Again and the structure of result states

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Recent analyses (Beck & Johnson 2004; von Stechow 2007) for lexical causatives propose that the direct object is the argument of the verb rather than the result-state denoting predicate as previously assumed (Hoekstra 1988; von Stechow 1996). I focus on the interaction between *wieder* 'again' and existential operators in object position, and demonstrate that both theories can only account for part of the data. There is a crucial difference between causatives referring to a change of state and causatives that constitute a change of location. That is, only the latter allow an existential operator to be interpreted inside the presupposition of restitutive *again*.

1. Introduction

It is a well-known fact that the event structure of causative predicates is inherently complex. That is, the event structure of a causative predicate can be divided into a causing event (1a) and a state that results from this event (1b):

(1) Pandora opened the box.
   a. Event: Pandora manipulates the box.
   b. Result state: The box is open.

What is more, the two parts can be targeted separately by certain modifiers (e. g. *again*, *for*-adverbials). Consider the data in (2) where the *for*-adverbial can either single out the event (2a) or the result state (2b):

(2) Zeus was giving evil boxes to unsuspecting souls for two days.
   a. Over a period of two days, Zeus continued to give away boxes.
   b. The recipients were in possession of the boxes for a period of two days.

Data like the ones in (2) indicate that both parts of the event structure are available for modification at one point in the derivation. The question is whether this decomposition is lexical or syntactic in nature. In this paper, I will take the position that event and result state are both present in the syntactic representation of causative predicates. The most compelling argument for this hypothesis comes from German data with *wieder* 'again'. As von Stechow

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(1996) demonstrates, there is a correlation between the word order in German and the interpretation of *wieder*. In section 2 of this paper, I will summarize von Stechow's observations as well as his analysis. Furthermore, I will show how von Stechow's approach can be unified with general assumptions on the position of direct objects (DOs) in German. In section 3, I will examine the interaction between *again* and an existential operator in object position. As Nissenbaum (2006) demonstrates, interaction between *again* and existentials can provide us with new insights into the structure of lexical causatives. The reason existentials are relevant is illustrated with the sentence in (3) where *again* is assumed to be attached to the edge of vP:

(3) Someone is sneezing again.
  a. again [∃x.x is sneezing]
  b. ∃x [x is sneezing again]

In (3), the existential operator can be interpreted inside the presupposition triggered by *again* (3a). In this case, the sneezing-event is repeated but the person sneezing is not the same. In contrast, if the existential operator is interpreted outside the presupposition (3b), it is the same person who is sneezing once more. A similar ambiguity can be observed with *again* and existentials introduced by indefinite DOs. In this paper, I will focus on contexts where *again* singles out the result state of an event (restitutive *again*). I will present new data that reveal that causative predicates do not constitute a homogeneous group. Instead they must be divided into at least two subgroups according to the position where the existential operator can be interpreted. I will confirm Nissenbaum's proposal and demonstrate that certain causatives indeed lack a reading where the existential operator is interpreted inside the presupposition of restitutive *again* (4):

(4) Pandora scrubbed [a donkey clean again].
  a. #again [∃x.x is a donkey and x is clean]
  b. ∃x.x is a donkey and again [x is clean]

However, I will subsequently show that this phenomenon does not carry over to all causatives. In fact, only causatives that describe a change of state do not allow the reading represented in (4a). Causatives that denote a change of location allow both interpretations shown in (5a & 5b):

(5) Pandora put [a donkey in her stable again].
  a. again [∃x.x is a donkey and x is in Pandora's stable]
  b. ∃x.x is a donkey and again [x is in Pandora's stable]

In section 4 of this paper, I will present an analysis that accounts for the difference between the two groups that can roughly be summarized as change-of-state versus change-of-location verbs. I will argue that the contrast between these two groups can be linked to the operators that combine the result state with the DO. This will not only explain the missing reading in (4a) but also correctly predict that creation verbs should pattern with change-of-location verbs. This is due to the fact that both denote a change of existence in a location whereby the location can be left implicit with creation verbs. I will conclude this paper with a brief discussion and suggestions for future research.

First, let me define what I mean by *lexical causatives.* This term is still mostly reserved for verbs that undergo the causative-inchoative alternation displayed in (6):

(6) a. The box opened.
b. Pandora opened the box.

However, I will follow McCawley (1976) and others (e.g. Hale & Keyser 1993; Sybesma 1992), and consider all verbs that involve direct causation in the sense of Lewis (1973) as lexical causatives. This includes predicates like the ones represented in (7):

(7) a. Hephaestus painted the box purple.
b. Zeus gave the box to Pandora.
c. Pandora put the box on the floor.

The relevant property for this investigation is that these predicates consist of a result state and a causing event that brings this state about. Note that the event in question has to be the main factor in the act of causation. That is, the result state would not hold if the event had not occurred. Moreover, the event has to cause the state directly and not via causing an intermediate eventuality that in turn causes the state. Consequently, the sentence in (7a) is not adequate in a context where Hephaestus accidentally pushes a can of paint from the shelf and the paint pours all over the box, causing it to be purple. As far as the verbs that undergo the causative-inchoative alternation are concerned, I will assume that they constitute a subclass of lexical causatives and will henceforth refer to them as *causative-inchoative* verbs.

2. Complex event structure in the syntax

2.1. Lexical decomposition in the syntax: evidence from German 'wieder' (again)

One potential source of evidence for a theory of lexical decomposition comes from adverbs, in particular from *again*.[1] Sentences with *again* can give rise to a well-known ambiguity: a repetitive and a restitutive reading (8). Under the repetitive reading (8a), the process of closing the box has happened already at a previous time; now Pandora is closing it once more. Under the restitutive reading (8b), Pandora did not close the box before. It was closed when she received it. She opened and then closed it again, thus restoring its former state.

(8) Pandora closed the box again.
a. Pandora had closed the box before. (REP)
b. The box was closed before. (REST)

It is crucial to be aware that the repetitive reading always entails the restitutive reading, i.e., the repetitive reading is a subset of the restitutive reading. It has therefore been proposed that the repetitive reading as such is not part of the semantic or syntactic representation but merely a by-product of it (e.g. Fabricius-Hansen 2001).[2] As long as sentences are ambiguous between

[1] Note that again has already been used as an argument for decomposition by McCawley (1976) and Dowty (1979) among others. However, the data from English are not as conclusive as the ones from German.

[2] According to Fabricius-Hansen (2001), the German *wieder* is polysemous but what she calls the counter-directional restitutive interpretation should be taken as the basic meaning. All other interpretations that she

a repetitive and a restitutive reading, all we know for a fact is that the restitutive interpretation of *again* must exist. The repetitive reading, however, could be there as a special case of the restitutive reading, possibly due to pragmatic reasons. For example, the sentence in (9) is true in any of the given contexts (9a, b & c):

(9) Clyde cleaned his boots again (REP/REST)
   a. and Clyde had cleaned his boots before.
   b. and Bonnie had cleaned his boots before.
   c. and his boots were clean before.

Importantly, (9a) and (9b) entail (9c). The sentence *Clyde cleaned his boots again* can only be true if it is true that his boots were clean at some time prior to the cleaning event. Consequently, all the sentence in (9) tells us is that *again* must have a restitutive interpretation. Evidence for a separate repetitive interpretation of *again* can only come from an example that is not acceptable in a context where it is true that the result state is restored but false that the event has happened before. Looking at German, von Stechow (1996) observes that such sentences do exist (10):

(10) Clyde hat wieder seine Stiefel gesäubert (REP/#REST)
   Clyde has again his boots cleaned
   'Clyde cleaned his boots again.'

