

Creating as putting something into the world

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Dobler (to appear) shows that there are two groups of causative verbs. Whereas the direct object of verbs expressing a change of location (e.g. *put*) can be interpreted inside the result-state clause, the same is not true for the direct object of change-of-state verbs (e.g. *close*). In this paper, I show that creation verbs of the *build*-type pattern with verbs of putting. Interestingly, the distinction cannot be caused by different result-state clauses (PPs vs. APs) but is due to the semantic category of the verb. Finally, I illustrate that this proposal has a crucial advantage over previous decompositional approaches (cf. Dowty 1978).

1. Introduction

After a break of some decades, semantic decomposition had a come-back in recent years. The position that I am taking with respect to decomposition follows von Stechow (e.g. 1996) and differs thus from the approaches Generative semanticists used to take. The idea is neither that decomposition takes place in a separate semantic component nor is it assumed that every single verb undergoes decomposition. Instead, the assumption is that certain complex verbs involving causation are decomposed inside the syntactic component. In particular, the causative part is separated from the so-called result-state clause which only expresses the state caused by the event:

- (1) a. Naoko was giving ferrets to passers-by.
b. Naoko was causing [passers-by to have ferrets].

These complex syntactic structures allow a straight forward solution for ambiguities with adverbials like *again* or *for*:

- (2) Naoko was giving ferrets to passers-by for twenty minutes.
a. Over a period of twenty minutes, Naoko continued to give away ferrets.
b. The recipients were in possession of the ferrets for a period of twenty minutes.

According to structural decomposition, the interpretation in (2a) follows from adjoining *for* to the causing event whereas the reading in (2b) is the result of adjoining *for* to the result-state clause. It is a highly debated question in this context if the direct object (DO) is an argument

of the result-state clause, the causative event or both. In Dobler (to appear), I showed with data from English and German that there is no straightforward answer to this question. Instead, the answer depends on the type of verb that we are looking at. So far, I identified two contrasting groups of causative verbs, namely change-of-state verbs on the one hand and verbs of putting on the other hand. The examined data suggest that the DO of change-of-state verbs is indeed a direct argument of the verb in addition to the AP that expresses the result state. By contrast, verbs of putting seem to embed a small clause that consists of the DO and the locative PP.

This paper is organized as follows. I will first review the basic motivation for structural decomposition. In section 3, I will then use the interaction between the adverb *again* and an existential operator in object position to show that creation verbs of the *build*-type pattern with verbs of putting. I will demonstrate that the distinction between these two kinds of verbs on the one hand and change-of-state verbs on the other hand cannot be caused by different result state clauses (PPs versus APs) but is really due to the semantic category of the verb. In section 4, I will introduce a revised version of my previous proposal and show how it can be extended to creation verbs. Finally, I will illustrate that under this analysis, the opacity of creation verbs is no longer a problem.

2. Causative verbs and ‘again’

The main argument for structural decomposition is based on the adverb *again*; in particular, on the observation that the adverb *again* can trigger two kinds of interpretations. In the repetitive interpretation of the sentence in (3) below, it is presupposed that the whole event has already taken place at a previous occasion (3a). In the second reading of the sentence in (3b), the presupposition is no longer that the event occurred at a previous time; instead, what is presupposed is merely that the result state itself already held before.

- (3) Naoko dyed her guinea pig green again.
 a. Presupp.: Naoko has dyed her guinea pig at a previous time. (repetitive *again*)
 b. Presupp.: Naoko’s guinea pig was green at a previous time. (restitutive *again*)

Crucially, von Stechow (1996) pointed out that in German, there is a correlation between the position of *again* and the available interpretation. As can be seen in (4), the restitutive reading is only available if *again* follows the definite direct object (4b). That is, in contrast to (4b), (4a) has only one interpretation, namely the interpretation that there was a previous ‘*dying green*’-event.

- (4) a. Naoko färkte wieder ihr Meerschweinchen grün (rep./#rest.)
 Naoko dyed again her guinea pig green
 ‘Naoko dyed her guinea pig green again.’
 b. Naoko färkte ihr Meerschweinchen wieder grün. (rep./rest.)
 Naoko dyed her guinea pig again green
 ‘Naoko dyed her guinea pig green again.’

