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ORIGINAL PAPER

Particle verbs and benefactive double objects in English: high and low attachments

David Basilico

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Abstract This paper analyzes verbs that can enter into a transitive (*The students wrote a lab report*), benefactive double object (*The students wrote their professor a lab report*) and particle verb (*The students wrote up a lab report*) construction. The analysis is situated within the Distributed Morphology framework. It argues for the presence of a small clause structure only in the particle verb construction and not in the benefactive construction; the particle merges directly with the Root while the benefactive possessive element merges with an already categorized verb. The benefactive differs from the better researched dative in that the dative does involve a caused possession small clause structure. Particle verbs can occur in double object constructions, but they involve a benefactive-like syntax and not a caused possession small clause analysis. Furthermore, I argue that the Roots that underlie these verbs are relationless and underspecified with respect to meaning, supporting the idea that the functional vocabulary introduces arguments and fully specifies the meaning of the Roots. However, rather than adopting the position that an object is introduced at only one point in the derivation, this analysis shows that an object can be introduced at several different points within the derivation. Finally, this paper shows that argument merger is sensitive to the phase structure of the clause.

Keywords Particle verb · Double object · Dative · Benefactive · Distributed Morphology · Argument structure · Event structure

1 Introduction

Investigations of verbal alternations such as those in (1) have been at the center of linguistic theory because they yield important hypotheses about the relation between the structure of lexical items and the structure of sentences.

D. Basilico (✉)
Department of English, University of Alabama at Birmingham, 900 13th Street South, Birmingham, Alabama 35294, USA
e-mail: basilico@uab.edu

(1) a. The scouts built a log cabin.
b. The scouts built us a log cabin.
c. The scouts built up a fire.

As can be seen from the sentences in (1), the verb *build* can appear in a transitive, benefactive double object, and particle verb construction.

Recent work suggests that argument realization is a consequence of event structure (Ritter and Rosen 1999; Rappaport Hovav and Levin 1998; van Valin and LaPolla 1997; van Hout 2000; Ramchand 2006; Ramchand and Svenonius 2002; Folli and Harley 2005; Borer 2005). While this hypothesis has been implemented in several different ways, both syntactically and lexically, one specific syntactic approach sees these argument structure alternations as the consequence of the presence of a small clause in the syntactic representation. In this approach, the benefactive and particle verb constructions are derived when a verbal element takes a small clause argument; the verbal element itself denotes the process part of the event while the small clause denotes the result state. The differing transitivities and semantic shifts that are seen would be the result of differing types of small clause predicates that form the head of the small clause. The arguments that appear in the sentence are not always actual arguments of the verb but are sometimes arguments of the small clause predicate. Thus, in addition to the simple transitive structure seen in (2), we would also have the small clause structures in (3)–(4).

(2) [$_{v\text{P}}$ The scouts [v[$_{\text{VP}}$ build a log cabin]]]

(3) [$_{v\text{P}}$ The scouts [v[$_{\text{VP}}$ build [$_{\text{SC}}$ us HAVE a log cabin]]]]

(4) [$_{v\text{P}}$ The scouts [v[$_{\text{VP}}$ build [$_{\text{SC}}$ a fire UP]]]]

In these representations, I consider that the external argument is introduced by a little v that takes a VP as its complement and assigns case to the direct object (Chomsky 1995). With the benefactive construction, borrowing from analyses of the better-researched dative double object construction, the verb would select a small clause headed by a HAVE predicate; in this way, we incorporate the possessive meaning that often accompanies the double object construction (Harley 1995, 2002, 2007). With the particle verb, the particle itself is taken to head the small clause (Kayne 1985; Hoekstra 1988; den Dikken 1995; Ramchand and Svenonius 2002; Folli and Harley 2005).[1] The particle that heads the small clause is typically related to a preposition; in some cases, the meaning of the particle verb construction can be built up from the meaning of the verb plus the meaning of the particle rather transparently, as in 'the farmer kicked down the fence', while in other cases, the particle takes on an idiomatic meaning, as in the example above.

[1]These representations summarize a number of more specific proposals that incorporate the small clause approach. For example, in Folli and Harley (2005), it is not the verb 'build' that takes the SC as its complement but an abstract light verb. The information associated with the verb is then added by a Manner Incorporation process (Harley 2002). Ramchand and Svenonius (2002) consider that in the particle verb construction, there is a process VP projection that takes a result phrase (RP) as its complement; the particle itself does not form the head of RP but is the complement of the RP head. Also, not all theorists who argue for a small clause analysis with particle verbs adopt the view that these representations reflect event structure; see, for example, den Dikken (1995).

These small clause approaches capture both the interrelatedness of the examples in (1), since they are all based on the verb *build*, as well as their differences in both argument structure and meaning, since they all have a different small clause as the complement. Nonetheless, I argue that these small clause representations are not good analyses across the board to account for the constructions in (3) and (4). My argument is based on a particular constraint on form and meaning relationships developed within the Distributed Morphology (DM) paradigm (Halle and Marantz 1993). Distributed Morphology adopts a single generative component for both word and phrase formation; thus, it is a suitable paradigm to explore whether or not the representations in (3)–(4) can account for the meaning and argument shifts seen in (1).

What I show is that with the particle verb, the particle combines with an acategorial Root. This Root + particle combination then combines with a categorizing *v* head to generate the particle verb; thus, the particle is merged into the structure before the categorizing head. With the benefactive, the element that contributes the possessive meaning (*v*[POSS]) combines not with an acategorial Root but with a fully categorized verb; thus, the element that contributes the possessive meaning is added after the categorizing *v* head. I show these two possibilities schematically below.

(5) particle verb $[_v v[$ Root Particle $]]$
benefactive $[_v$ POSS $[_v v$ Root $]]$

By adopting this view, I also explain how it is possible for the particle verb to occur in the benefactive double object construction.

(6) The cubmaster built the scouts up a fire.

If the small clause representations posited above in (3) and (4) reflect the event structure of the clause, with the small clauses acting as the complement of the verbal head, it becomes difficult to see how sentences such as (6) can be generated; we would expect particle verbs and the benefactive double object construction to be in complementary distribution since the particle and the possessive element occupy the same structural position. On the other hand, if there are different points in the derivation into which the particle and possessive head are merged, we expect that particle verb can appear in the benefactive double object construction, since the particle and possessive element occupy distinct structural positions.

2 The syntactic complexity of words

An important assumption in Distributed Morphology is that simple words themselves, even seemingly unaffixed words such as *hammer* or *govern*, are syntactically complex. At the core of the word is a Root that constitutes a Saussurian sign: it contains the form and meaning information. A Root contains no grammatical features. The Root that underlies the word *hammer*, for example, would not possess information about grammatical category. Roots themselves are categorized by combining with functional heads that contain this information, notated as n, v, a etc. (Marantz 1996, 1997; Embick and Noyer 2004). The Root for *hammer* can combine with either an *n* or a *v*, giving a noun and a verb respectively (Arad 2003).

(7)

When a Root is combined with a functional head and categorized, it is at this point that a particular Root is assigned an interpretation. Arad (2003: 747) encodes this principle as follows:

(8) Roots are assigned an interpretation in the environment of the first category assigning head with which they are merged. Once this interpretation is assigned, it is carried along throughout the derivation.

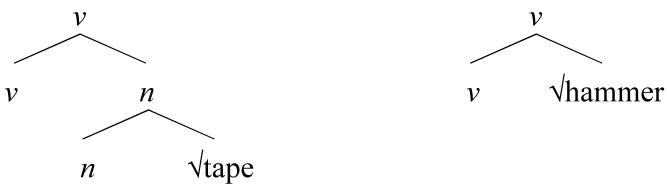
This does not mean that a Root will receive any type of interpretation depending on what category head it combines with; obviously each Root will bring along with it a core interpretation that may be further specified depending on its environment. But there will be a point in the derivation where a particular interpretation is fixed; any further computation will bring along that particular interpretation.

Arad (2003) illustrates this fixing of interpretation at the point at which the Root is categorized with the following contrast in English (see also Kiparsky 1997; Pinker 1999).

(9) a. John hammered the nail into the wall with the bottom of his shoe.
b. #John taped the poster to the wall with glue.

The words *hammer* and *tape* both can be used as a noun or a verb. However, while the verb *hammer* can be used with the noun *hammer* as an instrument of the action, it need not be, as example (9a) shows. However, the verb *tape* must have the noun *tape* as its instrument (9b). Arad (2003) accounts for this contrast by assuming that the verb *tape* is derived from the noun *tape*, while the verb *hammer* is derived simply from the Root.

(10)



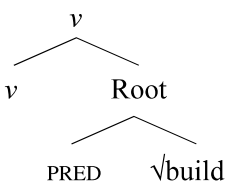
Since the verb *tape* is derived from the noun *tape*, the verb will imply the existence and use of the noun. However, since the verb *hammer* is not derived from the noun *hammer*, no such implication exists between the verb and the noun here.

2.1 Incorporating a small clause structure

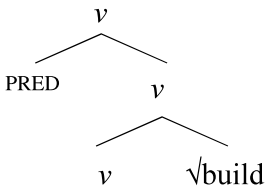
It is not a simple matter to attach a small clause representation given the DM constraints on form and meaning discussed above; depending on where and when we attach the small clause will affect how we interpret the verb so derived. In the representations in (3) and (4), the verb *build* takes the small clause as its complement, since the verb is seen as an atomic unit. But with DM, an unaffixed verb like *build* is

morphologically complex, so we have more possibilities for when the small clause is added into the representation. We can make two broad choices. We could suppose either that the small clause predicate is combined with the Root before it is categorized as a verb, or after. This gives two possible representations.

(11) a.

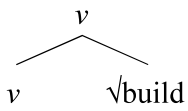


b. or

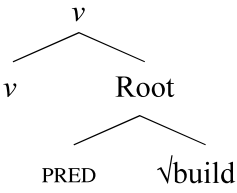


DM interpretive principles allow us to choose between these two representations. Recall again that a Root's interpretation is fixed once it has been categorized; further morphology after categorization should incorporate this fixed interpretation. In (11b), the small clause predicate combines with an already categorized Root. So we expect that if the ditransitive and particle verb constructions have a syntax as in (11b), the constructions would incorporate the same range of meanings the already categorized verb has. The situation would be different in (11a). Since the small clause predicate combines with the Root before it has been categorized, we do not necessarily expect verbs formed in this way to incorporate the same range of meanings of the already categorized verb, since a Root is given an interpretation only at the point of categorization. The Root is in a different syntactic environment, so we do not expect a verb formed in this way to share the same meanings as a verb derived from an already categorized Root. We can illustrate the relationship in the following way.

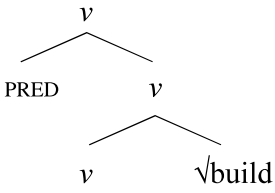
(12)



not required to incorporate the meaning of the above verb



required to incorporate the meaning of the above verb



Looking more closely at the different constructions seen in (1), we see that they do not behave alike. Two important differences emerge. First, the particle verb does not impose the same selectional restrictions on the direct object that the simple transitive verb does (Fraser 1978; Johnson 1991; Svenonius 2004). On the other hand, the benefactive double object construction respects the same selectional restrictions on the direct object that the simple transitive verb does. This holds over a wide range

of different verbs. Here, I present examples with transitive, benefactive double object and particle verb constructions all based on the same Root.

(13) a. The grandmother sewed a dress/#a deal.
b. The grandmother sewed her a dress/#a deal.
c. The grandmother sewed up a deal with the yarn company.

(14) a. The criminals cooked a meal/#an evil scheme.
b. The criminals cooked us a meal/#an evil scheme.
c. The criminals cooked up an evil scheme.

(15) a. The lawyers drew a picture/#a contract.
b. The lawyers drew us a picture/#a contract.
c. The lawyers drew up the contract.

(16) a. The prosecutor played a tape/#his troubled upbringing.
b. The prosecutor played us a tape/#his troubled upbringing.
c. The prosecutor played down his troubled upbringing.

(17) a. The defense secretary built an office building/#our troop strength.
b. The defense secretary built us an office building/#our troop strength.
c. The defense secretary built up our troop strength.

(18) a. The author wrote a story/#an idea.
b. The author wrote us a story/#an idea.
c. The author wrote up an idea.

