

Structure removal in German long passive constructions

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Abstract: In this paper, we present an analysis of the so-called LONG PASSIVE constructions in German, where a long-distance case and agreement dependency between the object of the embedded verb and the matrix auxiliary is observed. Regarding the structure of this construction, conflicting evidence exists. We propose to resolve this conflict by employing the structure removal approach proposed by Müller (2017, 2018, 2019), which can be regarded as a derivational version of reanalysis. Slightly modifying this approach, we derive a structure with a complex verb, comprising the embedded infinitive and the matrix verb, from that with an infinitival phrase. As discussed in Section 4, this reanalysis process is related to a movement of the embedded object to achieve the long-distance dependency with the matrix auxiliary. Through the analysis of long passive constructions, we propose that a complex verb formation must be assumed in some infinitival constructions in German. However, its application must be limited to a small subclass of infinitival constructions, such as long passive constructions, and in most cases, the infinitive has a phrasal structure, as proposed by Wurmbrand (2003), among others.

Keywords: German syntax, infinitival complement, coherence, structure removal

1. Introduction

In some German control constructions, the embedded object may be promoted to the matrix subject if the matrix control verb is passivized, as shown in (1), taken from Wurmbrand (2003, p. 19).

- (1) dass **der Traktor** zu reparieren versucht wurde
that the tractor.NOM to repair tried was
“that it was tried to repair the tractor”

In (1), the matrix control verb *versuchen* (try) is passivized. The passive subject *der Traktor* (the tractor), which is assigned nominative case and agrees with the matrix auxiliary *wurde* (was), is semantically selected by the embedded verb *zu reparieren* (to repair). Because of this long-distance dependency between the matrix auxiliary and the embedded object, the construction is often referred to as LONG(-DISTANCE) PASSIVE. This construction is possible with some control verbs, such as *versuchen* (try), *vergessen* (forget), and *erlauben* (allow) (cf. Wöllstein-Leisten, 2001; Wurmbrand, 2003).

In long passive constructions, the infinitive is unable to assign accusative case so that the embedded object can obtain nominative case. To explain the absence of embedded accusative case-marking licensed by the embedded predicate, there are two possible types of analysis: one assumes a complex verb comprising the embedded and the matrix verb, as shown in (2a), and the other assumes an independent verbal projection of the embedded verb (cf. (2b)).

- (2) a. dass **der Traktor** [_v zu reparieren versucht] wurde
that the tractor.NOM to repair tried was
b. dass **der Traktor**_i [_{xp} t_i zu reparieren] versucht wurde

In the former analysis, embedded accusative case is absent because the complex verb behaves as a single verb with respect to case assignment. The resulting complex verb in (2a) inherits the ability to assign

accusative case from its components, but the accusative case is suppressed via passivization. Such an analysis is advocated by Haider (2003, 2010), among others. In the latter analysis, the infinitival phrase XP contains no accusative assigner. As a consequence, the embedded object moves up to the matrix domain to obtain case and agrees with the matrix auxiliary (cf. Wurmbrand, 2003, 2015).

As we shall show in the next section, there are supporting data for each analysis. Therefore, in this paper, we present an analysis that can respect both of the conflicting data. Using the mechanism STRUCTURE REMOVAL proposed by Müller (2017, 2018, 2019), we will derive a complex verb structure, as in (2a), from a structure with an embedded infinitival phrase, as in (2b).

This paper is structured as follows: in Section 2, we present evidence for complex verb analysis and for phrasal analysis in turn. Based on these data, we propose our analysis using the structure removal approach in Section 3. In Section 4, we discuss two important issues about our analysis in essence: the motivation for structure removal and the relation of our analysis to other infinitival constructions. We conclude the paper in Section 5.

2. Data

2.1 Evidence for Complex Verb Formation

The evidence for the complex verb formation in long passive constructions comes from wide scope of the embedded elements with respect to the matrix verb. For example, a quantified DP *nur einen einzigen Traktor* (only one tractor) can take both narrow and wide scope with respect to the matrix verb *vergessen* (forget) in an active sentence, as in (3a), while in its long passive counterpart in (3b), the DP only takes wide scope with respect to the matrix verb.