Under a decompositional approach, the explanation for these facts is straightforward because it allows the adverb to modify the result-state clause separately. Von Stechow proposes for *again* the representation in (5):

- (5) Let P be a property of eventualities and let e be an eventuality.
 $\llbracket \text{again} \rrbracket (P)(e)$ is defined only if $\exists e' [\llbracket \text{MAX} \rrbracket (P)(e') = 1 \ \& \ e' < e]$.
 Where defined, $\llbracket \text{again} \rrbracket (P)(e) = 1$ iff $P(e) = 1$.

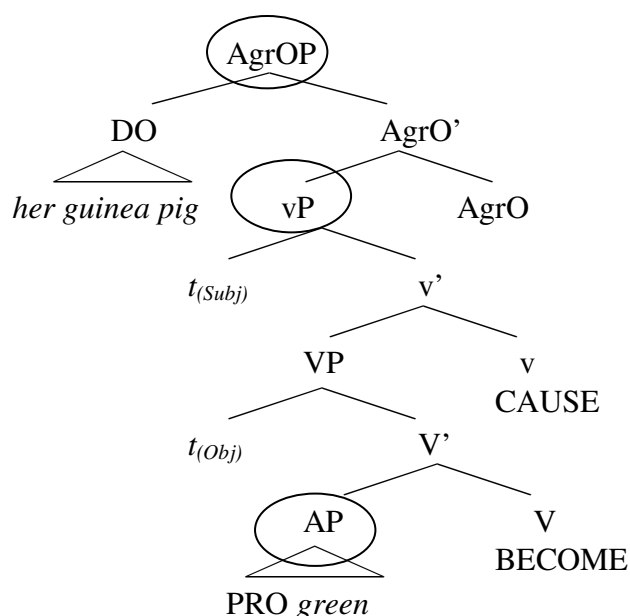
(von Stechow 1996:95, ex. 3-7)

MAX is a symbol of type $\langle\langle s,t \rangle, \langle s,t \rangle\rangle$. $\llbracket \text{MAX} \rrbracket (P)(e) = 1$ 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 semantic interpretation in (5), *again* triggers the presupposition that the property of its sister (P) must have already held at some previous time (e'); this previous time (e') must not overlap with the actual time (e). This interpretation of *again* is then combined with a decomposed structure (6):

- (6)



Note that von Stechow's analysis presupposes that the definite DO always surfaces outside the VP in German. Thus, when *again* precedes the definite DO, the adverb must be adjoined to a projection outside of little vP. Consequently, whenever it precedes the DO, it has automatically scope over the whole event and can only receive a repetitive interpretation. By contrast, if *again* follows the definite DO, it might be attached to little vP or to a lower projection like AP. In the former case, it will once more receive a repetitive interpretation. In the latter case, however, the sister of *again* is the result-state clause and this will trigger a restitutive interpretation.

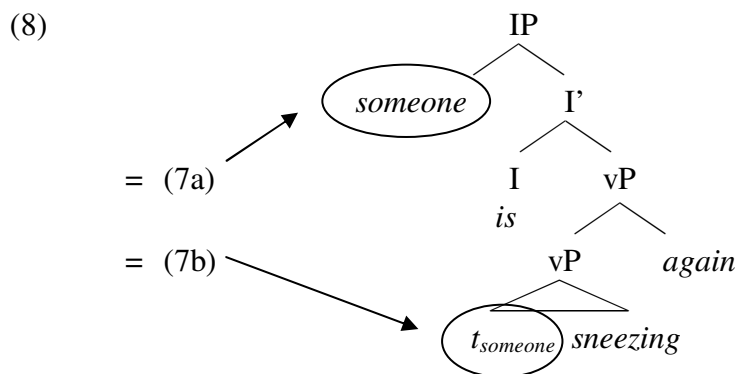
For the rest of this paper, I will focus on the low adjunction site of *again*. More precisely, I will follow Nissenbaum (2006) and use the interaction between *again* and an existential operator to show that the VP-structure of verbs of putting and creation verbs differs from the VP-structure of change-of-state verbs.