(19) a. The CEO wrote a financial report/#the debt.
b. The CEO wrote his investors a financial report/#the debt.
c. The CEO wrote off the debt.

(20) a. The pirate dug a hole/#the treasure.
b. The pirate dug his shipmates a hole/#the treasure.
c. The pirate dug out the treasure.

(21) a. The employee cut a piece of cake/#her boss.
b. The employee cut him a piece of cake/#her boss.
c. The employee cut down her boss.

(22) a. The sailor could hardly make a knot/#the horizon.
b. The sailor could hardly make us a knot/#the horizon.
c. The sailor could hardly make out the horizon.

(23) a. The businessman bought a present/#his partner.
b. The businessman bought his secretary a present/#his partner.
c. The businessman bought out his partner.

(24) a. The goalie brought a ball/#a fantastic save.
b. The goalie brought his team a ball/#a fantastic save.
c. The goalie brought off a fantastic save.

Note that if we expect the have predicate to select the direct object in the benefactive but the verb itself to select the direct object in the transitive, we would not expect

the benefactive to share the same selectional restrictions on the direct object as the transitive, since the direct object is selected for by different elements in each case. However, with the particle verb, if the direct object is selected for by the small clause predicate, then we would expect the selectional restrictions on the object to be different than with the transitive, since the object here is selected by different elements.[2]

Second, and related to the first observation, while the benefactive incorporates the activity denoted by the transitive verb, the particle verb need not (although it can). So, for example, *to cook up something* does not necessarily require the same activity as cooking something; *cooking up an evil scheme* involves creating that scheme, possibly by thinking about a particular goal for a long period of time and combining several different types of events to get to that goal but it need not actually involving applying heat to the elements put together. Similarly, *to draw up a contract* means to create the final document; it does not involve the same activity as drawing something. However, the ditransitive benefactive will always entail the activity denoted by the transitive verb. When you cook someone a meal, for instance, you must be involved in the same activity that you do when you are simply cooking a meal. The same goes for when you draw someone a picture, sew someone a dress or make someone a knot.

These facts, together with Arad's claim about the relationship between meaning and derivation, demonstrate that we cannot give the same small clause analysis for both the particle verb and the benefactive. If both constructions involve the presence of a small clause predicate that selects the direct object, then both should show differences in their selectional restrictions as well as difference in meaning between the plain verb and the ditransitive or particle verb. Since only the particle verb shows such differences, the particle must combine with the Root before the Root has been categorized. Here, we would have a syntax along the lines suggested in (11a). Since the ditransitive benefactive respects the selectional restrictions as well as the meaning of the transitive, we must adopt a syntax along the lines suggested in (11b). Thus, the particle verb and the ditransitive benefactive do not share a common small clause structure.

3 The syntax of the simple transitive and particle verb

In line with many other approaches (Zeller 1996; Borer 2005), I adopt the notion that the Root does not introduce the internal argument with the simple transitive; in other words, the Root does not, on its own, denote a relation. However, I do not

[2] We do see contrasts such as the following, where the type of direct object seems to play a role in determining whether a benefactive is possible.

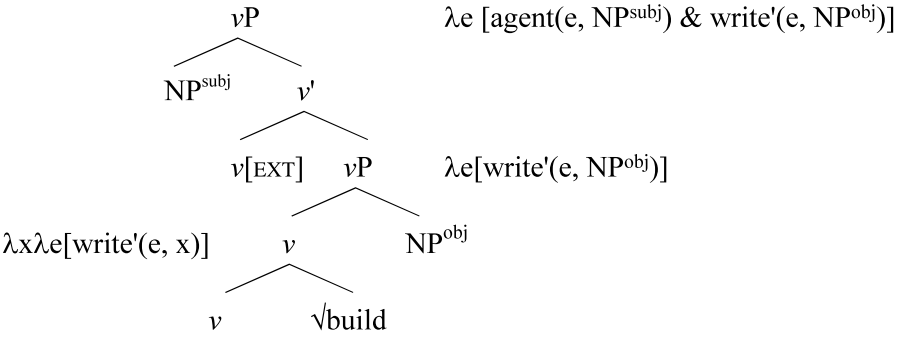
(i) a. The sculptor carved a statue.
b. The sculptor carved us a statue.

(ii) a. The sculptor carved the marble.
b. *The sculptor carved us the marble.

This contrast does not detract from the claim made here, because it is not the case that there are direct objects allowed in the benefactive that are not allowed with the transitive. This contrast shows that not all transitives can occur with the benefactive.

consider there to be a special functional projection that introduces or hosts this argument. Instead, I consider there to be a categorizing *v* head that combines with the Root to give a relation between an event and an individual; in other words, it is the categorizing *v* head that introduces the internal argument (as well as the event argument). The Root itself will define the particular event relation. This *v*P then combines with another *v* that introduces the external argument (Chomsky 1995; Kratzer 1996).[3] I will notate this *v* as *v*[EXT]. I will follow Kratzer (1996) and consider that this head introduces a thematic role predicate and the subject is an argument of this thematic role predicate; the external argument is integrated into the semantic representation by Kratzer's rule of 'Event Identification', in which the event argument introduced by the thematic role predicate is identified as the same as that introduced by the *v*P.

(25) *build*, transitive verb



A reviewer points out that this representation may be problematic, in that the Root does not select for the direct object. One of the main motivations for Kratzer's (1996) proposal that the external argument be severed from the verb is Marantz's observation that while the verb and the internal argument can form an idiomatic unit, there are no idioms that involve the verb and external argument. In the above representation, since the direct object is severed from the Root, we might expect there to be no verb and direct object idioms in the same way that we do not see any verb and external argument idioms.

However, although we do not have the Root selecting for the internal argument, we have not severed the internal argument from the categorized verb itself; in the above representation, it is the categorized verb that selects for the internal argument. The Root takes on a particular interpretation in the environment of this specific categorizing head; in this case, in the presence of this particular categorizing *v*, the Root takes on the interpretation as a specific relation between an event and an individual.[4] Once

[3] In other works, such as Folli and Harley (2005), the categorizing *v* head also introduces the external argument. In Embick (2004), in some cases there is a separate *v* head that introduces the external argument that is different from the initial categorizing *v* head. Note that Borer (2005) does not consider the external argument to be different from the internal argument in terms of selection by the verb.

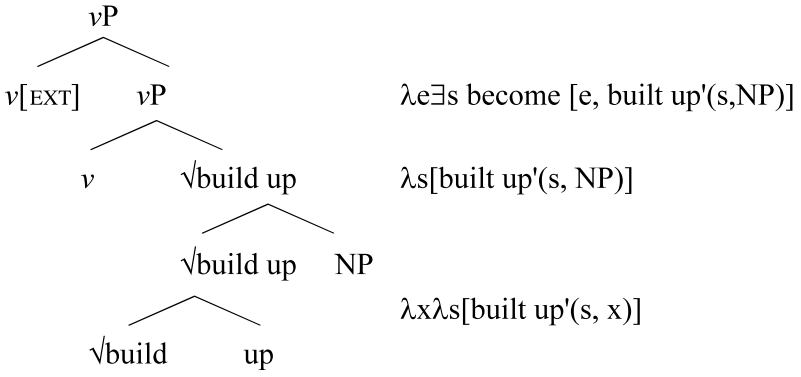
[4] Here, I allow the possibility that there might be different flavors of *v* (Folli and Harley 2005), in which there are different kinds of categorizing *v* heads which would induce different interpretations for the Root.

the categorizing *v* head is added, the interpretation is fixed; thus, the relationship between the verb and its object is established at this point and this does not include the external argument. In this analysis, the semantics of the *v*P is no different from one in which the verb is simply an indivisible morphological unit; at the level of the *v*P, this representation is equivalent to one in which you simply have a VP that combines with an external argument introducing head. Thus, this proposal is consistent with the view that the verb and internal argument can form an idiomatic unit while the verb and external argument cannot.

With the simple transitive, the *v* head combines with the Root to create a verb that denotes a relation between an event and an individual. Now above we have shown that the particle verb should not be based on the fully categorized verb; that is, the particle will combine with the Root before the Root has been categorized as a verb, not after. Semantically, I consider that the particle combines with the Root to create a relation, not between an event and an individual, as in the simple transitive above, but between a result state and an individual. The Root, in the environment of a specific particle, then defines the particular result state. Since it is the particle that allows for the relational interpretation of the Root, this analysis shares with the typical small clause analysis that the particle is somehow responsible for the introduction of the internal argument, but it differs in that it is not the particle alone that is the predication base, but the particle and the Root. Thus, this analysis shares features of the typical small clause analysis, but it also incorporates aspects of the complex predicate analysis (Johnson 1991), in which the verb and particle combine together to form one complex morphological word. Here, though, I do not propose that it is a verb that combines with the particle but an acategorial Root.

Once the particle and Root have combined, the categorizing *v* head is then merged to create the particle verb. The Root will then undergo head movement to the *v* head to be categorized as a verb, with subsequent movement up the tree to *v*[EXT].

(26)



There are several important points in this analysis. First, since both the transitive verb and the particle verb are created from the same Root, we do expect that there should be some meaning relationship between them; after all, the Root is simply underspecified with respect to meaning and becomes fully specified in the presence of functional elements. But because the Root is in a different syntactic environment in each case, the Root will get a different interpretation. With the simple transitive,

the meaning of the Root becomes fully specified in the presence of the *v* head, while with the particle verb, the Root becomes fully specified in the presence of the particle. Furthermore, since the functional element that creates the relation is different in each case, and the relation created is different (one involves an individual and an event, the other an individual and a state), the noun phrase arguments that are compatible with the different relations are not necessarily the same. Thus, we do not expect that particle verb and the plain transitive verb to share the same subcategorization requirements, nor do we expect the particle verb to incorporate the meaning of the plain transitive verb.

Second, since it is only the Root that moves to the categorizing *v* head and not the particle, we do not expect verbal inflectional morphology to appear on the particle.

(27) *The scout build upped the fire.

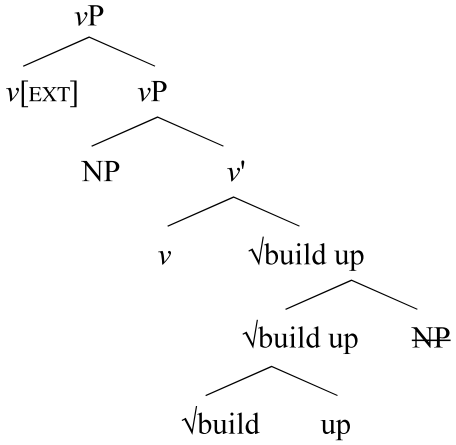
Third, in Arad's analysis, the element that contributes to syntactic categorization is also the element that determines the environment for interpretation; in the examples above the *v* head both categorizes the Root and determines the interpretation. But in this analysis of the particle verb, the environment for interpretation is separate from the environment of categorization. Here, the Root is interpreted in the environment of the particle, but the particle does not categorize the Root; categorization here is accomplished by a separate head. Thus, we need to modify Arad's (2003) claim that Roots are interpreted in the environment of the first categorizing head and consider that Roots are assigned an interpretation, not just in the environment of the first categorizing head, but in the presence of the first functional element it combines with. Particles as well as categorizing heads would be part of the functional vocabulary of the language.[5]

Fourth, the direct object is introduced before the categorizing *v* head is added. In this position, though, the NP will not be able to receive case from *v*[EXT]; Arad (2003) considers the categorizing *v* head to define a phase in the sense of Chomsky (2001). The Phase Impenetrability Condition (PIC) will block any syntactic relation from occurring between an element within the complement of the phasal head and an element that dominates the head. If the direct object is to get case from the *v*[EXT] head, then it cannot remain within the complement of the categorizing *v* head, because this would require a syntactic relation between the *v*[EXT] head that dominates the categorizing *v* head and the direct object inside the complement of the categorizing *v* head. The direct object must move to the specifier of the categorizing *v* head. In such a position, it is assigned case by the *v*[EXT] head, because the specifier of the phasal head is accessible to such relations.[6]

[5] See den Dikken (1995) for arguments that particles are functional elements.

[6] Marantz (1997) argues that with a verb such as *destroy*, the Root $\sqrt{}$stroy combines with a prefix *de-* that introduces the direct object. The analysis presented here further supports this view that the Root need not contain an argument position. See also Harley (2007), who adopts such an analysis for many Latinate verbs.