- (3) a. Gestern hat er **nur einen einzigen Traktor** zu reparieren vergessen.
*yesterday has he **only a single tractor.ACC** to repair forgotten*
 “Yesterday he forgot to repair only one tractor.” (Keine & Bhatt, 2016, p. 1454)
 [*forget* >> *only*] = He repaired more than one tractors by mistake.
 [*only* >> *forget*] = There is only one tractor that he forgot to repair.
- b. Gestern wurde **nur ein einziger Traktor** zu reparieren vergessen.
*yesterday was **only a single tractor.NOM** to repair forgotten*
 “Yesterday it was forgotten to repair only one tractor.” (Keine & Bhatt, 2016, p. 1454)
 * [*forget* >> *only*] = He repaired more than one tractors by mistake.
 [*only* >> *forget*] = There is only one tractor that he forgot to repair.

The judgements are taken from the work of Keine and Bhatt (2016). However, as noted by Keine and Bhatt (p. 1480), for some speakers the narrow scope reading (*forget* >> *only*) in (3b) is possible if the quantified DP and the infinitive jointly form a phonological unit marked with intonational breaks (see also Section 3.2 below). Nevertheless, the wide scope reading in (3b) is the most prominent one, and for some speakers, the only possible one. While this sort of scope restriction in long passive constructions has already been observed by Bobaljik and Wurmbrand (2005), Keine and Bhatt (2016) indicate that not only quantified DPs but also every scope-bearing element that is dependent on the embedded verb receive matrix interpretation in long passive constructions. For instance, as shown in (4a), the event-modifying adverb *fünfmal* (five times) can only modify the matrix event of forgetting, rather than the embedded event of pressing. Likewise, the negative particle *nicht* (not) cannot negate the embedded event, as shown in (4b).

- (4) a. Gestern wurde der Knopf **fünfmal** zu drücken vergessen.
*yesterday was this button.NOM **five.times** to press forgotten*
 “Yesterday it was forgotten to press this button five times.”
 [*5.times(press); 5.times(forget)] (Keine & Bhatt, 2016, p. 1460)

- b. weil dem Hans der Spinat **nicht** zu essen erlaubt wurde
since the Hans.DAT the spinach.NOM not to eat allowed was
 “since Hans was not allowed to eat the spinach”
 [*allow >> ¬; ¬ >> allow] (Keine & Bhatt, 2016, p. 1460)

Since no elements that are dependent on the embedded verb can take embedded scope in long passive constructions, the most straightforward analysis would be that there is no embedded verbal domain. Moreover, the fact that the infinitive cannot be independently modified or negated is accounted for by its being part of a complex verb, so it cannot be regarded as an independent syntactic unit. Therefore, the complex verb analysis, as in (2a), is supported by the examples, as in (3b) and (4).

2.2 Evidence for Phrasal Structure

While the scope facts strongly support complex verb analysis, a base-generation of the complex verb is not a plausible option. As shown in (5), even in a long passive construction, the infinitive may be moved along with its dependents. In (5a), the string *in die Garage zu fahren* (into the garage to drive) is extraposed to the right of the finite auxiliary. In (5b), the infinitive, along with its dative object, is moved to the left of the finite verb (in the verb-second word order) via topicalization.

- (5) a. daß der Wagen vergessen wurde [in die Garage zu fahren]
that the car.NOM forgotten was into the garage to drive
 “that it was forgotten to drive the car into the garage” (Bayer and Kornfilt, 1994, p. 46)
 b. [Den anderen Studenten vorzustellen] wurde der Fritz erst gestern wieder vergessen.
the other students.DAT to.introduce was the Fritz.NOM just yesterday again forgotten
 “Just yesterday it was forgotten to introduce Fritz to the other students.”
 (Keine and Bhatt, 2016, p. 1488)

The strings in (5) are clearly phrasal. Therefore, even if we assume a complex verb in constructions in (3b) and (4), the infinitive must have its own phrasal structure at some point of the derivational steps if we want to relate a construction with a moved infinitival phrase (cf. (5)) to its *in situ* counterpart.

Importantly, if the infinitival phrase is moved, then the scope restriction, as observed in (3b) and (4), is absent (Keine & Bhatt, 2016, pp. 1479f.).

