Long-Distance Passives by Structure Removal

Gereon Müller

Abstract

In this paper, an analysis of long-distance passives in German is developed according to which these constructions basically emerge from the co-occurrence of (i) passivization and (ii) restructuring in the language. Based on Müller (this volume) and Müller (2017a), I assume that passivization and restructuring both involve an operation of structure removal in the course of the derivation – of an external argument DP in the first case, and of CP and TP layers of an infinitive in the second case. The null hypothesis that I would like to pursue against this background is that a combination of the two structure removal operations gives rise to the intricate properties of long-distance passives in German. A core feature of the analysis is that it does not involve any long-distance relation at any point; argument demotion, case assignment, and morphological realization as passive all take place extremely locally. Another basic property of the structure removal approach, which sets it apart from most other analyses, is that all DP arguments selected by the verbs involved (including in particular external arguments in the embedded and matrix domains) can be assumed to be structurally represented at some point of the derivation.

1. Introduction

Infinitival complements selected by control predicates in German can either show up as complete sentential objects (i.e., CPs), in which case the construction is unequivocally biclausal, or they can lack some properties indicative of CPs, in which case the construction behaves mono-clausally, at least to some extent; this latter type of infinitive is also known as a restructuring infinitive. In the former case, with a full CP level present in the infinitive, passivization can apply to either the matrix verb or the embedded verb, and the resulting sentences are then completely well-behaved; see the examples in (1a) (with passivization of the matrix verb, and the CP infinitive in situ or extraposed) and in (1b) (with passivization of the embedded verb, and again in-situ and extraposed versions of the object infinitive).

(1)   a.   (i)   dass gestern   [CP PRO den Traktor   zu reparieren]
                    that yesterday   the tractor*acc* to repair
                    versucht wurde
                    tried   was

             (ii)   dass versucht wurde [CP PRO den Traktor   zu
                     that tried   was   the tractor*acc* to
                     reparieren]
                     repair

      b.   (i)   dass Karl₁   [CP PRO₁ geliebt zu werden] versucht
                   that Karl*nom*   loved   to be   tries

             (ii)   dass Karl₁   versucht [CP PRO₁ geliebt zu werden]
                     that Karl*nom* tries   loved   to be

However, if passivization takes place under restructuring, a long-distance passive construction arises. German long-distance passivization has first been described from the perspective of grammatical theory by Höhle (1978). Since then, it has figured prominently in a number of analyses; cf. Fanselow (1985), Stechow (1992), Haider (1993, 2010), Bayer & Kornfilt (1994), Sabel (1996), Kornfilt (1999), Wöllstein-Leisten (2001), Wurmbrand (2001, 2015*a*,*b*), Müller, St. (2002), Sternefeld (2006), and Keine & Bhatt (2016), among others. In long-distance passives in German, an object of the embedded verb is assigned matrix clause nominative and agrees with the matrix verb; passive morphology only shows up on the matrix verb. See (2a) (with the restructuring infinitive in situ) and (2b) (with the restructuring infinitive extraposed, an option that is also known as the third construction; see below).

(2)   a.   dass der Traktor   zu reparieren versucht wurde
             that the tractor*nom* to repair   tried   was

      b.   dass die Traktoren   versucht wurden zu reparieren
             that the tractors*nom* tried   were   to repair

(2ab) involve subject control: The external argument of the matrix verb *versuchen* ('try') binds the external argument of the embedded infinitival verb. However, as noted by Sabel (1996), Wurmbrand (2001), and Müller, St. (2002), long-distance passives can also show up with matrix verbs that trigger object control. This is shown for the object control restructuring predicate *empfehlen*

('recommend') in (3ab), and for the object control restructuring predicate *erlauben* ('permit') in (3c).

(3)   a.   dass ihm   der Artikel   zu lesen empfohlen   wurde
           that him$_{dat}$ the article$_{nom}$ to read recommended was
      b.   dass ihr   der Traktor   zu reparieren empfohlen   wurde
           that her$_{dat}$ the tractor$_{nom}$ to repair   recommended was
      c.   dass ihr   keine Zeitung   zu lesen erlaubt   wird
           that her$_{dat}$ no   journal$_{nom}$ to read permitted is

Since the external argument DP of the matrix verb and the external argument DP of the embedded verb (henceforth DP$_{ext}$) remain without overt realization in (2) (subject control) and (3) (object control), the question arises which of the two DP$_{ext}$ arguments is subject to passivization (i.e., which is affected by external argument demotion). Note that the object control case clearly signals that this issue is not negligible since it shows that the two DP$_{ext}$ arguments do not necessarily have to be co-indexed: For instance, as regards (3a), the one who does the recommendation and the one who is supposed to read the article are evidently different individuals. As a matter of fact, the empirical evidence would seem to be fairly uncontroversial in this respect: There is no genuine long-distance passivization in the sense that passive morphology associated with the matrix verb would indicate demotion of a DP$_{ext}$ with the embedded verb; rather, it is exclusively the DP$_{ext}$ of the matrix verb associated with passive morphology that is subject to argument demotion. To see this, consider first the sentences in (4). Here, the matrix verb (*versuchen*) is a control verb permitting restructuring in all three cases, and the embedded predicate is a psych verb in (4ab) (*gefallen* ('please'), *beeindrucken* ('impress')), and an unaccusative intransitive verb in (4cd) (*sterben* ('die'), *einschlafen* ('fall asleep')).

(4)   a.   dass sie [PRO ihm zu gefallen] versucht
           that she   him to please   tries
      b.   dass sie [PRO ihn zu beeindrucken] versucht
           that she   him to impress   tries
      c.   dass sie [PRO zu sterben] versucht
           that she   to die   tries

d.   dass sie [PRO einzuschlafen] versucht
     that she   to fall asleep   tries

As shown in (5), the embedded verbs in (4) do not easily permit passivization in simple contexts.[1]

(5)   a.   *dass DP_{ext} ihm (von ihr) gefallen wurde
            that   him by her pleased was
       b.   ?*dass DP_{ext} er (von ihr) beeindruckt wird
            that   he by her impressed   is
       c.   ?*dass DP_{ext} (von ihr) gestorben wurde
            that   by her died   was
       d.   ?*dass DP_{ext} (von ihr) eingeschlafen wird
            that   by her died   is

Crucially, however, all of the sentences in (4) can be affected by long-distance passivization; see (6).[2]

---

[1]In the current context, it does not matter what exactly the source of these restrictions on passivization is. On passivization problems with psych verbs in German, as in (5a) and (5b), see Grewendorf (1989), among others. As for unaccusative verbs (cf. (5c) and (5d)), it is worth pointing out that there is in fact some controversy in the literature as to whether verbs like *sterben* ('die') and *einschlafen* ('fall asleep') can marginally undergo passivization in German. Thus, in Růžička (1989), Sternefeld (1995), Kiss (1995), Fanselow (1992), Müller, St. (1999; 2002), and Müller (2018*a*) it is argued that unaccusative verbs in German cannot undergo passivization (and it is then sometimes postulated that the few cases where it looks as though they can do so after all can and should be analyzed as reinterpretations of unaccusative verbs as unergative verbs, with the original theta-role of the argument affected by passivization acquiring agent-like properties). On the other hand, in Haider (1991), Eisenberg (1999), Primus (2010), and Kiparsky (2013) it is assumed that unaccusative verbs can in principle be passivized. For present purposes, this issue need not be resolved, as long as there is a general consensus that passivization in (5c) and (5d) is at least somewhat marked, and impossible for at least some speakers in the particular environments given here. I will briefly come back to this issue in section 3, though.
[2]The verb in (4b) takes a direct (accusative) object; so the case change to nominative in (6b) that is indicative of long-distance passives clearly makes this point. In the other three cases ((4a), (4c), and (4d)), there is no accusative object in active environments, so the presence of long-distance passivization can only be detected indirectly here, e.g., via joint topicalization of the two verbs (as in (6a), (6c), and (6d)), which presupposes restructuring (see Haider (1993), among others).

(6)   a.   Zu gefallen versucht wurde DP$_{ext}$ ihm nicht
                to please   tried   was   him not

        b.   dass DP$_{ext}$ er zu beeindrucken versucht wurde
                that   he to impress   tried   was

        c.   Zu sterben versucht wurde DP$_{ext}$ (von ihr) nicht
                to die   tried   was   by her not

        d.   Einzuschlafen versucht wurde DP$_{ext}$ (von ihr) nicht
                fall asleep   tried   was   by her not

This shows that long-distance passivization affects a DP$_{ext}$ of the matrix verb (which needs to be able to undergo passivization for the construction to be legitimate), and not a DP$_{ext}$ of the embedded verb (which does not independently need to be able to undergo passivization for long-distance passivization to succeed).[3] More generally, then, it can be concluded that there is no passivization in the embedded clause of a long-distance passive construction; and this directly explains the absence of case morphology on the embedded verb.

Furthermore, long-distance passives in German behave fully regularly as far as *by*-phrases are concerned. This is already evident from (6); it also emerges from the examples in (7). Note that with an object control verb like *empfehlen* ('recommend'), it is the DP$_{ext}$ argument of the matrix clause (which is first person in (7b)), and not the DP$_{ext}$ argument of the embedded clause (which is third person in (7b)) that is resumed by the *by*-phrase. Again, this

---

[3] In contrast, it has sometimes been proposed that a DP$_{ext}$ in the embedded clause needs to be able to be directly affected by passivization in the long-distance passive construction. Thus, Pitteroff (2014) claims that German long-distance passives are only possible if the embedded verb as such allows passivization. The argument is based on the contrast between *versenken* (transitive 'sink') in (i-a) and *versinken* (unaccusative 'sink') in (i-b).

(i)   a.   dass das Schiff   zu versenken versucht wurde
                that the ship$_{nom}$ to sink   tried   was

        b.   *dass das Schiff   zu versinken versucht wurde
                that the ship$_{nom}$ to sink   tried   was

However, independently of the question of marginal passivizability of unaccusative verbs (see footnote 1), (i-b) is straightforwardly excluded as a control failure: A control infinitive must provide an accessible argument controllee for a controller of the matrix clause (see, e.g., Stechow & Sternefeld (1988), and below), and there simply is no such DP$_{ext}$ in (i-b), where the only argument of the embedded verb is *das Schiff* ('the ship'). In line with this, leaving out this overt DP in (i-b) immediately gives rise to well-formedness.

clearly suggests that passivization in long-distance passives exclusively affects the matrix domain, and not the embedded domain.

(7) a. dass der Traktor   von mir zu reparieren versucht wurde
         that the tractor*nom* by me to repair   tried   was

     b. dass ihm   der Artikel von mir zu lesen empfohlen   wurde
         that him*dat* the article by me to read recommended was

As already noted above, long-distance passivization in German presupposes restructuring, i.e., the lexically determined capacity of certain kinds of matrix verbs to induce transparency of its clausal complement. However, the two concepts are not co-extensive: As observed by Höhle (1978), Wöllstein-Leisten (2001), Sternefeld (2006), and Haider (2010), there are predicates that allow restructuring but do not permit long-distance passivization.[4] Thus, for many speakers, restructuring control verbs like *versuchen* ('try'), *vergessen* ('forget'), and *empfehlen* ('recommend') permit long-distance passivization, whereas restructuring control verbs like *beabsichtigen* ('intend') and *wünschen* ('wish') do not. This is shown for *beabsichtigen* ('intend') in (8a) (where scrambling of the embedded object *den Traktor* ('the tractor') to a position in front of the matrix subject *keiner* ('no-one') signals restructuring; see the next section) vs. (8b) (where long-distance passivization fails).

(8) a. dass den Traktor$_1$ keiner   t$_1$ zu reparieren beabsichtigt hat
         that the tractor*acc* no-one*nom*   to repair   intended   has

     b. ?*dass der Traktor   zu reparieren beabsichtigt wurde
          that the tractor*nom* to repair   intended   was

There may also be speakers who permit both of these sentences, and speak-

---

[4]As a matter of fact, Höhle (1978) postulates that only *versuchen* ('try') can trigger long-distance passivization in German, whereas all other control predicates permitting restructuring cannot do so. Höhle already concedes that other speakers may be somewhat more liberal as regards the class of verbs that permit long-distance passivization (even though he ultimately attributes more liberal judgements in this area to autosuggestion); however, it would seem fair to conclude that the vast majority of researchers concerned with long-distance passives in German since his groundbreaking work in the seventies do not follow Höhle in this respect and rather assume that there are several control verbs that permit both restructuring and long-distance passivization in German. All that said, it seems clear that there is substantial variation among speakers concerning which restructuring predicates also permit long-distance passivization; and this variation needs to follow from the theoretical analysis.

ers who permit none of them, but it seems safe to conclude that there are no speakers with the two grammaticality judgements reversed. In the same vein, Wurmbrand (2015*a,b*) has argued that cross-linguistically, long-distance passivization and restructuring may occur as independent phenomena, but as a tendency the former presupposes the latter, not vice versa.

In the remainder of this paper, I will come up with a new approach designed to capture these and other core properties of long-distance passivization in German. The primary goal will be to show that the new analysis basically follows from the independently motivated analyses of (i) passivization and (ii) restructuring developed in Müller (this volume) and Müller (2017*a*), respectively; these analyses both rely on a concept of structure removal in syntax that complements standard structure-building operations via Merge in a minimalist approach to grammar (see Chomsky (2001, 2013)). I will proceed as follows. Section 2 lays out the general principles and mechanisms underlying a principled approach to structure removal in syntax. Sections 3 and 4 then show how passivization and restructuring work under a structure removal approach, based on evidence from German. Finally, in section 5 I return to long-distance passives in German, and I illustrate how the main properties of this phenomenon are accounted for in a structure removal approach.

2. Structure Removal

The basic premise underyling the approach to structure removal developed in Müller (this volume, 2017*a,b*, 2018*b*) is that syntactic derivations employ *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*. Clearly, the optimal assumption is that if Remove exists as the mirror image of Merge, it is expected to show similar properties and obey identical constraints. The assumptions made about Merge are the following: First, it is a feature-driven operation; Merge is triggered by designated [•F•] features, which are ordered on lexical items, and which are discharged by the operation they trigger (see Heck & Müller (2007), Abels (2012), Stabler (2013), Georgi (2014), Müller (2014), and references cited there). Second, Merge may apply to heads or phrases. This distinction requires a diacritic on the structure-building feature: [•F_0•] for heads (0=min), [•F_2•] for XPs (2=max). Third, Merge obeys the Strict Cycle

Condition in (9) (see Chomsky (1973, 1995, 2001, 2008)), according to which an operation cannot apply at a given stage of the derivation that exclusively affects an embedded structure.[5] And finally, Merge can be external or internal; it brings about basic structure building in the former case, and movement in the second.

(9)   *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.