(28)



In this analysis for the particle verb, the particle can be seen as committing a Root with a pluripotentiality of interpretations to a single interpretation. We predict that there should be a contrast between the range of constructions a simple Root can appear in and those that a Root + particle can appear in. The guiding assumption here is that the Root is underspecified with respect to meaning; its meaning becomes fixed once it appears in a certain syntactic environment. The meaning of the Root is fixed in different environments for the particle verb and plain verb; with the particle verb, the meaning of the Root is fixed in the environment of the particle, while with the plain verb it is fixed in the environment of the categorizing *v* head. As a consequence, we expect that particle verbs should have a different syntactic distribution than their plain counterparts. The following discussion bears out this prediction.

First, as noted in Farrell (2005), there are some words that can occur in a particle verb construction but not a plain verb construction. Although we have particle verbs such as *doll up* and *cozy up*, there are no simple verbs *doll* and *cozy*.

(29) a. They really dolled up your sister for the party.
b. He clammed up and didn't say another word.
c. He finally wised up and stopped cheating.
d. Did you really shack up with her?
e. Let's cozy up to the fire.

In the analysis given here, there will be an underspecified acategorial Root that underlies the particle verb. This Root would combine with a particle and have its interpretation fully specified; such a Root + particle combination would then be categorized as a verb. The Root in this case can receive an interpretation in the environment of the particle; the interpretation in this environment is compatible with a *v* head. For the simple verb, we would have a Root that would combine directly with a categorizing *v* head. But in this case, we can say that the Root would not receive an interpretation in this environment, so there can be no simple verb formed from this Root. We do not say that the verb *doll* can only occur with a particle, but that the Root can be interpreted when it directly merges with a particle but not when it directly merges

with a categorizing *v* head. The Root + particle unit has an interpretation that can combine with a categorizing head.

Second, we also expect that the range of constructions that a particle verb can appear in will be different from that of its plain counterpart. So, for example, some plain verbs can appear in both a transitive and intransitive frame, while their particle verb counterparts resist an intransitive frame.[7]

(30) a. The poet is writing.
b. I'll buy today.
c. The children are playing.
d. The workmen are digging.

(31) a. *The poet is writing up.
b. *The businessman will buy out.
c. *The lawyer is playing up.
d. *The pirates are digging out.

As can be seen from the following, while the plain verb can appear with a nonsubcategorized object such as in the 'X's way' construction, the particle verb cannot.

(32) a. The novelist wrote his way out of debt.
b. The student bought his way into an elite school.
c. The athlete played his way into the hall of fame.
d. The fat man dug his way through the all-you-can-eat buffet.
e. The politician made his way through the crowd.
f. The artist drew his way through school.
g. The explorers cut their way through the jungle.

(33) a. *The novelist wrote up his way out of debt.
b. *The businessman bought out his way onto the Board of Directors.
c. *The athlete played up his way into the hall of fame.
d. *The pirates dug out their way into fortune.
e. *The politician made out his way through the crowd.
f. *The lawyer drew up his way into a sweet deal.
g. *The explorers cut up their way through the jungle.

Also, those verbs under consideration that appear in the material/product alternation (Levin 1993) allow both the 'into' and 'out of/from' frames, while their particle counterparts are usually limited to one frame (usually with 'into'); the particle verb *made up* seems to disallow both frames.

[7] See below for discussion of particles that may turn optionally transitive verbs into obligatorily intransitive verbs.

(34) a. The president built the small liberal arts college into a major research university.
b. The president built a major research university out of a small liberal arts college.
c. The homemaker sewed the pieces of cloth into a dress.
d. The homemaker sewed a dress out of the pieces of cloth.
e. The kindergartener cut the paper into tiny pieces.
f. The kindergartener cut a heart out of the paper.
g. The actor made an old sheet into a costume.
h. The actor made a costume out of an old sheet.
i. The whittler carved the wood into a toy.
j. The whittler carved a toy out of the wood.

(35) a. The president built up the small liberal arts college into a major research university.
b. ??The president built up a major research university out of a small liberal arts college.
c. ?The homemaker sewed up the pieces of cloth into a dress.
d. *The homemaker sewed up a dress out of the cloth.
e. The kindergartener cut up the paper into tiny pieces.
f. *The kindergartener cut up a heart out of the paper.
g. *The actor made up an old sheet into a costume.
h. *The actor made up a costume out of an old sheet.
i. The whittler carved up the wood into a toy.
j. *The whittler carved up the toy out of the wood.

The claim that particles verbs have a different distribution than their plain counterparts is also seen in the following contrast between unergative and unaccusative structures. Levin and Rappaport Hovav (1995) note that verbs of sitting and standing occur with both a 'maintain position' sense and an 'assume position' sense.

(36) a. The cat sat on the sofa.
b. The speaker stood on the platform.

When the verb has the 'maintain position' sense, it is unergative, while under the 'assume position' sense it is unaccusative. Levin and Rappaport Hovav (1995) demonstrate this distinction by observing that when the verbs undergo pseudopassivization, they lose their 'assume position' sense.

(37) a. The sofa was sat on by the cat.
b. The platform was stood on by the speaker.

Since unaccusative verbs do not passivize, they consider this some support for the idea that the 'assume position' sense involves a derived subject.

When a particle is added to these verbs, however, they receive only the 'assume position' reading.

(38) a. The cat sat down on the sofa.
b. The speaker stood up on the platform.

Furthermore, with the particle verb, pseudopassivization is no longer possible.[8]

(39) a. *The sofa was sat down on (by the cat).
b. *The platform was stood up on (by the speaker).

If the 'assume position' sense is associated with unaccusativity, then we see here that the particle verb only has an unaccusative structure. This is not surprising given the above analysis. The particle will combine with a Root; I argue that this Root in combination with the particle is interpreted as a result state. Importantly, the Root + particle will now introduce an internal argument, just as above. The Root + particle structure will then combine with a categorizing *v* head. What is different here than above is that in this case, there is no external argument introduced. For a plain verb, the Root is underspecified; depending on what type of categorizing *v* head it combines with (what 'flavor' *v* it combines with, as in Folli and Harley 2005), it will either be interpreted as an unergative verb (the 'maintain position' sense) or as a change of state verb (the 'assume position' sense). While I do not want to go into the specifics of such an analysis, the important point here is that we see yet again that particle verbs do not have a similar syntactic distribution as their plain counterparts.

Before leaving this section, I want to point out that while the specific analysis given here for the particle verbs under discussion does not necessarily apply to all particles, the general analysis in which a particle combines with a Root to create a structure with a fixed meaning should apply to all particle verbs. While I focus here on transitive particle verbs, in which the particle creates a relational structure and is responsible for introducing the internal argument, it need not be the case that all particles that combine with a Root create such a relational structure. For example, there are certain particles that seem to require intransitivity, as noted in McIntyre (2004). He gives examples where the addition of the particle to an optionally transitive verb requires intransitivity.

(40) a. The musician played (*the guitar) on.
b. The lecturer read (*the book) on.
c. The army fought (*the enemy) on.

We would not want to apply the specific analysis given above to this particle construction, since it is clear that there is no relation between a result state and an individual created. But this does not argue against the general analysis of how particles act; the Root, in the environment of the particle *on*, takes on a fixed meaning. In this case, the fixed meaning does not involve a relational structure and no internal argument is introduced. But we can tell that the Root + particle has a fixed meaning because it no longer has the same possibilities for syntactic combination as the Root alone.

4 Word order and the timing of merger

Given the syntax in (28), we have a nice explanation for the fact that the direct object can appear before the particle. If we consider that the Root moves up the tree through

[8] I thank Marcel den Dikken for pointing this out to me.

the categorizing *v* head to the *v*[EXT] head, the particle will be left behind. With the direct object NP in the specifier of the *v* head, the Root, now categorized as a verb, will appear in the head of *v*[EXT], preceding the NP in the specifier of the categorizing *v*. The NP in specifier position will precede everything dominated by this *v*, which includes the particle. Thus, we get the V NP Part order.

(41) The defense secretary built our troop strength up.

However, as it stands, the above syntax does not generate the alternative order with the direct object after the particle.

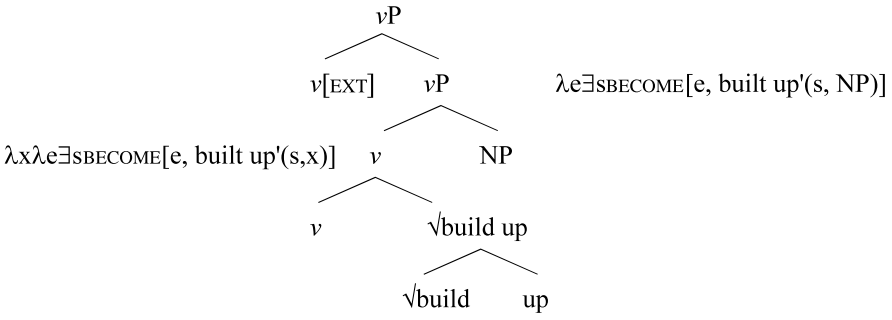
(42) The defense secretary built up our troop strength.

We could suppose that the entire Root + particle is moved into the categorizing *v* head, moving up the tree to *v*[EXT]. Once in this position, it would precede the NP in the specifier of the categorizing *v* head. Conceptually, however, this solution is problematic. If movement of the Root into the *v* head categorizes the Root as a verb, then we might expect that movement of the entire Root and particle into the *v* head would categorize the particle as a verbal element as well. However, it is unlikely that the particle is a verbal element; it never receives verbal inflection, for example.

(43) *The businessman sew upped the deal.

Only the Root moves into the categorizing *v* head, stranding the particle. Forcing the particle to always be stranded, though, does not allow us to explain the word order facts seen above. Fortunately, there is another route to take. In the above structure, the direct object is merged in the structure quite low, before the categorizing *v* head has been added to the structure. Here it was a sister of the Root + particle. It was this low merger that forced the NP to move to the specifier of the categorizing *v*, giving the V NP Part order. However, suppose that we can delay merger of the direct object NP until later, after the categorizing *v* head is added to the structure. In this way, we treat the entire *v* structure as a transitive verb looking for a direct object, a welcome result, since, after all, the verb + particle acts like a transitive verb. The entire *v* structure will have an argument position that the direct object can saturate, since the result state has such a position. The direct object will no longer be within the complement of the *v* phasal head, so it can be assigned case by *v*[EXT]; the direct object is merged in the typical position of a direct object in English, as a sister to the verb. If the verbal Root alone moves up to *v*[EXT], we get the V Part NP order.

(44)



A welcome result here is that we do not need to suppose that there are two places for case assignment. In both orders, the direct object gets its case from the *v* projection that introduces the external argument.

In addition, because the particle verb at the highest *v* node is not different syntactically and semantically than any other transitive verb, it is not surprising that we can see particle verbs conjoined with simple transitive verbs.

(45) a. The chef chopped up and fried the onions.
b. The workmen folded up and stored the chairs.
c. The scoutmaster built up and maintained the fire.

This analysis shares with previous analyses (Johnson 1991; den Dikken 1995; Ramchand and Svenonius 2002) the idea that the V NP Part order involves movement of the direct object while the V Part NP order does not. It also shares with these analyses the idea that the direct object moves for case reasons. It differs from these analyses in that it does not assume that the base order of the direct object in one order is the same as in the other.

Thus, the differing orders seen with the particle verb result from the timing of the merger of the direct object. If we merge the direct object early, before the addition of the categorizing *v* head, it must move to the specifier of *v* to get case, generating the V NP Part order. If we merge the direct object late, after the addition of the *v*, then there is no need to move the direct object and we get the V Part NP order.

Note that with the V Part NP order, there is no small clause representation in the syntax; the predication base for the result state 'built up' does not appear within the same constituent as the result state, nor has it moved from within the constituent containing the predicate to a position outside that constituent. A small clause syntax is present only with the V NP Part order. There is, however, a result state in the semantics that takes the direct object as its argument in both orders.

These syntactic representations also easily account for the contrast in extraction from the direct object in the two different orders (Kayne 1985). When the direct object precedes the particle, it is in a derived left branch position, much like a subject. When the direct object follows the particle, it is in the typical direct object position. Since extraction from a subject is typically bad, we should expect extraction from the direct object to be bad when the object precedes the particle. On the other hand, we expect extraction from the object to be fine when it follows the particle, since the object is a sister to the verb. This is exactly what we observe.

