Remark

Some implications of *again*-modification for the syntax of English particle verb constructions

immediate

Abstract

This article examines the way that scope taking of *again* interacts with word order in the English particle verb alternation. Small clause approaches to the particle verb alternation differ from most competing approaches in taking both Verb-Particle-Object and Verb-Object-Particle orders to contain a result state-denoting small clause. An expectation of this approach on a structural approach to *again* ambiguity is that both orders should admit restitutive *again* readings. Results from a controlled judgment survey of 73 North American English speakers bear out this prediction.

Keywords

Particle verb, modification, small clause, restitutive, repetitive

Contents

1   Introduction

This paper focuses on scope taking of *again* in the English particle verb alternation—the variation between Verb-Object-Particle (VOP) orders and Verb-Particle-Object (VPO) orders, as in (1)

(1)   a.   Martha put the lid on again.   [VOP]

       b.   Martha put on the lid again.   [VPO]

Generative approaches to this alternation generally fall into one of two broad types—the *small clause approach* and the *complex predicate approach*. Most contemporary versions of the first of these take both variants in (1) to involve a result state-denoting small clause containing the particle and object (Den Dikken 1995, Svenonius 1996a,b, Ramchand & Svenonius 2002, Ramchand 2008). *Complex predicate approaches*, in contrast, posit no constituent denoting a result state and instead take both orders in (1) to reflect a base structure with the verb and particle introduced in a constituent excluding the object (Johnson 1991, Radford 1997, Dehé 2000, 2002).

This paper considers predictions of these two approaches for the availability of restitutive *again* readings in (1). Specifically, we assume a structural approach to *again* ambiguity, whereby the multiple state/event presupposition induced by the presence of this morpheme is a function of structure, i.e. it modifies a state/event encoded in the syntax via attachment (Stechow 1996). From this perspective, a prediction of small clause approaches is that both

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word orders in (1) should be available on *restitutive* readings of *again*-sentences—one where what is presupposed in (2) is a prior state of the lid being on rather than a prior event of Martha putting the lid on. This is so, because, for both surface orders, small clause approaches directly provide a result state-denoting constituent modifiable by *again*. In contrast, complex predicate approaches, or indeed any approach that does not provide for such a constituent in the syntax, predict that restitutive readings should not be available with either order.

This paper reports results of a judgment survey intended to address these predictions. The results suggest, among the set of North American English speakers sampled, that restitutive readings of *again* are available with both orders in (1), as predicted by small clause approaches. The results, moreover, indicate no degradation of restitutive readings on either order, suggesting that the availability of restitutive readings is insensitive to movement, a result also consistent with small clause approaches. We show that these outcomes are mispredicted by competing approaches.

The discussion is organized as follows. Section two introduces the main diagnostic test to be used—the availability of restitutive *again* readings. Section three discusses different approaches to particle verb syntax in the formal literature. Section four outlines the data set used. Section five discusses the results.
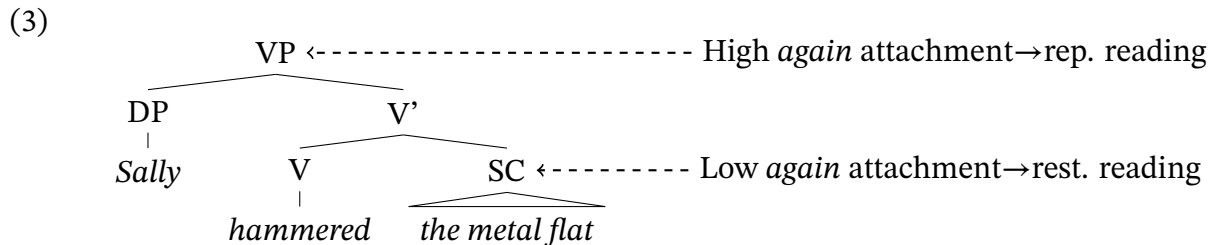
2   The structural approach to *again* ambiguity

The main test we will use to probe the alternation in (1) is the apparent structure-sensitivity of *again* ambiguity with decomposable predicates (Stechow 1996, Rapp & Stechow 1999, Beck & Johnson 2004, Johnson 2004, Beck 2005). Consider, for example, the two readings of (2), instances of the so-called *repetitive* and *restitutive* readings of *again*.

(2)   Sally hammered the metal flat again.

        a.   Sally hammered the metal flat, and that had happened before.   [repetitive]

    b.   Sally hammered the metal flat, and the metal had been flat before.   [restitutive]

    (Beck 2005)

Stechow (1996) proposed that such cases of ambiguity are syntactic. On this approach, the meaning contributed by *again* in (2a,b) is the same—a presupposition of repetition. What varies is whether what is understood as repeated is the whole event (2a) or the result state (2b). Stechow proposed that this, in turn, reflects different positions of attachment of *again*—either low, where it modifies the small clause denoting the result state, or to a higher node where it modifies the hammering event, as in (3) (adapted from Beck 2005).

