, whereas the basic structure of this argument for single constituency is due to Fanselow (1993), the specific implementation in terms of an expected topic island effect with multiple movement is not; Fanselow (1993) postulates that the multiple movement operations would have to be instances of "extended scrambling" to CP, for which he assumes that they would have to be strictly clause-bound. And second, it is well known that wh-islands differ from topic islands in not being strict in German. See Fanselow (1987); and Müller & Sternefeld (1993) for an account of this asymmetry between topic islands, as in (10), and wh-islands, as in (i).

- (i) ?Bücher₁ weiß ich nicht [_{CP} wer₂ C t₂ t₁ geschrieben hat]
 books_{acc} know I not wh_{nom} written has
 "I don't know who has written books."

postulated that an edge feature both *can* and *cannot* be placed on an embedded declarative C if there is some other accessible item in the workspace (or numeration) that matches matrix C’s topic feature.

2.1.5 *An Indefiniteness Constraint*

A further argument for single constituency involves an indefiniteness restriction on fronting (I am grateful to Gisbert Fanselow (p.c.) for pointing this out to me.) For some speakers of German, topicalization can affect verbal categories containing a true subject of a transitive clause (cf. Haider (1990)). It appears that even vPs with a subject and an object can in principle undergo topicalization, provided that the subject is indefinite; see (11-a) (from Frey & Tappe (1991)).

- (11) a. [_{VP} (?*Diese) Linguisten Langusten gegessen] haben hier noch nie t₀
 these linguists_{nom} crawfish_{acc} eaten have here yet never
 “Linguists have never eaten crawfish here.”
- b. [_{VP} (?*Diese) Linguisten Langusten] haben hier noch nie t₀ gegessen
 these linguists_{nom} crawfish_{acc} have here yet never eaten
 “Linguists have never eaten crawfish here.”

For speakers who accept topicalized verbal projections containing both a subject and an object, the analogous complex prefield construction is also possible; see (11-b). Crucially, the indefiniteness constraint is preserved, which is straightforwardly accounted for under the single constituency analysis but not under the multiple constituency approach (topicalization can easily affect definite DPs in German).

2.2. *Evidence for Multiple Constituency*

The multiple constituency approach has arguably been more widely pursued in more descriptively oriented research; see, e.g., Lötscher (1985), Speyer (2008), and the reference grammar sketches in Eisenberg (1999) and Gallmann (2009). These kinds of analyses are typically more concerned with the conditions under which the construction can felicitously be used, and with its information-structural effects; they often confine themselves to registering the construction as an “exception” to the general verb-second property of German, and focus less on actual syntactic arguments for multiple constituency. However, this does not mean that there is no evidence for multiple constituency. In what follows, I present five new arguments, based on unexpected freezing effects, a suppression of Barss’ generalization effects, licensing of bound variable pronouns, licensing of negative polarity items, and idioms. After that, I report two existing arguments from the literature, based on left dislocation and extraposition.

2.2.1 *Freezing Effects*

Freezing effects occur if movement takes place out of an item that has itself undergone movement, as in (12-a) in German (where wh-movement applies from a topicalized VP, yielding illformedness); compare (12-b), where VP has stayed in situ and extraction is unproblematic. A standard analysis of freezing works as follows (see Browning (1987)): Movement of some XP always ends up in a specifier position,

and subsequent extraction from that item will then violate the Condition on Extraction Domain (CED; Huang (1982), Chomsky (1986)).)

- (12) a. *Welchem Team₁ denkst du [VP₂ t₁ gratuliert] hat Bernard Hinault t₂ ?
 which team think you congratulated has Bernard Hinault
 “Which team do you think that Bernard Hinault congratulated?”
- b. Welchem Team₁ denkst du hat Bernard Hinault [VP₂ t₁ gratuliert] ?
 which team think you has Bernard Hinault congratulated
 “Which team do you think that Bernard Hinault congratulated?”

Interestingly, there is a freezing effect with complex prefield constructions. A first set of examples illustrating the effect is given in (13). (13-a) is an instantiation of the complex prefield construction, with DP₁ and PP₂ both showing up in front of the verb-second position. As shown in (13-b) and (13-c), an in situ PP₂ permits extraction of the R-pronoun *da* (‘there’), which replaces the non-pronominal DP headed by *Erfolg* (‘success’) of (13-a), via topicalization and scrambling, respectively (thus giving rise to postposition stranding). Next, (13-d) illustrates that if a regular VP undergoes topicalization that includes an in-situ PP₂, R-pronoun extraction via scrambling within VP is possible. Crucially, such R-pronoun extraction ceases to be possible in the complex prefield construction in (13-e). As shown in (13-f), leaving the R-pronoun in situ is unproblematic.

- (13) a. [CP [DP₁ Dem Team] [PP₂ zum Erfolg] [C' gratulierte Bernard Hinault]]
 the team_{dat} to the success congratulated Bernard Hinault_{nom}
 “Hinault congratulated the team on the success.”
- b. [CP Da₃ [C' gratulierte Bernard Hinault dem Team [PP t₃ zu]]]
 there congratulated Bernard Hinault_{nom} the team_{dat} to
 “Hinault congratulated the team on that.”
- c. dass Bernard Hinault da₃ dem Team [PP t₃ zu] gratulierte
 that Bernard Hinault there the team_{dat} to congratulated_{nom}
 “that Hinault congratulated the team on that.”
- d. [CP [VP Da₃ [DP₁ dem Team] [PP₂ t₃ zu] gratuliert] [C' hat Bernard Hinault]]
 there the team_{dat} to congratulated has Bernard Hinault_{nom}
 “Hinault has congratulated the team on that.”
- e. *[CP Da₃ [DP₁ dem Team] [PP₂ t₃ zu] [C' gratulierte Bernard Hinault]]
 there the team_{dat} to congratulated Bernard Hinault_{nom}
 “Hinault congratulated the team on that.”
- f. [CP [DP₁ Dem Team] [PP₂ da₃-zu] [C' gratulierte Bernard Hinault]]
 the team_{dat} there-to congratulated Bernard Hinault_{nom}
 “Hinault congratulated the team on that.”

The clear difference between (13-e) and (13-d) is unexpected if the structures underlying these sentences are virtually identical in all relevant respects (i.e., if they both involve a topicalized VP, as in (13-d)):

How can (13-e) give rise to a freezing effect if PP₂ shows up in its base position?⁷ In contrast, the illformedness of (13-e) is expected if PP₂ is in a displaced position, as predicted under the multiple constituency approach.

A second set of examples instantiating the same pattern is presented in (14). (14-a) is a complex prefield construction with two PPs. As shown by (14-bc), topicalization and scrambling of the R-pronoun are perfectly acceptable in this context if PP shows up in the middle field. As before, (14-d) shows that a clear case of VP topicalization permits a simultaneous occurrence of R-pronoun scrambling in the prefield; and (14-e) then illustrates the freezing effect with R-pronoun scrambling from PP₂ in the complex prefield construction (in (14-f), the R-pronoun remains in situ). Thus, again, the contrast between (14-e) and (14-d) poses a puzzle if complex prefields have a single headless VP constituent in the SpecC position; however, (14-e) is predicted to exhibit a freezing effect under a multiple constituent approach because PP₂ then occupies a displaced position and has therefore turned into a barrier blocking extraction out of it.

- (14) a. [CP [PP₁ Zum letzten Mal] [PP₂ mit Funk] [C' wurde das Rennen "Rund um die Braunkohle" ausgetragen]]
 for the last time with radios was the race "Rund um die Braunkohle" held
 "The race 'Rund um die Braunkohle' was held with radio for the last time."
- b. [CP Da₃ [C' wurde das Rennen "Rund um die Braunkohle" zum letzten Mal [PP t₃ mit]
 there was the race "Rund um die Braunkohle" for the last time with
 ausgetragen]]
 held
 "The race 'Rund um die Braunkohle' was held with it for the last time."
- c. dass das Rennen "Rund um die Braunkohle" da₃ zum letzten Mal [PP t₃ mit]
 that the race "Rund um die Braunkohle" there for the last time with
 ausgetragen wurde
 held was
 "that the race 'Rund um die Braunkohle' was held with it for the last time."
- d. [CP [VP Da₃ [PP₁ zum letzten Mal] [PP₂ t₃ mit] ausgetragen] [C' wurde das Rennen
 there for the last time with held was the race
 "Rund um die Braunkohle"]]
 "Rund um die Braunkohle"
 "The race 'Rund um die Braunkohle' was held with it for the last time."
- e. *[CP Da₃ [PP₁ zum letzten Mal] [PP₂ t₃ mit] [C' wurde das Rennen "Rund um die
 there for the last time with was the race "Rund um die
 Braunkohle" ausgetragen]]
 Braunkohle" held
 "The race 'Rund um die Braunkohle' was held with it for the last time."

⁷ Note that it would not help to adopt a more liberal concept of freezing (cf., e.g., Ross (1967), Wexler & Culicover (1980) for different options), such that an incompatibility of VP-internal scrambling and VP movement could be derived; this would also not discriminate between (13-e) and (13-d), wrongly predicting ungrammaticality in both cases.

- f. [CP [PP₁ Zum letzten Mal] [PP₂ da₃-mit] [C' wurde das Rennen "Rund um die
for the last time there-with was the race "Rund um die
Braunkohle" ausgetragen]]
Braunkohle" held
"The race 'Rund um die Braunkohle' was held with it for the last time."

As a third and final set of examples, consider (15), where two DPs occupy the complex prefield, and the second one (DP₂) includes a PP with an R-pronoun in it (see (15-a)). As before, movement of the R-pronoun (via topicalization or scrambling) is fine if the DP occurs in its in situ position (see (15-bc)); and as before, uncontroversial cases of VP topicalization (i.e., those where a lexical V shows up) also permit extraction of the R-pronoun via scrambling (see (15-d)). Still, P stranding via fronting of the R-pronoun is completely impossible in the complex prefield construction (see (15-e), vs. (15-f) with the R-pronoun in situ). Again, the apparent freezing effect in (15-e) (vs. (15-d)) a priori qualifies as a mystery under the single constituency analysis but is straightforwardly predicted under the multiple constituency analysis.