(46) a. *Which city$_i$ did the governor release money to build [a section of t$_i$] up in the coming year?
b. Which city$_i$ did the governor release money to build up [a section of t$_i$] in the coming year?

(47) a. *Which department does the Dean want to write [a report about t$_i$] up for the Provost.
b. Which department does the Dean want to write up [a report about t$_i$] for the Provost?

4.1 Refining the analysis: phases and the introduction of arguments

One attractive feature of this analysis is that it can explain why the particle seems to be both a head and a phrase (Zeller 2002; Neeleman 2002). When the NP object is added before the categorizing *v* head, it has as a syntactic sister the Root + particle. This is similar to those representation in which the particle appears as its own phrase and the NP object is introduced within a projection of the particle. Alternatively, when the NP object is added after the categorizing *v* head, it is a sister to the entire *v* + Root + particle. This is similar to those representations in which the particle appears as part of a complex head with the verb. In this section, we will see that whether or not the particle verb can be either a complex head or a head with a phrasal complement will depend on the phase properties (Chomsky 2001) of the particle verb.

The analysis given above runs into trouble because it suggests that the NP object can be merged at any time either early in the course of the derivation, or late. If there were complete optionality in the timing of NP merger, we would expect there to be no restrictions on the differing orders of the object and the particle. However, there is a well-known restriction on particle movement that suggests there cannot be complete optionality. When a particle is modified, only the V NP Part order is allowed. The examples in (48) show that the particle can be modified by a range of elements (*right*, *back*, *straight*, *clean*, *all*, *the heck*), and in each case the direct object must appear before the particle. Example (48e) is from Farrell (2005).

(48) a. The lawyer drew the contract *right* up *(the contract).
b. The government built the city *back* up *(the city).
c. The clerk wrote the information *straight* down *(the information).
d. The guillotine cut the king's head *clean* off *(the king's head).
e. The baker mixed the ingredients *all* up *(the ingredients).
f. Can't you just turn those lights *the heck* off *(the lights)?

If merger were completely optional, then we would expect both orders here. The fact that we see only the V NP Part order suggests that when the particle is modified, the NP object must be merged low. But why this should be so is a mystery at this point.

The solution to this problem is found in the idea that during the course of a derivation, syntactic units can be sent off for interpretation; in other words, the solution is to be found in the phase properties of the particle verb. Arad (2003), following Marantz (2000), treats a categorizing head as a phase—"once the Root has merged with the first category head, the product of the computation is sent off to the interface levels" (748). In this way, she captures the generalization mentioned in (6) that once the Root combines with a categorizing head, the meaning of the Root is now fixed throughout the derivation. This conception of phases is different from that in Chomsky (2001); Arad suggests that "any head that defines a semantic or phonological domain defines a phase" (748).[9]

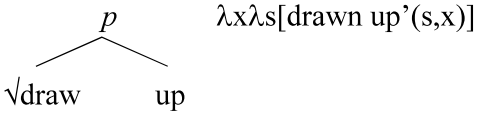
Arad's (2003) approach to phase theory allows us to treat the product of combining the Root and particle as a phase, since I have argued that the particle head is

[9]For Chomsky (2001), (strong) phase heads send only elements in their domain for interpretation at the interface levels. Also, Chomsky does not discuss categorizing *v* heads in connection with phases, although he does consider the *v* head that introduces the external argument to be a phase head.

similar to the categorizing head and that in the environment of the particle (as with a categorizing *v* head), the Root gets a fixed interpretation. Furthermore, assume that when the Root and particle merge, the particle may or may not project and when it projects, its label becomes the label for the structure.[10] Finally, assume that there is also a syntactic component in determining if a head defines a phase in addition to whether or not the head defines a semantic or phonological domain: a phase head must project its category label. Thus, when the particle projects its label, the syntax understands this as a phase and the structure is sent off to the interface levels to be interpreted, but that when the particle does not project, the syntax does not see a phase and the structure is not sent off at this point.

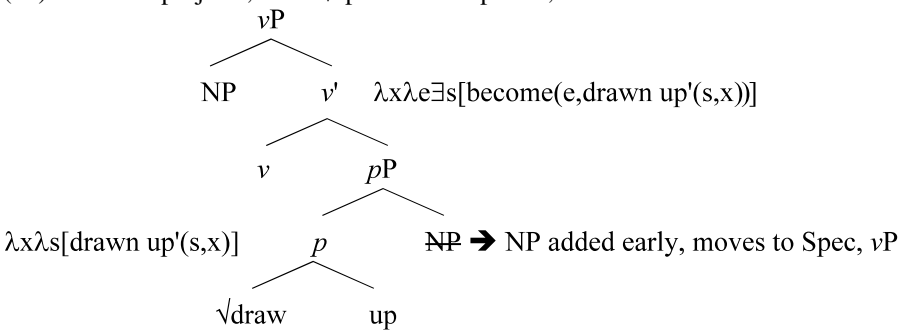
Let us begin with a derivation in which the Root merges with the particle and the particle projects. As discussed above, the structure will be sent off to the interfaces to be interpreted. In this case, the structure is interpreted as a relation between a result state and an individual.

(49)



Now, let us also make the assumption that because the structure has been interpreted, the argument positions introduced must be saturated as soon as possible, before the next phase.[11] This requirement forces the merger of the direct object NP before the merger of the *v* head, which would be the next phasal head.[12] Since the NP is merged low here, it eventually moves to the specifier of the *v* head to receive case. Thus, if we interpret the Root + particle early, we will get the V NP Part order.

(50) Particle projects; Root + particle interpreted; NP added before *v* head



[10]Zeller (2002) also considers the possibility that the particular properties of particle verbs results from an ambiguity in projection. However, in his analysis, the particle combines with a verb, and the ambiguity has to do with whether or not the result is a V′ or simply a V. Neeleman (2002) also adopts an analysis in which the particle either projects a PP or is just a P.

[11]The idea that arguments must be saturated in the next phase recalls Pesetsky's (1989) Earliness Principle, in which certain syntactic filters and conditions must be satisfied as early as possible in the course of a derivation.

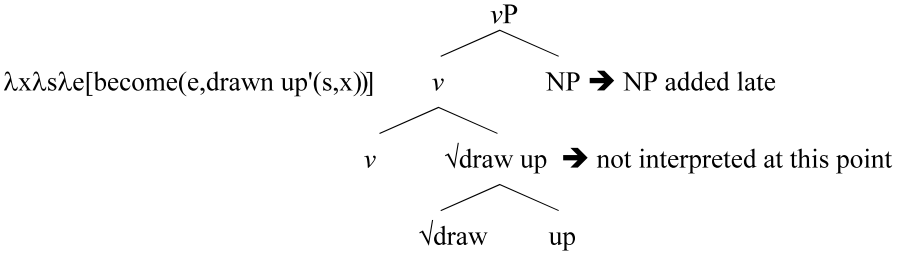
[12]The saturation of the state argument will be discussed below.

Note that, once the Root moves to the *v* head and is categorized as a verb, we have essentially created a structure very similar to that posited in analyses of the particle verb where the verb takes a PP small clause complement, with the direct object projected within this small clause. Thus, we see here that the particle verb can have a phrasal analysis, though with a slightly different structure than previous analyses. In this analysis, the information associated with the verb is basically in two places, with the element that contributes the basic meaning of the verb syntactically within the *p* projection and separated from the information associated with verb's grammatical category. In a typical small clause analysis, all information contributed by the verb is in a separate projection from that associated with the particle.

But we also allow another derivation, in which the particle does not project and the Root + particle is not sent off for interpretation. We might, at first, suggest that it is the Root that projects, but recall that the Root is acategorial so there is no syntactic category feature that it can project. Instead, the complex head composed of the Root + particle is considered from the point of view of the syntax as a complex Root, an element with no categorical information.[13] Here, the structure created is not sent to the interface levels and is not interpreted until the *v* head is added. It should be noted that although the structure is not interpreted at this point, at the point when the complex head is interpreted, it will still be the particle that will determine the particular meaning of the Root.

The NP object cannot be introduced low in the derivation because there is no semantic argument position to saturate at this point. It is not until the *v* head is added and the structure is interpreted as a relation that the NP object can be merged. The relation, though, is more complex than that of the simple Root + particle, since there is more structure here; this relation will contain the event argument as well. Under this late interpretation of the *v* structure, we generate the V Part NP order.

(51) Particle does not project; *v* + Root + Particle interpreted; NP added after *v* head.



How does this help explain why the presence of the modifier forces the NP to merge low? We can recast this question as: why does the presence of the modifier force the particle to project? Note that modifiers such as 'right' are standardly considered to apply to projections of category *p*. Thus, the modifier can be merged into the derivation only if the particle projects; if the particle does not project, then

[13] Zhang (2006), in an analysis of compounds in Chinese, also shows that in certain cases, a Root can be complex, with two Roots combining together before the categorizing head is merged. The situation here is parallel.

there is no *p* projection for the modifier to apply to. Now, given the assumption above that once the particle projects, the Root + particle must be interpreted, we see why the modifier forces the NP to merge low. The presence of the modifier requires an interpreted Root + particle, and an interpreted Root + particle structure requires the NP to be merged before the *v* head. I give a step-by-step derivation below.

(52)	merge Root and particle	[$_{p}$ √draw up]
	Interpret structure	λxλs [drawn up′(s,x)]
	Merge NP	[$_{p\text{P}}$[$_{p}$ √draw up] NP]
	Merge modifier	[$_{p\text{P}}$ right [$_{p\text{P}}$[$_{p}$ √draw up] NP]]
	Merge *v* head	[$_{v\text{P}}$*v*[$_{p\text{P}}$ right [$_{p\text{P}}$[$_{p}$ √draw up] NP]]]
	Move NP	[$_{v\text{P}}$ NP [$_{v'}$ *v*[$_{p\text{P}}$ right [$_{p\text{P}}$[$_{p}$ √draw up] t]]]
	Interpret *v* structure	λxλe∃s [BECOME(e, right′ [drawn up′(s,x))]]

Note that in the derivation above, movement of the direct object NP occurred after the introduction of the (phasal) *v* head and before interpretation. There cannot be immediate interpretation of the structure when *v* is added because there must be an [EPP] feature associated with the light verb that attracts the NP to its specifier. This [EPP] feature must be eliminated by movement because it is uninterpretable. Movement of the NP to the specifier position, at the edge of the phase, occurs to eliminate this feature.

Corroborating evidence for this difference in phase structure determining the saturation of arguments comes from adjectival passives formed from particle verbs. Particle verbs can form adjectival passives.

(53) a. The chairs remained folded up.
b. The jewels remained covered up.
c. The prisoners remained locked up.

However, if the particle is modified, the particle verb can no longer form an adjectival passive.

(54) a. *The chairs remained folded right/back up.
b. *The jewels remained covered right/back up.
c. *The prisoners remained locked right/back up.

Again, we see here how the unmodified particle verb behaves as a complex head, allowing for typical word formation processes, while the modified particle verb does not.

In terms of the analysis, I will follow Kratzer (2000) and treat the semantics here as involving a head that externalizes the state argument and existentially closes the event argument introduced by the verb.

(55) λRλs∃e[R(e,s)]

This participial head will merge with an already categorized verb (more on this below). Now consider a derivation in which the particle does not project and the structure is not interpreted until the categorizing *v* head is added.[14]

(56)	a.	merge Root, particle	[√fold up]
	b.	merge *v* head	[$_{v}$*v*[√fold up]]
	c.	interpret *v* structure	λxλsλe [BECOME(e, folded up′(s, x)]
	d.	merge NP	[$_{vP}$[$_{v}$*v*[√fold up] NP]
	e.	merge participial head	[$_{FP}$ PART [$_{vP}$[$_{v}$*v*[√fold up] NP]]]
	f.	interpret structure	λsλe [BECOME (e, folded up′(s, NP)]

In this derivation, at the point in the derivation in which the participial head is added, both the event and state argument are still unsaturated; the semantics of the structure to which the participial head applies is compatible with the semantics of the participial head. However, if we modify the particle, we have a different derivation in which the particle must project and the Root + particle must be sent off for interpretation.