(3)

VP ←- High *again* attachment→rep. reading

SC ←- - - - - - - - - Low *again* attachment→rest. reading

DP — Sally   V'   V — hammered   the metal flat

Evidence that the ambiguity in (2) is indeed syntactic rather than lexical in nature comes from facts like (4), from Stechow's discussion of German. In particular, Stechow noticed that the availability of repetitive and restitutive readings is sensitive to word order, a fact challenging for approaches that take *again*'s participation in such ambiguity to be lexical (Fabricius-Hansen 2001).[1]

(4)   a.   Ali Baba Sesam **wieder** offnete.   [restitutive/repetitive]
            Ali Baba Sesame again   opened.
            'Ali Baba opened Sesame again.'

    b.   Ali Baba **wieder** Sesam   offnete.   [repetitive]
            Ali Baba again   Sesame opened.
            'Ali Baba opened Sesame again.'

    (Stechow 1996)

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[1]This is the case for discourse neutral contexts in German. We return shortly to constraints other than word order on this variation including stress and object quantifiers.

As Beck & Johnson 2004 note, similar facts are observed for English:

(5) a. Thilo opened the door again. [restitutive/repetitive]

  b. Thilo again opened the door. [repetitive]

Building on Stechow's analysis of lexical causatives, much subsequent work has used *again* ambiguity to probe the structure of causatives and other decomposable predicates (Rapp & Stechow 1999, Beck & Snyder 2001, Beck & Johnson 2004, Beck 2005, Johnson 2004, Beck et al. 2009, Lechner et al. 2015, Bondarenko 2018). Particularly influential has been Beck & Johnson's 2004 discussion of *again* ambiguity in English ditransitives. In particular, Beck & Johnson 2004 note that, in double object constructions, what is presupposed in the restitutive reading is repetition of a possession relationship between the recipient and theme.

(6) Thilo gave Satoshi the map again.

  a. 'Thilo gave Satoshi the map, and that had happened before.' [repetitive]

  b. 'Thilo gave Satoshi the map, and Satoshi had had the map before.' [restitutive]

Beck & Johnson 2004 take these facts to support a small clause analysis of English double object constructions whereby the recipient and theme are first merged in a projection headed by a possession-denoting P head (Green 1974, Harley 2002, Harley & Jung 2015).

(7) Thilo give [$_{\text{HaveP}}$ Satoshi [$_{\text{Have'}}$ HAVE the map]]

As we discuss shortly, at least some kinds of particle verb constructions have also been taken to embed result states akin to that in (3) and (4) (Svenonius 1996b, Ramchand 2008). A question raised by Stechow's 1996, Beck & Johnson's 2004 and Beck's 2005 proposals, then, is how particle verb sentences participate in this ambiguity. In the case of particle verb constructions, moreover, the set of formal issues to be considered is enriched somewhat by the fact that particle verb sentences (in the general case) allow for two word order variants typically taken to be

related via movement, as in (1), repeated here.

(8) a. Martha put the lid on.   [VOP]

     b. Martha put on the lid.   [VPO]

In the extensive formal literature on these forms, the nature of this word order alternation has been modeled in different ways, which make different predictions about how scope taking of *again* should interact with the word order alternation in (8). We consider some of these models and the predictions they make about *again*-attachment ambiguity in the next section.[2]

The analysis of particle verbs presented here is entirely dependent on the assumption of a structural approach to *again* ambiguity as just summarized, and most importantly, Stechow's (1996) proposal that restitutive readings reflect attachment of *again* to a low, result state-denoting constituent. As noted above, Stechow's decompositionalist approach to repetitive morphemes has been adopted in much subsequent work, but has also faced objections. While an extensive consideration of these issues is beyond the scope of this paper, we briefly consider two especially important challenges.

A first problem for Stechow's 1996 approach concerns evidence presented by several authors challenging SC-adjunction as the source of restitutive readings Fabricius-Hansen 2001, Wunderlich 2001, Jäger & Blutner 2003, Pittner 2003, Williams 2015. We cannot address all of these here, but will consider the most influential account, that of Jäger & Blutner 2003. The latter's most serious objection is that Stechow's decompositional analysis of accomplishment/achievement predicates leads to a scope paradox with indefinite subjects in sentences

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[2]We are aware of no literature addressing these issues in detail for English particle verbs, but see Beck 2005 and Bondarenko 2018 for discussion of similar facts in Hungarian and Russian respectively. Dowty 1979:252 also briefly mentions the intended scope of *again* in the nursery rhyme:

(i.) All the king's horses and all the king's men couldn't put Humpty Dumpty together again.

like (9).[3] The reading of (9) at issue is one where a Delaware has settled in New Jersey, with the presupposition that a Delaware had been there before (and not that a Delaware had *settled* there before). Jäger & Blutner 2003 propose that, on a decompositional approach, a paradox arises in that (i) the indefinite must scope over CAUSE/BECOME since it binds an argument place, (ii) BECOME outscopes *again* because the latter is interpreted as restitutive, and yet (iii) the indefinite must scope below *again* since the reading is a non-specific one, where the presupposition and assertion are about different individuals. (See Jäger & Blutner 2003 for details and Stechow 2000 for a response.)