3. The interaction between 'again' and the existential operator

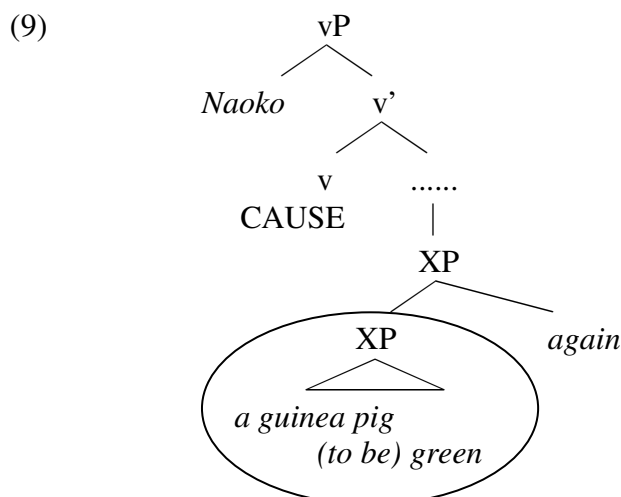
Indefinite DPs have the ability to introduce an existential operator. In English, this existential operator can be interpreted in two positions, i.e. its surface position or the position where it was merged into the structure. Consequently, the combination of an existential operator with an adverb like *again* gives rise to additional ambiguities. For the sake of simplicity, I want to illustrate this first with a sentence where the existential operator is in subject position (7):

- (7) Someone is sneezing again.
 a. There is someone sneezing right now and the same person has sneezed before.
 b. There is someone sneezing right now and somebody else has sneezed before.

In (7a), the existential operator is interpreted in SpecIP, that is outside the scope of *again*. In (7b), the existential operator is interpreted in SpecvP, that is inside the scope of *again*. Note that in both cases, we are dealing with repetitive *again* which is presumably attached to little vP. Therefore, the only thing that changes between the two examples is the position where the existential operator is interpreted:



This interaction between the existential operator and the adverb *again* can tell us if the DO is base generated inside a result state clause (XP). If the DO originates inside the result-state clause, it should be possible to get a reading where the existential operator is interpreted inside this clause:



Hence, this structure predicts a reading under which restitutive *again* has wider scope than the existential operator in object position. As I illustrated in Dobler (to appear), this reading indeed exists; however, it is only available with verbs of putting:

- (10) *Context: Until about 800 years ago, camels used to live on the island of Montreal.*
 'Today, scientists put a camel on the island of Montreal again.'

Since there was no previous *putting*-event, *again* must take scope below the CAUSE operator in little v. In addition, we are not talking about some specific camel that was in Montreal before. Hence, the context in (10) requires an interpretation where the scope of *again* is below the putting event but above the existential operator introduced by the internal argument *a camel*. This means that the sentence in (10) has an interpretation where restitutive *again* has wider scope than the existential operator introduced by the DO. By contrast, change-of-state verbs and resultative constructions lack this interpretation. Consider the example in (11) in the given context:

- (11) *Context: Naoko owned a bunch of guinea pigs. Due to a genetic aberration, one of the guinea pigs had green fur and Naoko liked it very much. Unfortunately, the guinea pig died after a couple of months. Since she missed the green animal every time she looked into the cage, Naoko decided*
 # '...to dye a guinea pig green again.'

In (11), the context requires a restitutive interpretation of *again* because there was no previous event in which a guinea pig was dyed. Furthermore, the guinea pig that is dyed by Naoko was never before green. Consequently, the existential operator must have narrow scope. The fact that this sentence is not acceptable in the given context shows that restitutive *again* cannot have wider scope than the existential operator introduced by *a guinea pig*. This sentence is only felicitous if there was a previous dying event (= repetitive *again*) or this specific guinea pig was green before (= wide scope for the existential operator). Neither reading corresponds to the context given in (11) because there was no previous dying and the only guinea pig that was originally green is now deceased.

The fact that restitutive *again* cannot have wider scope than the existential operator suggests that the DO cannot be a part of the result-state clause but must be merged into the structure higher. This way, an existential operator in object position will always have wider scope than restitutive *again*. In this respect, change-of-state verbs and resultative constructions contrast with verbs of putting. The latter must have a result-state clause that contains the DO because restitutive *again* can have wider scope than the existential operator as has been shown in example (10) above. What is crucial for this paper is that creation verbs pattern with verbs of putting in this respect:

- (12) *Context: On some Pacific island, a mountain basically vanished in the course of a major earthquake. Since the mountain was sacred, the inhabitants of the island were devastated.*
 'Finally, they built a mountain (on the island) again.'

