On Particle Verbs in English: More Evidence from Information Structure

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1 Introduction

It is a well known fact that transitive particle verbs (PV) in English occur in two different constructions, namely the continuous one, where the particle is adjacent to the verb and precedes the nominal complement as in (1a), and the discontinuous one where the particle follows the nominal complement (1b).

(1) a) I carry in the tray. / I look up the word. / I eat up my dinner.
   b) I carry the tray in. / I look the word up. / I eat my dinner up.

This paper deals with the influence that the information structure (IS) has on the choice of the construction. The remainder of the paper is organized as follows: In section 2 I want to provide a survey of the main assumptions that can be found in the literature on particle verbs with respect to IS. I am also going to briefly introduce the IS model that my analysis is based on (section 3). In section 4 I map the evidence from IS onto the syntactic structure of particle verbs. I claim that the overt syntactic movement of the nominal complement is triggered by a focus feature \([F]\), i.e. by the mismatch between a DP that is negatively specified for the focus feature and its position within the focus domain. In section 5 I want to show that the focus feature corresponds to a prominence feature in phonology. This claim is supported by data from a pilot study on intonation. I make some final remarks in section 6.

2 Particle verbs and information structure

The idea that the particle verb construction in English is influenced by the context, that is by information structure, is not new. In the literature (cf. Erades 1961, Bolinger 1971, Chen 1986, Olsen 1996, 1997 among others) three main assumptions about the influence of the information structure on the positions of the particle and the complement in English particle verb constructions can be found. Firstly, the final object position is the neutral one, secondly, objects carrying new information focus are realised in the sentence final position, and thirdly, objects that belong to the background of the sentence, i.e. that do not introduce new information, occur between the verb and the particle. Following Jackendoff (1972) I roughly define focus as new information that is not shared between the speaker and the hearer and background (= presupposition) as information that is shared by speaker and hearer, i.e. that is familiar to both of them.

The first assumption about the neutral object position is, I argue, supported by the syntactic and morphological behaviour of PV, e.g. in nominalization processes, wh-extraction, types of complements, etc (cf. Nicol 1999 for details and examples).

I have shown that the continuous construction is the neutral one in an experiment in speech production. (cf. Dehé 1999).

There are many examples supporting assumptions 2 and 3. For space reasons, I can only mention a few.

2.1 Nominal objects which introduce new information into the context occur in the sentence final position

These can be simple DPs, of course, or, most obviously, modified DPs, as modification of the DP leads to an increase of its news value and to focus placement on the DP, as in (2) and (3). In (2) the DP the villa follows the particle because of its modification by the sentence introduced by that. In (3), the DP the means is modified by the by which phrase and therefore occurs in the sentence final position.

(2) After a few years he could not endure to be long out of England, and gave up the villa that he had shared at Trouville with Lord Henry, as well as the little white walled-in house at Algiers, where they had more than once spent the winter.

(Oscar Wilde, The Picture of Dorian Gray)

(3) Even if euro-efficiency brings a new era of growth and job creation ... there will be a time lag of several years that could prove to be more than...
Europeans are willing to tolerate. But they will turn in vain to their politicians for relief, because the politicians are giving up the means by which they traditionally reduce unemployment and absorb economic shocks.

(TIME Magazine May 11, 1998:26)

Also, focused pronouns can follow the verb-particle complex, as in (4).

(4) The lights won't pick up THIS.

(Olsen 1996:279 (35b))

2.2 Nominal objects that do not introduce new information but refer to somehow familiar entities occur between the verb and the particle

Typically, DP-objects which are pronouns are background constituents. In general (i.e. in cases where they are not focused as in (4) above) pronouns refer to a well-known entity, to a noun that has been mentioned before in the context. Therefore pronouns are placed between the verb and the particle. This is illustrated by the example in (5).

(5) „Pollyanna, you may bring out your clothes now, and I will look them over.“

(E.H. Porter, Pollyanna)

The first complement DP your clothes introduces new information, which is why it follows the particle. The pronominal complement them refers to this familiar entity, and therefore precedes the particle.

Semi-pronominal nouns as matter and thing behave similarly to pronouns in that they refer to an idea or an event that has already been mentioned in the context or is otherwise familiar to the hearer. But, similarly to pronouns, they can also be focused and then follow the particle:

(6) „Well, if you ain’t the beat’em for asking’ questions!” sighed the boy impatiently. — „I have to be“, retorted Pollyanna calmly, „else I couldn’t find out a thing about you.“

(E.H. Porter, Pollyanna)

Bolinger (1971) and Erades (1961) argue that objects that are implied by the verb do not introduce any new information independent of the verbal meaning, and, consequently, occur between the verb and the particle. Examples are given in (7) and (8) below.

(7) She cried her eyes out.

(Erades 1961:58)

(8) a) Where’s Joe? He’s sailing his boat in.
   b) Where’s Joe? He’s hauling in his boat.