(9) a. A Delaware settled in New Jersey again.

   b. [$_S$ [$_{NP}$ A Delaware] [$_{vP}$ CAUSE BECOME [$_{VP}$ live in New Jersey]]]

      (Adapted from Jäger & Blutner, 2003)

Jäger & Blutner 2003 instead propose that, for both restitutive and repetitive readings, *again* is instead introduced high, above the matrix verb and its arguments. But, as Pittner 2003 notes, this approach is difficult to reconcile with a set of basic word order facts in German. Among these is the fact that, when German *wieder*—counterpart to English *again*—appears to the right of certain indefinites known not to scramble from object position, including *wen* 'someone', only the restitutive reading is available in neutral prosodic contexts. When *wieder* appears to the right of such items, only the restitutive reading obtains.[4]

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[3]The context that Jäger & Blutner 2003 have in mind is forced westward removal of the Delaware Tribe from aboriginal homeland including part of present day New Jersey in the 18th and 19th centuries.

[4]As a reviewer notes, the position of restitutive *wieder* to the right of the indefinite in (10a), is unexpected on a SC approach if the indefinite is indeed *in situ* as suggested by Pittner 2003 (who takes *wieder* to be below the position of the indefinite). One possibility is that the indefinite does indeed scramble to a low position as suggested by Stechow 1996. Alternatively, one might take *wieder* to be (exceptionally) right-adjoined to the SC and that incorporation of the SC predicate yields a placement of the verb to the right of *wieder*.

(10) a. Er hat wen   wieder geheilt.   [restitutive]
          he has someone again   healed.
          'He has healed someone again.'

     b. Er hat wieder wen   geheilt.   [repetitive]
          He has again   someone healed.
          'Again, he has healed someone'

     (Pittner 2003)

Similarly, Pittner 2003 notes that restitutive *wieder* differs from repetitive *wieder* in that the former must appear to the right of sentential negation.

(11) a. Er hat die Patienten nicht wieder geheilt.   [restitutive]
          he has the patients   not   again   healed.
          'He did not heal the patients again.'

     b. Er hat die Patienten wieder nicht geheilt.   [repetitive]
          He has the patints   again   not   healed.
          'He again did not heal the patients.'

     (Pittner 2003)

Hence, anti-decompositionalist critiques that do not take the contrast between repetitive and restitutive readings to reflect different positions of attachment of repetitive morphemes face the burden of accounting for basic word order facts that are unremarkable from a decompositional perspective.[5]

Similar evidence comes from the interaction of *again*-ambiguity and ellipsis in English,

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[5]If SC-adjunction is the correct for all instances of restitutive *again/wieder*, then the verb forms in (10) and (11) must be formed syntactically, i.e. with the the verb *heil*, 'heal' formed from incorporation of an adjectival SC predicate. As a reviewer observes, this approach further commits one to less transparent instances of incorporation involving forms where there is no freestanding SC predicates as in (i), analyzed by Stechow 1996.

(i)   Frank ein Fahrrad weider reparierte.
      Frank a   bicycle again repaired   [restitutive]
      'Frank repaired a bicycle again.'/'Frank made the bicycle whole again.'

which we consider next.

A second challenge for decompositional approaches to restitutive readings concerns a set of arguments by Bruening 2018 against small clause approaches to a range of constructions including particle verb constructions. Of particular importance are Bruening's 2018 objections to evidence from adverbial modification as a diagnostic of small clause structures of the kind discussed above. Specifically, Bruening notes that *again* and *for*-adverbials differ in their ability to support restitutive readings when stranded by ellipsis. Extending an observation by Johnson 2004 for resultative verbs, Bruening 2018 notes that, in double object constructions, an *again* stranded by VP-ellipsis cannot support a restitutive reading of the possession state, as in (12). This is, in fact, exactly what one expects if ellipsis targets a constituent larger than the one interpreted as the result state.

(12)   Maria started with the ball, but then no one kicked her the ball for a long time. Finally, #Jorge did again.

    (Adapted from Bruening, 2018)

Nevertheless, Bruening 2018 suggests that a problem for this approach is the fact that *for*-adverbial modification of result states, which one imagines should be analyzed on a par with restitutive *again* (Harley 2007), behave differently under ellipsis. Specifically, Bruening observes that *for*-adverbials stranded by ellipsis can indeed modify the possession meaning arising in double object constructions, as in (13).

(13)   Megan loaned him a car for a week, and I did for a month.

    (Bruening 2018)

Bruening notes that the contrast between restitutive *again* and *for*-adverbials is unexpected from standard small clause analyses in the tradition of Stechow 1996 and Beck & Johnson 2004. In particular, the apparent ability of temporal adverbials to modify a result state under VP ellipsis raises the possibility that modification is possible from a higher position outside the elided

constituent (as, indeed, proposed by Jäger & Blutner 2003) and therefore that syntactic adjunction to the result state constituent is not necessary for a restitutive reading. If such a state of affairs is indeed possible for temporal adverbials, one might well worry whether modification without syntactic adjunction is also possible in the case of restitutive *again* readings.

Whatever the nature of scope taking of *for*-adverbials under ellipsis, as in (13), what is of immediate importance is that no reported evidence that we are aware of indicates any ability of restitutive *again* to escape ellipsis. A contrast similar to that in (13) and (12) is also observed in the case of particle verbs. In (14), the *for*-adverbial is able to modify the result state, that is, with the computers interpreted as being on for few hours. In contrast, a restitutive reading of *again* is unavailable in (14), indicating that *again* is unable to modify the result state under ellipsis.[6]

(14)   The blackout knocked out power to the lab computers and after power was restored, nobody turned them on until Yameris did [for a few hours/# again].