If we assume that the previous mountain was not man-made but had been there ever since the island emerged, there was no preceding building event. Thus, *again* must not have scope over the verb but over the location as well as the existential operator introduced by *a mountain*.

What is repeated is just the state that there is a mountain on the island (= restitutive *again*). First, there used to be a mountain; then there was a time without a mountain and now, as a result of the building event, the state of there being a mountain is restored. Note that this holds whether the location is spelled out or left implicit. Similar to the example in (12), this interpretation is also available in the sentences in (13) and (14):

- (13) *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.’
 (example due to Jonathan Bobaljik, p.c.)
- (14) *Context: Donald built a brick wall with red bricks and grey bricks. He arranged them in a way that the red bricks formed the shape of a house. Over the years, the colours of the bricks faded and the house was no longer visible.*
 ‘Donald painted a house on the wall again.’

Since all of these examples include PPs, it is tempting to assume that the difference between the two constructions is due to a difference in syntactic categories: change-of-state verbs come with APs whereas verbs of putting and creation verbs involve PPs. However, the contrast holds even if the AP is replaced with a PP as is demonstrated with the example in (15):¹

- (15) *Context: Clyde collected a couple of white shells and one pink shell at the beach. When Bonnie cleaned the house, she accidentally broke the pink shell. Hoping that Clyde would not notice the mishap,...*
 #‘Bonnie painted a shell in pink again.’

Just as the sentence in (11), the sentence in (15) is only felicitous if there was a previous painting event or if the shell was pink previously, that is, it is felicitous if *again* has scope over the whole event or if the existential operator has wider scope than *again*.

Concluding, I have shown in this section that the VP-structure of creation verbs should be analyzed similar to the VP-structure of verbs of putting. In the following section, I will introduce my proposal.

4. To BE vs. not to BE

As we have seen in section 2, the correlation between the position of *again* and the availability of a restitutive interpretation strongly supports a decompositional approach. At this point, I want to propose a revised version of my previous analysis and extend it further to creation verbs of the *build*-type.

A major difference between the two groups of verbs is that only change-of-state verbs express that an object is undergoing a change with respect to its characteristics. That is, a brown guinea pig can have green fur as a result of having its fur dyed. The internal argument of a change-of-state verb is thus directly manipulated and successful manipulation entails a change of state. Similarly, the closing of a door results in the closing of an opening. The

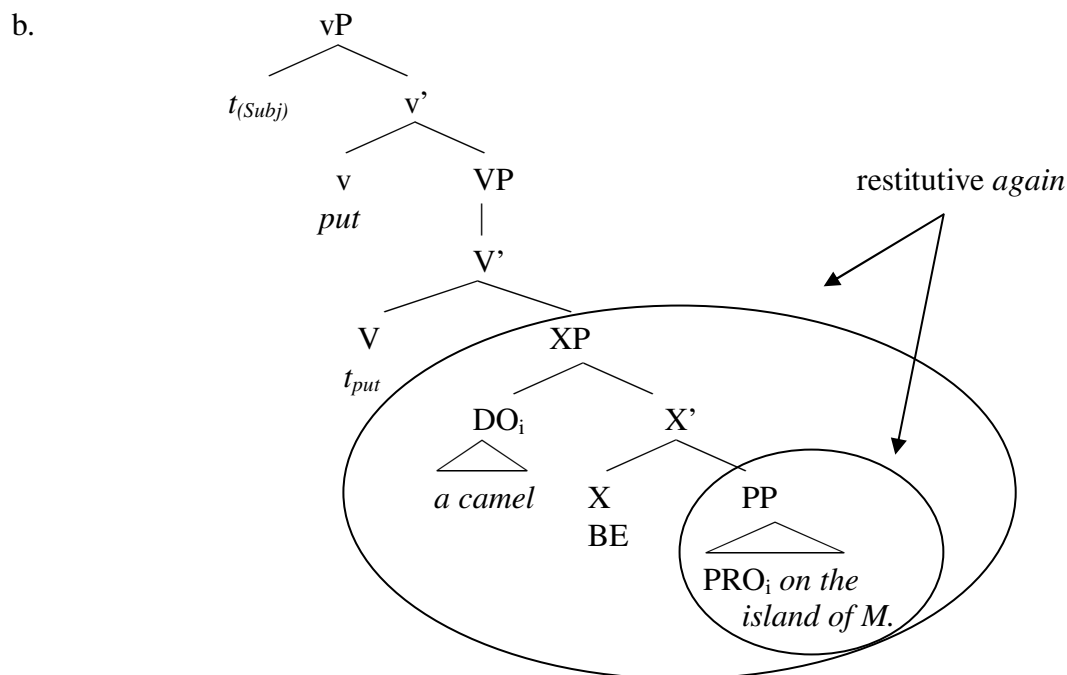
¹ Thanks to Marcel den Dikken for pointing this out to me.