Exactly the same assumptions are made about Remove. Thus, first, Remove is feature-driven. It is triggered by designated $[-F-]$ features, which are ordered on lexical items. Second, Remove may apply to heads or phrases: $[-F_0-]$, $[-F_2-]$. Third, Remove obeys the Strict Cycle Condition. Fourth, Remove can be external or internal; but only internal Remove (where the operation affects material of the current tree) will be relevant in what follows.[6]
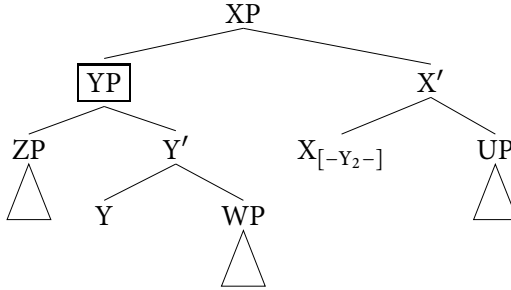
    Turning to removal of phrases first, a head X that is equipped with a feature $[-Y_2-]$ can remove a full YP subtree that is either its complement or its specifier (more deeply embedded phrases are not accessible, because of the Strict Cycle Condition). Focussing on removal of specifiers here (since this will turn out to be the scenario that is relevant for passivization), the abstract derivation in (10) illustrates how $X_{[\bullet Y_2 \bullet] > [-Y_2-]}$ first triggers Merge with a YP as its specifier in (10a) (via the structure-building feature $[\bullet Y_2 \bullet]$ which is at the top of the list of ordered features triggering operations after X has discharged the initially top-most structure-building feature $[\bullet U_2 \bullet]$ for its complement), and subsequently removes that specifier YP again in (10b) (via the structure-removal feature $[-Y_2-]$ that is at the top of the list after discharge of $[\bullet Y_2 \bullet]$).

---

[5] The concept of domain of a head X is taken over from Chomsky (1995) here; it is the set of nodes dominated by XP that are distinct from and do not contain X.
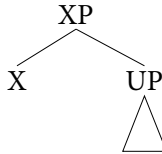
[6] External Remove affects material that is not present in the current tree. In Müller (this volume, 2017*b*), I suggest that external Remove affects an XP in the workspace of the derivation; the external argument of adjectival passives ('Zustandspassiv') is a candidate for this.

(10)   *Remove and phrases: specifiers*

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

$$
\begin{array}{c}
\text{XP} \\
\overline{} \\
\boxed{\text{YP}} \qquad \text{X}' \\
\text{ZP} \quad \text{Y}' \qquad \text{X}_{[-Y_2-]} \quad \text{UP} \\
\text{Y} \quad \text{WP}
\end{array}
$$

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

$$
\begin{array}{c}
\text{XP} \\
\text{X} \quad \text{UP}
\end{array}
$$

The sequence of structure building followed by structure removal applying to one and the same item (YP in (10)) qualifies as a Duke-of-York derivation, where an operation is first carried out and subsequently undone again (see Pullum (1976), McCarthy (2003)): Even though it might at first sight seem to be entirely redundant, it may in fact have non-trivial consequences, given that other operations (triggered by other features not listed here, on X and possibly elsewhere) can in principle be interspersed with the structure-building and structure-removal operations.

Next, Remove can also apply to heads, based on a feature $[-F_0-]$. Focussing on removal of heads of complements here (since this is the context that will be relevant for restructuring), (11) shows how a head X may first trigger Merge with a YP complement (via its structure-building feature $[\bullet Y_2 \bullet]$), and then induce Remove of the head Y of its complement (via its structure-removal feature $[-Y_0-]$). $[-Y_0-]$ on X removes the head Y of YP, and consequently, it takes away the YP projection as well, but only this: More deeply embedded material is attached to the head responsible for removal and replaces the original item (YP) in a way that maximally preserves the previous c-command and linearization relations within YP. As a consequence, an original complement of Y (WP in (11a)) becomes the new complement of X (see (11b)), and if Y

originally had a specifier in addition (ZP in (11a)), this specifier is reassociated as a new specifier of X (see (11b)). This latter effect is remarkable insofar as it opens up the possibility of dislocation (here: of ZP) without actual movement taking place; as it turns out, this mechanism will be shown to play a vital role in the analysis of long-distance passivization to be developed in section 5 below. For now, it can be concluded that removal of heads has the effect of cutting out a top-most layer of structure and reintegrating lower material in an order-preserving way.[7]

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

    a.   Merge($X_{[\bullet Y_2 \bullet] > [-Y_0 -]}$,YP):
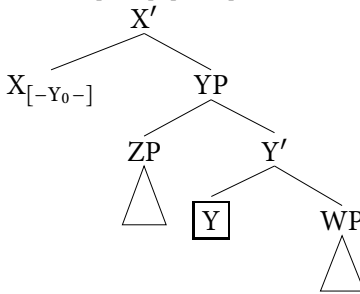
    b.   Remove($X_{[-Y_0 -]}$,Y):
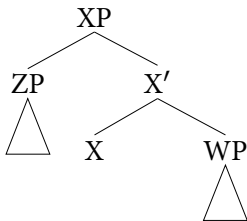
Like removal of phrases, removal of heads gives rise to Duke-of-York derivations where the successive application of structure-building and structure-removal operations makes the derivation revert to a previous stage; however, as before, these undoings of earlier structure building are by no means innocuous since other operations can be interspersed with, say, introduction of the

---

[7] For predecessors and alternative versions of essentially this concept of removal of heads, see Ross (1967, ch. 3), Chomsky (1981, 2015), and Pesetsky (2016), among several others.

YP layer in a step preceding (11a), and subsequent removal of the YP layer in (11b).

A restriction on Remove operations is that they must not violate the general *recoverability* requirement for derivations. Thus, in principle, feature-driven structure removal may affect any XP subtree (via $[-X_2-]$), and any XP layer (via $[-X_0-]$); however, if such a removal has the effect that important information gets lost that is not recoverable from the syntactic context in some way, the derivation will invariably fail.

From a more general point of view, the postulation of an elementary Remove operation makes it possible to account for phenomena where it looks as though conflicting structure assignments are necessary in the syntax – i.e., where the applicability or inapplicability of some syntactic operations indicates the presence of some item α, and the applicability or inapplicability of other syntactic operations indicates that α is in fact not present in the structure. These kinds of phenomena are numerous in natural language syntax, and they have often been treated by recourse to some unrestricted concept of *reanalysis*. In this sense, Remove-based structure removal can be viewed as the core of a principled approach to reanalysis.

In the following two sections, I will show how structure removal affects the external argument DP in German passive derivations and the CP and TP layers of infinitival clauses in German restructuring derivations.

3. Passivization

A central assumption of the approach to passivization in German developed in Müller (this volume) is that the early stages of derivations of active sentences and corresponding passive sentences are fully identical. In particular, after v has undergone Merge with a VP (which may or may not contain an internal argument (DP_{int})), triggered by a $[\bullet V_2 \bullet]$ feature, an external argument (DP_{ext}) is introduced as a specifier of v in both cases, triggered by a $[\bullet D_2 \bullet]$ feature which comes next on the list. The basic difference between an active v and a passive v is that the latter functional head is then equipped with a $[-D_2-]$ feature in addition, which brings about a Remove operation that takes DP_{ext} out of the structure again. This accounts for the argument demotion effect of the passive. Absorption of structural accusative case can then be triggered as a side effect, either by assuming a structural case assignment feature on v

not to show up in the presence of $[-D_2-]$ on the list, or by assuming a dependent case analysis (see Stiebels (2000), McFadden (2004), Preminger (2014), Baker (2015), Bobaljik (2015), among others) according to which dependent accusative is assigned in the presence of DP_{ext}, and such case assignment is determined after removal of DP_{ext}. In either approach, DP_{int} will be assigned structural nominative case by T, which is freed up because there is no DP_{ext} in the structure anymore that would depend on it.[8] Next, the specific morphological reflex of passivization (a combination of the passive auxiliary *werden* and the past participle form of V, in the regular, primary passive construction in German) results from $[-D_2-]$ on v, which determines morphological realization even though it is discharged from the list of features on v that trigger morphological realization.[9]

Against this background, consider a simple German passive construction based on a transitive verb, as in (12).

(12)   dass das Buch   gelesen wurde
        that the book$_{nom}$ read   was

According to present assumptions, the relevant part of the Remove-based derivation of (12) looks as in (13). First, v is merged with the VP *das Buch gelesen* (triggered by $[\bullet V_2\bullet]$ at the top of the feature list of v), as in (13a). Next, v is merged with DP_{ext}; see (13b). And ultimately, DP_{ext} is removed again in (13d).

(13)   a.   *Merge(v$_{[\bullet V_2\bullet]>[\bullet D_2\bullet]>[-D_2-]}$,VP)*
              [$_{v'}$ v$_{[\bullet D\bullet]>[-D_2-]}$ [$_{VP}$ das Buch gelesen]]
        b.   *Merge(v$_{[\bullet D_2\bullet]>[-D_2-]}$,DP$_{ext}$)*
              [$_{vP}$ DP$_{ext}$ v$_{[-D_2-]}$ [$_{VP}$ das Buch gelesen]]]
        c.   [...]

---

[8] In German, structural nominative case assignment by T is not accompanied by an *obligatory* EPP feature on T (see below on *optional* EPP features on T), so DP_{int} can in principle stay in its in situ position in the VP (or undergo local scrambling within vP); see den Besten (1981), Grewendorf (1989), Haider (2010).

[9] If morphological realization ist post-syntactic, this implies that discharged features, although inactive, are still accessible in some form for morphological realization; see Adger (2003) for discussion of this much more general issue, and Chomsky (1995) for a distinction between erasure and deletion which addresses a similar challenge. Alternatively, if morphological realization is pre-syntactic, no such issues arise in the first place.

d.   *Remove(v$_{[-D_2-]}$,DP$_{ext}$)*
    [$_{vP}$ v [$_{VP}$ das Buch gelesen]]

An immediate consequence of the Remove-based approach to passivization is that passivization is always an extremely local operation: Due to the Strict Cycle Condition in (9), a $[-D_2-]$ feature on v can target a DP$_{ext}$ in Specv, but it can never target a DP$_{int}$ that is a daughter of VP; thus, a general prohibition against passivization of unaccusative verbs can be derived (and for reasons laid out in Müller (2018*a*), I take this prediction to be empirically correct for German; see footnote 1 above). Clearly, a $[-D_2-]$ feature on a matrix v can then also never affect a DP that is contained in an embedded vP or VP; this straightforwardly derives an impossibility of true long-distance passivization; recall from section 1 that this consequence is confirmed by the empirical evidence.

The question arises of how this approach models resuming DP$_{ext}$ with a *by*-phrase. Here the issue becomes relevant what actually happens to DP$_{ext}$ once it is removed from the structure. The suggestion in Müller (this volume) is that structure removal via $[-D_2-]$ places DP$_{ext}$ in the workspace of the derivation. At this point, two options arise. The first one is that DP$_{ext}$ simply stays in the workspace. In accordance with the general recoverability restriction on structure removal (see section 2), it then triggers default existential quantification; for this is the only failsafe interpretation procedure that be carried out with non-overt arguments. Still, there is also a second option, and this consists in remerging DP$_{ext}$ into the structure in the only way that is available without structure-building features, viz., as an adjunct. This is the source of the *by*-phrase in sentences like (14).

(14)   dass [$_{PP}$ von Karl] das Buch   gelesen wurde
        that   by Karl   the book$_{nom}$ read   was

Finally, and most importantly, this approach makes clear predictions with respect to the accessibility of DP$_{ext}$ for syntactic operations. Depending on which phenomena one looks at, it seems that there is both evidence for the syntactic presence of DP$_{ext}$ in German passive constructions, and evidence against it. Standardly, however, approaches to passivization have to either postulate the presence of a (non-overt) DP$_{ext}$ in the structure (see, e.g., Baker, Johnson & Roberts (1989), Sternefeld (1995), Harley (2013), Merchant (2013), Collins (2005)), or they have to postulate that no such DP$_{ext}$ shows up in the

syntax (see Chomsky (1981), Müller, St. (2007), Kiparsky (2013), Bruening (2013), Schäfer (2012), Alexiadou & Doron (2013), Legate (2014), and Alexiadou, Anagnastopoulou & Schäfer (2015), among others). In contrast, an approach to passivization in terms of structure removal makes it possible to accommodate empirical evidence both for and against DP_{ext} in syntactic representations in the passive. More specifically, the prediction is that DP_{ext} should be accessible for syntactic operations that involve other material contained within the same vP (provided general locality requirements are met), because DP_{ext} is still part of the structure at this point (these operations are the ones that can take place at the stage (13c) of passive derivations, i.e., in the narrow window when DP_{ext} has been merged and has not yet been removed); and DP_{ext} should be inaccessible for syntactic operations that involve other material outside of the same vP, because DP_{ext} has been removed from the structure once the derivation has proceeded beyond vP (this latter consequence is due to the Strict Cycle Condition; see above).

   In Müller (this volume), it is argued that this prediction is correct for passivization in German. On the one hand, DP_{ext} exhibits downward accessibility, i.e., it can participate in operations like control into adjunct clauses, complement clauses, and secondary predicates, binding of reflexive and reciprocal pronouns (via Principle A of the binding theory), disjoint reference enforcement with non-pronominal DPs (via Principle C of the binding theory), and unselective binding by adverbs of quantification. This is shown for control into non-finite purpose clauses in (15a) (see Roberts (1987)), and for control into non-finite complement clauses in (15b) (see van Urk (2013)); in both cases, DP_{ext} can undergo Agree with the PRO_1 subject of the embedded infinitive (and thus establish a binding relation, assuming an approach to control along the lines of Landau (2013)).

(15)   a.   Der Reifen wurde DP_{ext_1} aufgepumpt [$_{CP}$ PRO_1 um   die
           the   tire   was   inflated   in order the
           Fahrt   fortzusetzen]
           journey to continue
       b.   Es wurde DP_{ext_1} versucht [$_{CP}$ PRO_1 zu schlafen]
           it   was   tried   to sleep

The same effect obtains with control into subject-oriented secondary predicates; see, e.g., (16ab) (cf. Müller, St. (2002)).

(16)   a.   Die Daten wurden DP_{ext_1} [$_{SC}$ PRO_1 nackt] analysiert
          the data   were   naked analyzed
      b.   Das Handout wurde DP_{ext_1} [$_{SC}$ PRO_1 übermüdet] verfasst
          the handout was   tired   written

Next, the data in (17) signal downward accessibility of DP_{ext} for binding of reflexive pronouns (see (17a)) and binding of reciprocal pronouns (see (17b)) in the passive; again, assuming Principle A satisfaction to involve an Agree operation in the syntax (see, e.g., Reuland (2001, 2011), Fischer (2004), and Hicks (2009)), this follows straightforwardly from the presence of DP_{ext} at the relevant stage of the derivation (i.e., before the vP that DP_{ext} is the specifier of is completed, and the derivation moves on to the next cyclic domain).