To summarize, Bruening's 2018 observations raise the need for an account of the difference in scope taking of *for*-adverbials and *again*, but we will not undertake this here. Following Johnson 2004, we take the VP-ellipsis facts alongside word order facts in German and En-

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[6]A reviewer suggests that the difference between (12) and (13) need not be taken to indicate different positions for *for*-adverbials and *again*. In particular, the reviewer notes that the unavailability of restitutive *again* in (12) and (14) might instead reflect its low informativity incompatible with an ellipsis context. A well described property of German restitutive *wieder* is that it is blocked with nuclear stress, in the absence of contextual support (Fabricius-Hansen 2001, Pittner 2003). One might therefore imagine that a similar restriction explains the unavailability of restitutive *again* in (12) and (14). Nevertheless, restitutive *again* with focal stress is readily available in contexts like (i.). It's therefore difficult to see why a focal stress restriction should explain the unavailability of restitutive *again* readings under VP-ellipsis.

(i.)   Janelis started a model that required several hours to run, but their lab mates kept turning off the computer before the model finished. Each time, Janelis turned the computer back on and restarted the model. Just before quitting time, the PI came in and turned the computer off (yet) AGAIN.

glish to support Stechow's 1996 core proposal that *again* ambiguity reflects modification via syntactic adjunction, and therefore that *again*-ambiguity is a suitable structural diagnostic for decomposable predicates (Beck & Johnson 2004, Johnson 2004).

3   Particle-object constituency

As sketched in the introduction, generative approaches to the alternation in (1) generally belong to one of two broad types. The *small clause approach*—originally by Bolinger 1971 and subsequently developed by Kayne 1985—takes the VOP order to be derivationally prior. Central to this approach is the idea that the object and particle are first merged in a small clause with the object as the predicational subject, as in (15). Here, "SC" is an extended projection of P containing the first merged site of the figure argument but not the verb. Particle-object order is derived via movement of the particle to a functional position above the object inside the small clause (Aarts 1989, Den Dikken 1995, Svenonius 1996b, Ramchand & Svenonius 2002, Ramchand 2008, Haddican & Johnson 2014).[7]

(15)   a.   … [$_{VP}$ put [$_{SC}$ [$_{DP}$ the lid] on]]   [VOP]

         b.   … [$_{VP}$ put [$_{SC}$ on [$_{DP}$ the lid] ~~on~~]]   [VPO]

For both orders, the structural approach to *again* ambiguity leads to the expectation that repetitive readings should be available, with *again* attaching to VP. In addition, for both orders, this approach also straightforwardly predicts the availability of a restitutive reading with *again* modifying the result state, i.e. attaching to SC. [8]

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[7]See Larsen 2014 for an overview. Similar enough for our purposes are approaches like that of Harley & Noyer 1998, in which the particle cliticizes onto V.

[8]Another possibility, which we will not dwell on here, is that *again* attaches lower, to a PP containing the particle and base position of the figure. Here, for the VPO order, a restitutive reading might also be expected via reconstruction of P. Evidence that head movement reconstruction can feed restitutive readings of repetitive morphemes comes from Lechner et al.'s 2015 discussion of Greek. In particular, Lechner et al. 2015 report that the morpheme *ksana*, 'again'

The principal alternative to the small clause approach is a family of strategies sometimes called *complex predicate* approaches. Approaches of this type share the property of introducing the particle and verb in a constituent excluding the object. Most such approaches take the VPO order to reflect a derivationally prior structure with the verb and particle merged as a single, complex head (Johnson 1991, Radford 1997, Dehé 2000, 2002, Farrell 2005, Basilico 2008, McIntyre 2015). The object, on this approach, is introduced as either the specifier of VP (Radford 1997) or sister of the complex verb (Johnson 1991, Dehé 2002, Neeleman 2002, Basilico 2008).[9] Broadly within this class of approaches are analyses by Zeller 2001 and Larson 2014: n.8, who propose that the V' formed by the verb and its sister PP containing the particle may be reanalyzed as a V head which can subsequently head-raise as a composite V+P structure to a position above the object. What is of main importance for our purposes is that these approaches, unlike the SC approach discussed above, do not posit a constituent uniquely interpreted as a result

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can incorporate into the verb in Greek. In such cases, lower, restitutive readings are available, apparently in a VP-internal position, which Lechner et al. take to reflect head movement reconstruction of *ksana*-V.

(i) a. Context: Mary had the book before and Janis gave it back to her
     b. O   Janis **ksanadose** to   vivlio stin Maria
         The Janis **again-gave** the book to   Mary
         'Janis gave back the book to Mary.'
         Restitutive: ok. Repetitive: ok.

Importantly, unincorporated forms with a similar linear morpheme order disallow the low scope reading, suggesting no VP-internal position for *ksana*.

(ii) O   Janis **ksana edose** to   vivlio stin Maria.
      The Janis **again gave**   the book to   Mary.
      'Janis again gave the book to Mary.'
      Restitutive: *. Repetitive: ok.