(57)	a.	merge Root, particle	[$_{p}$√fold up]
	b.	interpret structure	λxλs [folded up′(s,x)]
	c.	merge NP	[$_{pP}$[$_{p}$√fold up] NP]
	d.	merge modifier	[$_{pP}$ right [$_{pP}$[$_{p}$√fold up] NP]]
	e.	merge *v* head	[$_{vP}$*v*[$_{pP}$ right [$_{pP}$[$_{p}$√fold up] NP]]]
	f.	move NP	[$_{vP}$ NP [$_{v'}$*v*[$_{pP}$ right[$_{pP}$[$_{p}$√fold up] t]]]
	g.	interpret *v* structure	λeλs [BECOME(e, folded up′(s,x))]
	h.	merge participial head	[$_{FP}$ PART[$_{vP}$ NP[$_{v'}$*v*[$_{pP}$ right[$_{pP}$ [$_{p}$√ fold up] t]]]]]
	i.	interpret structure	???

Here, we cannot interpret the structure containing the participial head because the state variable has already been existentially closed. The closure of the state variable occurs because of the early interpretation of the Root + particle as a result state, with the introduction of the state variable at this point. At the next phase, when the categorizing *v* head is introduced, this state variable must be saturated. Thus, when the particle projects and the structure interpreted, the individual argument of the state is saturated by the direct object and will be merged low. For the state argument, since there is no syntactic element that closes this variable, I will assume that a default semantic process of existential closure applies here to ensure the state argument is saturated. Because this state variable has already been existentially closed, an adjectival passive cannot be formed.

Note that this analysis differs from that in Kratzer (2000) in that the head that creates the participle is already categorized while Kratzer (2000) claims that the participle creating head combines with an acategorial structure. However, verbs that contain verb-forming morphology can also appear in the adjectival passive construction, in which the *–en/ed* participial morphology appears after the verb forming morphology.

[14]In the derivation illustrated here, for space reasons, I do not include the additional merger of the finite verb as well as movement of the internal argument to subject position.

(58) Do not rotate the telescope on its base if the screw remains tightened.

Here, we have the verb 'tightened' formed from the adjective *tight* by the addition of the verb-making suffix *-en*. This verb then appears with participial morphology, added after the verb-making *-en* suffix. If the participial combines with an acategorial Root, then we would not be able to explain the appearance of *-en* suffix in this adjectival passive. Embick (2004) posits a similar analysis for resultative participles in his framework, in which a functional head that creates the participle (an Asp head) combines with an already categorized verb.[15]

Finally, I would also like to address the well known observation that pronouns are required to appear before the particle.

(59) We drew it up/drew up *it

At first, this data suggests that pronouns must be merged low, in order to appear before the particle. However, it is unlikely that such a condition can be maintained; such a condition is unlikely to be derived from the properties of pronouns and, given my analysis of plain verbs such as *build*, it does appear that pronouns can occur as sisters to *v*, since you can get a pronoun as the object of a verb such as *build*.

(60) The architect built it.

Instead, I allow the pronoun to be merged either high or low, but there is an additional rule that moves pronouns higher up in the structure. I follow a number of authors (Bošković 2002, 2004; Diesing and Jelinek 1995; Farrell 2005) and consider that the pronoun itself has been cliticized to the verb. As the verb moves up the structure, the pronoun is carried along with it, positioning itself before the particle.

5 The syntax of the benefactive double object

Above, I derived the particle verb construction by positing that the particle combines with the Root before categorization. We have seen that the benefactive double object construction cannot be formed in the same way; this construction shares selectional

[15] Particle movement, as shown in (i), also suggests that the particle can project. Since the elements that undergo inversion or topicalization are phrasal elements, if the particle moves, this suggests that the particle must be part of a phrase.

(i) a. On/off went the lights.
b. Down you can go but up, you cannot.

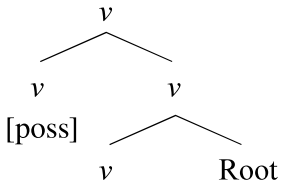
However, the facts from particle movement are not that straightforward. Not all particle verbs allow movement of the particle.

(ii) a. *Off turned the lights.
b. *Up, the family gobbled the turkey.

I leave a complete analysis of this phenomenon for future research. See also Zeller (2001), Wurmbrand (2000), and Cappelle (2002) for discussion and possible analyses of these facts.

properties with the transitive as well as entails the activity denoted by the transitive, indicating that it must be formed from an already categorized Root. Thus, the *v* that forms the benefactive must merge with an already categorized verbal Root. Here again we create a complex head, akin to the structure above when the categorizing *v* head, Root and particle combine (without the particle projecting). The difference between the particle verb and the benefactive verb is that the particle is attached to an uncategorized Root, while the benefactive is attached to an already categorized verb.

(61)



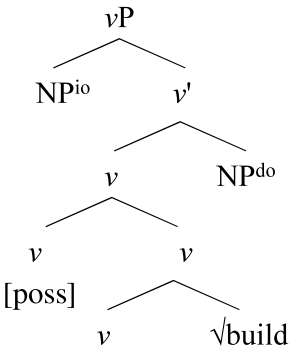
Although we may be clear about when the possessive predicate is merged syntactically, the analysis up to this point is less clear about how the possessive predicate is integrated semantically with the transitive verb. In addition, the analysis is also not clear about the timing of the merger of the indirect and direct objects. The biggest problem here is that of 'object sharing'; the direct object NP is an argument both of the possessive predicate and the transitive verb.

We solve these problems by specifying the semantics of the possessive predicate in the appropriate way. First, we require that the possessive predicate take the transitive verb as one of its arguments; the possessive predicate combines with a transitive verb that has not saturated its direct object argument position. The semantics of the possessive predicate is specified in such a way that the lambda operator that binds the individual argument of the transitive verb also binds the possessed argument of the possessive predicate. In this way, we solve the problem of 'object sharing'. Secondly, since the possessive predicate takes the transitive verb as an argument, we specify in the semantics of the possessive predicate that the event associated with the possessive predicate and the event associated with the transitive verb is the same event; the two events are bound by the same lambda operator and interpreted conjunctively. The semantics of the possessive predicate is as follows.

(62) $\lambda R \lambda x \lambda y \lambda e\ [R(e,x)\ \&\ \textsc{poss}(e,y,x)]$

A derivation for the benefactive verb involves the benefactive possessive morpheme merging with the transitive verb to create a complex head. This complex head then merges with the direct object and finally the indirect object.

(63)



A few clarifications need to be made before going on here. First, the event argument of the possessive predicate must be the same as the event argument of the transitive verb; this means that the possessive predicate in the semantics does not denote a state. If the possessive predicate denotes a state, then it would be impossible for it to combine conjunctively with the transitive verb, with their event arguments bound by the same lambda operator—the transitive verb clearly does not denote a state. Thus, it is unlikely that the possessive predicate is a HAVE predication, which in the literature on decomposition is usually assumed to be stative. However, here we are not forced into requiring that the possessive predicate introduce a result state, since I do not consider the benefactive to contain a small clause result state. Furthermore, note that in this semantics, the event given by the possessive predicate and the event give by the transitive verb are not considered to be in a cause relation; the activity denoted by the transitive verb does not cause a possessive result state. In the semantics here, the addition of the possessive event is considered to augment the event description to be not only an activity event but also a getting event. A benefactive predicate such as *build Peter a house* would denote an event that is both one of building of a house and one of (intending) Peter to come to have a house.[16]

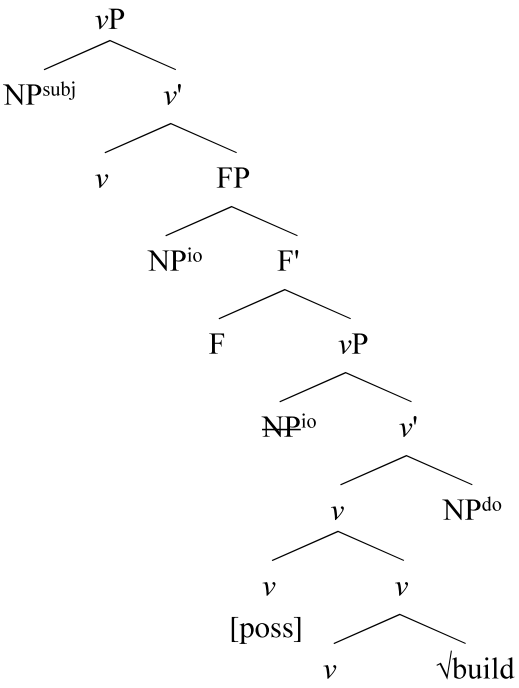
Second, there is the question of how these NPs are case marked.[17] Above, I have followed Chomsky (1995) and Kratzer (1996) and considered that it is the head that introduces the external argument that is responsible for assigning case to the direct object. Here, with the benefactive, there are two arguments that need case. I propose that there is an additional functional projection that will host the indirect object and assign case to the direct object. The indirect object will then receive case from the *v*[EXT] head.[18]

[16]Below, I discuss the possibility that *v*[POSS] is also associated with a modal operator that takes scope over the 'getting' possessive event. In this way, we understand the event as one of intending Peter to have a house. These benefactives, in general, do not require that the indirect object get or have the direct object.

[17]There is more that needs to be said here about case marking and double object constructions, especially with respect to cross-linguistic variation in which argument moves in the passive in double object constructions and applicative constructions. However, I will not pursue these matters here, as the focus is on argument structure and when these arguments are introduced.

[18]An alternative analysis would have this head introduce the indirect object as well as assign case to the direct object, much like *v*[EXT] introduces the external argument of a transitive verb and assigns case to the internal argument. In a sense, the indirect object is the external argument of the possessive predicate.

(64)



Third, there is the question of when the direct object should be introduced. I have argued above that arguments must be merged as soon as possible once their sisters that introduce the semantic argument position have been interpreted. Here, if we continue to assume that the categorizing *v* head is a phase, we would expect the verb created from the Root √build to be interpreted as λxλe [build(x,e)]. Since there is an argument position added, we would expect the object NP to be added at this point, before the addition of the *v*[POSS] head. However, this derivation would not allow the object to saturate the argument position of the possessive predicate.

Notice that in this case, when we do not add the direct object NP, the individual argument position of the verb is still semantically manipulated; here, the individual argument position (as well as the event argument position) is 'caught' by the lambda operator associated with the *v*[POSS] head at the next phase. This suggests that the binding of the argument position by a lambda operator associated with the head of the next phase satisfies the requirement that the argument must be saturated, just as binding of the argument position by an existential operator introduced by the head of the next phase also satisfies this requirement.[19] There is no problem with adding the direct object argument of the transitive verb after the addition of the *v*[POSS] head, because this open argument position is passed along to the next phase, it being the same open argument position associated with the head of the next phase, *v*[POSS].

[19] Allowing the lambda operator associated with the next phasal head to bind an argument introduced at a lower phase would also explain why the event argument does not need to be saturated in the benefactive case as well as in simple cases where the event argument associated with the verb comes to be bound by the lambda operator associated with the *v*[EXT] head after Event Identification.

Let me point out that this analysis is quite different from that double object constructions presented in Pylkkänen (2002). Pylkkänen considers double object constructions in English to be an example of what she calls a low applicative construction. She divides applicative constructions into two types: high and low applicatives. In a high applicative, the applicative head relates an event to an individual. This Bantu example is from Bresnan and Moshi (1993).

(65) N-á-i-zrìc-í-à mbùyà.
FOC-1SG-PRES-run-APPL-FV 9-friend
'He is running for a friend.'

Because the high applicative head relates an individual to an event, we can add an extra benefactive argument to an intransitive unergative verb.

In a low applicative construction, the applicative head involves a possession relation between two individuals. Because English only allows the low applicative head, and the low applicative head relates two individuals to each other, we cannot add a benefactive argument to an intransitive unergative verb in English, since the unergative verb lacks an internal argument that will form one of the individuals in the possessive relation.

(66) *He ran his coach. (does not mean 'he ran for his coach.')