opening in the wall does not change location; instead it merely changes its state to being closed for a certain period of time. By contrast, verbs of putting do not change the state but the location of their DO. The state/properties of a guinea pig will not change as a result of being put into a cage. I propose that this difference between the two groups is reflected by a difference in operators. In particular, I assume that the structure of verbs of putting includes a BE operator that anchors the object in space and time (16):

$$(16) \llbracket \text{BE} \rrbracket (p)(x)(s) = T \text{ iff } x \text{ is in } s \ \& \ p \text{ is } T \text{ in } s$$

This operator is missing in change-of-state verbs because no change of location is taking place; the internal argument of change-of-state verbs does not change its position in the course of time whereas the internal argument of verbs of putting does. The vP of the sentence in (17a) is given in (17b). Note that I understand *v* to have the meaning proposed by Kratzer (1996); that is, little *v* combines an agent with an event.

(17) a. Scientists put a camel on the island of Montreal.

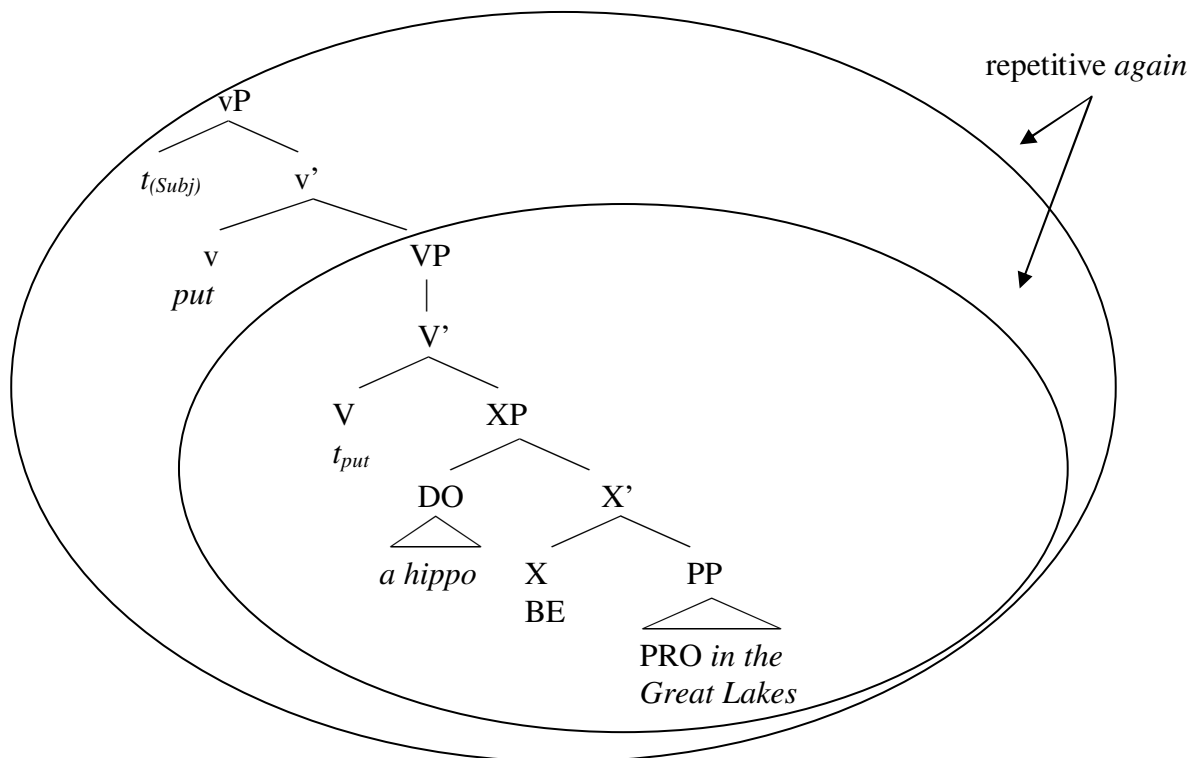