[9]Farrell 2005 in fact proposes two different constructions for particle verb lexemes—one in which the verb and particle form a complex head with the object as its sister, and a ternary branching structure in which the particle is an additional complement of the verb. These structures correspond to the VPO and VOP orders respectively. In neither case, importantly, do the particle and object form a constituent interpreted as a result state.

state to which *again* may attach.

There are important differences among these many proposals, and we do not attempt a detailed survey here.[10] Let us consider Johnson's 1991 early and particularly influential proposal, which will be useful in teasing out the most relevant issues. On Johnson's approach, the verb excorporates from its underlying complex head structure in both VOP and VPO orders. The difference in surface order is determined by whether object shift applies, raising the object to a low middle field position—μP—above the complex head (Holmberg 1986, 1999).

(16)   ...***put the lid on***[11]
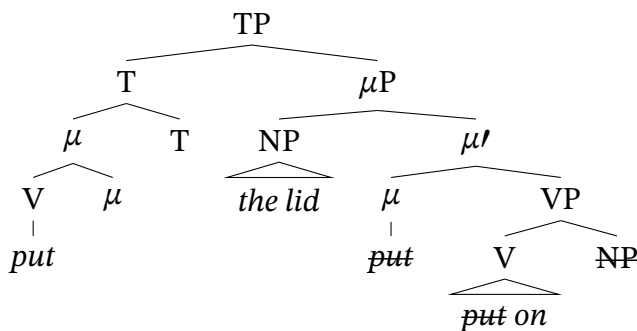
As with the small clause approach discussed above, this approach predicts the availability of repetitive interpretations with both orders (with *again* attaching, say, to TP). Taken as is, however, Johnson's proposal, together with a structural approach to *again* ambiguity, predicts the restitutive reading should not be available for either order, since there is no constituent present uniquely associated with the result state meaning. Nor is it easy to imagine how such a constituent could be possible given the VP structure and movement in (16). The structural approach to *again* requires that some lower constituent be available associated with the result state reading, to which *again* adjoins. In (16), we might take this to be μP, VP or some other TP-internal phrase not proposed by Johnson. In such a scenario, though, it is difficult to see

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[10]See McIntyre 2007 for an overview.

[11]This example is ours, not Johnson's (1991). The example Johnson 1991 considers, *Mikey looked up the reference*, is ill-suited to our discussion since the particle verb is idiomatic and does not readily allow for a restitutive reading in either order.

why the lower copy of the verb should not correlate with an eventive interpretation of this constituent, rather than the result state picked out in restitutive readings.[12]

Other variants of the complex head approach yield similar predictions. Dehe's (2002:240) analysis, depicted in (17), predicts no availability of restitutive readings on the VPO order, since there is no constituent at any level of the derivation containing the particle and object, but excluding the verb. Radford's 1997 and Neeleman's 2002 analyses also straightforwardly predict an absence of restitutive readings with VPO orders for the same reason.

(17)   *. . . put away the phone*
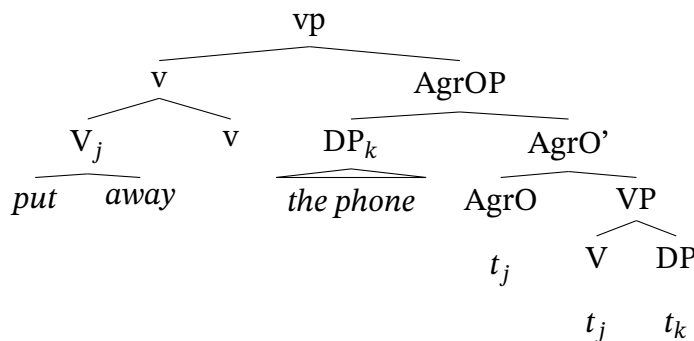
Finally, a proposal that shares properties with both of the above broad approaches is Larsen's 2014, which, to our knowledge, is the only analysis in recent literature to take the word order alternation to correlate partially with the presence vs. absence of a small clause structure. Specifically, Larsen proposes that particles may project or not. In the latter case only, the particle heads a small clause with the object as predicational subject, and this constituent is interpreted as a result state akin to resultative APs like (2) (Larsen 2014: 216-226). Importantly, this small clause structure only generates VOP word orders. A prediction of Larsen's 2014 approach, then, is that restitutive readings of *again*—if these are dependent on the presence of a small-clause interpreted as a result state—should only be available with VOP orders and not with VPO orders.

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[12]I owe this observation to a reviewer and thank them for correcting several points in the above discussion.

As far as we are aware, Larsen's 2014 analysis is unique in proposing variation between a composite head structure and a result state-denoting SC. However, Larsen's 2014 analysis follows much previous work in taking the VOP~VPO alternation to reflect variation between projection and non-projection (respectively) of the particle (Aarts 1989, Baltin 1989, Neeleman 2002). With some modification, such that, on the projecting variant, the particle and object are introduced in a resultative SC, other such approaches in this class would accommodate a difference in *again* modification between VOP and VPO orders, if this were observed.

We summarize the foregoing predictions about the interaction between word order and *again* scope taking in Table 1. Small clause approaches to English particle verb constructions predict the availability of both repetitive and restitutive readings on both orders. On complex predicate approaches eschewing a small clause, restitutive readings with VPO orders are predicted to be unavailable. Larsen 2014 predicts restitutive readings to be available for VOP orders only.