For this German translation of (9) to be acceptable, it is not enough if (9c) is true but (9a) has to be true as well. Moreover, von Stechow notes that it depends on the position of *wieder* 'again' with respect to the DO if a sentence is ambiguous or if it has the repetitive reading only. Whenever *wieder* precedes a DO, only the repetitive reading seems to be available (10). Yet whenever *wieder* follows the DO, both interpretations exist (11):

(11) Clyde hat seine Stiefel wieder gesäubert. (REP/REST)
   'Clyde cleaned his boots again'

As Beck & Johnson (2004) point out, something similar can be observed in English. The sentence in (12) is felicitous only if Clyde cleaned his boots at a previous time:

(12) Clyde again cleaned his boots. (REP/#REST)

From sentences like the ones in (10) and (12), when compared to (9) and (11) respectively, we know that *again* gives rise to two different interpretations. This is due to the fact that in (10) and (12), *again* must have a meaning that forces the repetitive interpretation. This contrasts with the examples in (9) and (11) where the denotation of *again* must account for the restitutive reading, whereas the repetitive reading might just be a by-product. If we want to solve this problem by proposing two homophonous adverbs, we have to explain why only the adverb with the repetitive interpretation is allowed to precede the DO in German (10) or the

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distinguishes from this basic meaning are the result of interaction between this reading and sentence-internal or sentence-external context. Unfortunately, Fabricius-Hansen does not show in detail how the various meanings could be derived under her account. Note that under the syntactic approach that we are taking here, only the distinction between restitutive and repetitive readings is relevant. The subtle differences within the set of restitutive or repetitive readings, respectively, are most likely due to pragmatics.

finite verb in English (12), respectively. Therefore, von Stechow's observation that the availability of an interpretation varies with the word order is a compelling argument in favor of a syntactic account.

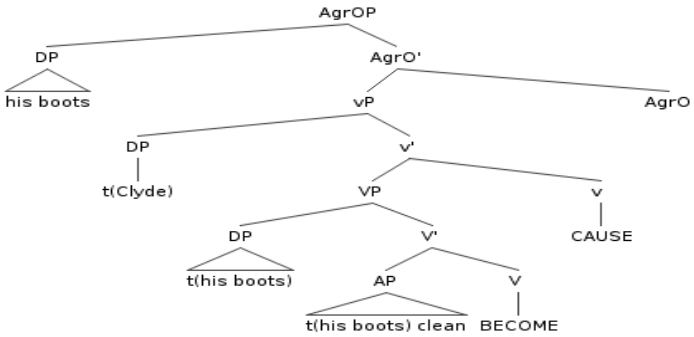
The basic idea of von Stechow's analysis is that *again* has only one lexical entry (13) of type <<s,t>,<s,t>> that can attach to any projection of type <s,t> in the syntactic structure.[3]

(13) Let P be a property of eventualities and let e be an eventuality.
||**again**||(P)(e) is defined only if ∃e' [||MAX||(P)(e') = 1 & e' < e].
Where defined, ||**again**||(P)(e) = 1 iff P(e) = 1. (von Stechow 1996:95, ex. 3-7)

MAX is a symbol of type <<s,t>,<s,t>>. ||MAX||(P)(e) = 1 iff P(e) and there is no e' such that e is a proper part of e' and P(e') = 1. (von Stechow 1996:96, ex. 3-8)

According to the definition in (13), *again* introduces the presupposition that the proposition expressed by (P) was already true at another time (e'). This other time (e') must have been entirely before the current time (e), i.e., the two eventualities must not be part of the same eventuality. This is achieved by the MAX-operator. MAX ensures that we cannot take one event where P was true, split it into two events and then say that the later event is a repetition of the earlier one. It only counts as two separate events if there was an interruption. The interpretation of *again*, i.e., the presupposition it triggers, depends entirely on its argument. If the argument is *his boots are clean*, then *again* triggers the presupposition that his boots were clean at some previous time. This gives us the restitutive reading. On the other hand, if the argument of *again* is *Clyde is cleaning his boots*, it elicits the presupposition that Clyde is cleaning his boots not for the first time. This means that attachment to the vP is predicted to result in a repetitive reading. From a syntactician's point of view, the repetitive reading is then easily accounted for. However, to achieve the restitutive reading, we have to first make the result state accessible. Therefore, von Stechow reverts to lexical decomposition and proposes that a complex event structure is represented in the syntax. Based on McCawley (1968), von Stechow proposes that a verb like *clean* is decomposed into the heads CAUSE, BECOME and the adjectival root *clean* (14):[4]

(14)



CAUSE combines a property of eventualities (P) with an event (e) where e brings P about (15). More precisely, P could not have occurred if e would not have taken place. Hence, without Clyde's actions, the boots could not have changed their state from dirty to clean.

[3] Type s refers to eventualities (states and non-states), type e to individuals, and t to truth values. Accordingly, a node of type <s,t> is a property, i.e., a predicate together with its arguments like a VP or a SC.

[4] In von Stechow (1996), the CAUSE-operator is replaced with Kratzer's (1996) *voice*.

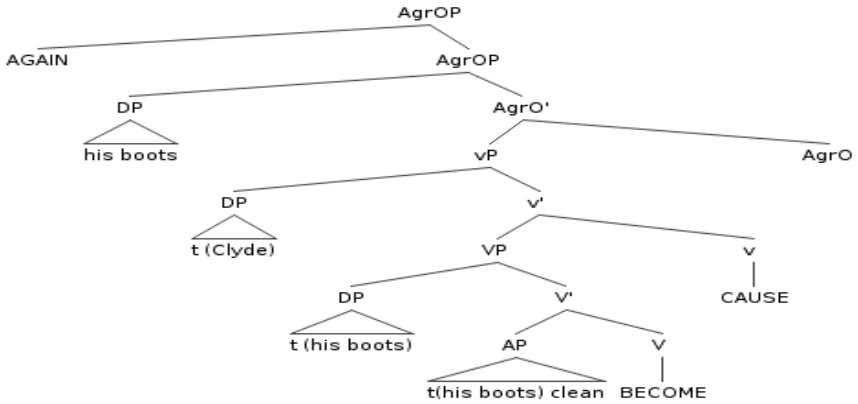
(15) ||CAUSE||(P)(x)(e) = 1 iff ∃e'[P(e') = 1 and cause(e)(e') and agent(e)(x)]

The operator BECOME denotes a property of an event (16). Applied to [$_{AP}$ his boots clean], it tells us that there is an event that changes the truth value of 'his boots clean' from false to true.

(16) ||BECOME||(P)(e) = 1 iff e is the smallest event such that P is not true of the pre-state of e but P is true of the target state of e. (von Stechow 1996:96, ex. 3-11)

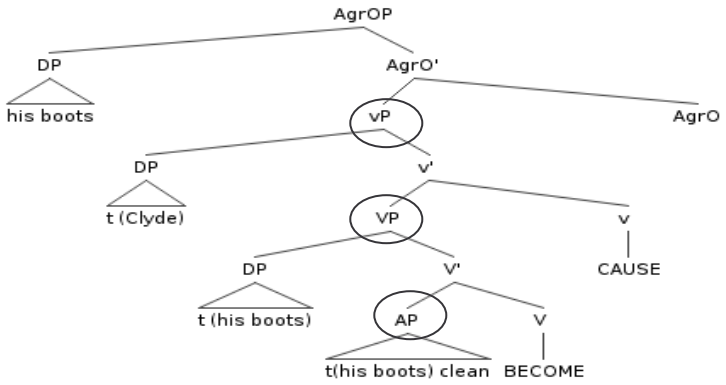
This structural decomposition offers various attachment sites for *again*. However, to make the correct predictions for German, von Stechow has to make two additional assumptions. First, in German only the surface scope interpretation is available. Second, the DO must always move out of the vP. The first assumption is well-established; the second assumption, however, is not uncontroversial, and I will get back to this problem in section 2.2. First, let me illustrate how von Stechow accounts for the difference in meaning between (10) and (11). The representation of the sentence in (10) where *again* precedes the DO is shown in (17):