As (17b) shows, the presence of the BE-operator creates two result-state clauses. In addition to the PP small clause, there is the small clause headed by BE which contains the DO and the PP small clause. No matter if the adverb *again* is adjoined to the PP or to the XP, the result will be a restitutive reading. However, if the sister of *again* is the PP, an existential operator in DO position will have wider scope than restitutive *again*. If *again* is adjoined to the XP, then restitutive *again* will have wider scope than the existential operator unless the DO moves to a higher position. As a consequence, sentences with verbs of putting can have all of the readings listed in (18) depending on the position of *again* or the DO, respectively:

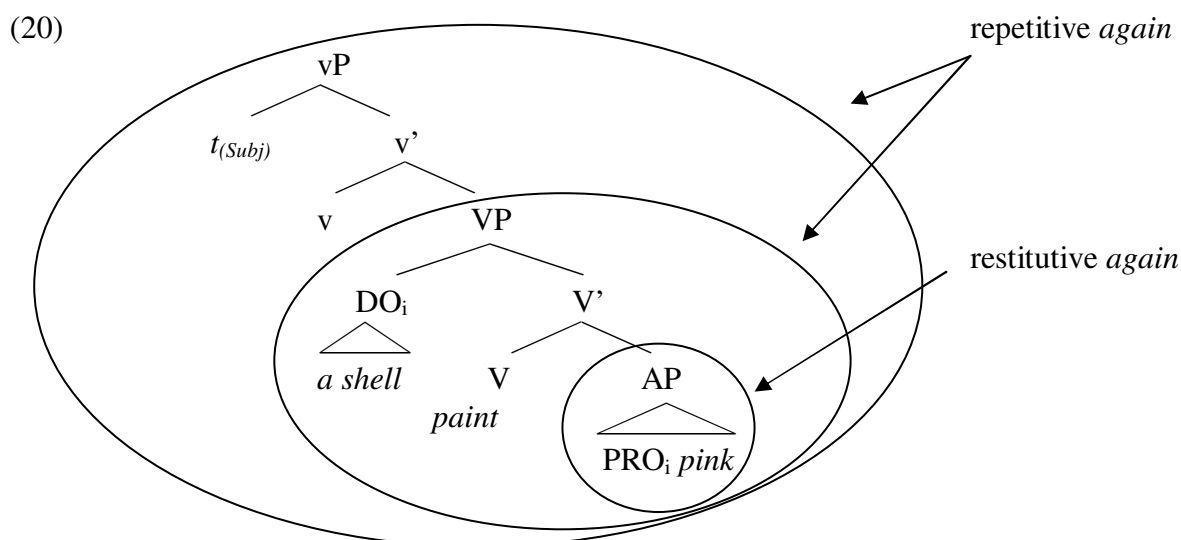
- (18) a. existential operator > repetitive *again*
 b. existential operator > restitutive *again*
 c. repetitive *again* > existential operator
 d. restitutive *again* > existential operator

Note that the repetitive readings in (18a) and (18c) presuppose that *again* is adjoined higher in the structure than shown in (17); for example, it could be adjoined to the VP or the vP as illustrated in (19):

(19)