	Small clause approach		**Complex head approach**		**Larsen (2014)**	
	Rep.	Rest.	Rep.	Rest.	Rep.	Rest.
VOP	ok	ok	ok	*	ok	ok
VPO	ok	ok	ok	*	ok	*

Table 1: Predictions about acceptability for four sentence types.

Consultations with native speakers suggest that judgments for these forms—particularly for VPO orders—are gradient and somewhat variable across speakers. To better understand the nature of this gradience and cross-speaker variability, judgment data were gathered in a controlled procedure, which we briefly describe next.

4   Data

Participants: Participants were 77 self-reported native speakers of English recruited through an undergraduate participant pool at a North American university in the Spring and Summer of 2021. Participants received course credit for participating. Four participants who demon-

strated inattention to preceding context in judging filler items were excluded; the remaining 73 were included in the analysis. Of these participants, 18 reported being English monolinguals, 51 were English-dominant bilinguals and 4 self-reported as balanced bilinguals. Participants ranged in age from 18 to 48 (median=20), and were from a range of self-reported ethnicities and genders.

Materials: The main experiment is a 2x3 design crossing interpretive *bias* (repetitive vs. restitutive) with *word order* (VPO, VOP and ungrammatical). Examples of the word order conditions are given in (18). The ungrammatical condition is included as a baseline with matched lexical material against which to evaluate the relative deviance of VOP and VPO conditions, i.e. as a benchmark measure of badness. The word order used for this condition is one nowhere reported, as far as we are aware, to be available to contemporary native speakers. It contains the same sequence of elements across trials: Verb-*again*-Subject-Particle-Object, as in (18c). For all lexicalizations, subjects were third person pronouns *he/she*, objects were all definite DPs or names, and particle verbs were all "compositional" i.e. where the particle is most naturally understood as describing a path/place relation with the object (McIntyre 2002, Lohse et al. 2004).

(18)   a.   She put on the lid again.   [VPO]

          b.   She put the lid on again.   [VOP]

          c.   Put again she on the lid.   [Ungrammatical]

Restitutive vs. repetitive interpretation was biased via preceding material, in the context of which, participants were asked to judge each experimental item. Contexts corresponding to the items in (18), for example, are given in (19). Contexts were written to bias interpretations for experimental items such that the subject participates in multiple events in the repetitive condition, but only one event in the restitutive condition. In the restitutive trials with (19a), for example, Martha is only once a lid-putter, but twice a lid-putter in the repetitive trials (19b).

(19)   a.   ***Restitutive biasing context for items in (18):*** Martha bought a jar of Nutella.

That afternoon, her brother opened it and ate half the jar, leaving the lid on the counter. Martha was furious.

b. ***Repetitive biasing context for items in (18):*** Martha bought a jar of Nutella. She opened, it and had a spoonful. She found the lid and put it back on. That afternoon, her brother found it and ate half the jar, leaving the lid on the counter. Martha was furious.

In a prior norming phase, 45 self-described native speakers of English, none of whom later participated in the main experiment, read each of the contexts used, together with the VOP or VPO experimental item. They were asked to choose the most natural interpretation from among three options, specifying repetitive, restitutive and other interpretations, as in (20). Overall agreement between the norming participants' interpretations and the targeted interpretation was 89.5%, with by-lexicalization means ranging from 73.3% to 100.0%.[13]

(20)   ***Which of the following best describes how you understand this story:***

a.   Two separate times, Martha put the lid on the jar.

b.   The lid was on the jar more than once, but Martha only put it on once.

c.   Neither of these is quite right.

Each participant in the main experiment saw four items for each of the six experimental conditions, for a total of 24 experimental items/participant. 24 lexicalizations were created and distributed to one of six lists by Latin square, such that each participant saw each lexicalization exactly once, and each condition exactly four times. To these items were added 24 fillers (none containing *again*) half of which were grammatical and half ungrammatical given the preceding context. The good fillers all contained a presupposition trigger whose presupposition is met in the preceding context. Bad fillers consisted of six sentences with a presupposition not

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[13]Participants for the norming phase were recruited through the Psychology Department participant pool at XXX in the Fall of 2020 and received course credit for participating.

met, and six sentences with a word order forcing scope taking incompatible with the context. Participants were assigned to lists by the experimental application using a counter.

Procedure: Participants completed the survey remotely on a personal device via a web-based application, PCIbex (Zehr & Schwarz 2018). For each item, participants indicated their rating by moving a dot on a slider icon in proportion to perceived acceptability, with continuum endpoints labeled "bad" (to the left) and "good" (to the right). Each trial began with the slider set at the continuum midpoint.[14] An example trial is shown in Figure 1. Responses were recorded on a linear (e.g. non-logarithmic) 100-point (0-99) scale.

Context:

Martha bought a jar of Nutella. That afternoon, her brother opened it and ate half the jar, leaving the lid on the counter. Martha was furious.