- (6) % [**Nur einem einzigen Studenten** vorzustellen]₁ wurde der Fritz
only a single student.DAT to.introduce was the Fritz.NOM
 erst gestern wieder t₁ vergessen.
just yesterday again forgotten
 “Just yesterday it was forgotten to introduce Fritz to only one student.”
 [forget >> only; *only >> forget]

The quantified DP *nur einem einzigen Studenten* (only one student) is interpreted within the topicalized infinitival phrase and has narrow scope with respect to the control verb. Assuming that narrow scope of the embedded elements is ruled out by a complex verb formation, the data in (6) confirm that the infinitive does not form a complex verb if the infinitival phrase is moved.^[1]

Moreover, cross-linguistic consideration reveals that the infinitive has its own voice, which indicates that the infinitive projects its own vP. Constructions similar to German long passive ones are also found in other languages. Interestingly, in some languages, such as Norwegian, the passive morphology appears not only on the matrix verb but also on the embedded infinitive, as shown in (7), taken from Lødrup (2014, p. 368).

- (7) viktige stridsspørsmål blir unnlatt å presiseres
important issues are neglected to clarify.INF.PASS
 “It was neglected clarifying important issues.”

In the Norwegian example in (7), both the matrix verb *unnlatt* (neglect) and the embedded infinitive *presiseres* (clarify) have passive forms, as shown in the translation. The subject *viktige stridsspørsmål* (important issues) that agrees with the passive auxiliary *blir* (are) is the theme argument of the embedded verb. Thus, the embedded object is promoted to the matrix subject position, just as in German long passive constructions. While in Norwegian, the voice of the infinitive matches that of the matrix verb, according to Wurmbrand (2015, pp. 257–263), there are also languages where the infinitive has active voice marking, which is independent from the matrix passive voice. To provide a uniform analysis of these distinct voice patterns in long passive constructions in various languages, Wurmbrand argues for the presence of an embedded *v* in long passive constructions, assuming that voice morphologies are hosted by *v*. Following her argument, we assume that the infinitival complement has a structure up to *v*P.

Based on the data presented in this subsection, we propose that the embedded infinitive must be base-generated as a phrasal structure. Moreover, it must project its own *v*P, following Wurmbrand (2015). Accordingly, complex verb formation must be achieved derivationally.

3. Analysis

3.1 Structure Removal

In the previous section, we have concluded that a structure containing a complex verb, as in (2a), is derived from a phrase embedding structure, as in (2b). Then, a null assumption is that the infinitive verb (V_2) is incorporated into the matrix verb (V_1) to form a complex head V . However, an additional operation is needed to account for scope restriction, as observed in (3b) and (4). Because every element has wide scope with respect to the (scope-bearing) matrix verb, all dependents of the infinitive must be situated structurally higher than the resulting complex verb. This might be achieved by raising all non-verbal elements in embedded VP2 into the matrix VP after the incorporation of V_2 into V_1 (cf. (8a)) or by lowering V_1 to be incorporated into V_2 (cf. (8b)).

$$(8) \quad \begin{array}{ll} \text{a. } [_{VP1} [_{VP2} \text{ Adv DP } V_2] V_1] & \rightarrow [_{VP} \text{ Adv}_k \text{ DP}_j [_{v'} [_{VP2} t_k t_j t_i] [_{v'} V_{2i} V_1]]] \\ \text{b. } [_{VP1} [_{VP2} \text{ Adv DP } V_2] V_1] & \rightarrow [_{VP} [_{VP2} \text{ Adv DP } [_{v'} V_2 V_{1i}]] t_i] \end{array}$$

However, the upward movement, as in (8a), is unmotivated, especially for adverbs and negative particles. The lowering, as in (8b), is also unusual in the current theoretical setup.^[2] Therefore, we propose an alternative derivation, which can derive a simple complex verb structure directly from a phrase embedding structure, as shown in (9).

$$(9) \quad [_{VP1} [_{VP2} \text{ Adv DP } V_2] V_1] \rightarrow [_{VP} \text{ Adv DP } [_{v'} V_2 V_1]]$$