(Bolinger 1971:56)

Related to the idea of the implication of the object by the verb is the familiarity of the object. Bolinger (1971:57) argues that in the examples in (9) and (10) the content of the object is familiar from the context which is why the object is placed in the mid-position. The nightly in (9), he argues, is familiar from the ten o’clock context, the tools in (10) from the job-context.

(9) It’s almost ten o’clock. Put your nightly on, now, and run up to bed.
(10) I shouldn’t think it would take you half an hour to do this small job. --

Huh. It takes that long to put the tools away.

The relevant literature can be briefly summarised as follows: the information structure of the context influences the choice of the word order of the particle verb construction in English in that the continuous order is the neutral one and is chosen if the object is focused, whereas the discontinuous construction can be found in cases where the DP-object is a background constituent.

3 The Focus Model

Before I come to the syntactic structure of PV in English I want to briefly introduce the focus model that my analysis is based on. It is the model as suggested by Jackendoff (1972) and Rosengren (1993, 1994, 1994). It differs from Selkirk’s (1984) model in one important point, namely that it is not a bottom-up model, but a top-down model. Both Rosengren and Jackendoff divide the sentence into a focus and a background domain. A syntactic focus feature F is assigned to the highest dominating node (XP) of the relevant focus domain, then the focus domain is established by the dominance relation. Constituents that are dominated by F constitute the focus of the sentence. All constituents that are dominated by +F are focused, all constituents that are not dominated by the focus feature, i.e. which are not within the focus domain, are background constituents. A constituent that belongs to the background of the sentence but is dominated by the focus feature in its base position must leave the focus domain by a movement operation. This will become clearer in the next section where I suggest a syntactic structure for transitive particle verbs.

The division of the sentence into focus and background is exactly what interests us with regard to the PV construction.

By the assignment of the focus feature to the corresponding constituent we can distinguish between maximal focus, where the whole sentence is focused, non-minimal-focus, where part of the sentence is focused, e.g. the VP, and minimal focus, i.e. one constituent is focused, e.g. the DP-complement of the verb.

Both Jackendoff and Rosengren assume that the syntactic focus feature corresponds to an abstract accent marker in phonology, the prominence feature +P. This is important with respect to the placement of the accent. The constituent carrying the +P feature in the focus domain is called the focus
exponent. In the case of wide focus +P is normally placed on the most deeply embedded element within the focus domain. I will come back to the placement of the accent in section 5.

In this paper I am only dealing with neutral focus, not with special kinds of focus like contrastive focus or VERUM focus.¹

Having said this, I want to suggest a syntactic structure for transitive PV in English that takes into account the evidence of IS on the choice of the construction as outlined in section 2.

I consider the following subjects: a) the neutral order; b) the case of maximal focus; c) the case of intermediate focus; d) the case where the DP-complement is focused; e) the case where the DP-complement is a background constituent, which is the most interesting case as we will see shortly.

4 The Syntactic Structure

4.1 The syntactic background

My suggestion for a syntactic structure is based on Chomsky's (1995:331) structure for transitive verbs and Olsen's (1997) suggestion for particle verbs. Both assume a VP-shell-analysis. According to Olsen (1997), the PV is inserted as one syntactic head under V⁰ for various syntactic reasons (cf. Olsen 1997:58ff and also Johnson 1991). The complex verb takes an internal argument: the object DP. In the continuous construction, movement of the object is not necessary.² To derive the discontinuous construction, Olsen assumes overt VP-internal movement of the complement into an adjunction position in the lower VP. The verb moves to the light verb position.

4.2 The neutral structure and maximal focus

As outlined above, the neutral PV construction is the continuous one and I assume the structure shown in (11) below. Following Olsen (1997), Johnson 1991, Koizumi (1993) and others I insert the particle verb as a complex head taking the DP as a complement.

I combine the neutral structure and the maximal focus structure in one tree as they only differ in the presence of the focus feature. The given sentence A man opened up the shop could be the answer to the question What happened?. In the case of maximal focus, the focus feature is assigned to the CP as the highest dominating node of the relevant focus domain. The whole sentence is focused.

Focus does not force a movement operation since all constituents are in the focus domain.

(11) CP [+F]; focus domain: CP

(12) a) What did he do?
   b) He handed in [+F VP₂[his paper]].

4.4 Focused DP-complement

In the question-answer-pair in (13) the DP-complement is minimally focused and is assigned the focus feature. It constitutes the focus domain. The focus domain is limited to the DP by assignment of the focus feature. As in (11) and (12) above, movement of the DP is not necessary.

(13) a) What did Peter hand in?
   b) He handed in [+F DP[his paper]].
4.5 The DP-complement as a background constituent

To illustrate the case where the complement-DP is a background constituent I have chosen Bolinger's (1971) example that was given in (9) above and is repeated here for convenience.