The syntactic structure is different; in the high applicative, the applicative head combines with a VP and introduces the applied argument. In the low applicative, the verb takes as it complement the applicative phrase that has merged with two arguments.[20]

(67) high applicative $[_{\text{VoiceP}}$ NP $^{\text{SUBJ}}$ $[_{\text{ApplP}}$ NP $[_{\text{Appl}'}$ Appl $[_{\text{VP}}$ …V…]]]]
low applicative $[_{\text{VoiceP}}$ NP $^{\text{SUBJ}}$ $[_{\text{VP}}$ V $[_{\text{ApplP}}$ NP $[_{\text{Appl}'}$ Appl NP]]]]

However, here I have shown that the element that contributes the indirect object and possessive semantics combines with an already categorized verb. The merger of the *v*[POSS] is 'high', in the sense that it merges with the verb, but the semantics is 'low' because it involves a possessive relation between the indirect and direct objects. But this possessive relation is considered part of the event described by the whole verb; it is not a result state but an additional part of the overall event description. The benefactive double object construction in English shows that the high/low distinction here is more complicated than Pylkkänen's (2002) analysis suggests.

Note also that it is unlikely that we can derive the benefactive double object construction transformationally from the corresponding prepositional benefactive.

(68) a. The athlete ran for his coach.
b. Susan built a house for her parents.

First, the prepositional construction can be used with intransitives, in which we understand the event as a whole to be done for the benefit of the object of the preposition. As we have seen above, we do not have a corresponding structure in which

[20] Actually, in Pylkkänen's analysis, the low applicative head, which contributes to the possessive meaning, merges with the direct object and the indirect object first to form an Applicative Phrase, and then the Applicative Phrase itself merges with the transitive verb, taking as its argument the transitive verb. The resulting structure is given as one where the verb has the Applicative Phrase as its syntactic complement.

the appearance of an NP alone allows us to have this reading. Second, with transitive verbs, there is an ambiguity with the prepositional variant that is not present with the double object variant. With the prepositional variant, we can understand the sentence to read that the event is done for the benefit of the object of the preposition in addition to a reading where the object of the verb is created for the object of the preposition. However, with the double object variant, we only get the latter reading. Given that the prepositional variant is not parallel to the double object variant, it is reasonable to conclude that we do not derive the double object variant from the prepositional variant.

5.1 Benefactives: not the dative

This analysis for benefactive double objects also contrasts with the analysis given by Harley (2002, 2007) and others for dative double objects. In that analysis, dative double object constructions have a caused possession small clause structure, with a silent HAVE predicate that heads a small clause complement to a causative light verb. The verb itself is introduced as a manner component to this causative light verb.[21]

(69) $[_{vP}\ NP_{SUBJ}\ [_{v'}\ v[_{vP}\ v[\text{CAUSE}]\ (\text{give})\ [_{SC}\ NP^{IO}\ [_{HaveP}\ \text{HAVE}\ NP^{DO}]]]]]$

As discussed above, this type of analysis should not be extended to the benefactive double object construction. We noted above that the benefactive respects the subcategorization restrictions of the simple transitive in addition to entailing the activity of the simple transitive, indicating that it is formed from an already categorized Root. In this section, I add additional evidence which contrasts the benefactive and the dative which shows that the caused possession small clause structure of the dative should not be extended to the benefactive.

First, typical dative double object constructions allow inanimate causers as subjects. This fact follows if the dative has the caused possession structure indicated in (69).

(70) a. The decorations lent the room a festive air.
b. His mistake cost the team the championship.
c. An interview with Nixon gave Norman Mailer a book.
d. Their sudden departure denied us the opportunity to say goodbye.
e. His sudden flash of inspiration offered us a solution to the problem.

Benefactive double objects, on the other hand, license inanimate causers only to the extent that the transitive verb on which they are based licenses inanimate causers. Many of the transitive verbs that form the basis of the double object benefactive are activity verbs that resist inanimate causers, preferring the subject to be agentive and animate (for more discussion, see Folli and Harley 2005). The benefactive double object construction also resists such inanimate causers.

[21] It might also be possible to keep this same basic structure, but instead of the verb Root associating with the causative *v*, we could have the Root merge with the silent HAVE predicate. In this way, we would derive a structure for the dative that is very similar for the particle verb. The silent HAVE predicate would essentially behave much as a particle does; it creates the result state and adds the argument positions. As discussed later on in the text, it does appear that the Root itself may add information to the result state.

(71) a. #The lightning built a fire.
a′. #The lightning built us a fire.
b. #The hot gas stove cooked a fantastic meal.
b′. #The hot gas stove cooked the boys a fantastic meal.
c. ?The loom knitted a sweater.
c′. ?The loom knitted my grandmother a sweater.
d. #His hard work ordered a car.
d′. #His hard work ordered us a car. (cf. His hard work caused us to have a car.)

This pattern is hard to explain if the benefactive double object construction involves a radically different event structure template than the activity verb, as suggested by a caused possession analysis of the dative. Instead, the above data supports that claim that the benefactive is based on the same basic event structure as the activity verb, augmented by the addition of the benefactive possessive predicate.

It is important to note that Folli and Harley (2005) show that the addition of a particle to an activity verb sometimes allows for inanimate causers.

(72) a. #The wind carved the beach.
a′. The wind carved the beach away.
b. #The laundry machine chewed the clothes.
b′. The laundry machine chewed up the clothes.
c. #The sea ate the beach.
c′. The sea ate the beach away.

But this is expected given the proposal here, since the merger of the particle with the Root creates a different event structure. Again, we see how the particle verb contrasts with the benefactive double object construction, with the benefactive preserving the event structure of the simple transitive and the particle verb altering it. This data further supports the proposal that the benefactive and particle verb constructions do not have a similar small clause structure.

Second, the above structure for the dative requires the possessive predicate to be the result state of the causative activity, with the verb specifying the manner of causation of the possessive result state. However, there is a small group of verbs of preparation that involve a change of state that can be used in the benefactive.

(73) a. The sous-chef chopped Emeril some onions.
b. Romeo lit Juliet a candle.
c. The deli manager shredded his customer some cheese.

In (73c), for example, the *cheese* comes to be in the state of being shredded, in addition to being part of the possession relation with *his customer*. If the double object involves only a possession result state, with the verb specifying the manner and not the state, it is hard to see how the theme can also be in the result state given by the main verb. However, if the benefactive simply augments the transitive verb *shred* without replacing its result state with a possession result state, we can see how the theme can come to be in the result state given by the main verb.

Third, there is a distinction between the attainment of the possessive relation in the dative and the benefactive. With benefactive verbs, the possessive relation need not

be realized; it is possible to add an additional clause that denies there is a possession relation between the direct and indirect objects.

(74) a. I bought Alice a watch, but decided not to give it to her.
b. The cook baked Bill a cake, but then sold it to someone else.
c. The school ordered the students some laptops, but they never arrived.

Here, with the benefactive, the possessive relation is only intended. Thus, if I buy Alice a watch, I am involved in an event that is both an event of me buying a watch and an event of me intending Alice to get a watch. It appears that *v*[POSS] is associated with a modal operator that takes scope over the 'getting' event.

The lack of an actual possessive result state contrasts with clear change of state verbs and well as resultative constructions. In both these cases, in contrast to the benefactive above, it is not possible to deny that a result state has been achieved.

(75) a. #I closed the door but the door isn't closed.
b. #I hammered the metal flat but the metal isn't flat.

If the benefactive does encode a possessive result state, it would be hard to explain why the result state need not be achieved.

Of course, we should expect an actual possessive state with dative verbs. However, the situation is more complex. There is a class of dative verbs such as *give* and *lend* in which it is not possible to deny the possessive result state, as expected.

(76) a. I gave Alice a watch, #but she didn't get a watch.
b. The school lent us a computer, #but we never got a computer.

There are other double object verbs that involve a non-possession relation between the indirect and direct object.

(77) a. His mistake cost us the championship.
b. The evil boss denied the worker a raise.
c. We spared him the bad news.

In (77b), we understand that the result state here is one in which the worker does not have a raise. It appears that in these cases, it is part of the meaning of the verb (Root) itself that contributes the negativity operator; the Root itself adds a negative operator to the HAVE predicate in the result state. Note that this situation is still different from the benefactive above; a result state is achieved, but the result state here is one of non-possession.

A third class also involves intended or future possession, which at first may seem to be just like the benefactive class.

(78) a. Steve offered Susan a cookie, but she didn't take it.
b. Mom promised Rita a car, but Rita never got one.

But there is a difference between the verbs in this class and the benefactive. Here again, it appears to be part of the meaning of the verb itself that the possession relation is modalized (Rappaport Hovav and Levin 2008); like the class of non-possession verbs above, it would be the Root itself that adds an operator to the result state. With the benefactives, it would be hard to see how verbs such as *build*, *cook*, *sew*, etc. encode as part of their meaning that a possessive predicate which may be added would

have a modal operator associated with it. Furthermore, if the operator associated with the possessive in the benefactive were given by the Root itself, we would expect some idiosyncrasy. Above, with the dative, the operator that is associated with the Root is sometimes a negative operator and sometimes a modal operator (and sometimes there is no special operator at all, as with *give*). But with the benefactive, the possessive relation is remarkably uniform; it is always one of intended possession, never dispossession and never actual possession. This makes it unlikely that the verb Root itself is contributing the operator in the benefactive.

There is one final class of verbs that appear to be dative double objects, yet in terms of their possession relation actually behave more like benefactives. This class of verbs is primarily verbs of motion such as *send*, *throw*, etc.

(79) a. I sent Maggie some chocolates but she didn't get them.
b. The pitcher threw the catcher the ball, but he threw it wide, so the catcher never got it.

Like the benefactives, it would be hard to see how the verb itself contributes the modal operator to the possessive structure. I will set aside this class of verbs for the moment, as later on I will argue that they have more in common with benefactives than datives and should be analyzed as such.

To sum up, dative double object verbs have a true caused possession small clause structure. These verbs allow inanimate causers, actualize their result state, and seem to be able to add operators and conditions to this result state. Benefactive double object verbs, on the other hand, allow inanimate causers only to the extent that the transitive verbs on which they are based do, involve only intended possession and are remarkably uniform in the type of possession they encode.

It is possible to find a verb that can actually appear in both types of constructions. The verb *bring* appears to allow both a benefactive reading and a dative reading. In the dative reading, it involves caused possession. In the benefactive reading, it involves a verb of motion that has been augmented with a benefactive possessive predicate. Consider the following contrast.

(80) a. Romeo brought Juliet some flowers (but she never got them).
b. Those heavy April showers brought us some nice May flowers (#but we didn't get nice flowers this May).

In (80a), when we have an agentive subject, we can deny that Juliet has the flowers. Here we see a benefactive structure. However, in (80b), with an inanimate causer subject, we cannot deny the state of possession, showing the caused possession structure. It is not the case that the lack of an intended possession reading results because the subject is not animate, as the following sentence shows.

(81) The trains brought the homesteaders some supplies (but they never bothered to get them).

Note also that we can add a source phrase to the example in (81a), but not (81b), again showing that the first example involves a verb of motion while the second involves caused possession.

(82) a. Romeo brought Juliet some flowers yesterday from the garden.
b. #Those April showers brought us some May flowers from the garden.

For (82a), the structure would be as a benefactive, with a *v*[POSS] added to the transitive verb *bring*. For (82b), the structure would be as a dative, with a causative light verb taking a small clause complement headed by a silent HAVE predicate.

(83) a. [$_{vP}$ Romeo [$_{v'}$ *v*[$_{vP}$ Juliet [$_{v'}$[$_{v}$*v*[POSS] [$_{v}$*v*√bring]] flowers]]]]]]]
b. [$_{vP}$ The rain [$_{v'}$ *v*[$_{vP}$ us [$_{v'}$ *v* (bring) [$_{SC}$ us [$_{HaveP}$ HAVE flowers]]]]]]

6 Benefactives and particle verbs

Because the particle combines with an acategorial Root, while the possessive structure combines with an already categorized verb, we should expect particle verbs to occur in the benefactive double object construction. This prediction is borne out. Here, I show a range of verb particle combinations that occur in the benefactive.[22]

(84) a. The scientist wrote the committee up a report of his findings.
b. The mother fixed the children up a nutritious lunch.
c. I cooked her up something special.
d. The cub master built the scouts up a fire.
e. The lawyer drew his client up a contract.

(85) a. The clerk wrote us out a list of problems.
b. The student printed his advisor out a copy of the first chapter.
c. We poured our guests out some drinks.
d. The mother picked her daughter out a nice dress.

(86) a. Break me off a piece of that Kit-Kat bar!
b. The baker tore the customers off some bread.
c. The butcher sliced us off a chunk of meat.