To achieve this derivation, we use an approach called structure removal, recently proposed by Müller (2017, 2018, 2019). Müller assumes that UNIVERSAL GRAMMAR has an operation called REMOVE. Complementary to the structure-building operation MERGE, remove can destroy and reanalyze the structure. Remove has properties similar to those of merge; it is feature-driven and removes heads or phrases. Remove is triggered by a feature [-F-], “remove F,” designated on a lexical item. F may be either a head (F) or a phrase (FP), for each of which the removal feature is represented as [-F₀-] or [-F₂-]. Similar to merge, remove obeys the STRICT CYCLE CONDITION (SCC), defined as follows:

$$(10) \quad \text{Within the current XP } \alpha, \text{ a syntactic operation may not exclusively target some item } \delta \text{ in the domain of another XP } \beta \text{ if } \beta \text{ is in the domain of } \alpha \quad (\text{Müller, 2017, p. 4})$$

Under Müller’s assumption, (10) states that a lexical item (= head) may remove its specifier, its complement, and their heads.^[3]

Under these assumptions, if a lexical item X (Figure 1) has a feature [-Y₀-], it can remove the head Y of its complement YP.

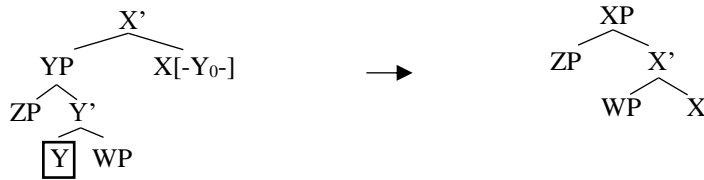


Figure 1. Structure Removal of the Head Y (slightly modified from Müller, 2018, p. 245).

If Y is removed, the whole YP projection is also taken away, leaving the elements contained in YP other than Y. These elements, ZP and WP in Figure 1, are reassociated as the specifier and the complement of XP, respectively. At the reassociation, the original hierarchical order between these elements is preserved to minimize the structural changes resulting from the removal.

The structure removal approach is a systematized and derivational version of reanalysis. It can be employed in various empirical domains where there is conflicting evidence for the structure, as in the case of long passive constructions.

3.2 Derivation

We now explain how a complex verb is formed in long passive constructions. As referred to in Section 2.2, following Wurmbrand (2015), we assume that the infinitive projects a νP . In her analysis, the infinitival ν (ν_2) in long passive constructions has both voice and phi-features unvalued. It must agree with the matrix ν (ν_1) for its features to be valued. To establish this agreement relation, ν_2 is incorporated into the matrix V (V_1).

However, in our analysis, along with this (abstract) incorporation of ν_2 , the embedded V (V_2), the overt lexical verb, can also be incorporated into V_1 . Crucially, we also combine the incorporation of ν_2 and V_2 with their removal in the sense of Müller’s (2017, 2018, 2019) approach. For example, the removal of ν_2 proceeds as in Figure 2. First, V_1 with a removal feature $[-\nu_0-]$, “remove ν ,” attracts ν_2 to itself. After the incorporation of ν_2 , the removal feature removes the evacuated node of ν_2 , eliminating the whole projections of νP_2 (see the second structure). VP_2 , which was contained in νP_2 , is then reassociated as a complement of the complex verb, as shown in the third structure.

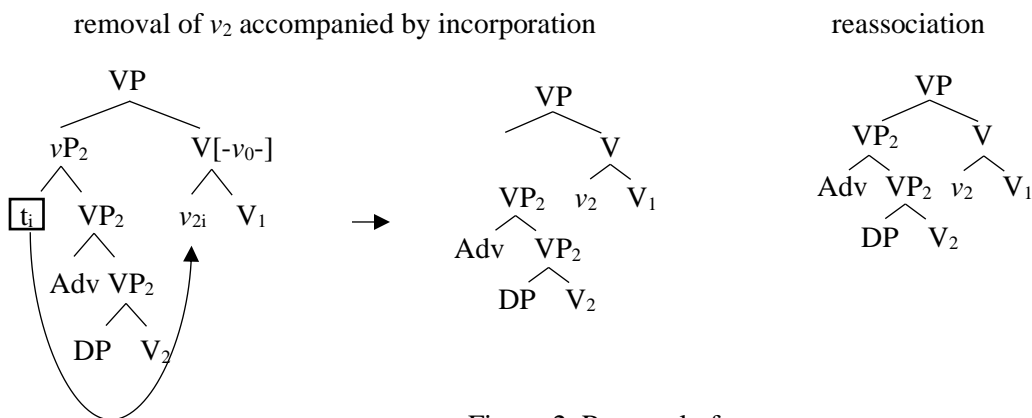


Figure 2. Removal of ν_2 .