(17) DO > *wieder* 'again':



In (17), the DO moved out of the vP. Consequently, if *again* precedes the DO, its sister is AgrOP and the presupposition includes the whole event of 'Clyde CAUSE his boots BECOME clean'. Thus, the sentence in (10) is only acceptable if Clyde cleaned his boots before. Now let's look at the sentence in (11) which has a repetitive as well as a restitutive interpretation. Contrary to the sentence in (10), the sentence in (11) is ambiguous between three different structures because there are three attachment sites for *again* below the DO:

(18) *wieder* 'again' > DO:



Hence under von Stechow's analysis, the availability of different readings corresponds to a structural ambiguity. The highest attachment site for *again* is the vP, which results in a repetitive reading similar to (17). As already mentioned earlier, it is irrelevant for this analysis whether *again* attaches above or below AgrO because AgrO has no semantic content. The second potential attachment site for *again* in (18) is VP. In this case, the agent and, more importantly, the CAUSE-operator are both outside the presupposition triggered by *again*. However, the VP contains the BECOME operator and is thus eventive. We are therefore dealing neither with the same repetitive reading as before nor with a purely restitutive interpretation. The reading that should correspond to this representation is the one where the action was performed before but perhaps by a different agent or cause (e.g. wind, gravity). For example, Bonnie might have previously cleaned Clyde's boots. Von Stechow notes this attachment site for *again* as a potential problem of his analysis; there does not seem to exist a sentence that is only acceptable in this scenario but not also in a merely restitutive context. As a matter of fact, we will see data in section 3.3 that support this intermediate attachment site. Finally, *again* can be adjoined directly to the AP which results in a purely restitutive reading.

To conclude, von Stechow's analysis predicts that a sentence where the DO precedes *again* should have a repetitive and a restitutive reading because this sentence corresponds to three possible syntactic structures that result in different meanings. Conversely, a sentence where the DO follows *again* must have the repetitive interpretation. This is due to the fact that to precede the DO, *again* must attach to AgrOP where it has scope over the whole event. As we have seen, these predictions are consistent with the data.

2.2. The position of the DO in German

At this point we must discuss the crucial assumption that the DO moves overtly out of the VP. I will start with a short presentation of Webelhuth's (1989, 1992) account of the position of DOs in German. We will see that some of the data seem to undermine von Stechow's theory. Yet, I will provide a solution that will allow us to reconcile Webelhuth's observations on DOs with von Stechow's account for *again*. Moreover, I will show that the interpretations that are available for *again* depend on the definiteness of the following DO. This variation combined with facts about German word order offer further support for a structural account.

German word order is relatively free and objects can move almost anywhere. However, and this is problematic for a structural account of *again*, sometimes they do not seem to move at all. Well-established observations about unmarked German word order include the following: indirect objects usually precede direct objects, animate comes before inanimate and definite before indefinite (e.g. Abraham 1986; Heck 2001). Furthermore, definite

accusative objects seem to have a tendency to move out of the vP whereas their indefinite counterparts are preferred inside the vP. Consider for example the data in (19) and (20) from Webelhuth who uses *wohl* 'probably' to mark the edge of the vP. In contrast to indefinites (20), definite DOs can both follow (19a) or precede the adverb *wohl* (19b):

(19) a. weil er wohl das Buch gelesen hat
because he probably the book read has
'because he has probably read the book'
b. weil er *das Buch* wohl [$_{VP}$ t gelesen hat] (Webelhuth 1992:197, ex. 166-167)

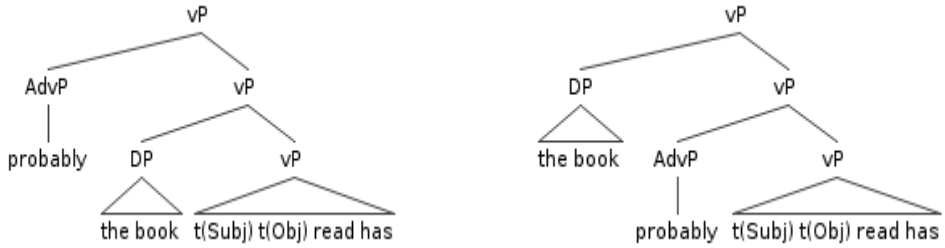
(20) a. weil er wohl ein Buch gelesen hat
because he probably a book read has
'because he has probably read a book'
b.*weil er *ein Buch* wohl [$_{VP}$ t gelesen hat] (Webelhuth 1992:197,198, ex. 168-169)

As Webelhuth points out, the scrambling of the indefinite DO becomes acceptable if a strong interpretation (in the sense of Diesing 1992) is possible. The sentence in (21) is fine but *a book* can only be understood in a generic way, e.g. a book in contrast to newspapers or journals. The best paraphrase of (21) is *If it were a book, he would probably read it*.

(21) weil er ein Buch wohl [$_{VP}$ t lesen würde]
because he a book probably read would
'because he would probably read a book' (Webelhuth 1992:198, ex. 170)

This observation can be carried over to examples with other sentential adverbs (e.g. *wahrscheinlich* 'probably', *ja doch* 'indeed') that are considered to mark the vP-boundary. If we now take another look at von Stechow's tree in (14), we see that this structure does not make the correct predictions anymore unless we assume that in sentences with *again* the definite DO always has to leave the vP. One way to resolve this issue is to assume that in (19a) as well as in (19b), the definite DO has moved outside the VP but not outside the vP. I propose that definite accusative objects always move out of VP and usually adjoin to the vP.[5] The variation in (19) is then due to the fact that the definite DO can attach to the vP either before or after sentential adverbs like *wohl* as illustrated in (22a) and (22b), respectively:

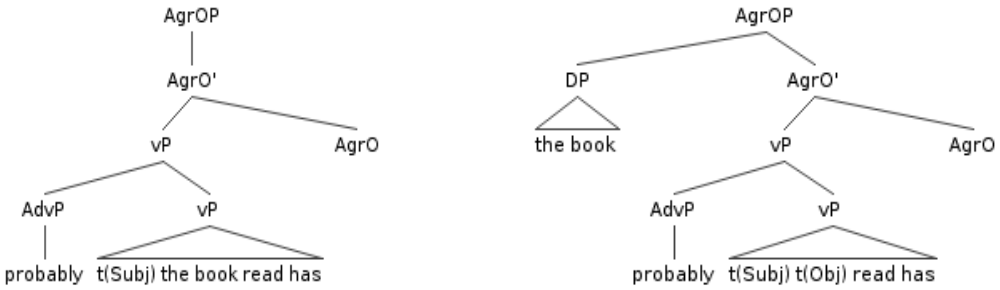
(22) a. b.



[5] At this point, I am impartial with respect to the question of whether there is an AgrOP above vP or not. Note that independent of the existence of AgrOP, Webelhuth's data are not conclusive with respect to the position of the DO. The variation in (19) could also result from two different attachment sites for sentential adverbs, i.e. AgrOP and vP, respectively.

In contrast to the analysis in (22), Webelhuth explains the variation in (19) by assuming that the definite DO is free to surface either inside or outside the VP (23):

(23) a. b.