- (15) a. [CP [DP₁ Seinen Sprintern] [DP₂ einen Tipp dafür] [C' hat der sportliche Leiter
his sprinters_{dat} a hint_{acc} there-for has the team manager_{acc}
von Rabobank gegeben]]
of Rabobank given
"The directeur sportif of team Rabobank gave his sprinters a hint for it."
- b. [CP Da₁ [C' hat der sportliche Leiter von Rabobank seinen Sprintern [DP
there has the team manager_{nom} of Rabobank his sprinters_{dat}
einen Tipp [PP t₁ für]] gegeben]]
a hint_{acc} for given
"The directeur sportif of team Rabobank gave his sprinters a hint for it."
- c. dass der sportliche Leiter von Rabobank da₁ seinen Sprintern [DP einen Tipp
that the team manager_{nom} of Rabobank there his sprinters_{dat} a hint_{acc}
[PP t₁ für]] gegeben hat
for given has
"that the directeur sportif of team Rabobank gave his sprinters a hint for it."
- d. [CP [VP Da₁ seinen Sprintern [DP einen Tipp [PP t₁ für]] gegeben] [C' hat der
there his sprinters_{dat} a hint_{acc} for given has the
sportliche Leiter von Rabobank]]
team manager_{nom} of Rabobank
"The directeur sportif of team Rabobank gave his sprinters a hint for it."
- e. *[CP Da₃ [DP₁ seinen Sprintern] [DP₂ einen Tipp [PP t₃ für]] [C' hat der sportliche
there his sprinters_{dat} a hint_{acc} for has the team
Leiter von Rabobank gegeben]]
manager_{nom} of Rabobank given
"The directeur sportif of team Rabobank gave his sprinters a hint for it."
- f. [CP [DP₁ Seinen Sprintern] [DP₂ einen Tipp [PP da₃-für]] [C' hat der sportliche
his sprinters_{dat} a hint_{acc} there-for has the team
Leiter von Rabobank gegeben]]
manager_{nom} of Rabobank given
"The directeur sportif of team Rabobank gave his sprinters a hint for it."

2.2.2 Barss' Generalization Effects

A second argument for multiple constituency involves Barss' generalization (cf. Barss (1986), Sauerland & Elbourne (2002), Bhatt & Dayal (2007), Neeleman & van de Koot (2010), Heck & Assmann (2014)). According to Barss' generalization, a quantified item γ contained in a moved XP α cannot take scope, via reconstruction (plus subsequent quantifier raising or lowering), over an item β that c-commands α 's trace and is c-commanded by α ; see (16).

(16) *Barss' generalization scenario:*

$[\alpha \dots \gamma \dots] [\dots \beta \dots [\dots t_\alpha \dots]]$

a. Scope: $\beta \succ \gamma$: \checkmark

b. Scope: $\gamma \succ \beta$: *

It follows from Barss' generalization that whereas (17-a) (with simple topicalization of a quantified object across a quantified subject) is ambiguous (with either wide or narrow scope of the fronted universal quantifier object DP *jeden Fahrer* ('every rider')), (17-b) (with topicalization of a VP containing a quantified object) is not: The object DP cannot have wide scope over the existential quantifier subject DP. Importantly, as shown in (17-c), complex prefields do not trigger Barss' generalization effects: The universal quantifier object can have scope over the existential quantifier.⁸ This suggests that the object DP *jeden Fahrer* is not part of a fronted VP in (17-c), but qualifies as a separate constituent of CP, unlike what is uncontroversially the case in (17-b).⁹

- (17) a. $[_{DP}$ Jeden Fahrer] begleitet ein Chaperon zur Dopingkontrolle
 every rider_{acc} accompanies a chaperon_{nom} to the doping test
 $\forall > \exists$: "For each rider, there is a chaperon who accompanies him to the doping test."
 $\exists > \forall$: "There is a chaperon who accompanies each rider to the doping test."
- b. $[_{VP}$ Jeden Fahrer zur Dopingkontrolle begleitet] hat ein Chaperon
 every rider_{acc} to the doping test accompanied has a chaperon_{nom}
 $*\forall > \exists$: "For each rider, there is a chaperon who accompanies him to the doping test."
 $\exists > \forall$: "There is a chaperon who accompanies each rider to the doping test."

⁸ Judgements are subtle here, but very clear for almost all speakers I have consulted. Note also that the unavailable reading in (17-b) is the vastly more salient one, given world knowledge: Normally, each rider who is chosen for a doping test after a race is accompanied by a separate chaperon.

⁹ It has been argued that Barss' generalization does not strictly hold for extraposition of relative clauses; see Heycock (2012) vs. Hulse & Sauerland (2006). No such controversy seems to have arisen with topicalization, though. Also note that for present purposes it does not matter how central questions concerning reconstruction are resolved – e.g., how Barss' generalization is eventually implemented in the grammar; how the A- vs. A-bar asymmetry known to influence certain reconstruction options is accounted for (all relevant derived positions in the present context are A-bar positions); etc. All that matters is that Barss' generalization can be used as a test for the presence of a VP.

- c. [DP Jeden Fahrer] [PP zur Dopingkontrolle] begleitet ein Chaperon
 every rider_{acc} to the doping test accompanies a chaperon_{nom}
 $\forall > \exists$: “For each rider, there is a chaperon who accompanies him to the doping test.”
 $\exists > \forall$: “There is a chaperon who accompanies each rider to the doping test.”

Another set of examples illustrating the same effect for the second (rather than the first) item in the complex prefield is given in (18). (18-a) is ambiguous; here simple topicalization of a quantified PP has taken place. Things are different with (18-b), where the quantified PP is part of a topicalized VP. This sentence is incompatible with the reading that it does not have to be the same two riders that get the bidons in all feed zones, as an instance of Barss’ generalization. Finally, the complex prefield construction in (18-c) reinstates the ambiguity. The availability of the reading corresponding to surface order in (18-c) thus suggests a multiple constituency approach to complex prefields.

- (18) a. [PP In jeder Verpflegungszone] hat der Soigneur Bidons an zwei Fahrer der
 in every feed zone has the soigneur_{nom} bidons_{acc} to two riders_{dat} of the
 Mannschaft ausgehändigt
 team handed out
 $\forall > 2$: “For every feed zone, there are two riders that the soigneur handed out bidons to.”
 $2 > \forall$: “There are two riders that the soigneur handed out bidons to in every feed zone.”
- b. [VP [DP Bidons] [PP in jeder Verpflegungszone] ausgehändigt] hat der Soigneur an
 bidons_{acc} in every feed zone handed out has the soigneur_{nom} to
 zwei Fahrer der Mannschaft
 two riders_{dat} of the team
 $*\forall > 2$: “For every feed zone, there are two riders that the soigneur gave bidons to.”
 $2 > \forall$: “There are two riders that the soigneur gave bidons to in every feed zone.”
- c. [DP Bidons] [PP in jeder Verpflegungszone] hat der Soigneur an zwei Fahrer der
 bidons_{acc} in every feed zone has the soigneur_{nom} to two riders_{dat} of the
 Mannschaft ausgehändigt
 team handed out
 $\forall > 2$: “For every feed zone, there are two riders that the soigneur gave bidons to.”
 $2 > \forall$: “There are two riders that the soigneur gave bidons to in every feed zone.”

2.2.3 Bound Variable Pronouns

A third argument for multiple constituency comes from bound variable pronouns, i.e., pronouns that are not referential but co-indexed with a quantified item. Bound variable pronouns are restricted in their distribution by the Weak Crossover constraint. For present purposes, it will suffice to adopt the formulation in (19).¹⁰

- (19) *Weak Crossover constraint:*

Pronouns that are interpreted as bound variables must be bound in syntactic output representa-

¹⁰ See Heim & Kratzer (1998); also compare Kiss (2005) for what is essentially the reverse formulation.

tions.

The constraint in (19) rules out examples like (20-a) in German because the bound variable pronoun *sein* ('his') is not c-commanded by the quantified DP it is co-indexed with. In contrast, after topicalization of the quantified DP co-indexed with the pronoun, the Weak Crossover constraint is satisfied (for most speakers of German); (20-b).

- (20) a. *dass [_{DP} sein₁ sportlicher Leiter] [_{DP₁} keinen Fahrer] unter diesen Umständen zur
that his directeur sportif_{nom} no rider_{acc} under these circumstances to the
Dopingkontrolle lassen würde
doping test let would
“that his directeur sportif would not permit any rider to take a doping test under these circumstances.”
- b. [_{DP₁} Keinen Fahrer] würde [_{DP} sein₁ sportlicher Leiter] unter diesen Umständen
no rider_{acc} would his directeur sportif_{nom} under these circumstances
zur Dopingkontrolle lassen
to the doping test let
“No rider would be permitted to take a doping test under these circumstances by his directeur sportif.”

It turns out that binding of pronouns which are interpreted as variables is much better with items in complex prefields (see (21-b)) than with items included in regular fronted VPs (see (21-a)). In (21-a), the bound variable pronoun is neither bound before VP topicalization (since it is contained in a subject DP), nor after VP topicalization (since the quantified DP₁ cannot exert c-command into the middle field, given that it is dominated by VP). In (21-b), on the other hand, the bound variable pronoun can evidently satisfy the Weak Crossover constraint via DP₁ showing up in the complex prefield construction. This suggests that DP₁ can c-command the subject here, and consequently, that complex prefields do not involve fronted VPs.

- (21) a. ?*Keinen Fahrer₁ zur Dopingkontrolle lassen würde sein₁ sportlicher Leiter unter
no rider_{acc} to the doping test let would his directeur sportif_{nom} under
diesen Umständen
these circumstances
“No rider would be permitted to do a doping test under these circumstances by his directeur sportif.”
- b. Keinen Fahrer₁ zur Dopingkontrolle lässt sein₁ sportlicher Leiter unter diesen
no rider_{acc} to the doping test lets his directeur sportif_{nom} under these
Umständen
circumstances
“No rider would be permitted to do a doping test under these circumstances by his directeur sportif.”

2.2.4 Negative Polarity Items

Consider next the case of negative polarity items. Data such as (22-a) vs. (22-b) show that a negative polarity item like *auch nur irgendein* (lit. ‘also only some’, interpreted as an existential quantifier) must be c-commanded by a negative expression. (This is a simplification, but it will do for present purposes.) In (22-a), the negative polarity item included in the subject DP is licensed as a consequence of topicalization of the negative object DP *keinen Berg* (‘no hill’); if the object DP stays in situ, as in (22-b), the negative polarity item in the subject DP cannot be licensed.

- (22) a. [DP₂ Keinen Berg] hat [DP₁ auch nur irgendein Fahrer] t₂ im Sitzen bewältigt
no hill has also only some rider seated conquered
“No hill was conquered by a rider without getting out of the saddle.”
- b. *Im Sitzen hat [DP₁ auch nur irgendein Fahrer] [DP₂ keinen Berg] bewältigt
seated has also only some rider no hill conquered
“No hill was conquered by a rider without getting out of the saddle.”

As before, under a single constituency approach, one expects regular VP topicalization and complex prefield formation to behave identically with respect to negative polarity licensing; in particular, negative polarity licensing into the subject DP should be blocked throughout, due to the intervening VP projection that should block c-command. On the other hand, the multiple constituency approach predicts a contrast between genuine VP topicalization, which should not license subject-internal negative polarity items, and complex prefield formation, which should (because c-command is available from the prefield position). As shown in (23), the data support the multiple constituency analysis.¹¹

- (23) a. ??Keinen Berg im Sitzen bewältigt hat auch nur irgendein Fahrer
no hill seated managed has also only some rider
“No hill was conquered by a rider without getting out of the saddle.”
- b. Keinen Berg im Sitzen hat auch nur irgendein Fahrer bewältigt
no hill seated has also only some rider managed
“No hill was conquered by a rider without getting out of the saddle.”