(17)   a.   Hier wurde DP_{ext_1} sich$_1$ nicht geprügelt
          here was   REFL not   hit
      b.   Es wurde DP_{ext_1} einander$_1$ gedankt
          it was   RECIP   thanked

On the other hand, the Remove-based approach to passivization in German predicts upward inaccessibility of DP_{ext}, i.e., inaccessibility of DP_{ext} for operations that involve other material in vP-external positions. As argued in Müller (this volume), this is corroborated by the non-availability of variable binding from above, failed attempts at control of DP_{ext} from outside, inability of DP_{ext} to satisfy movement criteria, lack of minimality effects, and transparency for reflexivization. Let me just illustrate upward inaccessibility of DP_{ext} on the basis of evidence from variable binding and control here. As shown in (18a), DP_{ext} cannot be bound by a quantified DP in the matrix clause (see Alexiadou et al. (2015)), and this follows directly under the assumption that DP_{ext} is not present anymore in the structure at the point where the matrix DP is merged. In contrast, if DP_{ext} returns into the structure as a *by*-phrase after it has undergone removal, such binding is unproblematic; see (18b).

(18)   a.   *Kein Student$_1$ gibt zu [$_{CP}$ dass $\overline{DP_{ext_1}}$ schlecht gearbeitet
          no   student admits   that   badly   worked
          wurde]
          was

b.   Kein Student$_1$ gibt zu [$_{CP}$ dass ~~DP$_{ext_1}$~~ schlecht [$_{PP}$ von ihm$_1$]
     no   student admits   that   badly   by   him
     gearbeitet wurde]
     worked   was

Interestingly, DP$_{ext}$ in a passive construction *can* be bound by an adverb of quantification, giving rise to the quantificational variability effect (see Heim (1982)). As observed in Alexiadou & Müller (2018), an adverb of quantification like *größtenteils* ('for the most part') can bind DP$_{ext}$ in the passive in German; see (19a). This is expected if the adverb of quantification can indeed be assumed to be part of the minimal vP projection that also contains DP$_{ext}$ – in this case, Remove can apply after the binding relation is established; i.e., Remove counter-bleeds variable binding. In contrast, the same adverb cannot effect binding of a DP$_{ext}$ variable if it shows up in the matrix clause; see (19b). Here removal of DP$_{ext}$ in the embedded clause must have taken place before variable binding by a matrix clause quantifier can be established; i.e., Remove transparently bleeds variable binding.[10]

(19)   a.   Es wurde größtenteils   DP$_{ext}$ geschlafen beim Vortrag
            it was   for the most part   slept   at the talk
            'Most people slept through the talk.'
       b.   Es war größtenteils   so [$_{CP}$ dass ~~DP$_{ext}$~~ geschlafen wurde
            it was for the most part so   that   slept   was
            beim Vortrag]
            at the talk
            "*Most people slept through the talk."
            "Most of the time, people slept through the talk."

---

[10] As indicated in the glosses, (19b) can only have a reading where quantification is over time spans or situations, not over individuals, as it is possible in (19a) (where the other reading is available, too). Note also that there is independent evidence for a very low, vP-internal position of the adverb of quantification *größtenteils* ('for the most part'); as shown in (i-a), it can undergo topicalization together with the verb, which higher adverbs in German cannot do (see (i-b)).

(i)   a.   [$_{vP_1}$ Größtenteils   DP$_{ext}$ geschlafen] wurde beim Vortrag t$_1$.
            for the most part   slept   was   at the talk
            'Most people slept through the talk.'
       b.   *[$_{TP}$ Wahrscheinlich DP$_{ext}$ geschlafen] wurde beim Vortrag.
            probably   slept   was   at the talk
            "People probably slept through the talk."

A second argument for the inaccessibility of DP_{ext} for items merged in higher projections comes from control infinitives. As noted by Stechow & Sternefeld (1988), control infinitives must have an accessible subject argument. The empirical evidence shows that DP_{ext} in a passivized control infinitive does not qualify as an accessible argument; see (20ab). This is accounted for if DP_{ext} has undergone removal before the legitimacy of the control infinitive (i.e., the accessibilty of an external argument) is checked.

(20)   a.   *Er versucht [$_{CP}$ ~~DP$_{ext}$~~ gearbeitet zu werden]
            he tries   worked   to be

     b.   *weil   [$_{CP}$ bald ~~DP$_{ext}$~~ geschlafen zu werden] gewünscht wird
            because   soon   slept   to be   wished   is

To sum up, a Remove-based approach to passivization in German provides a principled approach to the conundrum created by conflicting evidence for the presence of DP_{ext} in the structure: At first, DP_{ext} is present (it is merged as Specv like any other external argument in active clauses), and can accordingly be involved in various syntactic operations, but subsequently, it is removed, and can therefore not be accessed anymore by syntactic operations applying at a later stage.

4. Restructuring

According to the approach to restructuring infinitives in German developed in Müller (2017a), control verbs uniformly take CP complements.[11] Against this background, the special property of restructuring predicates is assumed to be the capacity to bring about removal of the CP and TP layers of the sentential complement, which gives rise to derived vP complements. Such a removal is triggered by $[-C_0-]$ and $[-T_0-]$ features that show up on the matrix V. These $[-C_0-]$ and $[-T_0-]$ features for structure removal applying to heads are taken to be present on a restructuring control V only optionally. The reason is that all control verbs that permit restructuring also permit a full clausal infinitival complement, i.e., they are all compatible with restructuring not taking place.[12]

---

[11] The complement of a control verb is typically non-finite; but see Stiebels (2010) on control into finite clauses in German.

[12] It is a priori unclear why CP and TP layers *both* have to be removed with control predicates that induce restructuring; but one may speculate that the concept of a phase (cf. Chomsky

Unlike restructuring control verbs, other verbs that trigger restructuring obligatorily are assumed to take smaller complements from the start; i.e., there is no structure removal involved here. This holds, e.g., for modal and raising verbs; more generally, for so-called functional restructuring predicates (see Wurmbrand (2001, 2015b)).

To see how structure removal in restructuring infinitives works, consider (21), where the matrix verb *versuchen* ('try') is equipped with the optional features $[-C_0-]$ and $[-T_0-]$.

(21)   dass sie₁   [PRO₁ ihn   zu küssen] versucht
       that she$_{nom}$ him$_{acc}$ to kiss   tries

Suppose that the embedded T head has undergone $[\bullet v_2 \bullet]$-driven Merge with the embedded vP, projecting TP; and that subsequently C has triggered Merge (via $[\bullet T_2 \bullet]$) with the TP, projecting CP. In the next step in (22a), matrix V (*versucht*) is merged with CP, triggered by $[\bullet C_2 \bullet]$ on V. In (22b), the CP layer is removed again, as a consequence of $[-C_0-]$ on V. Thus, TP becomes the new complement of V, and while TP was not accessible for removal of its head as long as it was embedded in a CP (due to the Strict Cycle Condition), it is accessible now: Head removal can apply recursively. Accordingly, given the remaining $[-T_0-]$ feature on V, the TP layer is removed at this point, and vP becomes the next (and final) complement of V; see (22c).[13]

(22)   a.   *Merge(V,CP)*:
            [$_{VP}$ [$_{CP}$ C [$_{TP}$ [$_{vP}$ PRO ihn zu küssen] T]] [$_V$ versucht]$_{[-C_0-]>[-T_0-]}$]

(2001, 2008, 2014)), which postulates an intimate relation between C and T, might play a role. That said, it is not in fact entirely straightforward in the first place to detect differences between a theory where restructuring verbs embed a TP, and a theory where restructuring verbs embed a vP. Haider (1993, 2010), e.g., holds that there is no distinction between these projections to begin with. However, see Wurmbrand (2001, 2007, 2015b) for relevant empirical evidence; in addition, I will rely on an argument for the presence of a separate TP in German later in the present section, and then also in the following section, when I turn to long-distance passivization again.

[13] Note that the Strict Cycle Condition thus ensures that the order of features for removal of functional layers need not be stipulated; if V exhibits an initial order $[-T_0-]>[-C_0-]$ instead of $[-C_0-]>[-T_0-]$, the derivation will crash because $[-T_0-]$ cannot be discharged (removing the TP layer) while CP is still present; but $[-T_0-]$ at the top of the list will block the discharge of $[-C_0-]$.

b.   *Remove(V,CP)*:
     $[_{VP} [_{TP} [_{vP}$ PRO ihn zu küssen $]$ T $]] [_{V}$ versucht $]_{[-T_0-]}]$

c.   *Remove(V,TP)*:
     $[_{VP} [_{vP}$ PRO ihn zu küssen $] [_{V}$ versucht $]]$

As with passivization, the Remove-based approach to restructuring in German is able to reconcile conflicting evidence regarding the accessibility of CP and TP layers in restructuring configurations. Thus, there is evidence both for a biclausal approach to restructuring constructions (with CP status of the complement), and for a monoclausal approach (where the complement is not a full CP but a smaller structure). However, standard approaches have to either postulate a CP for restructuring complements throughout (see, e.g., Baker (1988), Sternefeld (1990), Müller & Sternefeld (1995), Sabel (1996), Koopman & Szabolcsi (2000)), which makes it difficult to account for the evidence for monoclausality, or they have to postulate that there is always less structure in restructuring complements (see, e.g., Haider (1993, 2010), Kiss (1995), Wurmbrand (2001, 2007, 2015b), Sternefeld (2006)), among many others), which then poses problems with regard to evidence for biclausality. In contrast, an approach in terms of structure removal makes it possible to have one's cake and eat it, since it can in principle account both for evidence in support of CP and TP layers of restructuring infinitives, and for conflicting evidence that suggests a smaller (vP) structure.[14] For concreteness, CP and TP are predicted to be accessible for syntactic operations that involve lower parts of the structure (i.e., material within the infinitive), and inaccessible once matrix V has brought about structure removal, as in (22bc).

In Müller (2017a), it is argued that this prediction is correct for restructuring infinitives in German. On the one hand, there are many phenomena where the simplest account would seem to clearly favour a monoclausal approach where there is no CP (or TP) layer present. Most of these phenomena are well known and have been widely discussed in the literature (see Stechow

---

[14] There are predecessors which postulate that in restructuring configurations, a structure that is initially biclausal is reduced to a structure that is monoclausal, via some form of structure removal; see Ross (1967, ch. 3), Rizzi (1982), Aissen & Perlmutter (1983), and Stechow & Sternefeld (1988). The problem with all these approaches is that they rely on transformations that are (i) ad hoc, (ii) not constrained in interesting ways, and (iii) not embedded in a general system of elementary, primitive operations manipulating syntactic structure. Thus, the present analysis based on the elementary operation Remove can be viewed as an attempt to come up with a principled version of these earlier approaches to restructuring.

& Sternefeld (1988), Grewendorf (1988), Fanselow (1991), Bayer & Kornfilt (1994), Wurmbrand (2001), and Haider (2010), among others). Among them are the clause-boundedness of scrambling and unstressed pronoun fronting, the clause-boundedness of extraposition, the clause-boundedness of multiple sluicing, the compactness of verb clusters, intonational breaks, and wide scope of negation. Let me just address two of these phenomena here.

First, it is an old observation going back to Ross (1967) that (optional) scrambling is strictly clause-bound in German. In a minimalist approach to syntax, this means that scrambling cannot leave a CP; see (23a). The same goes for (obligatory) fronting of unstressed pronouns; see (23b).[15]

(23) a. *dass den Fritz$_1$ keiner   gesagt hat [$_{CP}$ dass wir   t$_1$
          that the Fritz$_{acc}$ no-one$_{nom}$ said   has   that we$_{nom}$
          einladen sollen]
          invite   should
      b. *dass die Maria   es$_1$ meinte [$_{CP}$ solle   man   t$_1$ lesen]
          that the Maria$_{nom}$ it$_{acc}$ said   should one$_{nom}$ read

If a control verb embedding an infinitival clause does not permit restructuring (as a lexical property), scrambling and unstressed pronoun fronting from the infinitive to a position which is clearly part of the matrix clause are impossible throughout. With verbs like *auffordern* ('request') and *leugnen* ('deny'), this is the case for many speakers of German (though not for all – there is quite a bit of low-level variation between individual speakers in this domain). The effect is shown for the two movement operations in (24a) and (24b); the illformedness of these examples can be derived in exactly the same way as with finite clauses as in (23), as a result of the presence of a CP layer.

(24) a. *dass den Fritz$_1$ keiner   die Maria   [$_{CP}$ t$_1$ zu küssen]
          that the Fritz$_{acc}$ no-one$_{nom}$ the Maria$_{acc}$ to kiss
          aufforderte
          requested

---

[15] For present purposes, it does not matter why exactly CP is a barrier for movement operations targeting a low position in the matrix clause (like scrambling and unstressed pronoun fronting, which can both be assumed to end up in a specifier position of v) but not for movement operations targeting a higher position in the matrix clause (like wh-movement and topicalization). See Müller (2014, ch. 2) for a recent overview of some of the options.

b. *dass die Maria es$_1$ gestern [$_{CP}$ t$_1$ zu kennen] geleugnet
   that the Maria$_{nom}$ it$_{acc}$ yesterday to know denied
   hat
   has

In contrast, if a control verb permits restructuring, as with *versuchen* ('try')
and *empfehlen* ('recommend'), both scrambling (as in (25a)) and unstressed
pronoun fronting (as in (25b)) are possible. This follows, given that structure
removal can have removed the CP and TP layers of the infinitival complement
before extraction from the complement takes place (which is a vP at the rele-
vant stage of the derivation).

(25) a. dass den Fritz$_1$ keiner [$_{vP}$ t$_1$ zu küssen] versuchte
   that the Fritz$_{acc}$ no-one$_{nom}$ to kiss tried
   b. dass die Maria es$_1$ ihm gestern [$_{vP}$ t$_1$ zu lesen]
   that the Maria$_{nom}$ it$_{acc}$ him$_{dat}$ yesterday to read
   empfohlen hat
   recommended has

As a second illustration of monoclausal properties of restructuring, consider
the scope of clausal negation. If negation shows up in an embedded finite
CP, it can normally not take wide scope over the matrix clause, and it seems
plausible to trace this restriction to the presence of a CP barrier for scope tak-
ing. However, with predicates like *empfehlen* ('recommend'), a negation *nicht*
takes wide scope over the matrix clause if restructuring applies; see (26a). In
contrast, if the matrix control verb does not permit restructuring (as with *auf-
fordern* ('request'), for many speakers), wide scope of negation is impossible;
see (26b).

(26) a. dass Maria ihm [das Buch nicht zu lesen]
   that Maria$_{nom}$ him$_{dat}$ the book$_{acc}$ not to read
   empfiehlt
   recommends

   recommend $\gg$ not, not $\gg$ recommend

   b. dass Maria ihn [$_{CP}$ das Buch nicht zu lesen]
   that Maria$_{nom}$ him$_{acc}$ the book$_{acc}$ not to read
   auffordert
   requests

<div align="right">

request ≫ not, *not ≫ request

</div>

Given that scope of negation is determined at a late stage of the derivation, when an intervening CP barrier for scope taking has long been removed in restructuring environments, these data are also straightforwardly accounted for.