Both structures, (22) as well as (23), account for the different word orders in (19). However, (22) has the advantage that it also allows us to maintain a structural account for *again*. Note that Webelhuth assumes that vP is the lowest attachment site for adverbials. Webelhuth determines the position of unscrambled and scrambled arguments by keeping the position of adverbs constant. Therefore, Webelhuth's analysis is incompatible with a decompositional approach because it does not allow *again* to attach to the result-state clause inside the vP. A theory under which *again* is polysemous (e.g. Fabricius-Hansen 2001) becomes then inevitable. Consequently, the correspondence between different word orders and readings remains a puzzle. If we try to reconcile the theories of Webelhuth and von Stechow by allowing *again* to adjoin to maximal projections below vP, we still end up with the wrong predictions. Remember that Webelhuth argues that the definite DO can remain in its base position which is inside the VP. Accordingly, it should be possible for *again* to adjoin to the VP, i.e. below the agent and the CAUSE operator, and still precede the DO. In this case, the sentence in (11) repeated here as (24) should be fine in any of the contexts given in (25).

(24) Clyde hat wieder seine Stiefel gesäubert.
Clyde has again his boots cleaned
'Clyde again cleaned his boots.'

(25) a. Clyde had cleaned his boots before.
b. Bonnie (but not Clyde) had cleaned his boots before.

However, native speakers of German only accept (24) if (25a) is true. The context given in (25b) is not enough to render (24) felicitous. By contrast, the structures proposed in (22) make the correct predictions. Here, the definite DO is always adjoined to the vP and thus above the CAUSE-operator. Remember that the crucial point for the decompositional account is that *again* that precedes the definite DO must be higher in the representation than CAUSE. This is achieved by the structures suggested in (22). At the same time, (22) allows *again* to follow the definite DO and be either above or below CAUSE. In conclusion, the data in (19) are compatible with both representations, the one in (22) as well as the one in (23), but only the structure in (22) allows a syntactic account for *again*.

One further qualification concerns indefinite DOs. As the data in (20) and (21) show, we have no reason to assume that an indefinite DO adjoins to the vP unless it has a strong interpretation (e.g. generic or partitive). Therefore, I will assume with Webelhuth that the indefinite DO remains inside the VP. This means that it will be below v, i.e. the CAUSE-

operator. Support for this assumption comes from the contrast between the two sentences in (26a) and (26b):

(26) a. Dido klebte Aeneas wieder die Nase ins Gesicht. (REP/#REST)
Dido glued Aeneas again the nose in-the face
'Dido glued the nose on Aeneas' face again.'
b. Dido klebte Aeneas wieder eine Nase ins Gesicht. (REP/REST)
Dido glued Aeneas again a nose in-the face
'Dido glued a nose on Aeneas' face again.'

As stated earlier, if *wieder* precedes a definite DO, only the repetitive reading is available. Accordingly, (26a) requires a context where Dido has glued the nose on Aeneas' face at a previous occasion. This contrasts with (26b) which is ambiguous between a repetitive and a restitutive reading. Hence, (26b) is still adequate if Aeneas lost his nose for the first time. Note that this disparity is exactly what is predicted by a structural account of *again*. Under the assumption that indefinites do not move overtly out of VP, they can remain not only below the higher *again* that is attached above CAUSE but also below an *again* inside vP that triggers a restitutive reading. Therefore, the contrast between the two sentences in (26) is another compelling argument in favor of a structural account. Moreover, it is in accordance with the commonly held belief that in German definite DOs are structurally higher than indefinites. Note that the contrast between (26a) and (26b) poses a serious problem for a semantic theory of *again*. The only observation that is not in accordance with the claim that indefinites remain inside the VP is the intuition of German speakers that an indefinite preceding *again* always has a specific interpretation. That is, the sentence in (27) only has the reading in (27a):

(27) Dido klebte Aeneas eine Nase wieder ins Gesicht.
Dido glued Aeneas a nose again in-the face
'Dido glued a nose on Aeneas' face again.'
a. 'Dido glued one of the noses onto Aeneas' face again.'
b. #'Dido glued some nose on Aeneas' face again.'

This means that the DO *'a nose'* has only a partitive reading. Hence, (27) triggers the presupposition that there is more than one relevant nose in the discourse context. According to Diesing (1992), indefinites that are interpreted inside the vP can have either a strong (= presuppositional) or a weak (= cardinal) reading. By contrast, indefinites that are interpreted outside the vP can only receive a strong interpretation. This follows from Diesing's claim that existential closure applies to vPs. Only indefinites without free variables are allowed to be outside the scope of existential closure. Consequently, only indefinites with a quantifier are interpretable outside the vP. Relevant for this paper is Diesing's proposal with respect to indefinite DOs. Since I argued that indefinites can surface inside the vP and still precede *again*, one might expect that these indefinites are ambiguous between a weak and a strong reading. The fact that they only have a strong interpretation does not contradict my proposal but it requires an explanation. To understand why the weak reading is unavailable, we first have to clarify what (27) would mean if the DO would have a weak reading. A DO with a weak or existential interpretation introduces a new variable *x* in the discourse context. We learn that *x* is a nose and that Dido put x onto Aeneas' face. The problem is that *again* requires that we now presuppose something about this unknown discourse referent, namely that it was in Aeneas' face at a previous time. However, if we accommodate our discourse

context and make the presupposition that x refers to a nose that was on Aeneas' face at a previous occasion, it is no longer enough to think of x as a variable that refers to a set of noses with the cardinality one. Instead, we have to think of x as the nose (or one of the noses) that was on Aeneas' face before. Consequently, the presupposition of *again* in (27) evokes a 'specific' or 'strong' interpretation of the indefinite DO.

In this section, I showed how German word order together with the two interpretations of *wieder* 'again' can be taken as an argument in favor of lexical decomposition. We saw that the advantage of von Stechow's approach is that it makes the correct predictions with respect to the data in German. However, von Stechow mostly looked at sentences with definite DOs. For the remainder of this paper, I will focus on indefinite DOs in sentences with restitutive *again* and show what they tell us about the representation of lexical causatives.

3. Lexical causatives and the position of the indefinite DO

In the previous section, I proposed that the surface position of the definite DO in German is always outside the VP, presumably at the edge of vP. With respect to the indefinite DO, the data indicate that it remains inside the VP. However, in a decomposed structure this is consistent with two possible surface positions. On the one hand, the indefinite DO could surface in SpecVP. On the other hand, it could also be in the specifier of the result-state clause (SpecAP or SpecPP, respectively). Moreover, the DO could be base generated inside the result-state clause and then move into SpecVP. At this point, we have no way of deciding between these options.

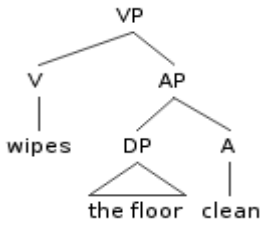
In this section, I will first introduce two alternative theories with respect to the structure of a decomposed VP. Subsequently, I will demonstrate how the interaction between the adverb *again* and the indefinite DO (i.e., the existential operator) can shed light on the position of the indefinite. As a next step, I will present data which indicate that the existing analyses are not sufficient to account for the pattern found in German and English, respectively.

3.1. The base position of the DO: two competing analyses

When it comes to lexical causatives and resultative constructions, various kinds of theories can be found in the literature. Relevant for this paper are the proposals that have been made with respect to the position of the DO. One type of analysis argues that the DO is selected by the result-state predicate. I will summarize these approaches as small-clause analyses. The second type proposes that the DO is an argument of the causing predicate.

The theories that take the result state of a verb to form a small clause (SC) together with the argument (e.g. von Stechow 1996) go back to Hoekstra's (1988) analysis for resultative constructions. Under this view, the result state forms a SC together with the accusative DP (28). This structure accounts for the restitutive reading of *again* because the adverbial can modify the result state without the event.

(28) SC analysis



The disadvantage of this structure is that the accusative DP is a direct argument of the adjective, that is, of the result state but not of the verb. However, as Tomioka (2006) points out, a sentence like (29) is true if and only if the agent manipulates two windows.