2.2.5 Idioms

Heck & Assmann (2014) and Fanselow (2015) observe a curious asymmetry with respect to topicalization of parts of idioms. Generally, it seems that irrespective of the degree of compositionality, parts of idioms can in principle undergo topicalization in German (subject to pragmatic restrictions). There is a systematic exception, though, that ultimately provides an argument against a single constituency ap-

¹¹ That said, for reasons unclear to me, the blocking effect with VP topicalization in (23-a) seems to be not as strong as in the contexts discussed above. Also, there seems to be some variation among speakers in this case. However, it is worth noting that speakers either detect a contrast between (23-a) and (23-b) that goes in the direction indicated here, or they do not see a contrast at all; but there would seem to be no speakers with reversed judgements.

proach to complex prefields. As a case in point, consider the VP idiom *die Flinte ins Korn werfen* (lit. ‘throw the musket into the grain’, ‘give up’). (24-ab) shows that an idiomatic reading can persist under topicalization of either DP or PP; and the same goes for topicalization of the full idiom in (24-c).¹² In (24-def), a remnant VP has undergone topicalization from which DP₁, PP₂, or both of these items, have been extracted by scrambling prior to VP fronting; as noted by Heck & Assmann and Fanselow, in these cases, the idiomatic reading is lost (signalled by #; (24-e) is also ill formed under the literal meaning for some speakers, for reasons that do not affect the issue currently under consideration).

- (24) a. [DP₁ Die Flinte] hat er zu früh t₁ ins Korn geworfen
the musket_{acc} has he_{nom} too early into the grain thrown
‘‘He gave up too early.’’
- b. [PP₂ Ins Korn] hat er die Flinte t₂ geworfen
into the grain has he_{nom} the musket_{acc} thrown
‘‘He gave up.’’
- c. [VP₃ Die Flinte ins Korn geworfen] hat er zu früh t₃
the musket_{acc} into the grain thrown has he too early
‘‘He gave up too early.’’
- d. #[VP₃ t₁ Ins Korn geworfen] hat er [DP₁ die Flinte] zu früh t₃
into the grain thrown has he_{nom} the musket_{acc} too early
‘‘He gave up too early.’’
- e. #[VP Die Flinte t₂ geworfen] hat er zu früh [PP₂ ins Korn]
the musket_{acc} thrown has he_{nom} too early into the grain
‘‘He gave up too early.’’
- f. #[VP t₁ t₂ Geworfen] hat er [DP₁ die Flinte] [PP₂ ins Korn]
thrown has he_{nom} the musket_{acc} into the grain
‘‘He gave up.’’

The pattern here is systematic. As shown in (25), it also arises with an idiom like *den Nagel auf den Kopf treffen* (‘hit the nail on the head’); Fanselow (2015) notes that there is a contrast between (25-a), which can have an idiomatic reading (compare (24-b)), and (25-b), which cannot have such a reading (compare (24-d)).

- (25) a. [PP₂ Auf den Kopf] trifft den Nagel t₂ keiner
on the head hits the nail_{acc} no-one_{nom}
‘‘No-one hits the nail on the head.’’
- b. #[VP₃ t₁ Auf den Kopf getroffen] hat er [DP₁ den Nagel] erneut
on the head hit has he_{nom} the nail_{acc} again
‘‘Again, he hit the nail on the head.’’

¹² Note that (24-b) requires a certain intonational pattern to be permissible with the idiomatic interpretation; see Fanselow & Lenertová (2011) for discussion.

The generalization underlying this pattern is simple: All parts of an idiom must be connected by c-command in surface representations.¹³ In (24-ab) and (25-a), this condition is satisfied since the topicalized item c-commands the remaining parts of the idiom in the middle field; and in (24-c), the condition is trivially fulfilled because no part of the idiom has undergone movement (only the idiom as a whole has). However, in (24-def) and (25-b), the condition is violated: The VP node in SpecC blocks c-command of the middle field-internal idiom parts (also by V in (24-f)), and the middle field-internal idiom parts of course do not c-command the idiom parts in the fronted VP (this is the configuration identified by Barss' generalization; see footnote 13).

Against this background, there is a clear prediction for complex prefields, other things being equal: Under the single constituency approach, an idiomatic interpretation is expected to be impossible (because of an intervening VP projection); under the multiple constituency approach, no such problem should arise. As shown in (26-a) and (26-b) for the two idioms in (24) and (25), respectively, the empirical evidence very clearly favours the multiple constituency approach: An idiomatic interpretation is unproblematic, which implies that DP₁ and PP₂ in (26) can c-command the C'-internal verb that also belongs to the idiom.

- (26) a. [DP₁ Die Flinte] [PP₂ ins Korn] sollte er nicht zu früh werfen
 the musket_{acc} into the grain should he_{nom} not too early throw
 “He should not give up too early.”
- b. [DP₁ Den Nagel] [PP₂ auf den Kopf] traf er damit
 the nail_{acc} on the head hit he_{nom} there-with
 “He hit the nail on the head with it.”

2.2.6 Left Dislocation

Based on an observation by Marga Reis (p.c.), it is noted in Müller, St. (2005); Müller, St. et al. (2015) that the pronoun associated with a left-dislocated item in a complex prefield construction typically targets the rightmost item in a complex prefield (whatever that is), but not a VP. This can be taken to suggest that there is no VP present. Thus, consider first the case where an uncontroversial VP undergoes left dislocation; as shown in (27-a) vs. (27-b), only the neuter pronoun *das* can show up in SpecC, and not the feminine pronoun *die* that would be expected if the (feminine) DP *die Flandernrundfahrt* ('the Ronde

¹³ See O'Grady (1998) for a precursor of such a condition, based on the concept of head dependencies. Of course, the question arises whether this condition can be derived from more basic assumptions. Closer inspection reveals that the pattern is identical to what is captured by Barss' generalization; see (16). For concreteness, suppose that idioms must be single constituents at LF (cf. Chomsky (1995)). Then, a minimally adjusted version of Barss' generalization ensures that reconstruction cannot yield the required configurations for idiom interpretation in all the #-marked examples of this subsection, but can do so in all the other examples: If VP reconstructs for idiom interpretation, other parts of the idiom that are not part of VP in the surface representation cannot become a part of VP at LF. (No such restriction holds for reconstruction of a bare V that has undergone head movement.)

van Vlaanderen') were accessible to the pronoun.

- (27) a. *Zum dritten Mal die Flandernrundfahrt gewonnen, die hat Fabian
 for the third time the Ronde van Vlaanderen_{fem} won, PRON_{fem} has Fabian
 Cancellara 2014
 Cancellara 2014
 "Fabian Cancellara won the Ronde van Vlaanderen for the third time in 2014."
- b. Zum dritten Mal die Flandernrundfahrt gewonnen, das hat Fabian
 for the third time the Ronde van Vlaanderen_{fem} won, PRON_{neut} has Fabian
 Cancellara 2014
 Cancellara 2014
 "Fabian Cancellara won the Ronde van Vlaanderen for the third time in 2014."

If complex prefields are analyzed in terms of a fronted VP, one would *ceteris paribus* again expect a neuter (rather than feminine) pronoun to show up with left dislocation; but as the data in (28-a) vs. (28-b) indicate, native speakers' judgements are reversed in this case: It is the feminine pronoun that is the only possibility.

- (28) a. Zum dritten Mal die Flandernrundfahrt, die gewann Fabian Cancellara
 for the third time the Ronde van Vlaanderen_{fem}, PRON_{fem} won Fabian Cancellara
 2014
 2014
 "Fabian Cancellara won the Ronde van Vlaanderen for the third time in 2014."
- b. *Zum dritten Mal die Flandernrundfahrt, das gewann Fabian Cancellara
 for the third time the Ronde van Vlaanderen_{fem}, PRON_{neut} won Fabian Cancellara
 2014
 2014
 "Fabian Cancellara won the Ronde van Vlaanderen for the third time in 2014."

This suggests that the feminine DP is in fact not shielded by a VP projection, so that it is accessible to a pronoun via c-command. Given that this result for left dislocation can be assumed to be indicative of the situation in complex prefield constructions more generally, this provides an argument for the multiple constituency approach.¹⁴

¹⁴ Still, as noted in Müller, St. et al. (2015), and as pointed out by two reviewers, there are complicating factors that blur the simple picture sketched in the main text. One such factor has already been mentioned: If an item is not rightmost in a complex prefield, pronominal resumption becomes less acceptable; cf. (i-a). Furthermore, it seems that the presence of two potential DP targets also decreases acceptability; cf. (i-b). Finally, if the DP is part of an idiom, left dislocation is completely impossible; cf. (i-c).

- (i) a. ?[DP Fahrer] [PP zur Dopingkontrolle] die begleitet ein Chaperon
 rider_{pl.acc} to the doping test PRON_{pl.acc} accompanies a chaperon_{nom}
 "A chaperon accompanies riders to the doping test."
- b. ??[DP Dem Fahrer] [DP Bidons] die sollte man nicht wegnehmen
 the riders_{masc.dat} bidons_{pl.acc} PRON_{pl.acc} should one not take away
 "One should not take bidons away from riders."

2.2.7 Extraposition to VP

A final argument for multiple constituency has been provided by Tibor Kiss (p.c.), and is also reported in Müller, St. (2005); Müller, St. et al. (2015). As noted by Haider (1990; 2010), a topicalized VP can be the target for extraposition of VP-internal material in German. In (29-a), e.g., the relative clause modifying the accusative DP of the VP is extraposed to the fronted VP. If the fronted item in complex prefields is a VP, there is every reason to expect that it could be targeted by extraposition to VP, too. However, as indicated in (29-b), this is not the case: Relative clause extraposition within the complex prefield leads to illformedness.

- (29) a. [DP Den Wertungssiegern t₁] ihren Preis überreicht [CP₁ die noch anwesend waren]
 the classification winners their price given who still present were
 hat Abraham Olano bei der Siegerehrung in Bilbao
 has Abraham Olano at the ceremony in Bilbao
 “Abraham Olano gave the classification winners who were still present their prices during
 the ceremony in Bilbao.”
- b. *[DP Den Wertungssiegern t₁] ihren Preis [CP₁ die noch anwesend waren] hat
 the classification winners their price who still present were has
 Abraham Olano bei der Siegerehrung in Bilbao überreicht
 Abraham Olano at the ceremony in Bilbao given
 “Abraham Olano gave the classification winners who were still present their prices during
 the ceremony in Bilbao.”

Thus, the contrast between (29-a) and (29-b) provides a further argument for multiple constituency, and against a VP (i.e., single constituency) analysis.

-
- c. *[DP Dem Anstieg] [DP Tribut] den zollt jeder Fahrer
 the climb_{masc.dat} tribute_{masc.acc} PRON_{masc.acc} pays every rider
 “For every rider, the climb takes its toll.”