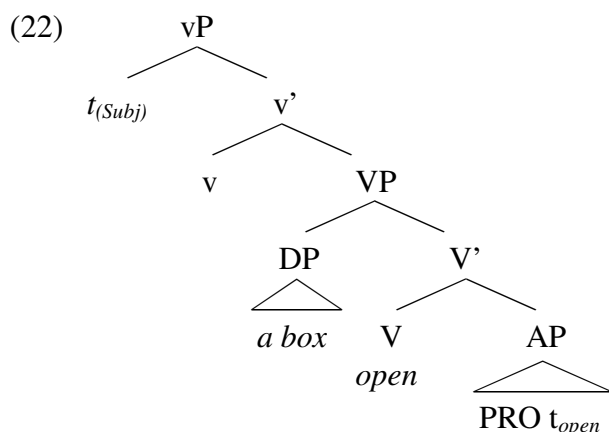
As far as change-of-state verbs are concerned, everything looks very similar with one crucial difference: change-of-state verbs lack the BE-operator. Therefore, only one result-state clause is available in their vPs, i.e. the AP small clause (20). Note further that I have abandoned the BECOME operator of previous proposals. Its original purpose in Generative Semantics was the distinction between stative (e.g. *The door is closed*) and inchoative sentences (*The door closed*). Note that a change of state does not need to be expressed by an operator because the fact that the result-state is caused directly by the event implies that the event brings about a change of state even in the absence of a BECOME operator.



Just as with verbs of putting, attachment of *again* to the VP in (20) results in a repetitive reading. Therefore, the only position where adjunction of *again* leads to a restitutive reading is below the position of the DO. Consequently, restitutive *again* can never have wider scope than an existential operator in object position. This explains why change-of-state verbs differ from verbs of putting in that only the former lack the reading in (21d):

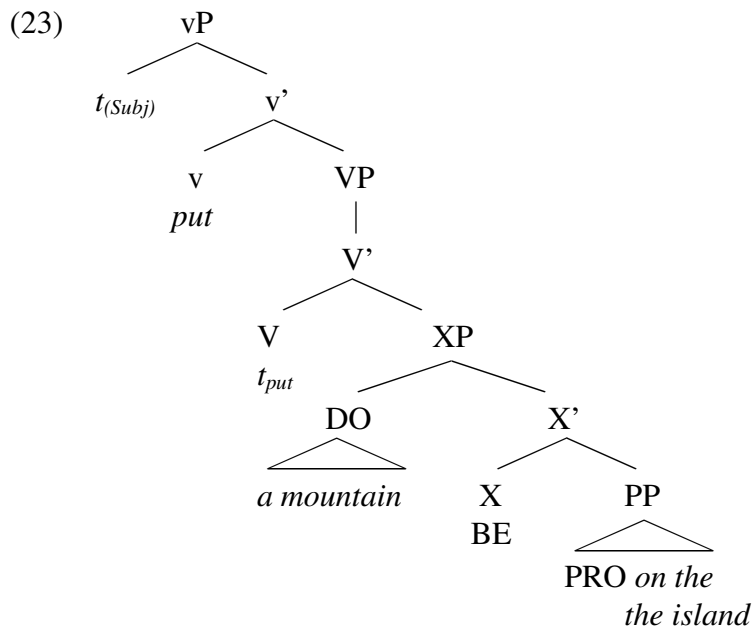
- (21)
- a. existential operator > repetitive *again*
 - b. existential operator > restitutive *again*
 - c. repetitive *again* > existential operator
 - d. ~~restitutive *again* > existential operator~~

As illustrated in (22), I propose a similar structure for deadjectival verbs with the difference that their root starts as head of the AP and then moves from there into the verbal domain:



As we have seen in section 3, creation verbs of the *build*-type pattern with verbs of putting. I propose that this is due to the fact that creation is essentially the same as bringing something into existence in the world. Moreover, just as changing the location of an object requires that the object is anchored in space and time, bringing something into existence also means that the object of creation needs to be anchored in space and time. Creation does not alter the

properties of an existing object, instead it changes the existence of an object in the world. Consequently, creation verbs just like verbs of putting require a BE-operator (23).



Yet there is a crucial difference between verbs of putting and verbs of creation. Whereas the locative PP is obligatory for verbs of putting, it is optional for verbs of creation. Thus, it is necessary to create a second interpretation for BE that allows the absence of a locative argument (24):

(24) $\|BE-2\|(x)(s) = T$ iff x is in s

In summary, I have provided an analysis that accounts for the difference between verbs of putting and change-of-state verbs. Furthermore, this proposal explains why verbs of creation pattern with verbs of putting. In addition, I will show the last section of this paper that this analysis for verbs of creation has an advantage over comparable analyses.