(29) Dave pushed two windows open. (Tomioka 2006:55, ex. 34)

In a context where one window is already open and Dave pushes open a second window, (29) is false even though the truth conditions for the result state ('two windows are open') are fulfilled. Unfortunately, it is questionable how much this example really tells us. The truth conditions of the result state do not equal the truth conditions of the whole sentence. In the given context, Dave's actions cannot be considered the direct cause of two open windows but only of one. However, it has always been pointed out that lexical causatives require direct causation. Consequently, I consider this observation an important but not a conclusive argument against SC analyses. However, there is structural evidence that further supports the intuition that the DO is the argument of the action as much as of the result state. Beck & Johnson (2004) show that the DO in a construction like (30a) differs considerably from the DO in a construction like (30b).

(30) a. Zeus presents the box to Pandora. (DP+PP frame)
b. Zeus presents Pandora the box. (Double object frame)

While *the box* in (30a) behaves like an argument of *present*, *Pandora* in (30b) behaves like the subject of a SC. The latter observation goes back to Kayne (1984) who noted that subjects of SCs but not DOs are islands for extraction:

(31) a.*What$_i$ did Hera present Zeus [evidence against t_i]? (Double object frame)
b. What$_i$ did Hera present [evidence against t_i] to Zeus? (DP+PP frame)

Moreover, when a verb embedding a SC undergoes nominalization, the SC can no longer be realized (32). Since *the box* in (33) behaves like a true argument of *present*, *'the box to Pandora'* cannot constitute a SC.

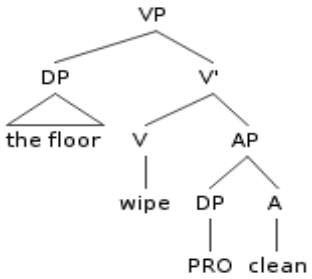
(32) present Pandora the box (Double object frame)
* the presentation of Pandora the box
* Pandora's presentation of the box

(33) present the box to Pandora (DP+PP frame)
the presentation of the box to Pandora
the box's presentation to Pandora

Based on these observations, Beck & Johnson propose that the DP of the DP+PP frame is not a SC-subject but an argument of the verb. Furthermore, Beck & Johnson assume that the PP contains a PRO-subject. Since objects of verbs like *paint* are not islands for extraction either (34), they argue that the same analysis should apply to resultative constructions (35).

(34) a. What house$_i$ did Helios paint [a window of t_i] yellow?
b. Which restaurant$_i$ did Heracles wipe [the tables of t_i] clean?

(35) PRO-analysis



Similar analyses have been proposed by Nissenbaum (2006) and von Stechow (2007).

In conclusion, we have two proposals that differ insofar as one makes the assumption that the DO is an argument selected by the head of the result-state clause whereas the other proposal assumes that the DO is selected by the head of the VP. In the following section, I will demonstrate how the interaction of the adverb *again* with the existential operator can help us to decide between the two analyses.

3.2. Interaction between 'again' and the existential operator

Some indefinite arguments can be semantically represented by an existential operator. In English, this operator can typically be interpreted either as in the scope of or as having scope over other operators in the sentence. The latter phenomenon is known as quantifier raising (e.g. May 1977, 1985). Now remember that *again* triggers a presupposition that depends on the property of the argument with which *again* is combined. If the sister of *again* contains an existential operator, then the existential can either be a part of the presupposition (narrow scope) or it can be interpreted outside the presupposition (wide scope). Consequently, the sentence in (36) below is expected to have two different readings depending on the position in which the existential quantifier is interpreted.

(36) Someone is stumbling over this block again.
a. again [∃x.x is stumbling over this block]
b. ∃x [x is stumbling over this block again]

If *again* takes wider scope than the existential, the existential is part of the presupposition (36a). Consequently, what is repeated is that someone is stumbling over this block. At some previous time, there existed a person who stumbled over this block, and now once more there exists a person who is stumbling over this block. On the other hand, if the existential is interpreted with wide scope (36b), it is no longer a part of the presupposition. In this case, (36) can be understood as follows: There exists a person, this person stumbled over this block before and now the same person is stumbling over this block again. So whereas in one reading

the block can be regarded as a hazard to the general public, in the other reading there is just one specific person who should learn to lift his feet.

As mentioned earlier in this paper, German contrasts with English in that it usually rejects the inverse scope reading. Let me illustrate this fact with the sentences in (37) and (38) below. If the subject *jemand* 'somebody' is overt inside the vP and thus below repetitive *again* (37a), it is interpreted inside the presupposition triggered by *again* (37b). Consequently, the sentence in (37a) is used to express that what is happening once more is that somebody is sleeping. Somebody is sleeping now and there was somebody (else) sleeping at a previous occasion.

(37) a. Es schläft wieder jemand.
It sleeps again somebody
'Somebody is sleeping again.'
b. again [∃x.x sleeps]

This contrasts with (38a) below where the subject *jemand* moved overtly into SpecCP. Since it is now preceding the adverb, it is interpreted outside the presupposition of *again* (38b). Therefore, (38a) suggests that we are dealing with the same person in both events:

(38) a. Jemand schläft wieder.
Somebody sleeps again
'Somebody is sleeping again.'
b. ∃x [x is sleeping again]

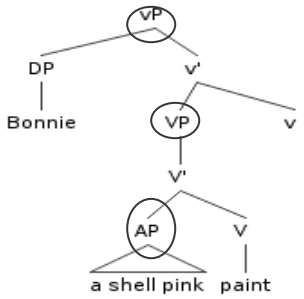
This difference between English and German will become crucial in the next section. In German, the word order reflects the structural hierarchy. If *again* follows the DO, it must be adjoined below the surface position of the DO because adverbs are adjoined on the left side. This is not true for English where sentence-final *again* can be adjoined above or below the surface position of the DO. At the same time, English typically allows for reconstruction. Therefore, English is the better language to look at if we want to know where the DO was base generated. In English, it should still be possible to interpret a quantifier in its original position even if the DO moved before spell-out. It is important to keep these differences between English and German in mind when looking at the data in the subsequent sections.

3.3. Existentials, restitutive 'again', and the result-state clause

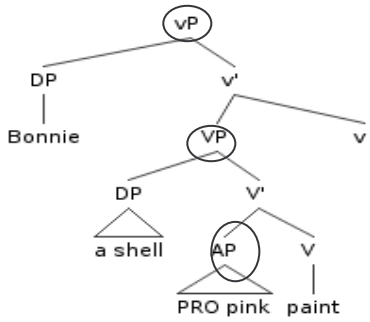
In this section, I will go back to the two alternative analyses for VPs that I introduced in section 3.1. This time, I will use the interaction between *again* and an existential operator to compare the SC analysis with the structure that contains PRO.

SC analyses differ from PRO analyses in one crucial respect, i.e., the position where the DO is base generated. According to SC analyses, the DO originates inside the result-state clause (39a). This contrasts with proposals that take SpecVP as base position of the DO and assume that the specifier position of the result-state clause is filled by PRO (39b):

(39) a. SC



b. PRO



Both structures in (39) have three different attachment sites for *again*. Similar to what we discussed in section 2.1, one possibility is that *again* is adjoined to vP. In this case, we expect a repetitive reading that includes the agent as in (40a) below. The second available attachment site is the VP. This corresponds to an interpretation where the change of state as such has occurred previously but with a different causer (40b). Finally, *again* can adjoin to AP. This results in a purely restitutive reading where the only part that must have held before is the result state itself (40c).

(40) Bonnie hat wieder eine Muschel rosa angemalt…
Bonnie has again a shell pink painted
'Bonnie painted a shell pink again.'
a. …and she had done so previously.
b. …and a shell has been painted pink previously.
c. …and a shell was pink previously.