Since remove is a strictly local operation, which follows the SCC in (10), the removal of V_2 is possible only after that of ν_2 . The removal of V_2 proceeds in a similar way after the last derivational point in Figure 2. As shown in Figure 3, V_2 is incorporated into the complex verb comprising ν_2 and V_1 . Then, the removal feature on V_1 , which percolates up to the upmost node of the complex verb V, removes the evacuated node along with the whole structure of VP_2 , stranding all elements dependent on V_2 . Finally, these dependents are reassociated as complements or adjuncts of V.

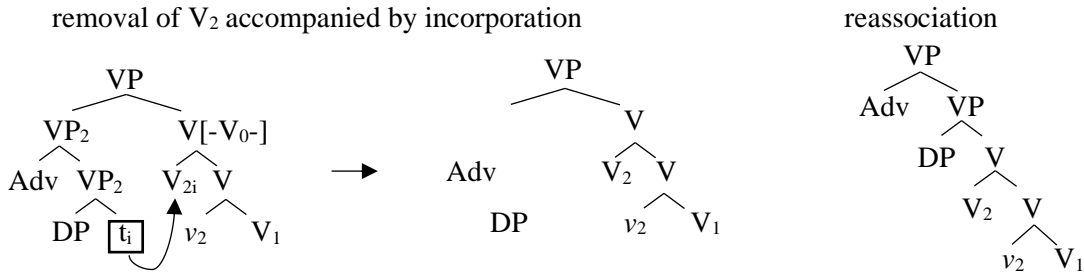


Figure 3. Removal of V_2 .

In the resulting structure, all dependents of V_2 are reassociated in the matrix domain. They must have matrix scope as the consequence. This straightforwardly accounts for the scope restriction found in (3b). Moreover, because of the complex verb formation, adverbial modification and negation cannot target the event of V_2 independently, which accounts for the data in (4).

The important point in our version of the structure removal approach is that the removal of a head is always preceded by its incorporation. This modification can moderate the destructive nature of Müller’s (2017, 2018, 2019) approach. As Müller (2018, p. 256) himself notes, “By their very nature, Remove operations can only apply successfully if the removed item’s content can be recovered in some way.” Because V_2 contains an overt lexical item, and v_2 at least has featural information, their contents must be available after their removal. Therefore, if a removed head is always incorporated into the removing head, recoverability can be guaranteed systematically.

However, because remove is a feature-driven operation, it must be defined when the matrix V_1 has features such as $[-v_0-]$ and $[-V_0-]$. First of all, remove features, as assumed by Müller (2017, 2018, 2019), are optional features present on a lexical item. Therefore, we assume that the features $[-v_0-]$ and $[-V_0-]$ are optionally present on V_1 in some control constructions. Moreover, because remove obeys the SCC in (10), the removal of V_2 must occur only if v_2 and its projections are already removed. Then, the feature $[-V_0-]$ can be applied successfully only if the feature $[-v_0-]$ is already applied. Conversely, V_1 has the feature $[-V_0-]$ only in such cases; otherwise, the feature is not properly resolved and the derivation crashes.

From these considerations, there are logically three possible cases about V_1 ’s removal features: 1) V_1 has no removal features, 2) it has both features, and 3) it has only $[-v_0-]$. Leaving the first case aside, in the second case, the infinitival phrase is completely eliminated, as shown in Figures 2 and 3. However, in the last case, the removal operation stops at the last derivational point in Figure 2. Importantly, in such a case, the embedded VP_2 remains untouched. It can be moved up to a higher position for topicalization or extraposition. Therefore, if the removal of v_2 occurs without a subsequent removal of V_2 , we can also obtain constructions in (5) and (6).