Sentence to judge:
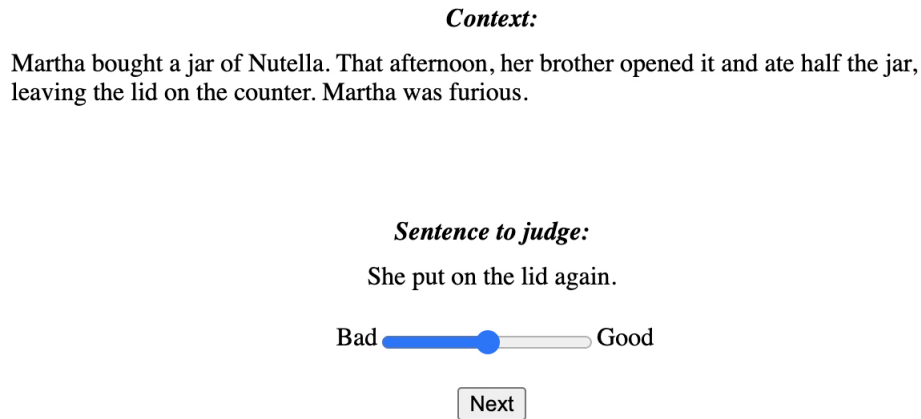
She put on the lid again.

Bad ▬▬●▬▬▬ Good

[Next]

Figure 1: Example trial with a context biasing a restitutive interpretation.

5   Results

Table 2 summarizes the results of a linear mixed effects regression model with un-normalized participant ratings as the dependent variable. Variables in the model were selected using a step-up procedure with models compared via likelihood ratio tests. The analysis revealed a main effect for Order, with both VOP and VPO orders judged better than the ungrammatical

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[14]See Marty et al. 2020 for results indicating that n-point scales with labeled endpoints and continuous sliders are of comparable sensitivity. Sliders, additionally allow users to employ spatial rather than numeric reasoning in judgment tasks.

sentences.[15] VOP orders are also judged somewhat better than the VPO orders. This may be due in part to the fact that the objects used in all lexicalizations were short DPs (one or two words), which favor VOP responses (Lohse et al. 2004, Haddican & Johnson 2014). A main effect for context bias approaches significance, with repetitive-biased contexts favored.[16] Importantly, the analysis revealed no interaction between Bias and Order (p=.34),[17] that is, no evidence that availability of restitutive readings is sensitive to order, contrary to approaches like Larsen's 2014 which take the word order variation to correlate with variation in the presence of a small clause structure. The results are illustrated in Figure 1, which shows mean ratings and 95% confidence intervals for each of the six conditions.[18]

	Estimate	Std. Error	df	t	p
(Intercept)	70.91	1.86	61.27	38.18	<0.001
Bias: Restitutive	-3.03	1.78	23.87	-1.70	0.102
Order: Ungrammatical	-66.54	1.29	1579.92	-51.43	<0.001
VOP	13.21	1.29	1580.69	10.21	<0.001

Table 2: Summary of an LMER model of participant judgments. Model call: Response ~ Bias + Order + (1 + Bias | Participant) + (1 + Bias | Item). N=73, Observations=1752. Reference levels *Repetitive* for Bias and *VPO* for Order.

In addition, we note that scores for VOP and VPO conditions in both biasing contexts are on a par with the good fillers and above those for the infelicitous filler items as shown in Figure 3. We take this as a further indication of aggregate acceptability of VOP and VPO constructions

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[15]A reviewer wonders whether the sharp unacceptability of the ungrammatical items may have led to inflation of scores for the VOP and VPO orders. The reviewer further suggests that, in such a case, one might expect to see this in an order effect in the data, i.e. with an increase in scores for VPO and VOP orders in later trials. A model with an interaction term for word order:item order revealed no such effect.

[16]This may reflect the fact that *again* competes with *back* constructions in such contexts, and/or gradual diachronic weakening in the availability of restitutive readings (Beck et al. 2009).

[17]Via likelihood ratio test.

[18]A reviewer asks whether use of the slider technique might have favored scale compression, which could dampen an interaction. We find no evidence of this in the present data set. An analysis with ratings normalized against by-participant mean scores for fillers similarly revealed no interaction.
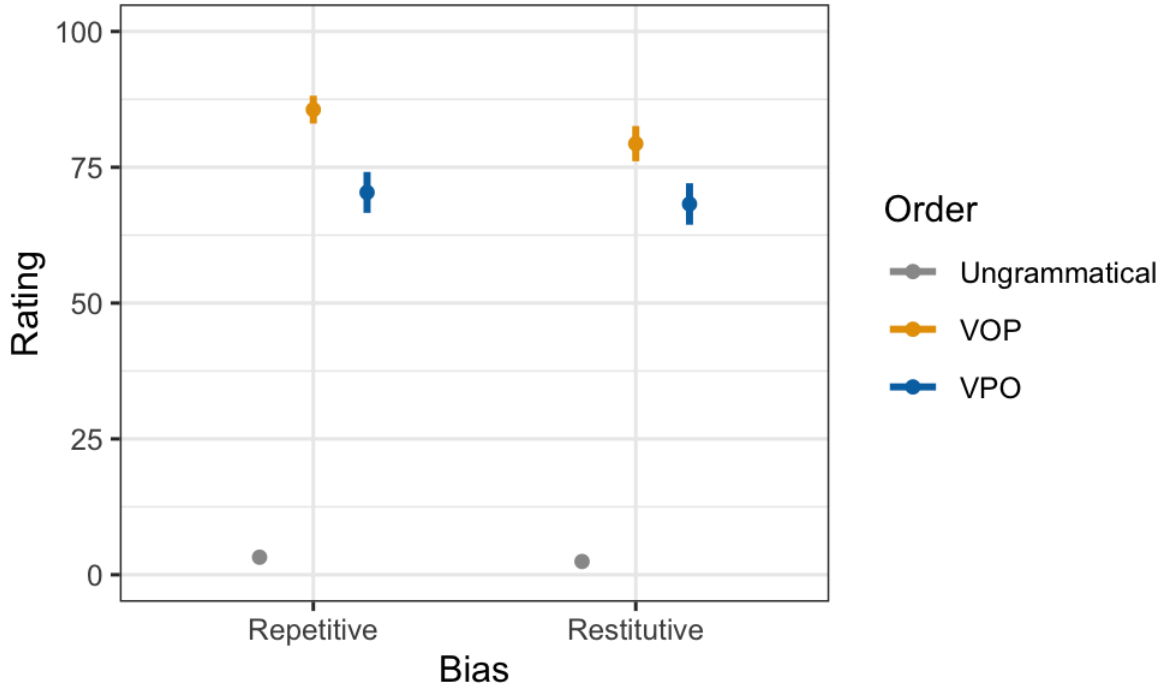
Figure 2: Mean ratings and 95% confidence intervals for six conditions.