Thus, pronominal resumption of DPs in complex prefields is not possible in all environments. On the other hand, it seems that the opposite effect – i.e., environments that uncontroversially permit resumption by a *das* indicative of a VP – is very difficult to substantiate with complex prefields; e.g., (i-c) is just as ungrammatical with *das* replacing *die*. The one example in support of this option given in Müller, St. et al. (2015) that is widely accepted by speakers is presumably reanalyzable as involving a complex DP rather than a complex prefield; see (ii).

- (ii) [Adv (Dauerhaft)] [DP mehr Arbeitsplätze] das gibt es erst später
 permanently more jobs_{pl.acc} PRON_{neut.acc} gives it PRT later
 “Only later will there be permanently more jobs.”

Here, *dauerhaft* (‘permanently’) can be a modifier of *mehr* (‘more’) rather than a separate constituent of VP, as indicated in (ii). Note that even when *dauerhaft* is left out, pronominal resumption can proceed via *das*_{neut.acc} (rather than *die*_{pl.acc}, which is also an option throughout).

2.3. *Interim Conclusion*

The previous subsections have shown that there is conflicting evidence as to what the structure of complex prefields in German looks like: On the one hand, clause-mate effects, order restrictions, massive prefield placement, complex long-distance topicalization, and the indefiniteness constraint support a single constituency approach. On the other hand, freezing effects, Barss' generalization effects, evidence from bound variable pronouns, negative polarity items, and idioms, as well as from left dislocation and extraposition, argue for a multiple constituency approach.

In view of this state of affairs, the hypothesis I would like to pursue in what follows is that the two conflicting structures are not mutually exclusive; rather, they can be reconciled by adopting the principled approach to phenomena involving conflicting structure assignments sketched in Müller (2015). This derivational, minimalist approach relies on a new concept of structure removal, to which I now turn.

3. **Structure Removal**

3.1. *Background Assumptions*

There is substantial evidence for conflicting representations in syntactic derivations. The standard means to account for this is displacement: If some item α shows properties associated both with position P and position Q, then this is due to the fact that α has moved from Q to P. However, there are many cases of conflicting representations that do not lend themselves to analyses in terms of displacement. As argued in Müller (2015), these latter cases can be accounted for by structure removal. More specifically, the proposal is that syntactic derivations employ not one, but two elementary operations modifying representations: In addition to an operation that *builds* structure – *Merge* (Chomsky (2001; 2008; 2013)) –, there is a complementary operation that *removes* structure: *Remove*.

If *Remove* exists as the mirror image of *Merge*, it is expected to show similar properties and obey identical constraints. I assume that the operation *Merge* is characterized by the following properties. First, *Merge* is feature-driven. It is triggered by designated [$\bullet F \bullet$] features, which are ordered on lexical items (here and henceforth, this is indicated by the symbol \succ between features), thereby determining the sequence of operations triggered by a given head (cf. Heck & Müller (2007), Abels (2012), Stabler (2013), Georgi (2014), Müller (2014), and references cited there for justification). Second, *Merge* may apply to heads or phrases (including cases of head movement and XP movement in cases of internal *Merge*). This difference needs to be expressed in some way on the *Merge*-inducing feature for structure-building. I will adopt two diacritics, as in [$\bullet F_0 \bullet$] vs. [$\bullet F_2 \bullet$], where “0” stands for “minimal projection” and “2” stands for “maximal projection”; these are thus the only kinds of categories that can be merged with a head. Third, *Merge* obeys the Strict Cycle Condition in (30) (see Chomsky (1973; 1995; 2001; 2008)).

(30) *Strict Cycle Condition (SCC)*:

Within the current XP α , a syntactic operation may not exclusively target some item δ in the domain of another XP β if β is in the domain of α .

(31) *Domain (Chomsky (1995))*:

The domain of a head X is the set of nodes dominated by XP that are distinct from and do not contain X.

(30) is a slightly less strict version of the SCC than Chomsky's (1995) Extension Condition in that it does not require each operation to extend the root node; thus, it permits operations like head movement and tucking in (see Richards (2001)) as long as they take place to a position in the domain of the current root. Still, like other versions of the Strict Cycle Condition, it has the effect of minimizing changes to existing structures (cf. Pullum (1992)).¹⁵ Fourth and finally, Merge can be external or internal: It either affects a bare head or phrase that is contained in the workspace of the derivation, or it affects a head or phrase that is part of the current tree.

I assume that an operation Remove that acts as the counterpart of Merge does indeed obey identical restrictions. Thus, first, Remove is feature-driven. It is triggered by designated $[-F-]$ features, which are ordered on lexical items; $[-F-]$ features for structure removal are interspersed with $[\bullet F \bullet]$ features for structure building on a head. Second, Remove may apply to heads or phrases; again, this is signalled by a diacritic that accompanies the feature triggering the operation: $[-F_0-]$, $[-F_2-]$. Third, Remove obeys the Strict Cycle Condition. By its very nature, it is impossible for a Remove operation to extend the phrase marker created so far; however, the Strict Cycle Condition in (30) ensures that Remove can only apply to heads or phrases in the domain of the head that bears the $[-F-]$ feature, and not to more deeply embedded items.¹⁶ And fourth, Remove can be external or internal. However, all the cases I will be concerned in what follows involve internal Remove, i.e., removal of items that are part of the syntactic structure that Remove applies to.¹⁷

With the basic assumptions about Remove in place, let me now illustrate the operation with a few

¹⁵ Also see Safir (2010; 2015) for a similar version of the Strict Cycle Condition.

¹⁶ Note that this presupposes that both with external Merge and with Remove, an operation that is triggered by the head of a projection α and that applies to some item δ (merging or removing it) does indeed "exclusively target" δ (in the sense of (30)) in the domain (in the sense of (31)) of which δ is a member. In other words, the fact that a feature of the head is responsible for a Merge or Remove operation at some other point in the structure does not imply that the head itself is 'targeted' by the operation – if this were the case, there could be cases of Merge and Remove in deeply embedded positions as long as the projection of the head triggering the operation is the current root projection, which would not be an acceptable result. The case is different with internal Merge (i.e., movement), where the operation targets both the embedded domain (the pre-movement position of δ) and the domain of the head triggering the operation (the post-movement position of δ).

¹⁷ External Remove affects material that is not present in syntactic structure. See Müller (2015; 2016d) (and references given there) on how this paradox can be resolved; essentially, external Remove directly targets XPs in the workspace before they have a chance to enter syntactic structures.

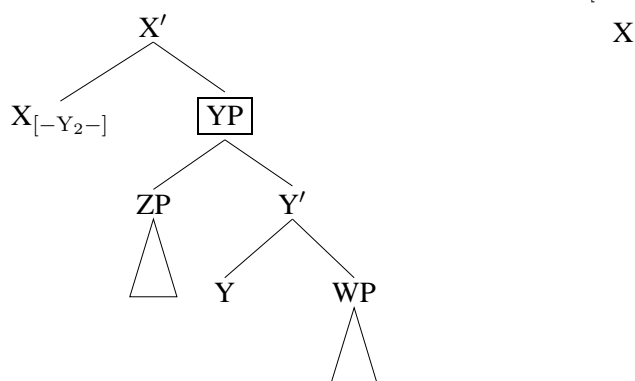
abstract sample derivations. I start with Remove applying to phrases, and then turn to Remove applying to heads; it is the latter operation that will turn out to be relevant for the analysis of complex prefields.

3.2. Remove and Phrases

Remove applying to phrases is triggered by $[-F_2-]$ features. In (32), a head X is taken from the workspace (more precisely, from the numeration that is part of the workspace) that is equipped with a feature $[\bullet Y_2 \bullet]$ triggering Merge of some YP, and with a feature $[-Y_2-]$ triggering Remove for some YP. The former feature is higher-ranked and needs to be applied (and thereby discharged) first. The Merge operation is shown in (32-a), and the subsequent Remove operation in (32-b) (with the target for Remove indicated by a box around it, here and in the following derivations).

(32) *Remove and phrases: complements*

- a. Merge($X_{[\bullet Y_2 \bullet]} \succ [-Y_2-]$, YP): b. Remove($X_{[-Y_2-]}$, YP):



Three remarks are in order here. First, in the structure in (32-a), the structural configuration for Remove applying to either ZP or WP is not given, because of the the Strict Cycle Condition. Thus, if X were equipped with a $[-Z_2-]$ or $[-W_2-]$ feature, the derivation would crash: Only YP can be successfully removed, yielding (32-b). Second, the order of features for Merge and Remove is crucial. A head $X_{[-Y_2-]} \succ [\bullet Y_2 \bullet]$ could not produce the derivation in (32).¹⁸ And third, (32) qualifies as a Duke-of-York derivation (see Pullum (1976), McCarthy (2003), and Lechner (2010), among others). As is generally the case with this type of interaction of operations, it is far from vacuous – crucially, as we will see below, the intermediate representation can have an influence on the applicability of other processes before it is undone again.

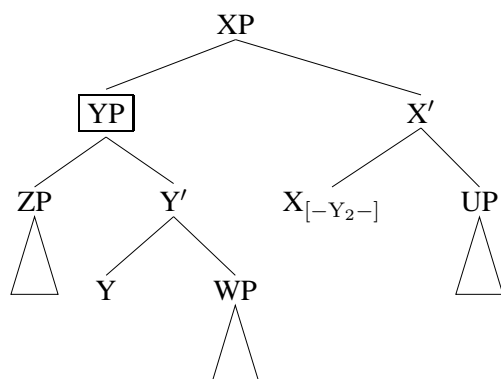
Consider next a scenario where some head selects its specifier for a Remove operation, as in (33).

¹⁸ Depending on further assumptions which are not relevant to the issues under consideration in this paper, the output based on $X_{[-Y_2-]} \succ [\bullet Y_2 \bullet]$ would either be external removal of some phrase of type Y from the workspace (cf. footnote 17) followed by Merge of some (other) phrase of type Y; or a crash of the derivation. Note that I do not assume that a frustrated $[-F-]$ feature that cannot trigger structure removal can simply undergo deletion, as suggested by Béjar & Řezáč (2009), Preminger (2014), and Georgi (2014), among others, for probe features in similar environments.

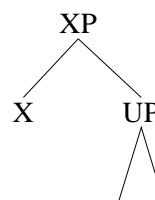
First, X merges with YP in (33-a); subsequently, YP is removed again in (33-b). As before, it is possible that some other operation intervenes between the two processes, and for such an operation the temporary presence of YP will make a difference, even if YP is not part of the final output representation after having undergone removal.