5. Dowty's problem

One major problem for decompositional approaches is that creation verbs are opaque. That is, the sentence in (25a) cannot be paraphrased as (25b) because the house does not exist at the beginning of the event but rather comes only into being as a result of the building process.

- (25) a. Donald built a house.
 b. There existed a house at time t , and this house was the theme of a building event at t .

This poses a challenge to more general proposals for complex verbs (e.g. Dowty 1979, Krifka 1992, Parsons 1992) when they are applied to creation verbs. The example in (26) illustrates how the meaning of *build* would be represented under a decompositional theory in the sense of Dowty:

(26) CAUSE ($\lambda w \lambda t$. BECOME_{w,t} ($\lambda w \lambda t$. $\square x$ [house_{w,t}(x) & exist_{w,t}(x)]) ($\lambda w \lambda t$. building_{w,t} (Donald)))

There are the two operators CAUSE and BECOME. CAUSE combines two eventualities with each other in a way that one eventuality is the direct cause of the other (e.g. Lewis 1973). The BECOME operator expresses a change of state as shown in (27).²

(27) $\| \text{BECOME} \| (P)(e) = 1$ 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)

And this is where Dowty's approach runs into problems. If the meaning of BECOME is applied to *building a house*, the resulting interpretation is something along the lines of (28).

(28) $\| \text{BECOME} \| (\| \text{a house exists} \|)(e) = \text{True}$ iff e is the smallest event such that 'a house exists' is not true of the pre-state of e but 'a house exists' is true of the target state of e .

The crucial part of (28) is '[a house exists] is not true of the pre-state of e ' because this means that prior to Donald's building a house, there was no house at all. Since there is no further restriction to a certain context, Donald is not only causing his own house to exist but he is responsible for the first house ever; prior to Donald's house, no house existed. As illustrated in (29), my analysis differs considerably from this approach and as a consequence, Dowty's problem never arises.

(29) $\| \text{VP} \| = \| \text{build} \| (p \langle s, t \rangle) = \lambda e$.building(e) $\square \square e'$ [$p(e') = 1 \square \text{cause}(e, e')$]

The representation in (29) means that there is a building event (e) and there is an eventuality (e') such that p is true in (e') and this eventuality (e') is caused by the building event (e). $p(e')$ refers to the result state clause. Consequently, the meaning of p depends on the respective XP in the tree structures of section 4. In the sentence 'Donald is building a house', $p(e')$ stands for 'There is a house in e' '. Therefore, the interpretation of 'Donald is building a house' is that there is a building event (e) and there is an eventuality (e') such that it is true in (e') that there is a house in (e') and this eventuality (e') is caused by the building event (e). One crucial difference to Dowty's approach is that there is no BECOME operator. As mentioned above this does not cause any problems as the BECOME operator only expressed a change of state that is already implied by the fact that eventuality 1 is the direct cause of eventuality 2. Furthermore, CAUSE is not a separate operator in little v in (29) but it is part of the entry for *build*. It ensures that the house that exists in (e') is a direct result of the building event in (e). In conclusion, (29) says that it is true that there is a house in (e') and the fact that this is true is directly caused by the building event in (e).

² In this representation, e stands for eventualities. Importantly, $\text{cause}(e')(e)$ is only true iff e is the main cause for e' , and e' would not hold if e had not taken place (e.g. Lewis 1973, Dowty 1979).

6. Conclusion

In this paper, we have seen that the interaction between word order and interpretation strongly suggests that a structural analysis for *again* is the right approach. This presupposes structural decomposition of verbs with a complex event structure. Using the interaction between the existential operator and restitutive *again*, I have shown that there are two groups of causative verbs. These groups are verbs describing a change of state on the one hand, and verbs of putting and creation verbs on the other hand. I have proposed that the difference is caused by a BE operator that is only present when a theme undergoes a change in location, i.e., is brought into existence at a new location. It is only in these contexts that this operator is required because its purpose is to anchor an argument in space. Finally, I have shown that if we take this approach, the opacity of creation verbs causes no problems; in other words, Dowty's problem does not arise.

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