The examples above give the unmarked order of the verb, particle, indirect and direct object: V NP^{IO} Part NP^{DO}. However, this is not the only order possible. As reported in Emonds (1976), Johnson (1991), den Dikken (1995), Farrell (2005), and McIntyre (2007), it is possible to have the particle precede both NPs, although not all speakers accept this order.

(87) a. %I printed out my advisor a copy of the first chapter.
b. %The mother picked out her daughter a nice dress.
c. %I fixed up my mom a nice basket.

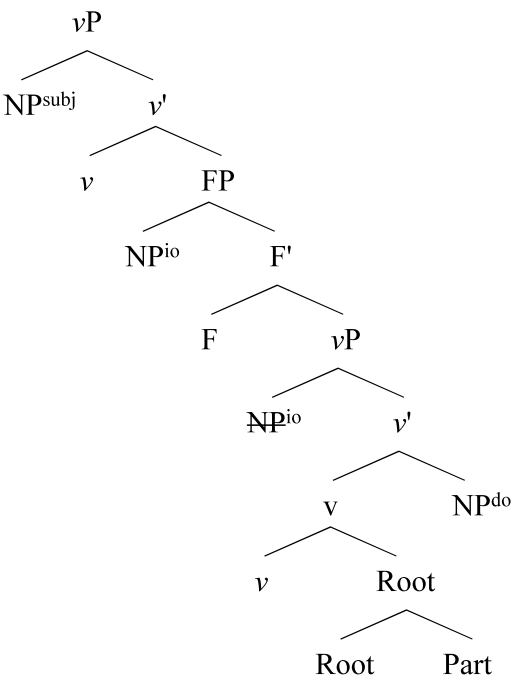
Finally, it is also possible for the particle to appear after both objects; this order is the most marked, but Johnson (1991), den Dikken (1995), McIntyre (2007), and Farrell (2005) all note its existence. Many speakers reject such sentences and those who do accept such constructions often accept some but not others.

[22] Keyser and Roeper (1992) consider that the double object construction is not possible with particle verbs. Harley (2007) also suggests that double object particle verbs are not possible. The examples in the text are perfectly fine for a number of speakers. Other researchers, such as Johnson (1991), den Dikken (1995), Farrell (2005), and McIntyre (2007) also give examples of particle verbs in the double object construction.

(88) a. ??I'll draw my client a contract up.
b. ?I'll print you a copy out.

With these basic facts in mind, we can turn to the analysis. In the basic V NP Part NP order that is accepted by everyone, we need no additional stipulation to generate this structure. As we have seen, the benefactive *v* merges with an already categorized (transitive) verb. The direct object is an argument of both the benefactive *v* and the transitive verb. The important point here is that the direct object must be merged high—it must not merged below the categorizing *v* head—because it must come to saturate the argument position of the possessive predicate as well as the particle verb. Low merger of the object NP in the particle verb would allow the argument position of the particle verb to be saturated, but not the possessive predicate. Because the direct object is merged high, it will appear after the particle. Because the indirect object appears in the specifier of FP dominating the particle verb, it will appear also before the particle. Once the Root moves up the tree to *v*[EXT], it will appear before the IO, particle, and DO. I give the structure for sentence (56a) below.

(89)



Furthermore, as pointed out in den Dikken (1995), it is not possible for the particle to be modified here.

(90) *The lawyer drew his client right up a contract.

This lack of modification is expected given the above analysis. Since the direct object is not added until after the categorizing *v* head is added to the Root + particle, we do not expect the particle to be modified. When the particle is modified, the direct

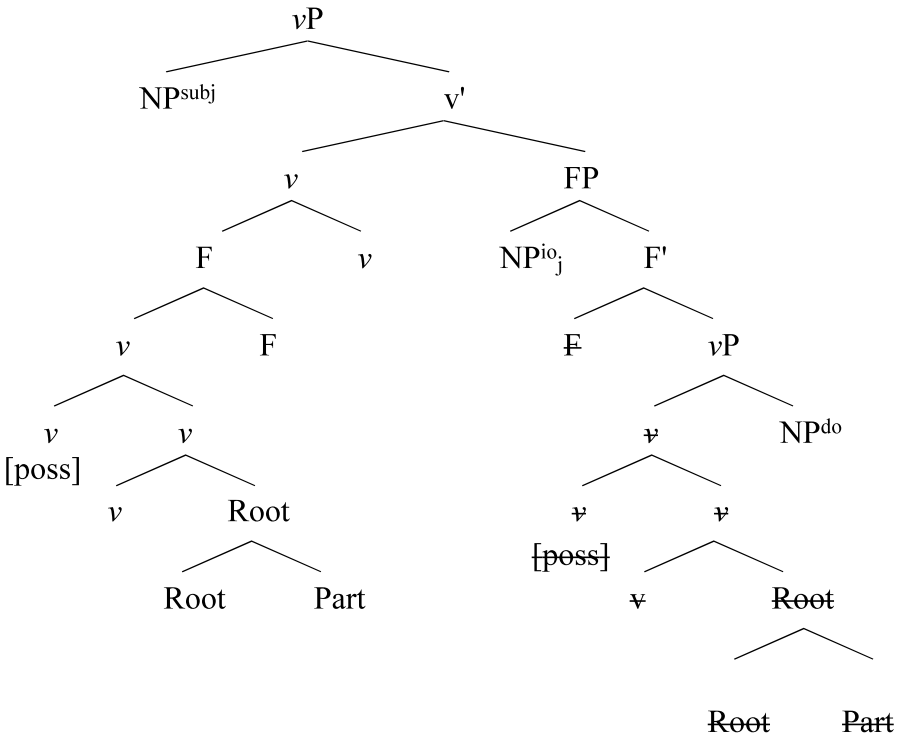
object would have to be added before the categorizing *v* head, as discussed above. If this occurs, then the direct object would not be able to saturate the argument position of the possessive structure.

We have also seen that the particle can appear before both NPs, this example from Farrell (2005).

(91) Can you fix up my sister a nice basket?

This order can also be derived given the above structure, if we allow for the entire complex head created to move up the tree to *v*[EXT] (see also McIntyre 2007). The Root moves to *v* to be categorized, and then the entire complex head moves up the tree. If this entire complex head moves through F to Voice, the verb and particle will precede both the indirect and direct object.[23]

(92)



Allowing the movement of the *v* head that dominates the Root and particle has consequences for the analysis of particle verbs in general. Recall from above that with the particle verb, I argued that the Root moves to the categorizing *v* head and then the *v* head containing the Root moves up the tree. Here, I seem to be allowing

[23] Here, to make the tree structure easier to read, I do not show the complex head in the head of FP, nor do I show movement of the Root to the categorizing *v* head.

more material to move up the tree. We need to investigate the repercussions that this analysis has for the simple particle constructions.[24]

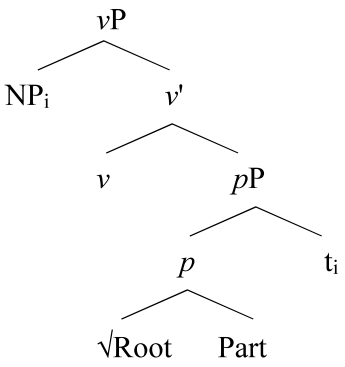
If the NP object is merged high, allowing the entire v + Root + particle to move up the tree would be vacuous in terms of word order, because even after movement of the entire structure here the particle would still precede the NP.

(93) [$_{vP}$the lawyer [$_{v'}$[$_{v}$√draw up]] [$_{vP}$[v~~√draw up~~] [the contract]]]]

The problem may seem to come when the NP object is merged low. If the NP is merged low, with subsequent movement of the entire v + Root + particle up the tree, the particle would come to precede the object NP. At first, this may not seem to be a problem; we would just have more than one way to derive the V Part NP order. However, we run into a problem in those cases where the particle is modified. In this case, we expect that the modifier and the particle would precede the object NP, contrary to the data shown above. We need to rule out such a derivation.

It appears that when the object NP is merged low, only the v containing the Root can move up the tree; the particle must be left behind. In this case, the v + Root + particle no longer acts as a complex head. Consider the structure when the object is merged low, with subsequent movement of the object.

(94)



In order for the entire v + Root + particle to move, excluding the NP, we would actually have to move an X′ unit, not a head. Even if such an X′ unit could move, we would not be moving a head into another head position. Thus, we see that when the NP is merged low, the v + Root + particle cannot move up the tree because this structure is no longer a head at this point.

It is also possible for the particle to occur finally, after both the direct object and indirect object. However, many researchers have reported that such V NP NP Part structures are not allowed. But there is also a significant body of work which argues that such structures are grammatical. I find many, but not all, of these types of examples bad. Since there does seem to be the possibility of such constructions, we need also to explain how such constructions are generated.

[24]It is important to note that the particle itself does not move to the categorizing v head, only the Root, since the particle does not appear with verbal inflection. The particle is carried along up the tree when the complex v is moved.

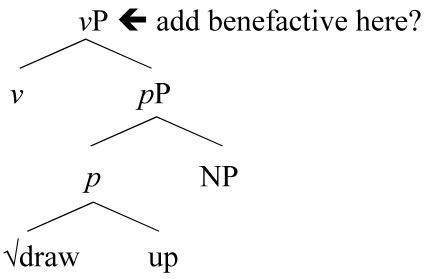
The first observation that is relevant is that the particle can be modified by elements such as *right* (den Dikken 1995). In terms of this analysis, this fact suggests that the direct object must be merged low here and that the particle projects.

(95) a. I'll print you a copy right out.
b. I'll draw my client a contract right up.

Intuitively, it makes sense that the benefactive would typically not be allowed with this type of particle structure. When the particle projects and the object is merged low, we create a *v*P structure for the particle verb, but when it does not we have a complex *v* head. If we think of the benefactive as a 'word' level process, we would expect that it would attach to the complex *v* head (a word) and not a *v*P (a phrase). Nonetheless, since several researchers have indicated that such an order in possible, we need to give an explanation.

Given the assumptions made about particle verbs and the benefactive construction made above, this word order is very difficult to derive. Recall again the structure of the particle verb in which the object is merged low.

(96)

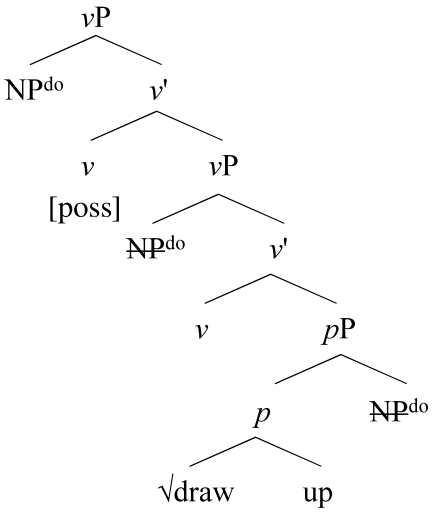


We would try to integrate the benefactive *v*[POSS] at this point. However, the NP object here would not be able to saturate the argument position of the benefactive because it is merged too low.

However, recall that the NP merged low here must move to the specifier of the categorizing *v* of the particle verb; above, I have argued that the categorizing *v* of the particle verb contains an [EPP] feature that attracts the NP object merged low to its specifier position. We may think that this movement of the object would allow the object to move high enough to saturate the argument position of the benefactive. But recall that the benefactive attaches outside the *v* projection of the categorizing *v* head, and that the low object moves to the specifier position of the categorizing *v* head. Thus, even if we move the object, since the benefactive *v* is merged into the structure after movement, the object would still be too low to saturate the argument position of the benefactive *v*.