on both scopal orders.

6 Conclusion

This paper has explored implications of the structural approach to *again* ambiguity for different models of the English particle verb alternation. If one takes this to be a trustworthy diagnostic of structure in decomposable predicates, then our data draw a few sharp distinctions between available approaches. First, the absence of an Order:Bias interaction is contrary to predictions of proposals like Larsen's 2014, which take word order to reflect variation in the presence of a small clause structure. Specifically, Larsen's 2014 approach straightforwardly predicts a degradation of restitutive readings in VPO orders relative to VOP orders, which is not observed. Second, the results fail to support predictions of complex predicate approaches—or indeed any such proposal which does not posit a constituent interpreted as a result state containing the particle and object (Johnson 1991, Radford 1997, Dehé 2002, Basilico 2008). These proposals
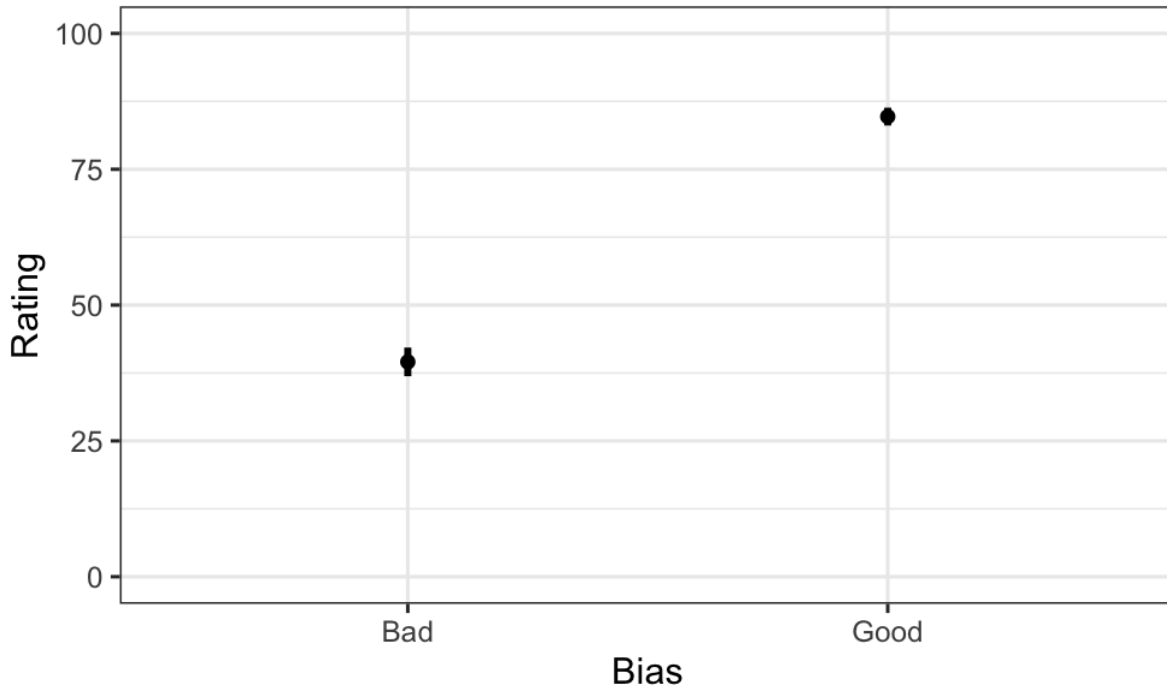
Figure 3: Mean ratings and 95% confidence intervals for fillers.

predict sharp degradation of restitutive readings on both VOP and VPO orders relative to repetitive readings, which is also not observed. Small clause approaches in tradition of Bolinger 1971, Kayne 1985 and Den Dikken 1995 express the present results unproblematically.

Data-availability statement

The data that support the findings of this study are openly available in …

Acknowledgments

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Supporting information [to be used for the online/HTML version]

1	items.pdf	Experimental items and fillers