(33) *Remove and phrases: specifiers*

a. Merge($X'_{[\bullet Y_2 \bullet]} \succ [-Y_2 -]$, YP):



b. Remove($X'_{[-Y_2 -]}$, YP):



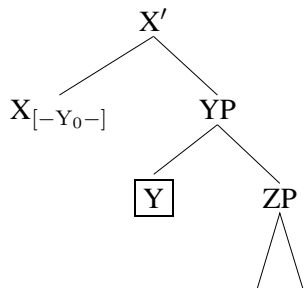
As with complement removal as in (32), phrases that are more deeply embedded in YP cannot be removed because of the Strict Cycle Condition. Thus, even if X in (33) were to be equipped with the appropriate categorial features for Remove (like $[-Z_2 -]$ or $[-W_2 -]$), ZP and WP could not be removed in (33). However, in principle (i.e., if it were equipped with an appropriate categorial feature $[-U_2 -]$), X might also remove UP in this configuration after YP has been merged; see Müller (2015) (and literature cited there) on empirical motivation for such an operation (based on sluicing constructions).

3.3. *Remove and Heads*

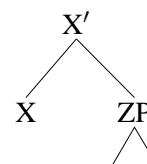
Next consider the situation where Remove applies to a head rather than a phrase (triggered by $[-F_0 -]$ rather than by $[-F_2 -]$). (34) illustrates a case where the head Y of a complement YP is removed. For now, I assume that Y does not have a specifier; I will address this issue momentarily.

(34) *Remove and heads: complements w/o specifiers*

a. Merge($X_{[\bullet Y_2 \bullet]} \succ [-Y_0 -]$, YP):



b. Remove($X_{[-Y_0 -]}$, Y):



Since [-F₀-] removes the head, it takes away the highest projection (given a bare phrase structure approach, a head's projection does not exist independently of the head), but only this. More deeply embedded material (like ZP in (34)) is not affected by structure removal in this case. The question then is what happens with the material that was originally included in the removed projection, and that is temporarily split off from the current tree after removal of the head and its projection. The obvious assumption would seem to be that it is reassociated with the main projection, i.e., with the projection of the head responsible for structure removal, thereby effectively replacing the original item (YP). Note that reassociation is *not* an instance of Merge: It only applies to phrases (not to heads), the external/internal distinction does not make sense here, and, perhaps most importantly, reassociation is not feature-driven; rather, it is an operation triggered by the need to reintegrate material into the present tree that is temporarily unattached as a consequence of Remove. Basically, the process works like Tree Pruning (see Ross (1967, ch. 3)). Another predecessor that is even more closely related is the concept of structure deletion employed in Heycock & Kroch (1994).¹⁹ Essentially the same assumption is also made by Stepanov (2012) in his approach to head movement.²⁰ And, last but not least, the structural change in Pesetsky's (2016) Exfoliation transformation brings about an identical effect.²¹

There is no reason why the complement head Y that is targeted by Remove should not have a specifier in addition to a complement. If there are two or more items in YP (e.g., ZP, WP), the null hypothesis clearly is that they reassemble in their original hierarchical and linear order in the XP domain, so that structural changes induced by the operation are minimized – recall that a basic property underlying Remove operations is that they change embedded structures as little as possible. (35) shows how a Remove operation triggered by X and targeting the head of X's complement Y reintegrates Y's

¹⁹ Heycock & Kroch (1994, 263) postulate that a TP shell is removed completely in German if SpecT and T are not required for the satisfaction of any licensing relation; by assumption, this is the case if both specifier and head undergo movement (to the CP domain). As a matter of fact, the reasoning they come up with would seem to directly anticipate the bare phrase structure-based approach given above: “We assume that deletion of a trace results in the disappearance of the category that dominates it and, further, that if the trace of a head is deleted, its entire projection vanishes along with it. This behaviour is *virtually required by any constrained theory of phrase structure that projects structure from heads*” [my emphasis].

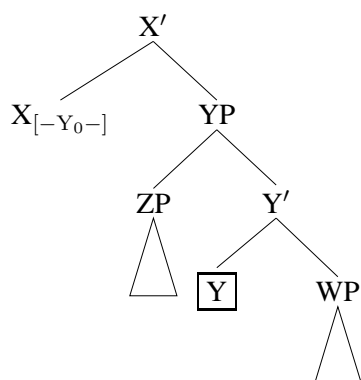
²⁰ Here, the projection of a moved head disappears entirely, and material in the head's original projection is reassociated.

²¹ Exfoliation is similar to Remove applying to heads, but differs from this operation in some important respects. First, unlike Remove, Exfoliation is inherently non-local; it can (in fact, must) apply across phase boundaries, and can be reconciled with the Strict Cycle Condition only if it is assumed that the root domain that induces the operation is also directly affected by it (cf. footnote 16). Second, Exfoliation is not feature-driven; rather, it is a repair operation that can resolve a dilemma created by the need of an embedded subject DP to undergo movement to the matrix clause across a phase (viz., an embedded CP) without violating either a phase-based concept of antilocality (by movement to the specifier of the phase) or phase impenetrability (by skipping over the specifier of the phase): Exfoliation can delete the CP phase (plus, possibly, a TP below it) and thereby make subject movement to the matrix clause possible. Third, Exfoliation cannot apply recursively, in contrast to Remove (see below). Fourth, no attempt is made to view the Exfoliation transformation as a direct counterpart of Merge. And fifth, Exfoliation can never be upwards, affecting a specifier. Such an application of Remove will be crucial for the analysis of complex prefields.

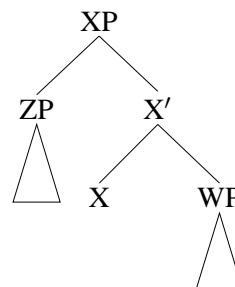
specifier (ZP) and complement (WP) into the projection of X: ZP becomes a new specifier of X, and WP replaces the original YP in the complement position.²²

(35) *Remove and heads: complements with specifiers*

a. Merge($X_{[-Y_0-]} \bullet Y_2 \bullet$) > $[-Y_0-]$, YP):



b. Remove($X_{[-Y_0-]}$, Y):



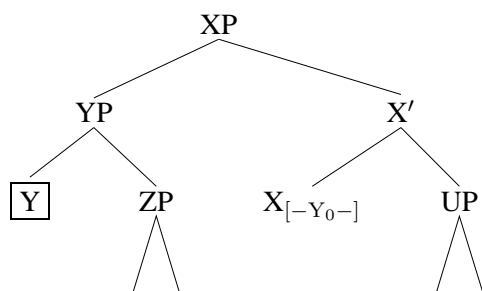
Thus, given that reassociation respects the pre-Remove order of items as much as possible, the following conclusion holds more generally: If α , β are in the minimal domain of YP, Y is subject to head removal, and α c-commands (precedes) β , then α c-commands (precedes) β after reassociation. Note that this cannot be achieved in (35) in any other way; for instance, if ZP were to become a specifier of WP after removal of Y, this would result in massive changes in an embedded structure (with original c-command of WP by ZP destroyed). In contrast, reassociation as in (35-b) only affects the root domain, by giving X a specifier that it does not inherently select for; but such changes in the root domain are unproblematic (this is a standard scenario for internal and external Merge operations).

Next, Remove applying to heads can also affect a specifier. Consider again first the case where the removed head has a complement, but no specifier itself. The operation is shown in (36), where X has first merged with a UP complement; again, an XP included in the specifier (here: ZP) cannot be targeted by the operation, due to the Strict Cycle Condition. ZP reassociates with the X projection as a specifier, in a maximally order-preserving way.

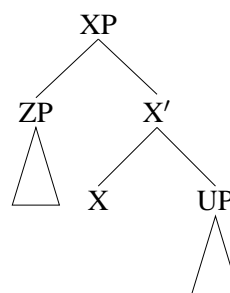
²² What happens if X independently has a feature triggering Merge of a specifier? There are two possibilities: Either this specifier is already in place, or it is merged later. The second case is unproblematic; the specifier will be merged on top of the existing structure. In the first case, it is not a priori clear whether ZP would be reassociated above or below this inherent specifier. These considerations, while ultimately important, will play no role for the analysis of complex prefields given below.

(36) *Remove and heads: specifiers w/o specifiers*

a. Merge($X'_{[\bullet Y_2 \bullet]} > [-Y_0 -]$, YP):



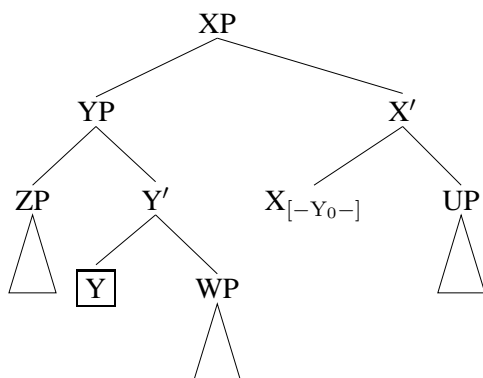
b. Remove($X'_{[-Y_0-]}$, Y):



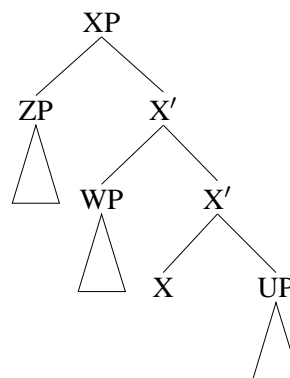
Finally, the case where Remove applies to the head of a specifier that itself takes a specifier is shown in (37). Here, the head to be removed (Y) has a specifier (ZP) and a complement (WP); consequently, these two items become reassociated, in an order-preserving way, as two specifiers of the head X that has triggered the operation. Nothing needs to be stipulated concerning the domain of reassociation: Given that reassociation, like all syntactic operations, obeys the Strict Cycle Condition, reassociated material will have to show up in the projection of the head that brought about the removal, and can never show up in a lower domain (say, within UP in (37)).

(37) *Remove and heads: specifiers with specifiers*

a. Merge($X'_{[\bullet Y_2 \bullet]} > [-Y_0 -]$, YP):



b. Remove($X'_{[-Y_0-]}$, Y):



As I will argue below, this is the scenario underlying complex prefields in German. (Note that the abstract configuration in (37-a) corresponds to the structure for single constituency in (3), and the one in (37-b) to the the structure for multiple constituency in (2), the sole difference being the position of the head Y, which precedes the complement in the abstract representations here and follows the complement in the VP structures assumed for German throughout this paper.) To sum up, Remove applying to YP removes the whole YP constituent, including all other material included in it, whereas Remove applying to Y only takes out the YP shell, leaving all other material included in it intact and attaching it to the triggering head's projection in an order-preserving way.

The Remove-based approach to conflicting structure assignments in syntax has been applied to a number of recalcitrant phenomena exhibiting evidence for conflicting representations. For instance,

removal of phrases is argued to underlie variable accessibility of external arguments in the passive in German and Turkish in (cf. Müller (2016d), Murphy (2014), respectively), variable accessibility of theme arguments in applicative constructions in German (cf. Müller (2015)), and variable syntactic accessibility of deleted material in sluicing constructions in English, German and Serbo-Croatian (cf. Murphy & Müller (2016)). In contrast, the approach to restructuring in German sketched in Müller (2015) and developed at length in Müller (2016c) relies on removal of heads, with restructuring verbs embedding a CP throughout that can then be reduced (recursively) to a TP, and then to a vP, or, most radically and with only a subset of basic restructuring verbs, to a bare VP (so as to permit long-distance passive).