On the other hand, there are a number of phenomena whose account crucially involves the presence of a CP. Among these are uniformity of embedding,[16] licensing of PRO by C (see Adger (2003)), absence of new binding domains, unstressed pronoun fronting, and the very existence of what is known as the third construction. Focussing on the just the latter two phenomena here, consider first the evidence from unstressed pronoun fronting. I have just invoked this movement type in order to develop an argument for a small, CP-less structure of an embedded infinitival complement. Interestingly, the same movement type can also be used to provide an argument for a larger structure involving a CP.

Unstressed pronouns must undergo fronting to a position that can only be preceded by a subject DP (but does not in fact have to be preceded by it), not by non-pronominal object DPs or PPs. This is illustrated in (27). In (27a), the unstressed direct object pronoun *es* ('it') precedes the subject DP (*die Maria*) and the indirect object DP (*dem Fritz*). In (27b), the subject DP precedes the unstressed direct object pronoun, which in turn precedes the indirect object DP (deviating from what would be the basic word order with two non-pronominal object DPs with verbs like *geben* ('give')). In (27c) and (27d), two failed attempts at having other material (the indirect object *dem Fritz* and an adverb *wahrscheinlich* ('probably'), respectively) precede the un-

---

[16] Thus, as noted above, all control verbs embedding non-finite complements can be assumed to uniformly subcategorize for CPs. Also, assuming, as before, that $[-C_0-]$ and $[-T_0-]$ can only ever be *optionally* present on V, the non-existence of control verbs that would obligatorily require restructuring, such as the fictive verb **entsuchen* (which might also mean 'try', like *versuchen*, or something else) in (i), can be derived; see Koster (1987), Stechow & Sternefeld (1988).

(i)   a.   dass den Fritz$_1$ keiner   [$_{vP}$ t$_1$ zu küssen] entsuchte
          that the Fritz$_{acc}$ no-one$_{nom}$ to kiss   tried

      b.   *dass keiner   [$_{CP}$ den Fritz$_1$ zu küssen] gestern   entsucht hat
          that no-one$_{nom}$ the Fritz$_{acc}$ to kiss   yesterday tried   has

stressed pronoun are documented; the illformedness of these examples shows that unstressed pronoun fronting is an obligatory operation in German.

(27)   a.   dass es$_1$ die Maria   dem Fritz   t$_1$ gegeben hat
             that it$_{acc}$ the Maria$_{nom}$ the Fritz$_{dat}$ given   has
       b.   dass die Maria   es$_1$ dem Fritz   t$_1$ gegeben hat
             that the Maria$_{nom}$ it$_{acc}$ the Fritz$_{dat}$ given   has
       c.   *dass die Maria   dem Fritz   es$_1$ gegeben hat
             that the Maria$_{nom}$ the Fritz$_{dat}$ it$_{acc}$ given   has
       d.   *dass die Maria   wahrscheinlich es$_1$ dem Fritz   t$_1$ gegeben
             that the Maria$_{nom}$ probably   it$_{acc}$ the Fritz$_{dat}$ given
             hat
             has

The effect in (27ab) can be taken to indicate that subject DPs have an option to move to a vP-external position that object DPs and PPs do not have. A candidate that clearly suggests itself here is optional EPP-driven movement to SpecT, and this is indeed the conclusion drawn in Müller (2001) and Fanselow (2004), which I take to be correct.[17] The position for fronted unstressed pronouns can therefore be assumed to be a specifier position at the left edge of vP; here the unstressed pronoun precedes other object arguments (including scrambled ones), adverbials, and the base position of subjects. Next, even though the landing site of unstressed pronoun fronting is the left edge of vP, the empirical evidence suggests that a CP is required for unstressed pronoun fronting in German – it acts as a barrier blocking the movement as such if it intervenes in the movement chain (see above), but it is necessary to license the target position of the movement from above. Thus, complements of non-control (i.e., obligatory) restructuring verbs, for which there is no reason whatsoever to postulate a CP layer, do not have sufficient space for unstressed pronoun fronting, and ungrammaticality arises if the unstressed pronoun does not show up in the matrix vP domain (which is licensed by a C). This is illustrated for the perfect auxiliary *hat* ('has') in (28a), for the raising verb *schien* ('seemed') in (28b), and for the causative exceptional case marking verb *ließ* ('let') in (28c).

---

[17] This, then, also provides an argument for the existence of a TP projection in German; see above.

(28) a. *dass sie   mir$_1$ schon letzte Woche [t$_1$ es$_2$ gegeben] hat
          that she$_{nom}$ me$_{dat}$ already last   week   it$_{acc}$ given   has
      b. *dass sie   mir   schon letzte Woche [es$_2$ zu lesen] schien
          that she$_{nom}$ me$_{dat}$ already last   week   it$_{acc}$ to read   seemed
      c. *dass sie   mich schon letzte Woche [es$_1$ lesen] ließ
          that she$_{nom}$ me$_{acc}$ already last   week   it$_{acc}$ read   let

However, things are different with restructuring infinitives under control predicates. As shown in (29), unstressed pronoun fronting to the left edge of the embedded vP is legitimate. This suggests that there is a CP layer in the embedded domain, such that C can license embedded unstressed pronoun fronting at an earlier stage of the derivation before this C head is subsequently subject to structure removal – and we can be sure that restructuring (i.e., removal of the CP and TP layers) has eventually taken place in the embedded domain because another unstressed pronoun can undergo long movement from this domain.

(29) dass sie   mir$_1$ schon letzte Woche [t$_1$ es$_2$ t$_2$ zu geben]
      that she$_{nom}$ me$_{dat}$ already last   week   it$_{acc}$ to give
      versucht hat
      tried   has

A second piece of evidence supporting a CP status of restructuring infinitives embedded under control verbs involves the third construction. Note first that the correct generalization about which categories of the extended projection of V can undergo extraposition in Standard German is that CP can undergo extraposition in German, whereas vP, VP, ad TP cannot do so.[18] The option of extraposition is illustrated in (30ab) for finite clauses and non-restructuring infinitives, respectively.

(30) a. dass er   t$_1$ gesagt hat [$_{CP_1}$ dass es   regnet]
          that he$_{nom}$ said   has   that it$_{nom}$ rains

---

[18] The only obvious case where this generalization is not true is the Ersatzinfinitiv ('infinitivus pro participio') construction, but this would seem to be the exception that proves the rule – by its very nature, the Ersatzinfinitiv ('substitute infinitive') suggests a repair operation, i.e., the *violation* of grammatical principles (more specifically, of morphological selection (status government), and of the ban on non-CP extraposition of projections in the clausal spine that is currently at issue) in order to prevent greater damage; see Schmid (2005).

    b.   dass sie t_1 versucht hat [$_{CP_1}$ PRO zu schlafen]
        that she$_{nom}$ tried   has   to sleep

In contrast, it is not possible to extrapose a TP (as in (31a), with an exceptional case marking verb *sehen* ('see')) or a vP/VP (as in (31b)).

(31)   a.   *dass ich t_1 gesehen habe [$_{TP_1}$ den Mann das Buch   lesen]
             that I$_{nom}$ seen   have   the man$_{acc}$ the book$_{acc}$ read
     b.   *dass er t_1 hat [$_{VP_1}$ das Buch   gelesen]
             that he$_{nom}$ has   the book$_{acc}$ read

However, extraposition *is* possible in the third construction (see Besten & Rutten (1989)), i.e., in cases where there is scrambling or unstressed pronoun fronting from a control infinitive, which thus shows that restructuring must have taken place; see (32).

(32)   a.   dass sie   ihn$_2$ t_1 versucht [$_{CP_1}$ PRO t_2 zu küssen]
            that she$_{nom}$ him$_{acc}$ tries   to kiss
     b.   dass es$_2$ Fritz   ihr$_3$ t_1 empfohlen   hat [$_{CP_1}$ PRO t_1 zu
             that it$_{acc}$ Fritz$_{nom}$ her$_{dat}$ recommended has   to
             lesen]
             read

This strongly suggests that the extraposed item is a CP at the point where extraposition applies. If the third construction were to involve extraposition of a VP (see Wöllstein-Leisten (2001) and Haider (2010)), or of a vP or TP, ungrammaticality should be expected to result in (32). After extraposition of the CP, matrix V successively removes the CP and TP layers, thereby creating a restructuring environment, and scrambling and unstressed pronoun fronting can then take place from the extraposed vP in accordance with locality constraints.[19]

    Thus, as in the case of passivization, a Remove-based approach to restruc-

---

[19]Of course, this means that strictly speaking, the representations in (32), where scrambling and unstressed pronoun fronting take place from CP, never actually exist – when extraction to a specifier of the matrix vP takes place, the embedded CP and TP layers are gone. Also note that I am glossing over some technical issues raised by this analysis here, such as the apparent absence of barrier status of the extraposed vP, and the fact that auxiliaries do not seem to interfere with local removal of CP and TP shells by V. These issues are addressed comprehensively in Müller (2017a, sect. 4.2).

turing ensures that conflicting pieces of evidence concerning the presence of CP and TP layers in infinitives embedded under certain control verbs are accounted for: At the beginning of the derivation, CP and TP are present, but later they are removed by the matrix V bearing $[-C_0-]$ and $[-T_0-]$ features.

With these structure removal analyses of passivization and restructuring as background, let me now return to long-distance passives.

5. Long-Distance Passive

5.1. Analysis

As noted in section 1, there is an implicational generalization emerging if one considers the capacity of control verbs to trigger restructuring on the one hand, and the capacity of control verbs to participate in long-distance passive on the other: Control verbs that permit restructuring basically form a proper superset of control verbs that permit long-distance passivization. This generalization holds exceptionless if one further assumes (as I will do here) that all (subject or object) control predicates can *in principle* undergo passivization.[20] Thus, consider the examples in (33) vs. the examples in (34). In (33), *versuchen* ('try') participates both in restructuring, as evidenced by long-distance scrambling in (33a), and in long-distance passivization, as in (33b) (= (2a)). In (34) (= (8)), *beabsichtigen* ('intend') can trigger restructuring, as in (34a), but not long-distance passivization, as shown by the ungrammaticality of (34b).

(33) a. dass den Traktor$_1$ keiner   t$_1$ zu reparieren versucht hat
          that the tractor$_{acc}$ no-one$_{nom}$ to repair   tried   has
      b. dass der Traktor   zu reparieren versucht wurde
          that the tractor$_{nom}$ to repair   tried   was

(34) a. dass den Traktor$_1$ keiner   t$_1$ zu reparieren beabsichtigt hat
          that the tractor$_{acc}$ no-one$_{nom}$ to repair   intended   has

---

[20] Passivization is not possible with *wollen* ('want'), which induces restructuring. However, with *wollen*, restructuring is in fact obligatory; and this verb also differs from typical control verbs in German in not governing the second status (see Bech (1955/1957)), i.e., a *zu* infinitive, but the first status, i.e., a bare infinitive. In line with this, there is good independent evidence that this verb is not a regular control verb to begin with (see Geilfuß (1992) and Gergel & Hartmann (2009)), even though it has typically been analyzed as one.

b. ?*dass der Traktor   zu reparieren beabsichtigt wurde
   that the tractor$_{nom}$ to repair   intended   was

I would like to suggest that this state of affairs can be captured if the long-distance passive in German involves (i) removal of DP$_{ext}$ by matrix v (like the regular passive), (ii) removal of CP and TP layers by matrix V (as with standard cases of restructuring), and (iii) one additional operation which ensures that not all control verbs that permit passivization and restructuring can show up in this construction. More specifically, I would like to propose that this third operation is also one involving Remove: It is the removal of the embedded vP layer, triggered by an additional feature $[-v_0-]$ on matrix V. I will argue that an immediate consequence of removal of the embedded vP in long-distance passives is that a direct object in the embedded VP cannot receive accusative case anymore, and thus needs to rely on nominative case assignment by matrix T.

To illustrate the Remove-based approach to long-distance passives, let me consider a step-by-step derivation of (2a) (= (33b)), which is repeated here once more for convenience.

(35)   dass der Traktor   zu reparieren versucht wurde
        that the tractor$_{nom}$ to repair   tried   was

In the first part of the derivation, a complete infinitival CP is generated. First, DP$_{int}$ (*der Traktor*) is merged with V (*zu reparieren*), triggered by $[\bullet D_2 \bullet]$ on V; see (36).

(36)   *Merge* $(V_{[\bullet D_2 \bullet]}, DP)$:

```
                    VP
           _____|_____
          DP                V
          |                 |
      der Traktor      zu reparieren
```
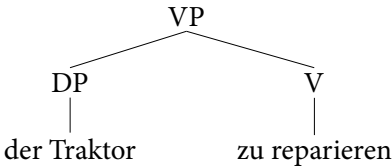
Next, v is merged first with VP (triggered by $[\bullet V_2 \bullet]$), and then with DP$_{ext}$ (PRO) (triggered by $[\bullet D_2 \bullet]$). The result of applying these two operations in shown in (37).

(37)   *Merge* ($v_{[\bullet V_2\bullet]>[\bullet D_2\bullet]}$, VP & PRO):

```
                    vP
         ┌──────────┴──────────┐
      PRO_[□]                   v′
                        ┌───────┴───────┐
                       VP                v
                  ┌─────┴─────┐
                 DP           V
                  │           │
                 ihn      zu küssen
```
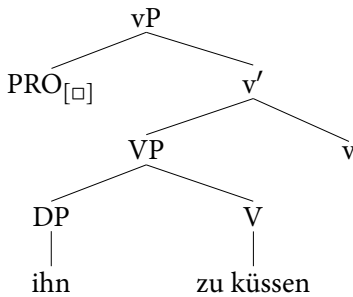
At this point PRO's referential index is not yet determined (i.e., control has not yet been carried out), which is signalled here by [□]. In addition, I follow Adger (2003), among others, in assuming that PRO must be formally licensed by a designated head that ensures that it is spelled out as zero (also see Chomsky (1981) on the PRO theorem, and Rizzi (1986) on the basic idea that empty pronominal elements must both be formally licensed and referentially identified). Generalizing Adger's proposal, I assume that PRO needs to be licensed by a c-commanding phase head, in accordance with Chomsky's (2001) Phase Impenetrability Condition (PIC), as in (38). I also assume that the requirement in (38) must be satisfied at the end of the derivation.[21]

(38)   *PRO Licensing*:
        PRO must be c-commanded by a PIC-accessible phase head.

After the completion of vP, T is merged with it (driven by [$\bullet v_2\bullet$] on T), and then C is merged with TP (via [$\bullet T_2\bullet$] on C); as noted above, there is no obligatory EPP requirement in German, so that PRO can stay in situ, within vP. The outcome of these two steps is shown in (39).