The crucial difference between (39a) and (39b) is that only the SC analysis predicts that the existential operator can be interpreted inside the result-state clause, i.e., inside the presupposition triggered by restitutive *again*. Consequently, (39a) predicts that (40) has among other readings the interpretation presented in (41):

(41) again [∃x.x is a shell and x is pink]
→ There is a pink shell and there was a (potentially different) pink shell before.

If the structure in (39b) is correct, the prediction for German as well as for English is that the existential will always be outside the presupposition of restitutive *again* as illustrated in (42):

(42) ∃x.x is a shell and again [x is pink]
→ There is a shell, this shell is pink and it was pink before.

Since the DO in (39b) does not originate inside the result-state clause, it can never be interpreted in this position. This is a strong prediction and I will illustrate what this means with the following context. Let's assume that Clyde goes to the beach and collects a couple of white shells and one pink shell. Thus, we know that a pink shell exists. However, one day Bonnie breaks the pink shell. Hence, there is a certain period in which no pink shell exists. If Bonnie takes one of the white shells and paints it pink, then a pink shell exists again. Therefore, the state in which a pink shell exists is restored. The PRO-analysis predicts that this cannot be expressed with restitutive *again*, even if all the requirements by its

presupposition are met. As Nissenbaum (2006) points out, this prediction is consistent with the data. Consider the sentence in (43) in the given context:

(43) Context: *Clyde goes to the beach and collects a couple of white shells and one pink shell. When Bonnie cleans the house, she accidentally breaks the pink shell. Hoping that Clyde will not notice the mishap,…*

Bonnie malt wieder eine Muschel rosa an.
Bonnie paints again a shell pink on
'Bonnie is painting a shell pink again.'

Note that the sentence in (43) is fine in a scenario where Bonnie painted a shell before. However, this is the repetitive reading which is not relevant for the discussion at hand. In addition, the sentence in (43) is acceptable, if the shell that is painted by Bonnie in this event was pink at a previous time.[6] This would be a restitutive interpretation but it would be the reading where the existential is interpreted outside the presupposition triggered by *again*. Yet again, this is a reading that is irrelevant for the matter at hand. What is crucial for our discussion is that it holds for English and German alike that the indefinite DO cannot be interpreted inside the result state clause. This means that the interpretation in (41) that is predicted by the SC structure in (39a) is not available. The sentence in (43) cannot mean that Bonnie was the agent of an event that restored the state in which a pink shell exists. The same can be observed with other lexical causatives (44):

(44) Context: *Sally owns one brown mouse and a great number of white mice. While she is gone, Harry takes care of them and the brown mouse dies. Harry is freaked out and wants to cover up the loss...*

Er färbt wieder eine Maus braun.
he dyes again a mouse brown
'He dyes a mouse brown again.'

The context in (44) makes it clear: there used to be a brown mouse, then there was a period where there was no brown mouse and finally, there is a brown mouse again. What is crucial is that the brown mouse that lives now is not the same as the one that lived before. In addition, the current brown mouse was not brown at a previous stage of its life. Hence, the only thing that is repeated is the fact that there is a brown mouse in the discourse context. Therefore, this context is only compatible with the presupposition that there was a (different) brown mouse before. This corresponds to the interpretation provided in (45):

(45) again [∃x.x is a mouse and x is **brown**]
→ There is a brown mouse and there was a (different) brown mouse before.

However, apart from a repetitive interpretation, the sentence in (44) has only one interpretation, namely the interpretation in (46):

[6] This interpretation is only available for the English sentence in (43) but not for its German counterpart.

(46) again [∃x.x is a mouse and x is **dyed brown**]
→ A mouse is (being) dyed brown and at a previous time, there was a (different) mouse that was (being) dyed brown.

Note that this is the intermediate reading that corresponds to attachment of *again* to the VP. The fact that the purely restitutive interpretation is excluded for (44) whereas (46) is available, supports the assumption that this intermediate level indeed exists (see also Nissenbaum 2006). Another example that is similar to (43) and (44) is the one in (47) below. As discussed above, the problem with this sentence is not that it is ungrammatical. The sentence in (47) is fine, in English as well as in German. However, it is not acceptable in a context in which the existential must be interpreted inside the presupposition triggered by restitutive *again*.

(47) Context: *Yesterday, Sally visited a popsicle factory. There she had the opportunity to taste the popsicle mixture before it was frozen. She really loved it.*

Daheim angekommen hat Sally wieder ein Eis am Stiel geschmolzen.
At-home arrived has Sally again a popsicle melted
'Once she was at home, Sally melted a popsicle again.'

In conclusion, the word order in German corresponds to different readings of *again* as presented in Table 1:

Word order (German)	Repetitive reading	Restitutive reading
wieder > indef. DO	✓	#
indef. DO > *wieder*	✓	✓

Table 1

The data in this section strongly support a structure where the DO originates outside the AP as proposed by the PRO-analysis (39b). Note that the SC structure is also consistent with the data if we assume that the DO moves overtly into SpecVP. However, in this case we would expect reconstruction in English. As discussed in section 3.2, English typically allows a quantifier to be interpreted in its base position. Since this is not consistent with the data in this section, the SC proposal requires the additional assumption that something blocks reconstruction in English. Note that this possibility cannot be excluded. Yet as long as this additional assumption is a mere stipulation, the structure with PRO should be preferred.

3.4. Two classes of predicates

In the previous section, I presented some data that showed that the existential operator cannot be interpreted inside the presupposition of restitutive *again*. This is consistent with a syntactic structure where the indefinite DO originates (or at least surfaces) outside the result-state clause. However, once we propose such an analysis, we make the prediction that the existential operator can never be inside the scope of restitutive *again*. As it turns out, this prediction is not born out by the facts. Consider the example in (48):

(48) Context: *Until about 200 years ago, bears used to live in the Alps.*

Gestern	haben	Biologen	wieder	Bären	in den	Alpen	angesiedelt
Yesterday	have	scientists	again	bears	in the	Alps	settled

'Yesterday, scientists put bears in the Alps again.'

We know from the context that at some point in time, there were bears in the Alps. Then there was a certain period when no bears lived there. Now, scientists made it happen that once more, there are bears in the Alps. It is crucial that there was no previous putting event. Neither did the scientists put bears anywhere else before, nor did these specific bears undergo some previous putting-event. The only thing that is repeated is the fact that bears exist in the Alps. This means that the presupposition of *again* only contains the result state. Moreover, the bears that come to live in the Alps as a result of this event have not lived there before. Consequently, the existential operator is interpreted inside the presupposition, i.e. the result-state clause. The example in (48) is no exception. The situation in (49) is similar. A mountain used to exist and now there is a mountain again. Crucially, we can exclude the possibility that the previous mountain was man-made. It was already there before the first settlers arrived. Furthermore, the people involved never constructed a mountain before.

(49) Context: *The island had a mountain that practically disappeared in the course of an earthquake.*

Die	Bewohner	der	Insel	haben	wieder	einen	Berg	errichtet.
The	inhabitants	of-the	island	have	again	a	mountain	erected

'The inhabitants constructed a mountain again.'

As in the examples in the previous section, the judgments are the same for English and German. However, in German the difference in scope corresponds to a difference in word order. The contrast between the two readings is particularly striking in the examples in (50) and (51):[7]

(50) Context: *Niki loses his left ear in an accident. Fortunately, the hospital has enough donor ears.*

a. Die Ärzte haben Niki wieder ein Ohr angenäht.
   The surgeons have Niki again an ear sewed
   'The surgeons gave Niki an ear again.'
b. # Die Ärzte haben Niki ein Ohr wieder angenäht.