More generally, Remove affecting heads can be viewed as the core of a principled approach to *reanalysis* phenomena (and given the arguments in section 2, complex prefields are an instance of this). As it stands, all existing models of reanalysis either involve unconstrained reanalysis rules (cf., e.g., Bach & Horn (1976) and Chomsky (1977) on extraction from DP, Chomsky (1981) on S-bar deletion, or De Kuthy & Meurers (2001) on verbal complexes), or they rely on multidimensional representations (see, e.g., Bennis (1983), Haegeman & Riemsdijk (1986), Di Sciullo & Williams (1987), and Pesetsky (1995)), which are both extremely powerful and empirically problematic.

3.4. *Consequences of Structure Removal: The Third Construction and Tough Movement*

In addition to providing a more principled approach to reanalysis phenomena as such, the approach to structure removal just outlined makes two non-trivial predictions which will be relevant for the account of complex prefields to be developed in the following section, concerning (a) the option displacement without movement, and (b) short life cycle effects. In this subsection, I provide independent empirical evidence for these predictions, based on the third construction, *tough* movement, and passivization.

3.4.1 *Displacement without Movement*

The reassociation of ZP specifiers of complements (cf. (35)) and specifiers (cf. (37)) of a YP whose head Y is affected by Remove triggered by some head $X_{[-Y_0-]}$ can bring about a displacement effect: ZP enters a new domain without movement *and* will c-command and precede X, which it was c-commanded and (unless XP is head-final) preceded by before removal. This implies that structure removal can lead to displacement effects where movement is not involved.

Such displacement without movement is argued in Müller (2016c) to show up in the third construction in German (see Besten & Rutten (1989)). In the third construction, scrambling takes place from an extraposed restructuring infinitive; see (38). In general, restructuring in German shows both evidence for a biclausal (CP) analysis (e.g., based on uniformity of embedding, absence of new binding domains, and unstressed pronoun fronting), and for a monoclausal (vP/VP) analysis (e.g., based on scope of negation, long-distance scrambling, and long-distance passivization); this supports an analysis in terms of removal of functional structure, triggered by restructuring verbs. The derivation underlying (38) argued for in

Müller (2016c) is sketched in (38-abcd).

- (38) dass sie den Fritz₁ versuchte [_α PRO t₁ zu küssen]
 that she_{nom} the Fritz_{acc} tried to kiss
 “that she tried to kiss Fritz.”
- a. [VP [CP₂ DP₁ [C' C [TP [T' [vP ... t₁ V ...] T]]]] V]
- b. [VP [V' t₂ V_{[-C₀-]>[-T₀-]] [CP₂ DP₁ [C' C [TP [T' [vP ... t₁ V ...] T]]]]]}
- c. [VP DP₁ [V' [V' t₂ V_{[-T₀-]]] [TP [T' [vP ... t₁ V ...] T]]]]}
- d. [VP DP₁ [V' [V' t₂ V] [vP ... t₁ V ...]]]

Within the embedded infinitival CP, DP₁ undergoes successive-cyclic intermediate movement to SpecC, as in all extractions from clauses. If DP₁ subsequently undergoes movement from such a CP, a ban on improper movement will be violated if it ends up in a position lower than SpecC of the matrix clause; thus scrambling (which targets Specv or SpecV) is not available, but wh-movement (to SpecC) would be.²³ Thus, DP₁ cannot undergo scrambling from CP₂ in (38-a). However, there is good evidence that an embedded CP₂ does indeed initially exist in restructuring configurations in German; among other things, CPs can undergo extraposition to VP in German, as in (38-b), whereas VPs, vPs, and TPs cannot. In the extraposed position, the CP and TP shells can now be removed by [-C₀-] and [-T₀-] features on matrix V, as shown in (38-cd). This, per se, would still not make scrambling to the matrix domain possible: Scrambling to matrix Specv from the bare extraposed vP would not violate the ban on improper movement anymore; however, all items in an extraposed (i.e., right-adjoined, or right-peripheral specifier) position qualify as barriers for extraction, due to the Condition on Extraction Domain (CED; Huang (1982), Chomsky (1986)) according to which extraction from XP is only possible if XP is a complement. Still, as shown in (38-c), DP₁ does not *have to* undergo movement to reach the matrix clause. After removal of the CP shell, it is reassociated with the matrix V projection in such a way that c-command and precedence relations established earlier with C's complement (TP) are preserved – i.e., as a specifier of matrix V; since this step is not movement (and does not leave a trace), the ban on improper movement cannot be violated. From this point onwards, DP₁ can undergo further movement in the matrix clause; but crucially, it does not have to. Accordingly, the prediction is that items can undergo local displacement to the matrix domain in the third construction that normally cannot undergo scrambling in German. This is indeed the case, as was first noted by Geilfuß (1991) (who called the phenomenon *pseudo-scrambling*): DP₁ in (38-d) permits focus projection, can be a wh-phrase, blocks scope reversal, can be a non-specific indefinite, and so on – all these are properties that an item undergoing regular scrambling cannot have. Thus, the option of displacement without movement which

²³ See Williams (2003), Abels (2008), Neeleman & van de Koot (2010), Müller (2014), and Keine (2016), among others, for such approaches to improper movement based on what has sometimes been called the *Williams Cycle*.

is predicted under a Remove-based approach to restructuring is corroborated by properties of the third construction in German.²⁴

A second instantiation of the same basic pattern involves *tough*-movement constructions in English (see Schwarzer (2016)). A standard example is given in (39-a). (39-b) shows that there is a potentially unbounded dependency in the complement of the adjective that may sometimes even cross finite clauses, thereby strongly suggesting A-bar movement (cf. Chomsky (1981)).

- (39) a. [DP₁ John] is easy [CP α₁ to please t₁]
 b. [DP₁ This book] is difficult [CP α₁ to convince people [CP that they ought to read t₁]]

There are essentially two approaches to the phenomenon in the literature, both of which agree on the CP status of the complement of the adjective. According to one (see, e.g., Chomsky (1981), Keine & Poole (2016)), α₁ is an empty operator, so syntactically there are two separate chains. This approach cannot straightforwardly explain the fact that the operator postulated here can never be realized overtly; and it faces the problem of accounting for reconstruction as in (40-ab) in a simple way (cf. Pesetsky (2013)).

- (40) a. [DP₁ This aspect of herself₂] is easy for Mary₂ [CP α₁ to criticize t₁]
 b. [DP₁ At least two of his₂ students] are hard for every professor₂ [CP α₁ to reach t₁]

According to the alternative approach, α₁ is an intermediate trace of movement that ultimately ends in the matrix subject position (see, e.g., Pesetsky (2013), Longenbaugh (2016) for some recent versions). This approach faces the challenge of explaining how movement from the embedded SpecC position to an A-position in the matrix can circumvent the ban against improper movement. As noted in Schwarzer (2016), this problem can be avoided if an approach in terms of Remove is adopted. On this view, adjectives participating in *tough*-movement constructions initially take a CP complement but subsequently remove the CP shell in exactly the same way that German restructuring verbs do. Upon removal of the CP shell, a DP that has undergone successive-cyclic movement to the left edge of the complement CP of A will then undergo displacement without movement, and thus reach the matrix domain without undergoing improper movement. The relevant part of the derivation of (39-a) is shown in (41). In (41-a), A has been merged with a CP in which DP₁ has undergone successive-cyclic intermediate movement to SpecC. In (41-b), CP is removed, and DP₁ is reassociated with the triggering head's projection, as a specifier (so as to maintain the c-command and precedence relations with TP established before). From this derived argument position in AP, DP₁ can undergo movement to the matrix subject position in accordance with the ban on improper movement.

²⁴ Incidentally, displacement without movement is also an option for *non-extraposed* complements in restructuring contexts. However, pseudo-scrambling effects cannot be established in these contexts because local displacement as a consequence of CP shell removal will always be string-vacuous.

- (41) a. [AP A_[-C₀-] [CP DP₁ [C' C [TP ... t₁ ...]]]]
 b. [AP DP₁ [A' A [TP ... t₁ ...]]]

More generally, I take it that the concept of reassociation after removal of heads, which will play a central role in the analysis of complex prefields, is well supported by evidence from the third construction and *tough*-movement.

3.4.2 Short Life Cycle Effects

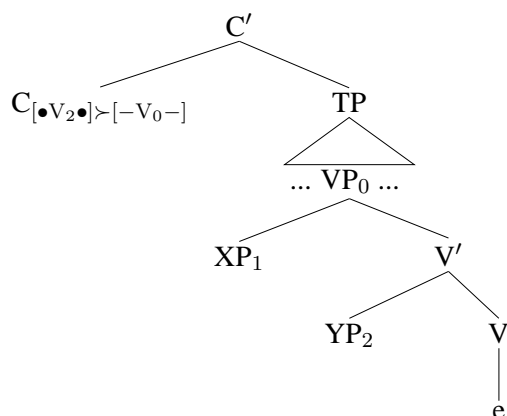
A characteristic of nearly all cases of structure removal is that the removed material is expected to exhibit *short life cycle* effects; i.e., once some item is merged that is subject to removal, it can only survive in the structure for as long as it takes the derivation to finish the phrase in which the item was merged. Indeed, these predictions are empirically corroborated throughout. For instance, it is argued in Müller (2016d) that the contrast between legitimate passivization of unergative intransitive verbs in German (as in (42-a)) and illegitimate passivization of unaccusative intransitive verbs (as in (42-b); cf. Perlmutter (1978), contra Kiparsky (2013)), as well as illegitimate passivization of transitive verbs affecting an object DP in VP (rather than a subject DP in Specv; cf. (42-c)) follows from the fact that a passive *v* head can bring about structure removal of an external argument DP (DP_{ext}) in Specv, but not of an internal argument DP (DP_{int}) in the VP, given the Strict Cycle Condition in (30): A DP merged in some projection XP can only be removed as long as XP is not merged with a higher head; once this has happened (as with DP_{int} in VP after Merge of *v* in (42-bc)), DP cannot be targeted by [-D-] features.

- (42) a. dass [VP DP_{ext} [v' [VP getanzt] v_{pass}]] wurde
 that danced was
 “that there was dancing.”
- b. *dass [VP [v' [VP DP_{int} angekommen] v_{pass}]] wurde
 that arrived was
 “that someone arrived.”
- c. *dass [VP [DP_{ext} Karl] [v' [VP DP_{int} gelesen] v_{pass}]] wurde
 that Karl read was
 “that Karl read something.”