---

[21]I.e., licensing of PRO by a c-commanding accessible phase head X at some early stage cannot be preserved if X at some later stage fails to be in a configuration in which licensing obtains; this will become relevant below.

(39)   *Merge* $(T_{[\bullet v_2 \bullet]}, vP)$ & *Merge* $(C_{[\bullet T_2 \bullet]}, TP))$:

```
                        CP
                   ┌────┴────┐
                   C         TP
                        ┌────┴────┐
                       vP          T
                   ┌───┴───┐
               PRO[□]      v'
                      ┌────┴────┐
                     VP          v
                 ┌───┴───┐
                DP        V
                 │        │
            der Traktor  zu reparieren
```
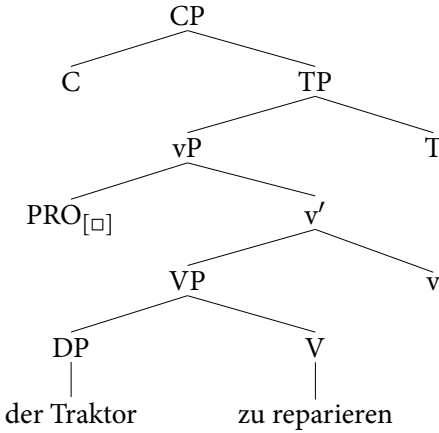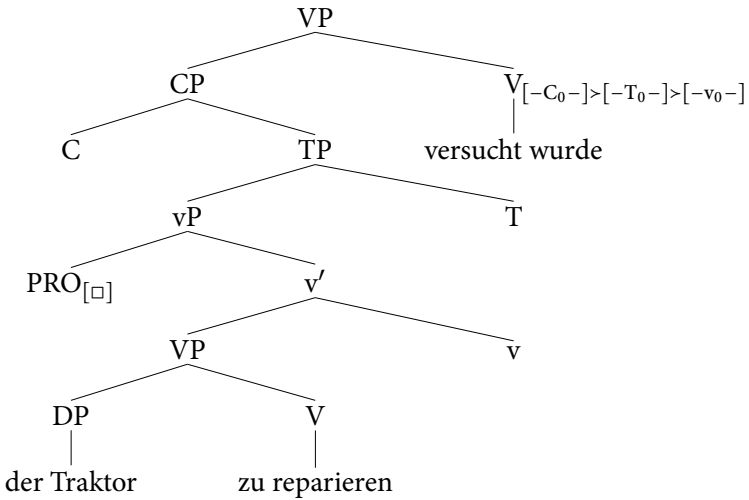
Thus, like other restructuring infinitives, long-distance passive infinitivals are at first full CPs. Next, the matrix control verb is merged with CP (triggered by $[\bullet C_2 \bullet]$ on V); see (40), which is exactly like (22a). In fact, the first steps are virtually identical to what has been shown for ordinary restructuring with control infinitives in (22) above.[22]

---

[22]I assume here that *versucht wurde*, although morphologically complex, is actually a single V item in the syntax which can in principle be split up by verb-second movement, but nothing depends on this particular assumption in the present context. Note also that if morphological realization is not post-syntactic, the proper choice of passive auxiliary and verb form can be read off the set of features on V that will subsequently trigger removal of layers; see footnote 9.

(40) *Merge* ($V_{[\bullet C_2 \bullet] > [-C_0-] > [-T_0-] > [-v_0-]}$, CP):

$$
\begin{array}{c}
\text{VP} \\
\text{CP} \qquad V_{[-C_0-]>[-T_0-]>[-v_0-]} \\
\text{C} \qquad \text{TP} \qquad \text{versucht wurde} \\
\text{vP} \qquad \text{T} \\
\text{PRO}_{[\square]} \qquad v' \\
\text{VP} \qquad v \\
\text{DP} \qquad \text{V} \\
\text{der Traktor} \qquad \text{zu reparieren}
\end{array}
$$

It is at this point that recursive structure removal starts. First, matrix V removes the CP layer again, as shown in (41).

(41) *Remove* ($V_{[-C_0-]>[-T_0-]>[-v_0-]}$, CP):

$$
\begin{array}{c}
\text{VP} \\
\text{TP} \qquad V_{[-T_0-]>[-v_0-]} \\
\text{vP} \qquad \text{T} \qquad \text{versucht wurde} \\
\text{PRO}_{[\square]} \qquad v' \\
\text{VP} \qquad v \\
\text{DP} \qquad \text{V} \\
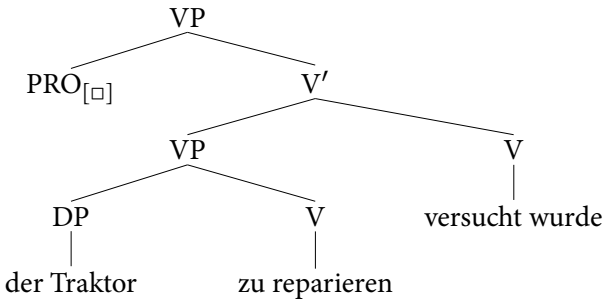\text{der Traktor} \qquad \text{zu reparieren}
\end{array}
$$
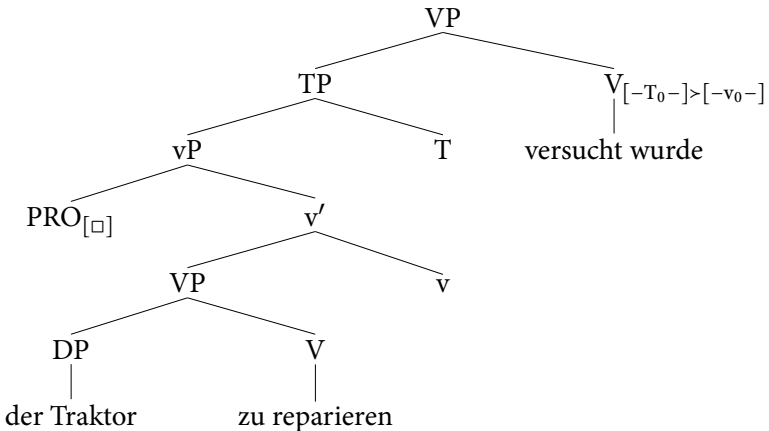
In the next step, the TP layer is removed by matrix V, via discharge of $[-T_0-]$; see (42). Recall that TP is accessible to matrix V at this point, so the Strict

Cycle Condition is not violated (but it would be if TP removal were to apply in (40), when CP is still present).

(42)   *Remove* ($V_{[-T_0-]>[-v_0-]}$, TP):

```
                            VP
                 _____
                vP                        V[−v₀−]
          _____                      |
      PRO[□]          v'            versucht wurde
              _____
             VP            v
         _____
       DP           V
        |           |
   der Traktor   zu reparieren
```
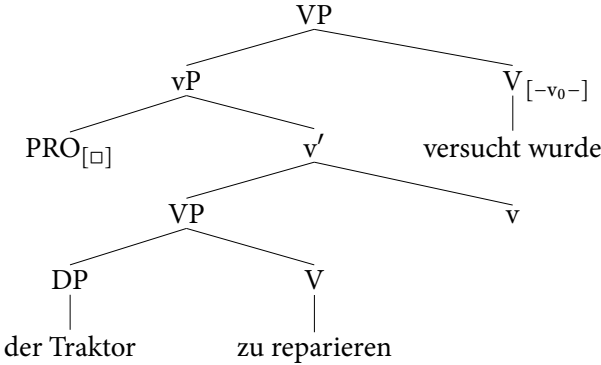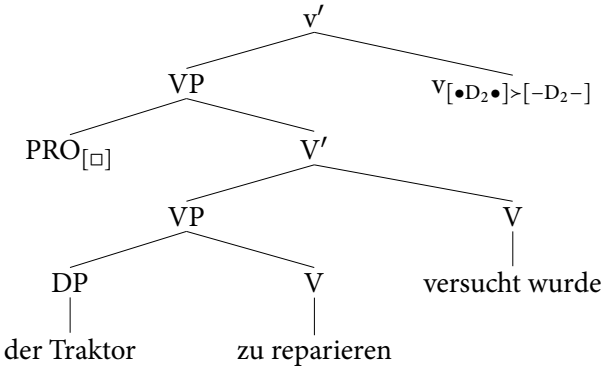
So far, everything is exactly as shown above for standard restructuring environments; see (22). However, next the crucial step in generating long-distance passives takes place, and it is this step that is mainly responsible for the special properties of the construction: The matrix verb also removes the vP shell, due to $[-v_0-]$ on V. Unlike the CP and TP layers, the embedded vP has a specifier at this point, viz., DP_{ext} = PRO. As laid out in section 2 (in the relevant part of an abstract derivation that is documented in (11)), the specifier is reassociated with the projection of the head responsible for the removal; and since reassociation must preserve the original c-command and linearization relations within the removed layer (such that DP_{ext} = PRO c-commands and precedes VP), PRO is integrated into the VP as a specifier. All of this is illustrated in (43).

(43)   *Remove* $(V_{[-v_0-]}, vP)$, *reassociation of specifier*:

```
                    VP
          ┌─────────┴─────────┐
       PRO[□]                 V′
                      ┌────────┴────────┐
                     VP                  V
                ┌────┴────┐        versucht wurde
               DP         V
                │         │
           der Traktor  zu reparieren
```

As a consequence of removal of the vP layer and reassociation of PRO as a specifier of VP in (43), DP_{int} (*der Traktor*) finds itself in a situation where it cannot receive structural accusative case – a dilemma that naturally arises if case assignment (or case checking) is viewed as an output-oriented, late operation. Depending on whether an approach to structural case assignment in terms of functional heads or a dependent case approach is adopted (see above), this dilemma may be traced back to one or the other of two different sources: First, if v assigns accusative case, DP_{int} cannot get accusative case simply because v is gone. Second, if PRO is normally responsible for assigning dependent accusative case in infinitival complements, DP_{int} cannot get accusative case because PRO is not in Specv anymore (and daughters of VP, e.g., dative objects, never license accusative case on a co-argument). Assuming every DP to be in need of some case assignment, this means that DP_{int} will need to be assigned case by finite matrix T; it will therefore invariably be marked as nominative in the long-distance passive construction (as already indicated in all the previous derivational steps by rendering the article in the nominative form: *der Traktor*), and agree with matrix T (hence, the matrix verb) in person and number. For now, however, V has discharged all of its features for triggering operations, and the derivation moves on to a new cycle.
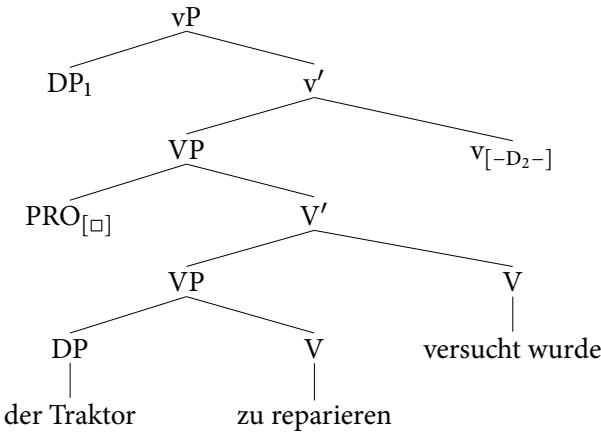
The next operation is a concatenation of matrix v with the VP generated in (43); v is a regular passive head that first triggers Merge with a VP, then with a DP_{ext}, and finally removes this DP again, as illustrated in (13) above. The first of these steps is shown in (44).

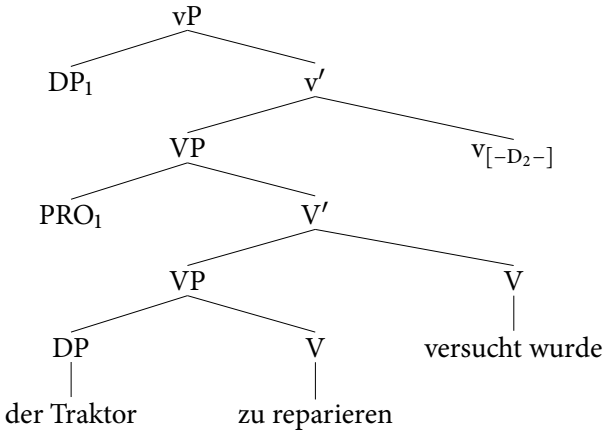(44) *Merge* ($v_{[\bullet V_2 \bullet] > [\bullet D_2 \bullet] > [-D_2-]}$, VP):

```
                          v′
              ┌───────────┴───────────┐
             VP                   v[•D₂•]>[−D₂−]
        ┌─────┴─────┐
     PRO[□]         V′
               ┌─────┴─────┐
              VP            V
          ┌────┴────┐       │
         DP         V   versucht wurde
          │         │
    der Traktor  zu reparieren
```

DP$_{ext}$ is introduced next; see (45).

(45) *Merge* ($v_{[\bullet D_2 \bullet] > [-D_2-]}$, DP$_{ext}$):

```
                       vP
              ┌─────────┴─────────┐
             DP₁                  v′
                         ┌─────────┴─────────┐
                        VP               v[−D₂−]
                   ┌─────┴─────┐
                PRO[□]         V′
                          ┌─────┴─────┐
                         VP            V
                     ┌────┴────┐       │
                    DP         V   versucht wurde
                     │         │
               der Traktor  zu reparieren
```
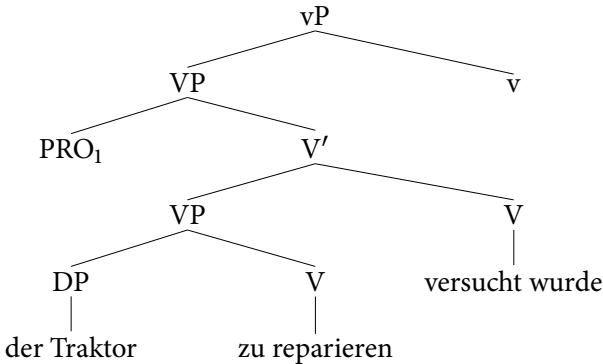
At this point, control of PRO$_{[□]}$ can take place, which ensures binding of PRO (in its derived position as a daughter of VP) by the matrix subject DP via Agree-based valuation of the index feature of PRO; see (46). This ensures that that PRO will now invariably be interpreted as bound by the matrix subject, even if the latter item leaves the representation again (as an instance of counter-bleeding).[23]

---

[23] I leave open the questions of how exactly this Agree operation is triggered, how minimality

(46)   *Agree* (DP$_{ext}$, PRO$_{[\square]}$):

```
                        vP
            ┌───────────┴───────────┐
          DP₁                       v′
                        ┌───────────┴───────────┐
                       VP                      v$_{[-D_2-]}$
              ┌─────────┴─────────┐
            PRO₁                  V′
                        ┌─────────┴─────────┐
                       VP                   V
                 ┌──────┴──────┐            │
                DP             V      versucht wurde
                │              │
           der Traktor   zu reparieren
```
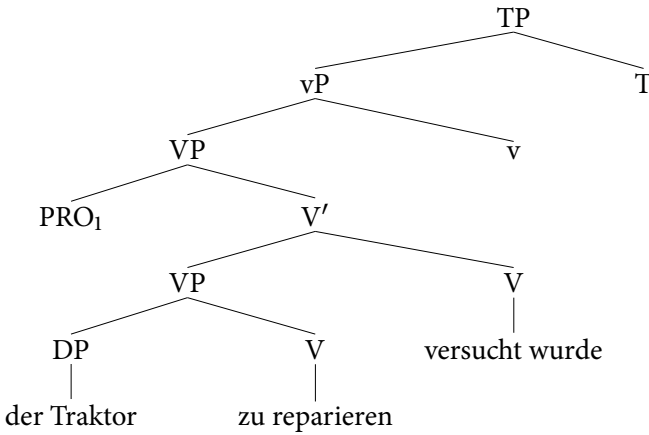
The final operation triggered by the current root v is removal of DP$_{ext}$, i.e., passivization in the matrix domain; see (47).