(51) Context: *Niki loses his ears in an accident. Unfortunately, only one of them can be retrieved, the other one is lost for good.*

a. # Die Ärzte haben Niki wieder ein Ohr angenäht.
   The surgeons have Niki again an ear sewed
   'The surgeons gave Niki an ear again.'
b. Die Ärzte haben Niki ein Ohr wieder angenäht.

[7] I am indebted to Bernhard Schwarz (p.c.) for theses examples.

In (50a) and (51a), the existential operator is interpreted inside the presupposition, i.e., it is again the case that he has an ear. In (50b) and (51b), the existential is interpreted outside the presupposition, i.e., there exists an ear such that he had it before and now he has it again. Consequently, these sentences are not acceptable in the same context.

To conclude, in section 3.4 I presented data that implied that the existential can be interpreted inside the presupposition of restitutive *again*. Therefore, an analysis must allow the DO to surface inside the result-state clause. This is consistent with a SC analysis where the DO originates in the AP. At the same time, it contradicts a structure that does not allow the DO to surface below restitutive *again*. Yet we must not forget the data we have seen in section 3.3. These data indicated that the structure with PRO makes the correct predictions, whereas the SC approach requires the stipulation that the DO has to move overtly to SpecVP and also that reconstruction is blocked in English.

In conclusion, in section 3 we have seen two different sets of data that point in opposite directions (Table 2). Therefore, we need an analysis that explains this contrast and makes the correct predictions with respect to all of the data. In the final part of this paper, I will outline such an analysis.

wieder > existential	Group A	✓REPETITIVE	#RESTITUTIVE
	Group B	✓REPETITIVE	✓RESTITUTIVE

Table 2

4. Proposal

4.1. Changing state vs. changing place

Before we try to account for the data in the previous section, we have to look what differentiates one set of data from the other. The sentences that were not acceptable in a context where restitutive *again* had wider scope than the existential operator contained the predicates *schmelzen* 'melt', *rosa anmalen* 'paint pink' and *braun färben* 'dye brown'. These are causative-inchoatives and resultative constructions. Other predicates that fall into this group are *öffnen* 'open', *leeren* 'empty', *kühlen* 'cool', etc. (52):

(52) Group A: #restitutive *again* > existential operator
a. *melt*, *freeze*, *cool*, *warm*, *empty*, *fill*, *open*, *close*, …
b. *paint pink*, *dye brown*, *color blue*, *hammer flat*, *open wide*, …

In contrast, the sentences with the predicates *ansiedeln* 'settle, put' and *errichten* 'construct' were fine in a context which required that the existential operator was interpreted below restitutive *again*. The same can be observed with verbs like *place*, *donate*, *build*, etc. (53):

(53) Group B: ✓restitutive *again* > existential operator
put, *place*, *donate*, *construct*, *build*, …

At a first glance, it looks as if we were dealing with a contrast between causative-inchoative verbs on the one hand (52) and the rest of the verbs on the other hand (53). However, note that

ansiedeln 'settle, put', which falls into Group B (53), displays the causative-inchoative alternation in German (54):[8]

(54) a. Die Biologen siedeln Bären in den Alpen an.
The scientists settle bears in the Alps on
'Scientists are putting bears in the Alps.'
b. Bären siedeln sich in den Alpen an.
Bears settle themselves in the Alps on
'Bears are settling in the Alps.'

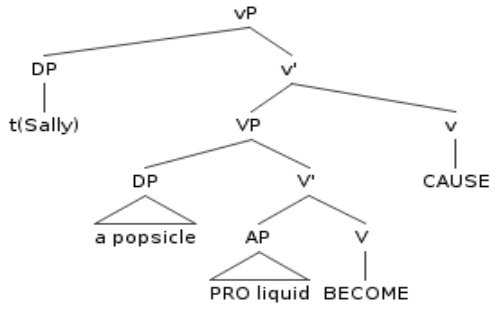
Therefore, I conclude that the difference between Group A and Group B is independent of this alternation. The real contrast between these groups is that Group A only contains predicates that describe a change of state whereas the predicates in Group B refer to a change of location or change of existence in a location.

Let us first look at Group A. No matter if an object is emptied, painted pink or closed, it undergoes a change of state.[9] An object that is manipulated in this way does not have exactly the same properties afterwards as it had before. I propose that this transition from one state to the next is what is represented in the structure by the operator BECOME (55):

(55) ||BECOME||(p)(x)(e) = T iff e is the smallest event s.t. p is not T of the pre-state of e but p is T of the target state of e and x is the theme of p.
(adapted from von Stechow 1996; Beck & Johnson 2004)

BECOME denotes a property of events. This means more or less that BECOME tells us that there is an event and that the property of this event is that it changes the truth value with respect to an object being empty, pink or closed, etc. (depending on the AP that is the sister of the V node that hosts BECOME). Furthermore, I assume that the structure in (56), based on the proposal by Beck & Johnson, is the correct analysis for the predicates of Group A:

(56)



As discussed above, since the DO originates outside the result-state clause, this structure predicts that the existential operator cannot be interpreted inside the presupposition of restitutive *again*. This is exactly what we find for the verbs in Group A.

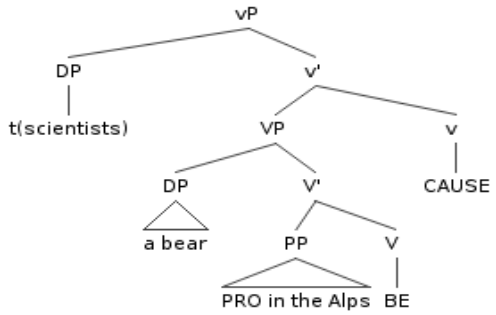
[8] In German, inchoatives require the insertion of a reflexive pronoun.

[9] One might argue that a window does not undergo a change of state in the process of closing. Yet if we think of an old castle where window refers to a hole in the wall that was planned by the architect, then closing it in winter with blankets or boards does change its state.

As far as the predicates in Group B are concerned, I propose that they are referring to a change of location or more precisely, to a change of existence in a certain location. For example, when scientists put bears in the Alps, the bears do not undergo a change of state. What does change is the location in which they are found. The scientists cause the bears to exist in a different place. I propose that this change in existence is represented in the structure by a different operator than a change of state. Instead of a BECOME operator, these predicates have a BE operator (57). All this operator does is anchor a state in time (e.g. Rothstein 1999).[10] The sentence in (48) that contains the predicate *ansiedeln* 'settle, put' then receives the structural representation in (58).

(57) ||BE ||(p)(x)(e) = T iff p is T in e and x is the theme of p.

(58)



The crucial difference between this structure and the structure in (56) is that the VP in (56) is eventive due to the BECOME operator whereas the VP in (58) is stative as a result of the BE operator. If *again* adjoins to VP in (56), it scopes over parts of the event (BECOME liquid). Consequently, it cannot have an interpretation that is adequate in a purely restitutive context. Instead of triggering the presupposition that *x was liquid before*, it will trigger the presupposition that *x turned liquid before*. If the indefinite DO is interpreted in SpecVP, it is inside this presupposition and the reading can be represented as in (59a). If the indefinite DO is interpreted outside the VP, the expected reading is the one in (59b).