However, the resulting structure in Figure 2 seems odd if we try to interpret it, due to the lack of the vP_2 layer. In Wurmbrand’s (2015) analysis, vP_2 contains the information of the external argument and all the dependents of the infinitive. Thus, it is an independent unit corresponding to a proposition in the semantics. However, in the third structure in Figure 2, VP_2 , a subject-less unit, must be interpreted as a proposition because V_2 is not incorporated and therefore retains its independent argument structure. This results in a mismatch between the subject-less syntactic structure of VP_2 and its meaning as a proposition. As indicated by Wurmbrand (2003, p. 24), such a syntax–semantics mismatch might not be preferred. Therefore, the derivation preferably proceeds to the removal of V_2 (Figure 3) to form a complex verb with a single argument structure.

Indeed, Keine and Bhatt (2016, p.1479) note that the construction with a moved infinitival phrase, as shown in (5) and (6), is generally degraded, and for some speakers, unacceptable. Keine and Bhatt (p. 1480) also mention that with an appropriate prosodic break, some speakers allow embedded construal even in *in situ* constructions, as already referred to in Section 2.1. In (11)—where the prosodic break is marked with “||”—the adverb *fünfmal* (five times) can modify the embedded event of pressing.

- (11) % weil der Knopf || **fünfmal** zu drücken || vergessen wurde
because the button.NOM five.times to press forgotten was
 “because it was forgotten to press the button five times” [*5.times(forget); 5.times(press)]

Therefore, we assume that the derivation removing v_2 and V_2 altogether is preferred over the one removing only v_2 , and the latter is only possible if the construction cannot otherwise be derived, that is, if VP_2 is moved or set off by a prosodic break. For some speakers, the latter derivation is totally unacceptable even if it is forced.

Summarizing this section, we have argued that long passive constructions involve structure removal of v_2 and V_2 , which is induced by the optional removal features on V_1 . If V_1 has both $[-v_0-]$ and $[-V_0-]$, the derivation proceeds to the removal of V_2 (Figure 3) to form a complete complex verb. If V_1 has only $[-v_0-]$, the derivation stops at the removal of v_2 (Figure 2), and VP_2 remains untouched. Because the former derivation is preferred over the latter, the scope restriction in (3b) and (4) is obtained. Another logically possible case is left, that is, where V_1 has no features. However, we suppose that this case is not possible. In the next section, we briefly explain our idea about why the removal of v_2 is necessary in long passive constructions.

4. Discussion

4.1 Motivation for Structure Removal

In this section, we explain the motivation for removing v_2 in long passive constructions. Anticipating what follows, we relate this removal to a case-driven movement of the embedded object. Since we had to abandon an elaborated account due to the limited space, we present only the essence of our program.

In Wurmbrand's (2015) analysis, on which our analysis is based, the embedded v in long passive constructions has both voice and phi-features unvalued. Under the assumption that only the agentive voice can assign accusative case, the embedded object cannot receive case within the embedded vP . Therefore, if the matrix verb is passivized, the object must receive nominative case from the matrix T. Crucially, in Wurmbrand's analysis, the embedded object DP must move up to the matrix domain to receive case. It is empirically attested that the nominative DP must leave the infinitival complement in long passive constructions. As shown in (12), the topicalization of the infinitival complement in long passive constructions is deviant if it contains a nominative DP (see Bobaljik & Wurmbrand, 2005; Meurers, 2000).^[4]

- (12) ***[Der Wagen zu reparieren]** wurde lange Zeit versucht
the car.NOM to repair was long time tried
 "It was tried for long time to repair the car." (Meurers, 2000, p. 306)

The topicalization becomes more acceptable if the topicalized constituent contains the matrix control verb, along with the infinitive.

- (13) **[Der Wagen zu reparieren versucht]** wurde lange Zeit.
the car.NOM to repair tried was long time (Meurers, 2000, p. 307)

From the contrast between (12) and (13), we conclude that to obtain nominative case, the embedded object must move out of the embedded domain.