(47)   *Remove* (v$_{[-D_2-]}$, DP$_{ext}$):

```
                        vP
            ┌───────────┴───────────┐
           VP                       v
     ┌──────┴──────┐
   PRO₁            V′
          ┌────────┴────────┐
         VP                 V
    ┌─────┴─────┐           │
   DP           V     versucht wurde
   │            │
der Traktor  zu reparieren
```
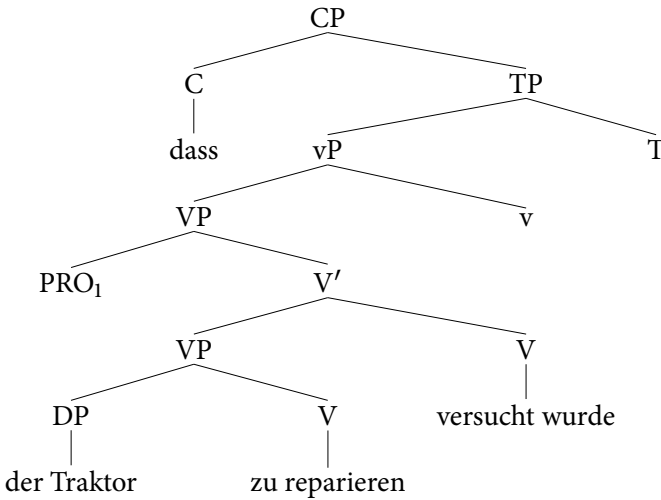
Next, T is merged with the vP in (47):

---

distinguishes between subject and object control, and how the additional role of the matrix predicate is implemented (e.g., with *promise*-type verbs that give rise to subject control in the presence of a matrix object); these considerations are orthogonal to present concerns.

(48) *Merge* ($T_{[\bullet v_2 \bullet]}$, vP):

```
                                    TP
                          ┌─────────┴──────────┐
                         vP                      T
                 ┌───────┴────────┐
                VP                  v
         ┌───────┴───────┐
       PRO₁               V′
               ┌──────────┴──────────┐
              VP                       V
        ┌──────┴──────┐                │
       DP              V         versucht wurde
        │              │
   der Traktor    zu reparieren
```

At this point, T is in a position where it can assign nominative case to DP_{int} of the embedded clause (*der Traktor*). This is necessary because DP_{int} has no other possible source of case; and it is possible because (i) PRO is not in need of regular (nominative or accusative) case assignment (but rather needs a c-commanding phase head), (ii) there is no DP_{ext} in the specifier of matrix v anymore that would be in need of case assignment, and (iii) case assignment via Agree is independently known to be able to circumvent the blocking effect of an intervening phase boundary (possibly because Agree can be cyclic, as proposed by Legate (2005), or because Agree is simply exempt from the PIC, as suggested by Bošković (2007)).

Finally, C is merged with the TP, and the derivation terminates (more precisely, the relevant part of the derivation does so – the CP thus derived is of course still an embedded one since it is headed by a complementizer signalling embedding).

(49)   *Merge* ($C_{[\bullet T_2 \bullet]}$, TP):

```
                              CP
                    ┌─────────┴──────────┐
                    C                     TP
                    │              ┌───────┴────────┐
                   dass          vP                  T
                          ┌───────┴────┐
                         VP             v
                  ┌───────┴──────┐
               PRO₁              V′
                          ┌───────┴──────┐
                         VP               V
                   ┌──────┴─────┐   versucht wurde
                  DP             V
                   │             │
             der Traktor   zu reparieren
```

According to the PRO Licensing condition in (38), PRO must be c-commanded by a PIC-accessible phase head in the output representation at the end of the derivation. There are two a priori candidates for the licensing of PRO in (49), viz., C and v. However, the status of v as a phase head in (49) is not fully uncontroversial. The functional head v qualifies as what has sometimes been viewed as a *weak* phase head: On the one hand, it does not take a DP_{ext} as a specifier (at least not in the eventual output representation, under present assumptions) – i.e., it does not qualify as a complete v*, in Chomsky's (2008) terms –, but on the other hand, there is evidence that it is active from a PIC perspective – i.e., it creates a locality domain for (some) syntactic operations (see Legate (2003) for empirical evidence for this). I would like to conclude from this that v in (49) does project a phase that can give rise to PIC effects, but that v itself is too weak to belong to the class of licensing heads for the purposes of (38) (which, then, rather includes C and v*). Consequently, it has to be matrix C that satisfies (38) by formally licensing PRO in (49). Such licensing is compatible with the PIC, given that (i) VP is actually a part of the edge domain of v (this is a straightforward assumption since VP is a daughter of vP as a consequence of DP_{ext} removal), and (ii) edge domains are defined recursively (i.e., if α is in the edge domain of β, and β is in the edge domain of γ, then α is also in the edge domain of γ; see, e.g.,

Richards (2011)). In contrast, in standard restructuring environments where matrix v does not trigger passivization (as they were discussed in section 4 above), it is this latter functional head that licenses PRO. And finally, if no restructuring takes place, it is the embedded C head that fulfills this role, essentially as envisaged in Adger (2003).

A remarkable property of the present analysis is that the final output representation in (49) in extremely small; and as a matter of fact, if one considers only the projections in the clausal spine, representationally it is almost indistinguishable from Wurmbrand's (2001) proposal according to which long-distance passives in German involve embedding of a bare VP by the matrix verb. I take this to be a welcome consequence (and I adduce some independent evidence for this in subsection 5.3 below). However, it is worth noting that (49), unlike Wurmbrand's structure for long-distance passives, still manages to integrate the embedded DP_{ext} PRO, with its interpretation fixed via control in the course of the derivation. It seems clear that alternative approaches envisaging a small output representation that do without structure removal in the course of the derivation cannot easily reconcile the presence of PRO with the little bits of structure that are present in (49) (there is no obvious way to externally merge PRO in the matrix VP domain from the start). In view of this, in approaches like the ones developed in Wurmbrand (2001, 2007, 2015*a*,*b*), it is postulated that control in long-distance passivization structures in German (and perhaps more generally in restructuring environments involving control verbs) is treated lexically, via (some operation like) functional composition that brings about the identification of an argument of the matrix predicate with the external argument of the embedded predicate (also see Müller, St. (2002), Stiebels (2007), and Haider (2010), among others). However, if control in non-restructuring contexts (where the final representation is still biclausal) is handled syntactically, this gives rise to a non-homogeneous theory where there are two independent means to identify argument positions in control. And ceteris paribus this means that the phenomenon of *control shift* (see Růžička (1983), Wurmbrand (2002), Stiebels (2007)) is wrongly predicted to be possible with restructuring and with long-distance passivization. However, control shift never takes place with restructuring in German (i.e., if a certain control relation is present in a given non-restructuring environment, it is invariably also present if restructuring takes place in the same environment), and it certainly also never takes place with long-distance passivization: Subject control with an active matrix verb always corresponds to

subject control in a long-distance passive construction (cf., e.g,. the examples with *versuchen* ('try') in (33)), and object control with an active matrix verb always corresponds to object control in a long-distance passive construction (see the examples with *empfehlen* ('recommend') in (3)). The non-existence of control shift under long-distance passivization, while potentially problematic for mixed approaches to control, follows directly under present assumptions because Agree-based control of an empty category PRO is uniformly involved, even if the final output representation is very small.

5.2. Open Issues

In the present analysis, there is no intrinsic relation between passivization (i.e., removal of DP_{ext}) in the matrix domain and massive restructuring (i.e., removal of the CP, TP *and* vP layers) in the embedded domain. The question is how this consequence can be enforced in a null theory of long-distance passivization that just combines passivization and restructuring (given that vP is not removed in the latter process), and whether the approach may lead to overgeneration. Another question arising under the analysis developed in the previous section is whether more needs to be said about nominative case assignment to DP_{int} than has been said so far. I address these two issues in turn.

5.2.1. Tackling Overgeneration

The two single most important operations in the analysis laid out in the previous subsection are (i) *Remove* ($V_{[-v_0-]}$, vP) (and the ensuing reassociation of PRO in the VP domain) in (43) and (ii) *Remove* ($v_{[-D_2-]}$, DP_{ext}) in (47). What if one applies without the other? Would this lead to ungrammatical sentences that the theory wrongly predicts to be well formed? Closer scrutiny shows that this is not the case.

Consider scenario (i) first. Here, in the restructuring infinitive, *Remove* ($V_{[-v_0-]}$, vP) applies but is not ultimately followed by *Remove* ($v_{[-D_2-]}$, DP_{ext}) in the matrix domain. This would give rise to something like (50).

(50)   *dass der Karl   der Traktor   zu reparieren versucht hat
        that the Karl$_{nom}$ the tractor$_{nom}$ to repair   tried   has

As it turns out, (50) is excluded by the analysis without further ado: In this

case, the embedded DP_{int} cannot get accusative case (because of the removal of the embedded vP layer), but it can also not get nominative case from matrix T because that is still needed for DP_{ext} in the matrix vP. Given that there is no other source for case assignment to the embedded DP_{int}, ungrammaticality must arise.[24]

Next consider scenario (ii). Here, *Remove* ($v_{[-D_2-]}$, DP_{ext}) applies in the matrix domain, generating a passive structure, but *Remove* ($V_{[-v_0-]}$, vP) fails to apply in the embedded domain. If restructuring does not take place in the infinitive (i.e., if matrix V not only lacks a $[-v_0-]$ feature for structure removal, but also $[-C_0-]$ and $[-T_0-]$ features), a well-formed derivation can be generated, which corresponds to a sentence like (51) (= (1a-i)).

(51) dass gestern [$_{CP}$ PRO den Traktor zu reparieren] versucht
      that yesterday   the tractor$_{acc}$ to repair   tried
      wurde
      was

However, if restructuring (removal of the CP and TP layers via $[-C_0-]$ and $[-T_0-]$ features) takes place but the final step of removal of the vP projection does not occur, the result should be a sentence that behaves exactly like the long-distance passive, except for the case change on an embedded DP_{int} (nominative instead of accusative). As shown in (52) (where *den Traktor* ('the tractor$_{acc}$') undergoes scrambling to the matrix domain, thus indicating restructuring, i.e., the presence of CP/TP removal), a sentence of this type is not grammatical.

(52) *dass den Traktor gestern zu reparieren versucht wurde
       that the tractor$_{acc}$ yesterday to repair   tried   was

Similarly, there is a sharp contrast between verb cluster topicalization (as another indication of restructuring) in (53a) (where DP_{int} bears nominative, as expected if the embedded vP layer has been removed) and (53b) (where DP_{int} bears accusative, which implies the continued presence of the embedded vP layer despite CP/TP removal).

---

[24] Also note that unlike Wurmbrand (2001), I do not assume that the control verb itself can ever assign case to the embedded DP_{int}.

(53) a. Zu reparieren versucht wurde der Traktor   nicht
          to repair   tried   was   the tractor$_{nom}$ not
      b. *Zu reparieren versucht wurde den Traktor   nicht
          to repair   tried   was   the tractor$_{acc}$ not

The key to a solution of this problem is the realization that it is not in fact case assignment to DP$_{int}$, or, for that matter, *any* property of DP$_{int}$ that is responsible for the illformedness of (52) and (53b). Rather, it is a violation of the licensing condition for PRO in (38) that poses the problem here. Recall from the discussion below (49) that, with matrix v being too weak, it has to be matrix C that licenses the embedded PRO, and this is possible (given the PIC) only if PRO is displaced into the matrix domain – which it is automatically after removal of the embedded vP. If, however, the embedded vP projection remains present, PRO is too deeply embedded to be accessible by the only potential licensing phase head C; see the abstract representation in (54) (with phases underlined).

(54)   [$_{CP}$ C [$_{TP}$ [$_{vP}$ [$_{VP}$ [$_{vP}$ PRO [$_{v'}$ VP v]] V] v] T]]

Independently of what the exact structure of the matrix VP in (54) looks like, it seems clear that even with a recursive concept of edge of phase, matrix C cannot reach into the embedded vP phase *across an intervening vP phase* and license PRO in its in situ position. This reasoning guarantees that if passivization takes place in the matrix domain and restructuring takes place in the embedded domain, the latter procedure has to go all the way, including a removal of vP, so that PRO becomes accessible to matrix C and can satisfy condition (38). Thus, no specific assumptions for long-distance passivization are required to ensure that removal of vP must take place here, and the null hypothesis can be fully maintained.

5.2.2. *Nominative Assignment*

I have so far assumed that DP$_{int}$ of the embedded verb is assigned nominative case in long-distance passives in a structure like (49) by matrix T, via Agree. This is fully in line with the general observation that nominative can be assigned to a vP-internal position, or even to a VP-internal position (in the case of standard passive structures) in German; and an EPP feature on T only shows up optionally, not obligatorily (see den Besten (1981), Grewendorf

(1989), and Haider (2010), among many others). However, based on contrasts like the one in (55a) vs. (55bc) (also cf. Müller, St. (2002)), it has been argued by Wurmbrand (2001), Bobaljik & Wurmbrand (2005) and Bobaljik (2015) that DP_{int} needs to undergo case-driven movement to the matrix SpecT position in a representation like (49).