(59) a. [$_{VP}$ again [$_{VP}$ ∃x.x is a popsicle and x becomes liquid]]
b. ∃x.x is a popsicle and [$_{VP}$ again [$_{VP}$ x becomes liquid]]

A purely restitutive interpretation of *again* is only possible in (56) if *again* adjoins to the AP. However, in this case it is below the base position of the DO and cannot have the existential operator inside the presupposition, regardless of whether this operator is interpreted inside or outside the VP. Consequently, we can only get the reading in (60):

(60) ∃x.x is a popsicle and again [$_{AP}$ x is liquid]

In contrast to the structure in (56), the structure in (58) allows what I will call a *high-restitutive* reading. Even if *again* adjoins to the VP, the interpretation is restitutive because the VP in (58) is stative. If *again* adjoins to this stative VP, it only triggers the presupposition that bears existed in the Alps before. As illustrated in (61), the existential operator can either be outside (61a) or inside (61b) this presupposition, depending whether the DO is interpreted

[10] I assume that the CAUSE-operator can be combined with eventualities of any kind.

outside or inside the VP. As far as attachment to the PP is concerned (62), it results in a similar interpretation as attachment to the VP. However, an existential operator will always be outside the presupposition because this attachment site is below the base position of the DO.

(61) a. ∃x.x is a bear and [$_{VP}$ again [$_{VP}$ x is in the Alps]]
b. [$_{VP}$ again [$_{VP}$ ∃x.x is a bear and x is in the Alps]]

(62) ∃x.x is a bear and [$_{PP}$ again [$_{PP}$ x is in the Alps]]

In conclusion, the operators BECOME and BE represent the contrast between a change of state and a change of (existence in a) location. Therefore, this proposal predicts that verbs that denote a change of state but not verbs that denote a change of location, always have a BECOME operator and thus lack the reading where an existential is interpreted inside the presupposition of restitutive *again*. The difference between the two groups of predicates follows from the proposal that only VPs with the BE operator, but not VPs with a BECOME operator, are stative. Accordingly, only VPs with BE provide an attachment site above the base position of DOs where *again* receives a restitutive interpretation.

What is interesting is that verbs of creation seem to pattern with change-of-location verbs. Unfortunately, this is difficult to test because most creation verbs do not allow for contexts that block a repetitive interpretation. It is hard to imagine a book that has not been written before or a house that has not been built before. An attempt at such a scenario is (63):[11]

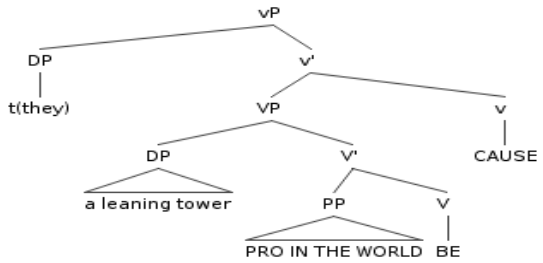
(63) Context: *In a small town in Italy, they built a straight tower that over the centuries started to lean to one side. This tower became a tourist attraction. Thus when it finally collapsed, the town feared a major loss of income.*

Consequently, they built a leaning tower again.

Together with the example in (49), (63) suggests that verbs of creation allow the existential operator to be interpreted inside the presupposition of restitutive *again*. If this is indeed the case, then I propose that what happens in the case of creating something is that we cause an object to exist in some place. According to my analysis, *constructing a tower* does not describe a change of state with respect to the tower but a change of existence. Before the constructing-event, it is not the case that a tower exists; afterwards it is true that there is a tower. For a tower to be able to undergo changes, it has to exist first, at least partially. A non-existent tower cannot be altered, i.e., change its properties. What can change is the truth value with respect to its existence. Accordingly, verbs that describe a change of location as well as verbs of creation cause an object to exist in some place. The only difference between the two groups is that in the case of creation verbs the goal argument can be implicit. When the goal argument of a creation verb is not specified, I assume that we are dealing with a silent PP that is maximally uninformative (e.g. *in the world*) as illustrated in (64) for the sentence in (63) above:

[11] The credits for this example go to Jonathan Bobaljik (p.c).

(64)



4.2. Discussion

The proposal made in section 4.1 is an attempt to account for the contrast between two groups of predicates as illustrated in Table 3:

		Repetitive reading	Restitutive reading
Group A: Change of state	*again* > existential	✓	#
	existential > *again*	✓	✓
Group B: Change of location	*again* > existential	✓	✓
	existential > *again*	✓	✓

Table 3

In my analysis, I have focused on the fact that the predicates belonging to Group A are change-of-state verbs in contrast to the predicates in Group B which could be summarized as verbs that refer to a change of location or existence in a location. However, there are alternative ways of seeing this distinction. Note that the result-state clause of Group A predicates is always an AP, but the result-state clause of Group B predicates is never an AP. In conclusion, the two groups differ from each other in more than one respect and only future research can show which one of these characteristics is the decisive factor. The crucial point is that verbs that involve causation do not constitute a homogeneous class. This observation raises the question of how other causative predicates like double-object verbs (e.g. *give*, *send*,…) fit into the picture. Following Green (1974), Beck & Johnson propose that double-object verbs contain a HAVE-clause. This accounts for the peculiar fact that while the NP-PP frame allows the goal argument to be non-animate (65a), the goal-argument of the double-object construction has to be able to possess something (compare 65b with 65c).

(65) a. Zeus gave the box to Pandora/Athens.
b.*Zeus gave Athens the box.
c. Zeus gave Pandora the box.

Minimal pairs like (65b,c) indicate that whereas the operator BE can account for the data with the NP-PP frame (65a), it fails to make the correct predictions with respect to the double-object frame (65b,c). This suggests that there are even more categories of causatives than the two classes established in section 3. As far as *give* is concerned, this problem can be solved by adapting Beck & Johnson's HAVE-operator. A more interesting challenge comes from the

verb *send*. Closer examination reveals that it does not seem to have a real restitutive reading at all. Consider the sentence in (66) in the given context:

(66) Context: *Dido from Carthage visits Pandora in Athens and buys a map. When Dido leaves, she forgets the map at Pandora's place.*

Pandora sends Dido the map again.

The example in (66) shows that modification with *again* is not felicitous if repetition of the event is excluded by the context.[12] Interestingly, we can modify the seemingly missing result state of *send* with *for*-adverbials as illustrated in (67):

(67) Dido sent Aeneas her map for three weeks.

Hence, whereas (66) indicates that *send* does not have an available result state, (67) suggests the opposite. That is, (67) suggests that there is a result-state clause in the representation of *send* that can be modified. Since a result state as such seems to be available, the challenge is to propose an analysis that accounts for the data with *again* as well as for the data with *for*. Unfortunately, this exceeds the scope of this paper and I will have to leave this problem open for future research.

5. Conclusion

In section 2 of this paper, I summarized von Stechow's structural account for *wieder* 'again'. I demonstrated that the interaction between word order and interpretation is indeed a compelling argument for a structural analysis of *again*. Moreover, I showed that such an account is compatible with established assumptions about the position of DOs in German (e.g. Webelhuth 1989, 1992; Diesing 1992). In section 3, I first illustrated how the interaction between restitutive *again* and an existential operator in object position can be used as a tool to investigate the internal structure of VPs (e.g. Nissenbaum 2006). Subsequently, I presented new data from German that provided us with evidence that lexical causatives do not constitute a homogeneous class. Instead, they must be divided into two groups. This follows from the observation that the existential operator can be interpreted inside the presupposition triggered by restitutive *again* with some predicates but not with others. I argued that this contrast is reflected in the representation of these predicates by the operators BECOME and BE. Future investigations will show whether this analysis can be extended to other causatives as well.

[12] Jon Nissenbaum (p.c.) points out that (66) improves if Dido did not buy the map but if instead the map 'came to her'. He suggests the following scenario: 'When Dido visits Pandora, a map falls out of a passing helicopter into Dido's hands. When Dido leaves, she forgets the map at Pandora's place. Hence, Pandora sends Dido the map again.' This way, the sentence improves considerably for native speakers of English. I assume that what happens here is that we get a low repetitive reading. What is repeated is that the map comes into Dido's possession and not that Dido is in possession of the map.

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