However, we assume that this obligatory movement of the embedded object DP is blocked by the existence of the embedded vP_2 , which constitutes a phase and is spelled out before the landing site of the moved object enters into the structure. Therefore, vP_2 must be eliminated via structure removal; otherwise, the DP is spelled-out without receiving case, and thus, the derivation crashes due to the unmet case requirements. Accordingly, a removal of v_2 is obligatory in long passive constructions.

Based on these arguments, we summarized the possible and the impossible derivations for long passive constructions in Figure 4; the derivation without the structure removal is excluded because the DP cannot escape from vP_2 . Since the removal of V_2 is optional, as discussed in Section 3.2, the possible derivations are the removal of v_2 or that of v_2 and V_2 . The latter derivation is preferred over the former because of the consistency between the syntactic structure and the semantic interpretation.

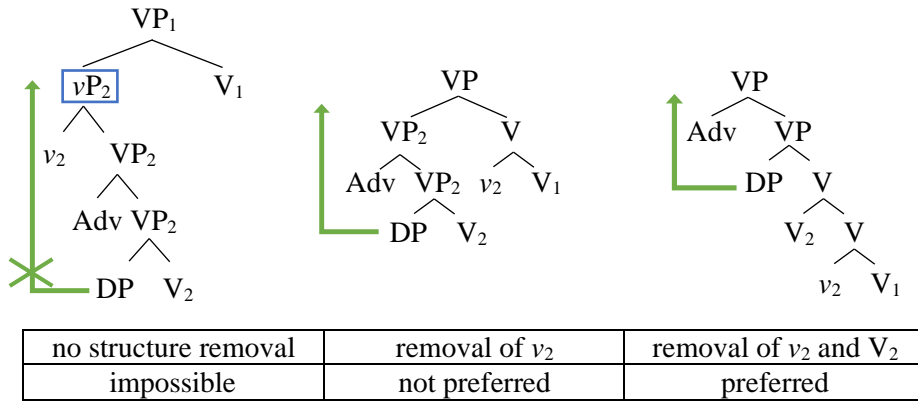


Figure 4. (Im)possible Derivation of Long Passive Construction

As the last structure with a complex verb is the only preferred option, the elements that are dependent on V_2 must take wide scope with respect to V_1 , as observed in (3b) and (4).

4.2 Other “Coherent” Constructions

Finally, we briefly discuss the relation between the present analysis and the entire picture of “coherent” infinitives. Since Bech’s (1955/1957) seminal work, it is well-known that some infinitival complements in German do not show clausal properties. They are transparent for operations such as scrambling or quantifier scope, which are normally clause-bound. Such infinitives are often referred to as “coherent” (*kohärent* in German). To derive the non-clausal nature of coherent infinitives, some researchers have proposed that the infinitive forms a complex verb with the matrix verb (see, e.g., Evers, 1975; Grewendorf, 1988; Haider, 2003, 2010). Because long passive construction is a subclass of coherent constructions, it must be clarified how the present analysis differs from the other complex verb analyses.

First of all, the complex verb formation discussed here is not a necessary condition for coherence of the infinitive. Rather, following Wurmbrand (2003), we assume that coherent properties are already obtained by the infinitive’s having a smaller structure than a CP. In many coherent constructions, complex verb formation does not occur. This is evident from the examples in (5), where long passive constructions are possible without complex verb formation.

Additionally, coherent constructions with auxiliaries, modal verbs, and some raising verbs, such as *scheinen* (seem), occasionally involve complex verb formation, although these verbs are those that obligatorily involve coherent constructions. Note that the fact that verbs constitute a phonological unit is not sufficient evidence for the presence of a complex verb. In our analysis, complex verb formation occurs in the syntax and thus has semantic consequences, such as those in scope relations, as discussed above. In this regard, there is no semantic motivation for complex verb formation with those obligatorily coherent verbs. For example, in (14a), the raising verb *scheinen* does not allow any intervening elements between the infinitive *zu erzählen* (to tell) and itself. Haider (2003, 2010) regards such a strict adjacency between the verbs as evidence of the presence of a complex verb comprising these verbs. However, as shown in (14b), the infinitival complement of *scheinen* can independently be subjected to sentential negation, as opposed to the corresponding long passive example in (4b).