(55)   a.   *[$_\alpha$ Ein blauer Wagen zu reparieren] wurde hier nicht vergessen
             a   blue   car$_{nom}$ to repair   was   here not   forgotten
       b.   [$_\alpha$ Zu reparieren] wurde ein blauer Wagen hier nicht vergessen
             to repair   was   a   blue   car$_{nom}$ here not   forgotten
       c.   [$_\alpha$ Zu reparieren vergessen] wurde ein blauer Wagen hier nicht
             to repair   forgotten   was   a   blue   car$_{nom}$ here not

Wurmbrand and Bobaljik's conclusion is that whereas (55bc) show that topicalization of (the higher or lower) VP in a structure like (49) is completely unproblematic in long-distance passives, the fact that a DP_{int} bearing nominative cannot undergo topicalization together with the verb that it is the internal argument of can be taken to show that the only way DP_{int} could move together with the verb would be as a TP, and TPs are independently excluded from undergoing topicalization in German. This thus qualifies as an argument for obligatory movement of DP_{int} to SpecT. In principle, this approach could be incorporated into the present analysis without problems. It would essentially suffice to follow Bobaljik & Wurmbrand (2005) in assuming an extended, slightly more complex (relativized) concept of phase from which it may then follow that structures of the type in (49) do in fact not permit nominative assignment by T to DP_{int}. However, there are a number of observations which shed doubt on the idea that the illformedness of (55a) can be traced back to obligatory case-driven movement of DP_{int} in the long-distance passive construction in German.

The first thing to note is that a sentence like the one in (56) should be excluded for exactly the same reasons as the one in (55a): If *ein blauer Wagen* ('a blue car$_{acc}$') is in SpecT, and TP cannot be fronted, there is no way how it could be topicalized together with the two verbs. An example of this type is indeed starred in Bobaljik & Wurmbrand (2005, 824), but such a data judgement does not seem to be widely shared by speakers: There does not seem to be anything wrong with (56).

(56)   [$_\alpha$ Ein blauer Wagen zu reparieren vergessen] wurde hier nicht
            a   blue   car$_{nom}$ to repair   forgotten   was   here not

Second, recall from the discussion of the examples in (27) in section 4 that fronted unstressed pronouns can optionally be preceded by a moved nominative subject, but not by non-pronominal objects or adverbials, and that this provides evidence not merely for movement to SpecT of nominative DPs that show up to the left of an unstressed pronoun, but also crucially for a *lower* position of nominative DPs that show up to the right of an unstressed pronoun. On this basis, an example like (57) (= (3a), also cf. (3b), (3c)) shows unambiguously that DP$_{int}$ does not have to undergo case-driven movement to SpecT in long-distance passives: DP$_{int}$ (*der Artikel* ('the article$_{nom}$')) follows the fronted unstressed pronoun *ihm* ('him$_{dat}$'), and thus cannot be in SpecT but must have remained vP-internally.

(57)   dass ihm   der Artikel   zu lesen empfohlen   wurde
            that him$_{dat}$ the article$_{nom}$ to read recommended was

And third, it seems that examples of the type in (55a) can be somewhat improved if, e.g., a bare plural DP$_{int}$ replaces the singular indefinite DP$_{int}$, and the argument is resumed TP-internally via stranded pre-nominal material as part of an NP-split construction; see (58).

(58)   ??[$_\alpha$ Traktoren   zu reparieren] sind hier keine versucht worden
            tractors$_{nom}$ to repair   are here none tried   been

All in all, I would like to conclude that there is no obligatory movement of DP$_{int}$ to the matrix SpecT position in the long-distance passive construction.[25] However, I will have to leave open what the illformedness of (55a) is due to.[26]

---

[25] Wurmbrand (2001) and Bobaljik & Wurmbrand (2005) also provide another argument for such an obligatory movement step, based on obligatory wide scope of nominative DP$_{int}$ in long-distance passives; but, as shown in Keine & Bhatt (2016) (also cf. Bobaljik (2015)), the same effect also shows up with adverbs, and is in both cases ultimately due to verb cluster formation.

[26] Based on the melioration effect documented in (58), one might speculate that (55a) indicates a parsing problem due to a surprising morphological realization of DP$_{int}$ as non-accusative (the bare plural DP$_{int}$ in (58) is morphologically locally ambiguous between a nominative and accusative (but syntactically unambiguously a nominative).

5.3. Evidence for Selective Accessibility

If long-distance passives in German are derived by structure removal affecting (i) DP_{ext} of the matrix domain (regular passivization), (ii) CP and TP layers of the embedded domain (regular restructuring), and (iii) the vP layer of the embedded domain (because displaced PRO cannot otherwise be licensed), the prediction is that temporary accessibility effects as they show up with passivization (see section 3) and restructuring (see section 4) should occur with all the items affected by structure removal in long-distance passives. As shown in the following three subsections, this prediction is borne out.

5.3.1. *Selective Accessibility of DP_{ext}*

The tests documenting downward accessibility and upward inaccessibility of DP_{ext} in the passive can be replicated with long-distance passivization. Consider downward accessibility first. As shown in (59), DP_{ext} of the matrix domain can control a PRO in an adjunct clause ((59a) involves subject control, in (59b) there is object control):

(59)   a.   dass DP_{ext_1} PRO₁ der Traktor   zu reparieren versucht wurde
            that   the tractor$_{nom}$ to repair   tried   was
            [$_{CP}$ um   PRO₁ die Arbeit fortsetzen zu können]
                in order to   the work   continue   to can

       b.   dass DP_{ext_1} ihm₂   PRO₂ der Artikel   zu lesen empfohlen
            that   him$_{dat}$ the article$_{nom}$ to read recommended
            wurde [$_{CP}$ um   PRO₁ seine₂ Reaktion überprüfen zu
            was   in order to   his   reaction check   to
            können]
            can

Matrix DP_{ext} can also control into secondary predicates. For the subject control environment in (60a), this is shown by the fact that *widerwillig* ('unwillingly') can only be construed with the matrix verb *versuchen* ('try'), not with the embedded verb *reparieren* ('repair'). For the object control case in (60b), matrix DP_{ext} is the only candidate for control of PRO in the secondary predicate to begin with if these two items share an index – i.e., under a reading where the recommendation (and not the reading) takes place under the influence of drugs.

(60)   a.   dass DP_{ext_1} PRO_1 der Traktor   [PRO_1 widerwillig] zu
            that   the tractor$_{nom}$ unwillingly   to
            reparieren versucht wurde
            repair   tried   was

       b.   dass DP_{ext_1} ihm PRO_2 der Artikel   [$PRO_{1/2}$ unter
            that   him$_{dat}$ the article$_{nom}$ under
            Drogen] zu lesen empfohlen   wurde
            drugs   to read recommended was

Apart from these considerations, it is clear that under the present analysis, long-distance passive, by its very nature, inherently implies control by matrix DP_{ext} into a complement clause, determining the index of an embedded PRO via Agree.[27]

   Similarly, matrix DP_{ext} can locally bind, and thus license, a reciprocal or reflexive pronoun in the matrix domain, cf. (61).[28]

(61)   a.   dass DP_{ext_1} einander$_1$ PRO_1 die Traktoren   zu reparieren
            that   RECIP   the tractors$_{nom}$ to repair
            versprochen wurden
            promised   were

       b.   ?PRO_1 zu lesen empfohlen   wurde DP_{ext_1} sich$_1$ das
                    to read recommended was   REFL/RECIP the
            Buch   nicht
            book$_{nom}$ not

On the other hand, matrix DP_{ext} cannot be bound by a quantified DP in a matrix clause (see (62a)).[29] It also cannot by itself provide an accessible subject argument for control from a higher clause either (see (62b)). Thus, as regards accessibility, matrix DP_{ext} behaves exactly as predicted under a Remove-based approach.

---

[27] Needless to say, the same goes for cases where matrix passivization of a control verb does not go hand in hand with restructuring (see, e.g, (15b) above).

[28] (61b) is somewhat marked under a non-reciprocal interpretation of *sich*, presumably because a scenario where someone recommends something to oneself is unusual.

[29] As one would expect, if DP_{ext_1} is resumed by a *by*-phrase *von ihm* ('by him') in (62a), binding becomes possible.

(62) a. *Kein Student$_1$ gibt zu [$_{CP}$ dass ~~DP$_{ext_1}$~~ die Traktoren zu
no student admits that the tractors$_{nom}$ zu
reparieren versprochen wurden]]
repair promised were

b. *Sie überlegt [$_{CP}$ ~~DP$_{ext_1}$~~ der Traktor zu reparieren
she considers the tractor$_{nom}$ to repair
versprochen zu werden]
promise to be

5.3.2. Selective Accessibility of CP and TP

The same picture arises with regard to the embedded CP and TP projections in long-distance passive constructions. This is obvious for upward inaccessibility – there are no CP and TP layers that might block monoclausal properties like scrambling or unstressed pronoun fronting from the embedded domain. This is illustrated in (63).[30]

(63) dass ihr$_1$ ~~DP$_{ext_2}$~~ gestern widerwillig PRO$_2$ [t$_1$ das Buch zu
that her$_{dat}$ yesterday unwillingly the book$_{nom}$ zu
schenken] versucht wurde
give tried was

Similar considerations apply in the case of all the other tests probing the absence of CP and TP (wide scope of negation, compactness, etc.). However, in the same way, there is also evidence for an initial presence of these layers in long-distance passive constructions. Thus, recall from section 4 that the very existence of the third construction (i.e., a combination of extraposition and transparency of an infinitival complement) provides an argument for an initial CP status of infinitival complements that participate in restructuring. As observed by Wöllstein-Leisten (2001) and Haider (2010), extraposition is also an option in long-distance passivization; see the lack of a clear contrast between (64a) and (64b). Given that only CPs can undergo extraposition in German (not TPs, vPs or VPs), this provides an argument for an initial CP status of the infinitive.

---

[30] Also cf. already an example like (53a), where the two non-finite verb forms are topicalized as a single constituent, stranding nominative DP$_{int}$, which thus must have undergone scrambling from the embedded domain.

(64) a. dass der Hund   zu füttern vergessen wurde
          that the dog$_{nom}$ to feed   forgotten was
      b. dass der Hund   vergessen wurde zu füttern
          that the dog$_{nom}$ forgotten was   to feed

Another empirical argument for an initial CP status of the embedded in-
finitive in long-distance passivization comes from the distribution of un-
stressed pronouns. Recall from the discussion of (29) that unstressed pronoun
fronting to the left edge of vP can leave the embedded infinitive (thus provid-
ing an argument for a smaller structure), but can (as a somewhat more marked
option) also find enough space in the infinitive itself; this presupposes an ini-
tial presence of C that licenses the local movement operation. Essentially, this
option would also seem to exist with long-distance passives; cf. (65).

(65) ?dass mir$_1$ schon   letzte Woche [t$_1$ es$_2$ t$_2$ zu geben] versucht
       that me$_{dat}$ already last   week   it$_{acc}$ to give   tried
       wurde
       was

5.3.3. *Selective Accessibility of vP*

Deriving the variable accessibility of the embedded vP layer by structure
removal is the central feature characterizing the present approach to long-
distance passives. On the one hand, as already noted by Wurmbrand (2001),
an absence of the embedded vP projection is required to account for the
change from accusative to nominative of the embedded DP$_{int}$. On the other
hand, the only way to let an embedded DP$_{ext}$ (i.e., PRO) be part of the sen-
tence is via an embedded vP projection (more specifically, in the present pro-
posal, via [•D$_2$•] on embedded v). In turn, a syntactic presence of PRO in
long-distance passives is required if a systematic explanation of the complete
absence of control shift under long-distance passivization is sought. This PRO
subject is then predicted to be active throughout the derivation without qual-

ification; among other things, it can be held responsible for providing a local binder for the reflexive and reciprocal pronouns in (66).[31,32]

(66) a. dass PRO$_1$ sich$_1$ der Plan   zu erklären versucht wurde
          that   REFL the plan$_{nom}$ to explain tried   was

      b. PRO$_1$ einander$_1$ zu reparieren empfohlen   wurden den
               RECIP   to repair   recommended were   the
          Leuten$_1$ die Traktoren nicht
          people$_{dat}$ the tractors   not

---

[31] It should be noted, though, that Wurmbrand (2001, 278) has divergent judgements for examples which are structurally similar, and she takes this to be an argument that PRO is not present in German long-distance passives. However, even if PRO$_1$ did not exist in (66a) and (66b), one should still expect DP$_{ext}$ of matrix V to be able to locally bind the reflexive pronoun in a subject control sentence like (66a), on a par with sentences like (17) (*den Leuten* in the object control sentence (66b) cannot do so under Wurmbrand's assumption hat dative DPs cannot bind – but cf. Featherston & Sternefeld (2003) for evidence to the contrary). Incidentally, I would surmise that the examples in Wurmbrand (2001, 278) involve an embedded verbal domain that does not lend itself naturally to passivization in the first place for many speakers.

[32] Here are two further arguments in support of postulating an initial presence of vP. (Thanks to an anonymous reviewer for pointing them out.) First, since structure removal is intrinsically highly local, the illformedness of sentences like those in (i) can be derived. Here, an auxiliary (see (i-a)), or an additional control verb that is compatible with long-distance passive as such (see (i-b)), intervene between the V head responsible for removal and the structure that needs to be removed.

(i) a. *dass der Traktor   repariert *zu haben* beabsichtigt wurde
             that the tractor$_{nom}$ fix   to have inteded   was
     b. *dass der Traktor   zu reparieren *zu versuchen* beabsichtigt wurde
             that the tractor$_{nom}$ to fix   to try   inteded   was

A second potential argument for an initial vP involves semantic interpretation. If it is assumed that the functional head v is in general responsible for introducing an abstract predicate like CAUSE with agentive verbs like *reparieren* ('fix'), then the fact that this meaning component is present with the embedded verb in a typical long-distance passives like (2a) finds a natural explanation in the present approach, where there is a vP at an earlier stage of the derivation (given that its removal is recoverable), but cannot be accounted for straightforwardly without further assumptions in an approach like Wurmbrand (2001), where there is never an embedded vP in German long-distance passives.

References

Abels, Klaus (2012). *Phases. An Essay on Cyclicity in Syntax*. Vol. 543. of *Linguistische Arbeiten*. De Gruyter: Berlin.

Adger, David (2003). *Core Syntax*. Oxford University Press: Oxford, New York.

Aissen, Judith & David Perlmutter (1983). Clause Reduction in Spanish. In D. Perlmutter (ed.). *Studies in Relational Grammar 1*. University of Chicago Press: Chicago. 360–403.

Alexiadou, Artemis & Edit Doron (2013). The Syntactic Construction of Two Non-Active Voices: Passive and Middle. *Journal of Linguistics* 48. 1–34.

Alexiadou, Artemis, Elena Anagnastopoulou & Florian Schäfer (2015). *External Arguments in Transitivity Alternations*. Oxford University Press: Oxford.

Alexiadou, Artemis & Gereon Müller (2018). Externe Argumente und quantifikationale Variabilität im deutschen Passiv. In A. Wöllstein, P. Gallmann, M. Habermann & M. Krifka (eds) *Grammatiktheorie und Empirie in der germanistischen Linguistik*. De Gruyter: Berlin. 511–548.

Baker, Mark (1988). *Incorporation. A Theory of Grammatical Function Changing*. University of Chicago Press: Chicago.

Baker, Mark (2015). *Case. Its Principles and Parameters*. Cambridge University Press: Cambridge.

Baker, Mark, Kyle Johnson & Ian Roberts (1989). Passive Arguments Raised. *Linguistic Inquiry* 20. 219–251.