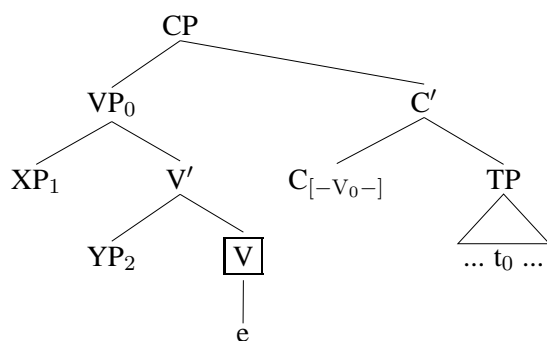
However, in principle there should be an exception to this: *Movement* should extend the life cycle of an item that is subject to removal, by transporting it to a higher domain where it can be targeted by a head with a [-F-] feature, in accordance with the Strict Cycle Condition in (30). The rationale behind this is that in those cases where Remove applies to a specifier (either phrase or head), it is actually irrelevant whether this specifier is introduced by external Merge (as presupposed so far in the abstract scenarios discussed in this section) or by internal Merge. As a matter of fact, Murphy (2014) already proposes such a derivation for stacked passives in Turkish, with movement feeding removal of a phrase; and the approach to the third construction sketched above also employs this scenario. In the following section, I

(44-a), there are still two features triggering operations on the stack associated with C: [$\bullet V_2 \bullet$] \succ [$-V_0-$]. In the next step, VP topicalization applies, triggered by [$\bullet V_2 \bullet$] on C, and yielding (44-b). In the third step, VP shell removal takes place, triggered by [$-V_0-$] on C. As argued in section 3, Remove applying to a head is a complex operation, in the sense that removal of the V head (and, thereby, its VP projection) precedes an order-preserving reassociation of the temporarily unattached non-head VP-internal material with the triggering head's projection. For the sake of perspicuity, the two steps of the composite Remove operation are indicated separately in (44-c) and (44-d).

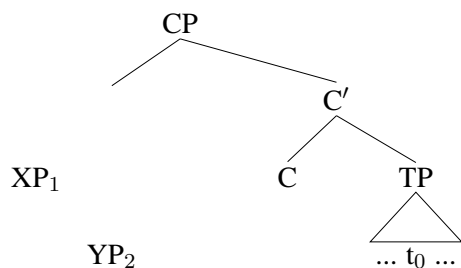
(44) a. *Pre-movement structure:*



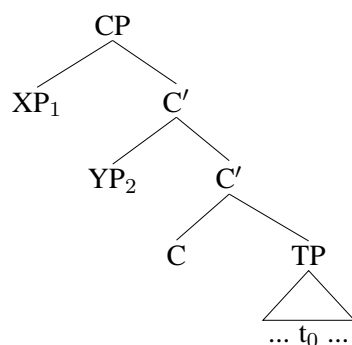
b. *VP fronting:*



c. *Structure removal:*



d. *Reassociation:*



On this basis, I will now address the generalizations in section 2.

4.2. *Deriving the Generalizations*

Accounting for the generalizations presented in section 2 is now fairly straightforward: Evidence for a single VP constituent involves earlier stages of the derivation; evidence for multiple constituents involves later stages of the derivation. I start with evidence for single constituency.

4.2.1 *Clause-Mate Condition*

The present approach maintains the standard assumption that only one item can move to the prefield (perhaps with some proviso concerning left dislocation; see above). Thus, root C has only one structure-building feature in German, viz., [$\bullet X_2 \bullet$], where X is a variable over most major categories, including V. Therefore only a single constituent (like VP) can move to the prefield, as in (44-b).

4.2.2 *Order Restrictions*

Order restrictions are identical in VP and in a complex prefield because the VP *is* the complex prefield in (44-b). The only option for VP-internal material to undergo reordering (e.g., by scrambling) is when VP is still in situ: Under the Strict Cycle Condition, operations like VP-internal scrambling cannot be carried out once VP has undergone movement. Furthermore, given that root C can have only one structure-building feature in German, and given that this is discharged by attracting a VP, the new specifiers that C attains as a consequence of structure removal in (44-d) (by displacement without movement) cannot subsequently undergo movement anymore since there is no trigger for such an operation.

4.2.3 *Massive Prefield Placement*

Given the option of V' recursion, VP can have arbitrarily many constituents, and they all become specifiers of C as a consequence of a Remove operation targeting the V head. The problem with providing C with as many features for Merge as it ends up having specifiers after VP shell removal does not arise because the derived specifiers in a complex prefield construction are not the result of Merge operations (but of a single Remove operation, via reassociation).

4.2.4 Complex Long-Distance Topicalization

Before structure removal in the matrix SpecC position, the items move as part of a regular VP; hence, given that long-distance topicalization of VP is possible, feeding of structure removal by long-distance topicalization of VP could only be blocked by an additional stipulation.

4.2.5 Indefiniteness Constraint

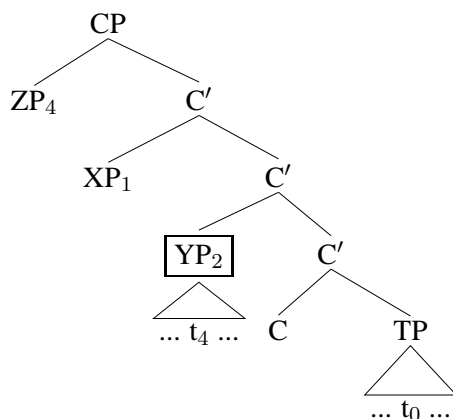
The evidence shows that projections containing a definite subject cannot undergo topicalization in German. A possible reason for this might be that topicalization cannot affect a higher constituent than vP, and only indefinite DP subjects can stay in vP. If so, the restriction is derived by assuming that all complex prefields are derived by fronting of a verbal category.

Thus, all available evidence for single constituency is accounted for. Let me turn next to the seven pieces of evidence in favour of multiple constituency.

4.2.6 Freezing Effects

The evidence follows directly if the locality constraint responsible for deriving Freezing is not derivational but applies to output representations (as in (44-d)), as suggested in Browning (1987) with respect to the CED. The reason is that after structure removal, YP₂ in (45) occupies a (derived) specifier position that is representationally indistinguishable from a position occupied as a consequence of movement (or other specifier positions which block extraction, for that matter); the fact that ZP₄ was moved out of YP₂ when YP₂ itself was not yet in a specifier position thus is irrelevant.²⁶

(45) *Freezing configuration:*



²⁶ That said, a representational approach to freezing effects, unlike a derivational approach, is known to pose problems vis-a-vis the existence of remnant movement; cf. Müller (1998; 2014). In Müller (2016a), I focus exclusively on the issue of how freezing effects in complex prefields can be reconciled with a derivational approach to freezing motivated by the properties of remnant movement in German. The proposal developed there requires a number of further assumptions whose motivation is orthogonal to present concerns; so I will not pursue the matter here.

4.2.7 *Barss' Generalization Effects*

Relative scope is an LF-related phenomenon that is determined on the basis of output representations, i.e., after structure removal, as in (44-d). Hence, at the stage where relative scope options are determined, there is no VP anymore that might prevent a prefield item from taking scope over a middle-field internal item.

4.2.8 *Bound Variable Pronouns*

Essentially the same goes for bound variable pronouns and weak crossover. Variable binding is an LF-related phenomenon that is determined on the basis of output representations, i.e., after structure removal; thus it is (44-d) rather than (44-b) that is accessed by the Weak Crossover constraint in (19). Therefore, c-command of the bound variable pronoun is impossible before VP removal (as it is impossible throughout if no VP removal takes place in the derivation, as with standard cases of VP topicalization), and becomes possible afterwards.

4.2.9 *Negative Polarity Items*

Negative polarity licensing is also an LF-related phenomenon that can be assumed to be determined on the basis of output representations, i.e., after structure removal; thus, (44-d) rather than (44-b) is accessed. C-command of the negative polarity item is impossible before VP removal and becomes possible afterwards.

4.2.10 *Idioms*

As with the three preceding phenomena, idiom interpretation is an LF-related process (cf. Chomsky (1995), among others). The locality constraint demanding c-command among items of an idiom thus accesses (44-d), not the intermediate representation in (44-b).

4.2.11 *Left Dislocation*

The assumption required for the account of the evidence from left dislocation is that pronominal resumption is output-oriented; i.e., choice of the right gender for a pronoun is determined on the basis of the output representation in (44-d), and not the intermediate representation in (44-b).

4.2.12 *Extraposition to VP*

There is some disagreement as to whether relative clause extraposition operations of the type in (29) apply in the syntax (cf. Haider (1990; 2010), Wurmbrand (2007)) or at PF (cf. Truckenbrodt (1994)). If extraposition applies derivationally in the syntax, the non-availability of extraposition to VP is a priori unexpected (unless one can independently ensure that it can only apply after Remove operations have been carried out). However, if extraposition is a PF operation, the effect follows without further ado: (44-d) is the input to PF realization, but this representation does not have a VP anymore that could be

targeted by extraposition.²⁷

To conclude, all the conflicting pieces of evidence discussed in section 2 follow if complex prefields in German are derived by structure removal applying to topicalized VPs, along the lines of the approach to Remove in section 3.

5. Outlook

To end this paper, I would like to briefly address three general further questions raised by the analysis, and one potential further empirical prediction with an outcome that is somewhat unclear.

5.1. Structure Removal as a Last Resort

First, it seems that structure removal by C is only *possible* if the head of VP is empty; and in this context, the operation also seems to be *obligatory*. So far, this generalization does not follow from the analysis, which simply relies on appropriate features triggering VP topicalization and subsequent VP shell removal, viz., [\bullet V₂ \bullet] and [-V₀-], respectively. Thus, the question arises of how it can be derived that [-V₀-] shows up on C if and only if V has left a VP that undergoes topicalization. As a first step towards an answer, recoverability can be invoked. By their very nature, Remove operations can only apply successfully if the removed item's content can be recovered in some way (for instance, this holds for default existential interpretation in the case of removed external arguments in passive contexts; or for parallel antecedents in the case of ellipsis constructions). If an overt lexical V is removed, recoverability will invariably be violated.²⁸ This accounts for one half of the biconditional: [-V₀-] can be successfully instantiated on C only if the overt lexical V head is outside the domain affected by structure removal; in addition, [-V₀-] can only be applied if there *is* a VP in the specifier of C (a VP in a lower position, or in situ, cannot be the target of removal by C because of the Strict Cycle Condition). If [-V₀-] shows up on C without these conditions being met, the derivation will crash. However, this still leaves open the question why [-V₀-] *must* be instantiated on C if a VP without its overt head has undergone topicalization.²⁹ As a

²⁷ Alternative accounts that make do without the assumption that extraposition is a PF phenomenon are available. For instance, Kiss (2005) argues that an extraposed relative clause must be in a *higher* position than the noun it modifies; after reassociation as in (44-d), this is impossible since the extraposed relative clause follows the DP containing the noun that it modifies, and must therefore be in a lower specifier of the C domain.

²⁸ As noted by a reviewer, this presupposes that the concept of “*overt lexical V*” is present in syntax, and that verbal traces or copies can never be used for PF realization (e.g., as the consequence of some chain reduction mechanism). Based on evidence from remnant movement and predicate doubling, I take this assumption to be correct; see Müller (1998; 2016b), respectively.