- (14) a. dass er [uns schräge Dinge zu erzählen] (*manchmal) scheint
 that he us queer things to tell (sometimes) seems
 “that he sometimes seems to tell us strange things” (Haider, 2010, p. 303)
- b. daß Karl [Maria **nicht** zu lieben] scheint
 that Karl Maria not to love seems
 “that Karl seems not to love Maria” / “that Karl does not seem to love Maria”
 (Müller, 2002, 54)

Therefore, the infinitival complement of *scheinen* at least sometimes has an independent phrasal structure, even if the verbs form some phonological unit.

Concluding this section, we have discussed that structure removal is caused by the case-driven movement of the embedded object in long passive constructions, which is blocked by the existence of the embedded vP_2 . The complex verb formation, including the infinitive V_2 , is the best way to eliminate the obstacle, resulting in a consistent structure for its semantic interpretation. However, such a complex verb formation is limited to a small subclass of coherent constructions. It is independent from both the coherent properties of the infinitive and phonological word formation.

5. Conclusion

In this paper, we have shown that the apparently conflicting data for the structure of long passive constructions are straightforwardly accounted for using a modified version of the structure removal approach (Müller 2017, 2018, 2019). Our account is based on Wurmbrand's (2003, 2015) analysis that coherent infinitives have their own phrasal structure. However, we argue that for a small subclass of these infinitives, such as long passive constructions, a complex verb must be assumed. In this regard, our analysis is one of the attempts to combine the respective advantages of two conflicting positions on the structure of coherent infinitives in German, that is, complex verb analyses (e.g., Haider, 2003, 2010) and phrasal analyses (e.g., Wurmbrand, 2003).

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Notes

[1] “%” indicates that not all speakers find this sentence grammatical. We ascribe the impossibility of wide scope interpretation (*only \gg forget) in (6) to the freezing effect of the topicalization movement; it is known that an element inside a fronted VP cannot take scope over another element outside the VP (cf. Huang, 1993; Sauerland & Elbourne, 2002). For example, in (ia), the quantified DP *every bank* can take scope over the subject *a policeman* ($\forall \gg \exists$). However, this scope option is unavailable for the sentence in (ib), where the VP containing *every bank* is fronted.

- (i) a. ... and a policeman stood in front of every bank that day. [$\forall \gg \exists, \exists \gg \forall$]
 b. ... and [stand in front of every bank]_j a policeman did t_j that day. [$*\forall \gg \exists, \exists \gg \forall$]
 (Sauerland & Elbourne, 2002, p. 305)

Since such a freezing effect is not unique to long passive constructions, what is relevant for the present discussion is that the element can take the embedded scope (forget \gg only).

[2] Keine and Bhatt (2016) propose that after the incorporation of V_2 into V_1 , the resulting complex verb is semantically interpreted in the position of the infinitive. Because their semantic operation has many unclear points, we cannot properly compare their analysis with ours. Nevertheless, such a purely semantic approach as they employ might have a problem with the data concerning negative polarity items (henceforth, NPI). As shown in (ii), an NPI *auch nur ein einziger Traktor* (even a single tractor) cannot be licensed by the matrix verb *vergessen* (forget), which has a negative implicature.

- (ii) #Gestern wurde **auch nur ein einziger Traktor** zu reparieren vergessen.
yesterday was also only a single tractor.NOM to repair forgotten
 “Yesterday it was forgotten to repair even a single tractor.” (Keine & Bhatt, 2016, p. 1457)

Note that the situation is the same if the NPI is the dative object of the infinitive. Although there is no consensus on the analysis of NPI licensing, the widely accepted view is that syntactic configuration

(partly) determines the distribution of NPI. Our analysis with structure removal can straightforwardly handle such data because it changes the structural relation between the licenser (*vergessen*) and the NPI.

[3] The term “domain” in (10) is understood under the following definition: “The domain of a head X is the set of nodes dominated by XP that are distinct from and do not contain X” (Müller, 2017, p. 4).

[4] Note that the topicalization of an infinitival phrase is not generally excluded. Especially, a dative object can be topicalized along with the infinitive, as shown in (5b) and (6).

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