Bayer, Josef & Jaklin Kornfilt (1994). Against Scrambling as an Instance of Move Alpha. In N. Corver & H. van Riemsdijk (eds). *Studies on Scrambling*. Mouton de Gruyter: Berlin. 17–60.

Bech, Gunnar (1955/1957). *Studien über das deutsche Verbum Infinitum*. Niemeyer: Tübingen. . Reprint 1983

Besten, Hans den & Jean Rutten (1989). On Verb Raising, Extraposition and Free Word Order in Dutch. In D. Jaspers, W. Klooster, Y. Putseys & P. Seuren (eds). *Sentential Complementation and the Lexicon. Studies in Honor of Wim de Geest*. Foris: Dordrecht. 41–56.

Bobaljik, Jonathan (2015). Some Differences between Case and Agreement. Ms., University of Connecticut.

Bobaljik, Jonathan & Susanne Wurmbrand (2005). The Domain of Agreement. *Natural Language and Linguistic Theory* 23. 809–865.

Bošković, Željko (2007). Agree, Phases, and Intervention Effects. *Linguistic Analysis* 33. 54–96.

Bruening, Benjamin (2013). By-Phrases in Passives and Nominals. *Syntax* 16. 1–41.

Chomsky, Noam (1973). Conditions on Transformations. In S. Anderson &

P. Kiparsky (eds). *A Festschrift for Morris Halle*. Academic Press: New York. 232–286.

Chomsky, Noam (1981). *Lectures on Government and Binding*. Foris: Dordrecht.

Chomsky, Noam (1995). *The Minimalist Program*. MIT Press: Cambridge, Mass..

Chomsky, Noam (2001). Derivation by Phase. In M. Kenstowicz (ed.). *Ken Hale. A Life in Language*. MIT Press: Cambridge, Mass.. 1–52.

Chomsky, Noam (2008). On Phases. In R. Freidin, C. Otero & M. L. Zubizarreta (eds). *Foundational Issues in Linguistic Theory*. MIT Press: Cambridge, Mass.. 133–166.

Chomsky, Noam (2013). Problems of Projection. *Lingua* 130. 33–49.

Chomsky, Noam (2014). Lecture 4. Class Lectures, MIT, May 19, 2014 (31:00-48:00). Available from: http://whamit.mit.edu/2014/06/03/recent-linguistics-talks-by-chomsky/.

Chomsky, Noam (2015). Simple Invisibles. In L. Veselovská & M. Vanebová (eds). *Complex Visibles Out There*. Vol. 4. of *Olomouc Modern Language Series*. Palacky University: Olomouc. 17–24.

Collins, Chris (2005). A Smuggling Approach to the Passive in English. *Syntax* 8. 81–120.

den Besten, Hans (1981). Government, syntaktische Struktur und Kasus. In M. Kohrt & J. Lenerz (eds). *Sprache: Formen und Strukturen*. Niemeyer: Tübingen. 97–107.

Eisenberg, Peter (1999). *Grundriß der deutschen Grammatik. Band 2: Der Satz*. Metzler: Stuttgart.

Fanselow, Gisbert (1985). *Deutsche Verbalprojektionen und die Frage der Universalität konfigurationaler Sprachen*. PhD thesis, Universität Passau. Passau

Fanselow, Gisbert (1991). Minimale Syntax. Habilitation thesis, Universität Passau.

Fanselow, Gisbert (1992). Ergative Verben und die Struktur des deutschen Mittelfelds. In L. Hoffmann (ed.). *Deutsche Syntax. Ansichten und Aussichten*. Walter de Gruyter: Berlin. 276–303.

Fanselow, Gisbert (2004). The MLC and Derivational Economy. In A. Stepanov, G. Fanselow & R. Vogel (eds). *Minimality Effects in Syntax*. Mouton de Gruyter: Berlin. 73–123.

Featherston, Sam & Wolfgang Sternefeld (2003). The Interaction of Factors in Judgements of Reflexive Structures: Data from Object Coreference in German. In L. Gunkel, G. Müller & G. Zifonun (eds). *Arbeiten zur Reflexivierung*. Niemeyer: Tübingen. 25–50.

Fischer, Silke (2004). *Towards an Optimal Theory of Reflexivization*. PhD thesis, Universität Tübingen.

Geilfuß, Jochen (1992). Ist 'wollen' ein Kontrollverb oder nicht?. Ms., Universität Tübingen.

Georgi, Doreen (2014). *Opaque Interactions of Merge and Agree.* PhD thesis, Universität Leipzig.

Gergel, Remus & Jutta Hartmann (2009). Experiencers with (Un)willingness:A Raising Analysis of German 'Wollen'. In A. Alexiadou, J. Hankamer, T. McFadden, J. Nuger & F. Schäfer (eds). *Advances in Comparative Germanic Syntax.* Benjamins: Amsterdam. 327–356.

Grewendorf, Günther (1988). *Aspekte der deutschen Syntax.* Narr: .

Grewendorf, Günther (1989). *Ergativity in German.* Foris: Dordrecht.

Haider, Hubert (1991). Argument Structure – Semantic Basis and Syntactic Effects, Part II. Ms., Universität Stuttgart.

Haider, Hubert (1993). *Deutsche Syntax – generativ.* Narr: Tübingen.

Haider, Hubert (2010). *The Syntax of German.* Cambridge University Press: Cambridge.

Harley, Heidi (2013). External Arguments and the Mirror Principle: On the Distinctness of Voice and v. *Lingua* 125. 34–57.

Heck, Fabian & Gereon Müller (2007). Extremely Local Optimization. In E. Brainbridge & B. Agbayani (eds). *Proceedings of the 26th WECOL.* California State University Fresno 170–183.

Heim, Irene (1982). *The Semantics of Definite and Indefinite Noun Phrases.* PhD thesis, University of Massachusetts. Amherst

Hicks, Glyn (2009). *The Derivation of Anaphoric Relations.* Benjamins: Amsterdam.

Höhle, Tilman (1978). *Lexikalistische Syntax: Die Aktiv-Passiv-Relation und andere Infinitkonstruktionen im Deutschen.* Niemeyer: Tübingen.

Keine, Stefan & Rajesh Bhatt (2016). Interpreting Verb Clusters. *Natural Language and Linguistic Theory* 34. 1445–1492.

Kiparsky, Paul (2013). Towards a Null Theory of the Passive. *Lingua* 125. 7–33.

Kiss, Tibor (1995). *Infinite Komplementation.* Niemeyer: Tübingen.

Koopman, Hilda & Anna Szabolcsi (2000). *Verbal Complexes.* MIT Press: Cambridge, Mass..

Kornfilt, Jaklin (1999). Das Fernpassiv im Türkischen und im Deutschen. In L. Johanson & J. Rehbein (eds). *Türkisch und Deutsch im Vergleich.* Harrassowitz: Wiesbaden. 153–170.

Koster, Jan (1987). *Domains and Dynasties.* Foris: Dordrecht.

Landau, Idan (2013). *Control in Generative Grammar.* Cambridge University Press: Cambridge.

Legate, Julie Anne (2003). Some Interface Properties of the Phase. *Linguistic Inquiry* 34. 506–516.

Legate, Julie Anne (2005). Phases and Cyclic Agreement. *MITWPL* 49. 147–156.. Perspectives on Phases

Legate, Julie Anne (2014). *Voice and v. Lessons from Acehnese*. MIT Press: Cambridge, Mass.

McCarthy, John (2003). Sympathy, Cumulativity, and the Duke-of-York Gambit. In C. Féry & R. van de Vijver (eds). *The Syllable in Optimality Theory*. Cambridge University Press: Cambridge. 23–76.

McFadden, Thomas (2004). *The Position of Morphological Case in the Derivation: A Study on the Syntax-Morphology Interface.* PhD thesis, University of Pennsylvania.

Merchant, Jason (2013). Voice and Ellipsis. *Linguistic Inquiry* 44. 77–108.

Müller, Gereon (2001). Order Preservation, Parallel Movement, and the Emergence of the Unmarked. In G. Legendre, J. Grimshaw & S. Vikner (eds). *Optimality-Theoretic Syntax.* MIT Press: Cambridge, Mass.. 279–313.

Müller, Gereon (2014). *Syntactic Buffers*. Vol. 91. Linguistische Arbeits Berichte: Universität Leipzig.

Müller, Gereon (2017*a*). Rethinking Restructuring. Ms., Universität Leipzig. To appear in András Bárány, Theresa Biberauer, Jamie Douglas, and Sten Vikner (eds.), *Clausal Architecture and its Consequences: Synchronic and Diachronic Perspectives.* Language Science Press.

Müller, Gereon (2017*b*). Structure Removal: An Argument for Feature-Driven Merge. *Glossa* 2(1). http://doi.org/10.5334/gjgl.193

Müller, Gereon (2018*a*). Can Unaccusative Verbs Undergo Passivization in German?. Ms., Universität Leipzig.

Müller, Gereon (2018*b*). Structure Removal in Complex Prefields. *Natural Language and Linguistic Theory* 36. 219–264.

Müller, Gereon (this volume). The Short Life Cycle of External Arguments in German Passive Derivations. In A. Murphy (ed.). *Structure Removal*. Universität Leipzig: Leipzig.

Müller, Gereon & Wolfgang Sternefeld (1995). Extraction, Lexical Variation, and the Theory of Barriers. In U. Egli, P. E. Pause, C. Schwarze, A. v. Stechow & G. Wienold (eds) *Lexical Knowledge in the Organization of Language*. Benjamins: Amsterdam. 35–80.

Müller, Stefan (1999). *Deutsche Syntax deklarativ. Head-Driven Phrase Structure Grammar für das Deutsche*. Linguistische Arbeiten Niemeyer: Tübingen.

Müller, Stefan (2002). *Complex Predicates*. CSLI Publications: Stanford, California.

Müller, Stefan (2007). *Head-Driven Phrase Structure Grammar: Eine Einführung.* Stauffenburg: Tübingen chapter 17: Passiv

Pesetsky, David (2016). Exfoliation: Towards a Derivational Theory of Clause Size. Ms., MIT, Cambridge, Mass..

Pitteroff, Marcel (2014). *Non-Canonical lassen-Middles.* PhD thesis, Universität Stuttgart.

Preminger, Omer (2014). *Agreement and Its Failures*. MIT Press: Cambridge, Mass..

Primus, Beatrice (2010). Event-Structure and Individuation in Impersonal Passives. In P. Brandt & M. García García (eds). *Transitivity*. Benjamins: Amsterdam. 209–233.

Pullum, Geoffrey (1976). The Duke of York Gambit. *Journal of Linguistics* 12. 83–102.

Reuland, Eric (2001). Primitives of Binding. *Linguistic Inquiry* 32. 439–492.

Reuland, Eric (2011). *Anaphora and Language Design*. MIT Press: Cambridge, Mass..

Richards, Marc (2011). Deriving the Edge: What's in a Phase?. *Syntax* 14. 74–96.

Rizzi, Luigi (1982). *Issues in Italian Syntax*. Foris: Dordrecht.

Rizzi, Luigi (1986). Null Objects in Italian and the Theory of 'pro'. *Linguistic Inquiry* 17. 501–557.

Roberts, Ian (1987). *The Representation of Implicit and Dethematized Subjects*. Foris: Dordrecht.

Ross, John (1967). *Constraints on Variables in Syntax.* PhD thesis, MIT. Cambridge, Mass.

Růžička, Rudolf (1983). Remarks on Control. *Linguistic Inquiry* 14. 309–324.

Růžička, Rudolf (1989). Lexikalische, syntaktische und pragmatische Restriktionen des unpersönlichen Passivs. *Deutsch als Fremdsprache* 26. 350–352.

Sabel, Joachim (1996). *Restrukturierung und Lokalität*. Akademie-Verlag: Berlin.

Schäfer, Florian (2012). The Passive of Reflexive Verbs and Its Implications for Theories of Binding and Case. *Journal of Comparative Germanic Linguistics* 15. 213–268.

Schmid, Tanja (2005). *Infinitival Syntax. Infinitivus Pro Participio as a Repair Strategy*. Benjamins: Amsterdam.

Stabler, Edward (2013). Two Models of Minimalist, Incremental Syntactic Analysis. *Topics in Cognitive Science* 5. 611–633.

Stechow, Arnim von (1992). Kompositionsprinzipien und grammatische Struktur. In P. Suchsland (ed.). *Biologische und soziale Grundlagen der Sprache*. Niemeyer: Tübingen. 175–248.

Stechow, Arnim von & Wolfgang Sternefeld (1988). *Bausteine syntaktischen Wissens*. Westdeutscher Verlag: Opladen.

Sternefeld, Wolfgang (1990). Scrambling and Minimality. In G. Grewendorf & W. Sternefeld (eds). *Scrambling and Barriers*. Benjamins: Amsterdam. 239–257.

Sternefeld, Wolfgang (1995). Voice Phrases and Their Specifiers. Ms., Universität Tübingen. (SfS-Report 05-95).

Sternefeld, Wolfgang (2006). *Syntax*. Stauffenburg: Tübingen. . Two volumes

Stiebels, Barbara (2000). Linker Inventories, Linking Splits and Lexical Economy. In B. Stiebels & D. Wunderlich (eds). *Lexicon in Focus*. Akademie-Verlag: Berlin. 211–245.

Stiebels, Barbara (2007). Towards a Typology of Complement Control. In B. Stiebels (ed.). *Studies in Complement Control*. Vol. 47. of *ZAS Papers in Linguistics*. ZAS: Berlin. 1–80.

Stiebels, Barbara (2010). Inhärente Kontrollprädikate im Deutschen. *Linguistische Berichte* 224. 391–440.

van Urk, Coppe (2013). Visser's Generalization: The Syntax of Control and the Passive. *Linguistic Inquiry* 44. 168–178.

Wöllstein-Leisten, Angelika (2001). *Die Syntax der dritten Konstruktion*. Stauffenburg Verlag: Tübingen.

Wurmbrand, Susanne (2001). *Infinitives. Restructuring and Clause Structure*. Mouton de Gruyter: Berlin.

Wurmbrand, Susi (2002). Syntactic vs. Semantic Control. In J.-W. Zwart & W. Abraham (eds). *Studies in Comparative Germanic Syntax: Proceedings of the 15th Workshop on Comparative Germanic Syntax*. Benjamins: Amsterdam. 93–127.

Wurmbrand, Susi (2007). How Complex are Complex Predicates?. *Syntax* 10. 243–288.

Wurmbrand, Susi (2015*a*). Complex Predicate Formation via Voice Incorporation. In L. Nash & P. Samvelian (eds). *Approaches to Complex Predicates*. Brill: Leiden. 248–290.

Wurmbrand, Susi (2015*b*). Restructuring Cross-Linguistically. In T. Bui & D. Özyıldız (eds). *Proceedings of NELS 45*. GLSA: University of Massachusetts. 227–240.