²⁹ Note that much of the pertinent evidence presented in section 2 would in fact also be compatible with the assumption that [-V₀-] is only *optionally* present in this context. For instance, the additional readings that are available with complex prefields in apparent violation of Barss' generalization only necessitate the assumption that multiple constituency structures are possible, not that they are necessary. Similar conclusions apply in the cases of bound variable pronouns, negative polarity items, and idioms. However, things are different with freezings effects, left dislocation, and extraposition: Here the evidence shows that not only is VP shell removal an option; it is actually *obligatory* in a complex prefield construction (otherwise examples such as

possible answer, I would like to suggest that there is a general constraint against unbound V traces, as it has been proposed by Haider (1993; 2010) and Wurmbrand (2004). Haider and Wurmbrand conceive of this constraint in such a way that it blocks fronting of VPs with a V trace that becomes unbound as a result of the operation, which is incompatible with the analysis developed here. From the present perspective, what is needed is a minimal reinterpretation of the application domain of the constraint in question, such that it does not apply to derivational steps but only applies to the final output of a derivation. A derivation creating an unbound V trace after VP topicalization is thus possible as such, but this trace must subsequently be eliminated; and Remove applying to the V trace as a consequence of [-V₀-] on C is the only way to achieve this.³⁰ In sum, instantiating [-V₀-] on C emerges as a completely optional (pre-syntactic) operation that nevertheless does not lead to either over- or undergeneration: Derivations in which [-V₀-] does not show up on C even though there is topicalization of a VP headed by a trace will violate the ban on unbound V traces; and derivations in which [-V₀-] shows up on C even though there is no VP topicalization, or the head of VP is not a trace, will crash (because of the Strict Cycle Condition and Recoverability, respectively).

5.2. Coordination

Right node raising data such as (46) would initially seem to pose a problem for the present analysis.³¹

- (46) [α [_{DP} Jeden Fahrer] [_{PP} zur Dopingkontrolle]] und [β [_{DP} jeden DS] [_{PP}
 every rider_{acc} to the doping test and every directeur sportif_{acc}
 zur Pressekonferenz]] [_{C'} begleitete ein Chaperon]
 to the press conference accompanied a chaperon_{nom}
 “A chaperon accompanied every rider to the doping test and every directeur sportif to the press
 conference.”

This sentence can have a reading where the universally quantified DPs take wide scope over the existential quantifier (as in (17-c)). If α and β in (46) are both VPs, and (46) thus qualifies as an instance of VP coordination in a complex prefield, it is hard to see how Remove operations triggered by C could yield the intended outcome: First, the coordination structure (i.e., &P) would have to be removed (while somehow leaving *und* (‘and’) intact), and subsequently, both V heads would have to be targeted by separate Remove operations. It would clearly be implausible to attribute this to three separate features on C (viz.,

(13-e), (28-b), and (29-b) would *ceteris paribus* be expected to be possible).

³⁰ Frey (2017) argues that the lowest XP in a fronted VP of a complex prefield construction always has to be pseudo-incorporated into V; assuming co-projection to be possible, this is then taken to make satisfaction of a derivational (rather than output-based) version of a constraint against unbound empty V heads possible. In the present approach, a requirement for pseudo-incorporation could be integrated by assuming that the prohibition against unbound V traces holds throughout, but is strong as an output filter (thereby eventually requiring removal) and weak as a derivational constraint (thereby allowing VP fronting with a non-overt V if pseudo-incorporation takes place and provides lexical material for V).

³¹ I am grateful to an anonymous reviewer for pointing this out.

[−&0−], [−V₀−], [−V₀−]). However, there is good evidence that whereas β in (46) is a VP, α is actually a full clause, with the C' structure PF-deleted (or not realized at PF) under identity, as argued by Hartmann (2000) for right node raising in German more generally. Thus, in (46) there are two CPs, both of which involve complex prefields due to structure removal initiated by the respective C heads (due to the general parallelism constraint on these kinds of coordination structures). Also because of parallelism, it is therefore correctly predicted that (46) can have a reading where the two universally quantified objects in the respective prefields take scope over the two existentially quantified subjects (one of them non-overt); and that an alternative reading exists in which the two existentially quantified subjects take scope over the universally quantified objects.

Independent evidence for this analysis in terms of CP coordination plus massive ellipsis in the first conjunct comes from the fact that sub-words can be targeted (see Wilder (1997), Hartmann (2000)). (47) has exactly the same scope properties as (46), but α cannot possibly be derived by employing only coordination of constituents; rather, PF deletion must take place here.

- (47) [α [_{DP} Jeden Fahrer] [_{PP} zur Doping-Ø]] und [β [_{DP} jeden DS] [_{PP} zur
 every rider_{acc} to the doping and every directeur sportif_{acc} to the
 Fahrrad-Kontrolle]] [_{C'} begleitete ein Chaperon]
 bike test accompanied a chaperon_{nom}
 “A chaperon accompanied every rider to the doping test and every directeur sportif to the bike
 test.”

Furthermore, it is worth noting that exactly the same pattern arises with right node raising constructions like (48), where complex prefields are not involved. Again, an analysis in terms of CP coordination plus deletion in the first conjunct is straightforward. The only relevant difference to (46) is that (46) involves C' deletion whereas (48) involves v' deletion (after scrambling of DP and PP to outer specifiers); but both operations are in complete accordance with the Right Edge Restriction governing right node raising (see McCawley (1982), Wilder (1997), Sabbagh (2007)). As before, the universally quantified objects can either take scope over the existentially quantified subjects, or vice versa (where the latter reading is less plausible, given world knowledge).

- (48) dass [_{DP} jeden Fahrer] [_{PP} zur Dopingkontrolle] und [_{DP} jeden DS] [_{PP} zur
 that every rider_{acc} to the doping test and every directeur sportif_{acc} to the
 Pressekonferenz] ein Chaperon begleitete
 press conference a chaperon_{nom} accompanied
 “that a chaperon accompanied every rider to the doping test and every directeur sportif to the
 press conference.”

Finally, sentences like (49) cannot have the reading where the universally quantified object takes wide scope. This conforms to expectations, given that (49) involves VP topicalization without structure re-

movement in both CP conjuncts – note that (49) thus involves backward deletion of a non-constituent in the first CP (viz., of *begleitet hat ein Chaperon*) in the same way that (47) does (viz., of *-Kontrolle begleitete ein Chaperon*).³²

- (49) [_α [DP Jeden Fahrer] [PP zur Dopingkontrolle]] und [_β [DP jeden DS] [PP
 every rider_{acc} to the doping test and every directeur sportif_{acc}
 zur Pressekonferenz] begleitet] hat ein Chaperon
 to the press conference accompanied has a chaperon_{nom}
 “A chaperon accompanied every rider to the doping test and every directeur sportif to the press
 conference.”

5.3. Markedness

A third general question is why German complex prefields are often perceived as marked and require ideal information-structural conditions (see Bildhauer & Cook (2010), Winkler (2014), Müller, St. et al. (2015)).³³ Here I cannot offer a comprehensive account. A possible explanation might be that reanalysis phenomena (which are conceived of as instances of structure removal under the present approach to conflicting structure assignments) are typically “deep structure” phenomena; feeding of structure removal by movement may qualify as a technically legitimate but marked option.

5.4. Extraction from Complex Prefields

Finally, let me point out a further prediction that the analysis makes. Recall that the output of a derivation of a CP with a complex prefield looks as in (44-d). Such a CP can be embedded under a bridge predicate; cf. (50-a). Hence, it would seem that a context might be present that should permit further movement of one of the specifiers to a matrix SpecC position, as in the case of a regular extraction from verb-second clauses as in (50-b), or as with cases of complex prefield VPs undergoing long-distance movement before structure removal applies in the final landing site, as in (50-c) (= (8-b)).

- (50) a. Sie dachte [_{CP} [_{DP₁} den Fahrer] [_{C'} [_{PP₂} zur Dopingkontrolle] [_{C'} begleitete ein
 She thought the rider_{acc} to the doping test accompanied a
 Chaperon]]]
 chaperon_{nom}
 “She thought that a chaperon accompanied the rider to the doping test.”

³² It is not quite clear whether (46)–(49) can also have another reading where the existentially quantified subject DP takes scope outside the coordination, i.e., over both universally quantified objects simultaneously; see Sabbagh (2007) for discussion of this general issue. If this could be substantiated, it might argue for an approach to right node raising that envisages a concept like multidominance in addition to deletion; see Barros & Vicente (2011) for a proposal of this type.

³³ Bildhauer and Cook argue that complex prefields typically involve either a topic-shift strategy, or an inverted topic/comment structure. It is worth pointing out that these information-structural restrictions as such cannot reliably exclude any of the ungrammatical examples discussed in the present paper.

- b. [DP₁ Den Fahrer] dachte sie [CP t₁ [C' hat ein Chaperon t₁ zur Dopingkontrolle
the rider_{acc} thought she has a chaperon_{nom} to the doping test
begleitet]
accompanied
“As for the rider, she thinks that a chaperon has accompanied him to the doping test.”
- c. [VP₃ Den Fahrer zur Dopingkontrolle t_V] dachte sie [CP t₃ hat ein Chaperon t₃
the rider_{acc} to the doping test thought she has a chaperon_{nom}
begleitet]
accompanied
“She thought that a chaperon has accompanied the rider to the doping test.”

In particular, one might expect that the freezing effect with standard VP topicalization in (51-a) (where VP is in a specifier position and therefore blocks extraction out of it; also see (12-a) above) could be avoided with an embedded complex prefield construction after structure removal (because the incriminating VP shell has gone). However, while (51-b) may indeed generate a slight amelioration effect compared with (51-a), it does not qualify as well formed.

- (51) a. *[DP₁ Den Fahrer] dachte sie [CP [VP₃ t₁ zur Dopingkontrolle begleitet] [C' hat ein
the rider_{acc} thought she to the doping test accompanied has a
Chaperon t₃]]
chaperon_{nom}
“As for the rider, she thought that a chaperon has accompanied him to the doping test.”
- b. ?*[DP₁ Den Fahrer] dachte sie [CP t₁ [C' zur Dopingkontrolle [C' hat ein Chaperon
the rider_{acc} thought she to the doping test has a chaperon_{nom}
begleitet]]]
accompanied
“As for the rider, she thought that a chaperon has accompanied him to the doping test.”

Under present assumptions, (51-b) cannot be analyzed as a freezing effect on a par with (51-a). At this point, I can only speculate as to the source of the (relative) illformedness of (51-b). A possible extra-syntactic explanation might rely on the fact that none of the information-structural conditions that license complex prefields (see, again, Bildhauer & Cook (2010), Müller, St. et al. (2015); and footnote 33) can be respected if the items participating in complex prefields are separated again.

These considerations notwithstanding, the more general conclusion is that there is every reason to assume that complex prefields in German can involve both single constituency and multiple constituency – first one, and then the other.

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