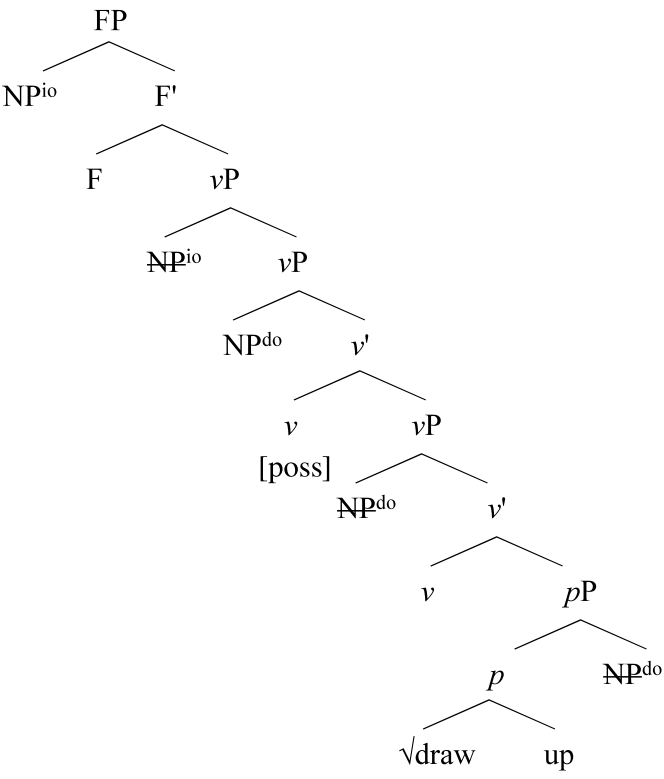
However, the object can move high enough to allow it to c-command the benefactive head if we allow the benefactive *v*[POSS] to host an [EPP] feature. Here, the object moves to the specifier of benefactive *v* from the specifier of *v*P; in such a position, it can saturate the argument position introduced by the benefactive.

(97)



We continue on with the derivation, merging the indirect object with the *v*P to create a multiple specifier structure. The indirect object later moves to the specifier of FP. Only the Root can move up the structure, not the entire complex head, since the particle projects in this case. Therefore, we will generate the V NP NP Part order.

(98)



6.1 Do dative double object particle verbs exist? Some datives are benefactives

Finally, there remains the question of the availability of dative double object constructions with particle verbs. So far, I have contrasted the benefactives with true datives, noting that true datives do seem to involve a caused possession syntax and semantics with a small clause structure but benefactives do not. In an analysis for the dative such as that given in Harley (2002, 2007), the dative double object construction involves a small clause headed by a silent HAVE predicate. This small clause acts as a complement to a causative *v* head. Here, we would expect dative double objects to be in complementary distribution with particle verbs if particle verbs also involve such a structure. Harley (2007) makes the same claim; she remarks that it is generally the case that double object particle verbs are not possible, with an occasional example showing here and there. The analysis given here shows that at least benefactive double object particle verbs are possible. This fact does not challenge Harley's analysis, as I have shown above that benefactives do not involve a small clause structure.

There do exist such dative particle verbs, however. One class of examples involve the double object particle verb with verbs of sending, such as *send out*, *mail out*, *send up* etc.; these seem to be datives, as they have a *to* paraphrase.

(99) a. Bob sent/mailed the stockholders out a schedule.
b. Bob sent/mailed out a schedule to the stockholders.

(100) a. The concierge sent the guests up some room service.
b. The concierge sent up some room service to the guests.

Though they seem to be datives, I argue that double object constructions with verbs such as *send* seem to have more in common with benefactives than datives of the *give* type, showing that we do not always have a caused possession small clause structure here. Double objects with *send* type verbs can have a *v*[POSS] that has been added to a transitive verb; in other words, these *send* type verbs can have a benefactive structure.

First, as mentioned above, *send* verbs can have an intended possessive reading, just like benefactives.

(101) Romeo sent/mailed/shipped Juliet some flowers (but she didn't get them).

Again, this is not the result of having an animate subject, because inanimate subjects also allow this reading.

(102) The satellite sent mission control a message, but the computer must have been down because mission control never got it.

A good contrast in this respect is shown in the following examples between *bring* and *send*. As discussed above, the verb *bring* can be a verb of motion but it also has a caused possession sense with an inanimate subject. Note that in (102b), with an inanimate causer subject, we cannot deny the possessive relationship. However, with a similar example with *send*, it is possible to deny the possessive relationship, indicating the lack of a caused possession structure. Here, we would have the *v*[POSS] benefactive structure.

(103) a. Alice's mother sent her some luck during her linguistics final (but Alice must not have gotten it, because she failed her test).
b. Alice's rabbit foot brought her some luck during her linguistics final (#but she must not have gotten it, because she failed her test).

Also, *send* type verbs typically (though not always, see below) do not allow inanimate causers, as the following contrast between *send* and *bring* show.

(104) a. Autumn brought us some rain.
b. His actions brought his family shame.
c. Marriage brought them happiness.

(105) a. #Autumn sent us some rain.
b. #His actions sent his family shame.
c. #Marriage sent them happiness.

If this analysis is on the right track, then verbs such as *send* in the double object construction do not necessarily involve a small clause headed by a silent HAVE, but can have a syntax exactly like typical benefactives. For *send*, we would have a basic transitive verb that has been augmented by a *v*[POSS] to create the double object structure. Therefore, particle verbs such as *send out* are not unexpected, as these would involve a *v*[POSS] merged with the transitive particle verb 'send out', just as we have analyzed other particle verbs.

Further support that *send* can involve a benefactive-like syntax comes from the behavior of *send* in the particle verb construction with inanimate subjects. Although *send* typically does not allow inanimate causers, there do exist some examples in the double object construction.

(106) The withdrawal of the diplomat sent the dictator a message.

The interesting contrast comes when we add a particle to such a construction. Although the particle verb can occur in the simple transitive, it cannot occur in the double object construction; its plain counterpart, which has a very similar meaning, can occur in both.

(107) a. The withdrawal of the diplomat sent a message.
b. The withdrawal of the diplomat sent the dictator a message.

(108) a. The withdrawal of the diplomat sent out a message.
b. *The withdrawal of the diplomat sent the dictator out a message.

Again, this contrasts with the particle verb when we have an animate subject; the particle and indirect object are allowed (see (99)).

We see similar results with other verbs; the particle verb allows a double object construction but does not allow an inanimate causer subject with a double object construction. As discussed above, the verb *bring* in a double object construction allows both a benefactive reading and a caused possession reading. The same is true for *leave*. In the following examples, the first set (109) involves benefactives, the second (110) caused possession (datives).

(109) a. The cook brought the customers a delicious meal.
b. The children left Santa some sugar cookies.

(110) a. His resignation brought us a number of problems.
b. His resignation left us a number of problems.

However, when a particle is added, the verb loses the caused possession reading, having only the benefactive reading. We can see the loss of the caused possession (dative) reading with the particle verb in two ways. First, the particle verb only has an intended possessive reading.

(111) a. The cook brought the customers out a delicious meal (but once he brought it to their table, he realized they were gone).
b. The children left Santa out some cookies (but he never took them).

Second, the particle verb no longer allows inanimate causers when the particle verb occurs in the double object construction.[25]

(112) a. Marriage brought them happiness.
b. #Marriage brought them out happiness.

(113) a. The workers's strike left the company some problems.
b. *The workers's strike left the company out some problems.

This loss of a caused possession reading is expected if the dative involves a small clause structure, which is in complementary distribution with the particle verb. Since the benefactive does not involve such a small clause structure, it is allowed with particle verbs, but the benefactive does not allow a causer subject. When a causer subject is present with a double object construction, we must have a small clause HAVE structure, but this structure does not allow a particle.

A second group of particle verbs that seem to involve the dative double object construction are particle verbs based on true datives such as *give out*, *lend out*, etc.

(114) a. The teacher gave the students out a copy of syllabus.
b. I lent my best friend out my favorite CD.

As expected, these plain verbs can have inanimate causers, but the particle verb counterparts cannot.

(115) a. *Being constantly late will give the committee out a bad impression.
a′. Being constantly late will give the committee a bad impression.
b. *The decorations lent the party out a festive air.
b′. The decorations lent the party a festive air.

[25]The simple transitive particle verb does allow inanimate causers, but this fact does not detract from the claim made here that when the particle verb occurs in the double object construction, we have a benefactive-like syntax and not a caused possession syntax.

(i) Her dress brings out the color of her eyes.

The example with *give out* is particularly telling. Note that an inanimate causer is possible in the transitive particle verb construction, but not in the ditransitive construction. However, the plain verb is fine in both.

(116) a. Being constantly late gave out a bad impression.
b. Being constantly late gave a bad impression.

(117) a. *Being constantly late gave the committee out a bad impression.
b. Being constantly late gave the committee a bad impression.

This behavior is expected if the dative small clause structure is not allowed with a particle verb. The particle verb itself can be transitive and have an inanimate causer subject, but the Root + particle structure only introduces a single internal argument. There is no silent HAVE predicate, so two internal arguments are not possible. The plain verb can appear in the HAVE small clause structure, but the addition of the particle no longer allows such a structure to be available.[26]

We also should expect here only an intended possession reading in the double object construction. Curiously, this is not the case.

(118) a. The teacher gave the students out a copy of the syllabus (#but the students didn't get a copy).
b. I lent my friend out my favorite CD (#but my friend didn't get it).

However, although I do not consider the benefactive possessive predicate (v[POSS]) itself to be a caused result state, the particle verb will give a caused result state. Recall from above that the Root + particle can be interpreted as a result state. The actual possessive reading comes from how we interpret the caused result state of the particle verb. In these examples, the theme is an argument of the result state *given out* and *lent out* respectively. If a theme has the property of being *given out* or *lent out*, then the result state implies that the theme must also be in the possession of someone else. The addition of v[POSS] in the syntax and a possessive predicate in the semantics augments the event denoted by the particle verb to include an event of intending someone to get the object. Since result state of the particle verb implies that the theme is in the actual possession of someone else, and the v[POSS] adds the intended possessor, integrating the information from both elements would imply that the intended possessor is the actual possessor—the indirect object is the actual possessor.

Note that even in the transitive construction, the particle verb still implies that there is someone who gets the theme, showing that the actual possessive reading is given by the particle verb itself and not from a HAVE predicate associated with a double object construction. Contrast these examples in (119) with *left out* in (120); this verb in the benefactive, as shown above, has the 'intended possession' reading. The transitive particle verb *left out* does not imply that anyone has the theme, but the transitive particle verbs *give out* and *lend out* do.

[26]The transitive particle verb in this sense also does not allow the addition of v[POSS] here. Above, in footnote 2, I noted that not all transitive verbs allow the addition of the benefactive. It seems that a necessary, though not sufficient, condition for the addition of v[POSS] is for the subject to have some sort of physical control over the theme at some point during the event. I leave it for future research to delineate the specific restrictions that allow some verbs but not others to be augmented with v[POSS].

(119) a. The teacher gave out the syllabus (#but nobody got a syllabus).
b. I lent out my CD (#but nobody got my CD).

(120) I left out some cookies, and surprisingly no one took them.

These examples support the notion that the actualized possession reading comes not from the double object construction, but from the result state of the particle verb.

Double object particle verbs, therefore, involve a benefactive-like syntax, with the addition of a higher *v*[POSS] head to an already categorized verb.

7 Conclusion

This article demonstrates that the benefactive double object construction does not involve a small clause structure, in contrast to the particle verb construction and more familiar dative construction. The difference between the benefactive and the particle verb construction concerns the timing of the merger of a functional element with the Root. With the particle verb, the particle combines with the Root before it is categorized, while with the benefactive, an additional *v* head combines with an already categorized Root. In addition, we have shown that the particle verb can behave sometimes as a phrase and sometimes as a complex head, depending on whether or not the particle projects its label. This difference in projection explains the differences found in the word order between the particle and the direct object.

The benefactive double object construction differs from the better-researched dative double object construction; the dative does involve a caused possession small clause structure. Dative double objects, therefore, do not occur with particle verbs. Those examples of dative double object particle verbs, such as *send out*, involve not a caused possession small clause structure but a benefactive structure, with a *v*[POSS] added to a transitive verb.

While this article agrees with many researchers that object arguments can be introduced in the syntax itself and not be specified by a Root, it shows that there are several different points in the derivation where an object can be introduced. Object arguments can be introduced before the Root is categorized as a verb (the particle verb construction when the object precedes the particle), at the point of categorization (a simple transitive verb or particle verb when the object follows the particle) or after the point of categorization (the recipient indirect object in a benefactive double object construction). In this way, we can account for the differing transitivity frames a verb may have while maintaining that in each frame, the verb is created from the same, relationless Root. In each case, it is a different functional element that creates or adds to the relational structure, allowing for the merger of noun phrases into the syntax.

Finally, this article proposes that merger of argument noun phrases into the syntax is sensitive to the phase structure of the clause. At different points in the derivation, structure is sent off to the interfaces to be interpreted. When such structures are interpreted as having an open argument position, that argument position must be saturated before the next phase.

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