(14) It's almost ten o'clock. *Put your nighty on, now, and run up to bed.*

We are interested in the phrase *put your nighty on* and in the syntactic movement process that takes place to derive the discontinuous construction. The relevant focus domain is the verbal constituent as the (in this case covert) subject and the object (*your nighty*) are familiar, i.e. can be concluded from the context. The focus is placed on the complex verb. I therefore assume that the focus feature is assigned to the lower VP as the highest dominating node of the focus constituent. The focus feature percolates downwards, so that VP₂ constitutes the focus domain.

In the base structure in (15) the complement is generated within VP₂. But the DP is not focused, but is a background constituent, illustrated by the assignment of a negatively specified focus feature [-F]. Because of this mismatch of features — the DP that is negatively specified for [F] on the one hand and its position within the focus domain, i.e. in the domain that is dominated by the positive focus feature [+F], on the other hand — triggers the movement of the complement DP. It adjoins to VP₂. At the same time, the verb *made* excorporates out of the complex verbal head and moves overtly to the light verb position for independent syntactic reasons. The complex verbal head is split up. The particle remains in its base position, which is within the focus domain, and functions as the focus exponent. The movement operations are illustrated in (16).

5 The Placement of the Accent

I follow Jackendoff (1972) and Rosengren (1993, 1994, 1995) in their assumption that the syntactic focus feature corresponds to a prominence feature in phonology. Also, according to Selkirk (1984:200), "the focus structure of a sentence is inextricably related to its intonational structure." In particular, she argues that pitch accent assignment is directly related to the focus properties of the sentence: "... roughly speaking, the presence of a pitch accent correlates with a focus [...] while the absence of a pitch accent indicates the lack of focus."

Accents in English can be high or low tones, but, according to Pierrehumbert (1999), focused information is marked by high tones (H*) or by a rise from a low level of the intonation contour to a high point (L+H*). Based on these studies, my assumption with regard to the PV construction in English is that the accent is placed on the DP in continuous constructions — the noun as the most deeply embedded element being the focus exponent in all three cases (maximal, non-minimal, and minimal focus) — and that the accent is placed on the particle in the discontinuous construction.
If these assumptions could be proved this would provide important evidence for the claims made above about the syntactic movement operation triggered by the focus feature.

To test my assumptions I carried out a pilot study on the intonation of PV constructions in English.

4.1 An experimental pilot study on intonation

I recorded pre-prepared utterances which were read from a list of sentences by the participants. Ten non-professional native speakers of English were recorded.

4.1.1 Materials

The sentences containing the particle verbs were embedded in short contexts. 30 experimental items with transitive particle verbs were chosen, i.e. 15 pairs of sentences. Each pair consisted of one item containing the continuous construction, and one item containing the discontinuous construction with the same verb. The order chosen was dependent on the given context, following the IS theory outlined above. Examples are given in (17), (18), and (19) below.

(17) compositional PV

a) "Do you know where that noise is coming from?" - "Yes, I do. It's the radio of our next door neighbour, a student. She likes her music loud." - "Fine, but I can't stand it. I'll go and ask her to turn the radio down."

b) It's late and I want to go to bed. I would like you to turn down the radio. The music is too loud, I won't be able to sleep.

In (17a), the radio has been mentioned before and appears between the verb and the particle after having moved out of the focus domain. Accent placement is expected on the particle. In (17b), the radio brings in new information, i.e. it is within the focus domain and appears in the continuous construction. The accent is expected on the noun.

(18) idiomatic PV

a) Sam liked her job, it was interesting, but when she moved to another town she had to give the job up.

b) Sam sold her house and moved to another town, but she didn't give up her job.

(19) aspectual PV

a) When you move it's a good idea to hire a van. And of course it's better not to have too much space in it but to load the van up.

b) We had bought so much stuff in the supermarket that we couldn't take it home on our bikes. So what we did was load up mum's car.

The pattern in (18) and (19) with respect to focus and object position is parallel to that in (17). The accents are expected on the particle in (a) where the DP moved out of the focus domain as a background constituent, but on the noun in (b) where the object introduces new information into the context.

4.1.2 Data treatment

The data were transferred to a computer with a frequency of 44.1 kHz and a 16 bit sampling rate, and the speech signal was digitized. The phrases containing the particle verb, the nominal object, and the subject were extracted from their contexts. Only these fragments of the complete experimental items were analysed. Erroneous utterances were excluded from further analysis.

The strongest correlate of how the listener perceives the speaker's intonation and stress, i.e. of accent placement, is the fundamental frequency (pitch, F0; fundamental frequency in Hertz (Hz) plotted against time), which is why the corresponding prosodic curve was used to analyze the experimental items.

4.1.3 Results and discussion

I cannot report all experimental items in detail, but will consider some of them, exemplarily. They do reflect the general results, though. We are interested in what happens on the particle and on the object. What I found on these elements supports the assumptions made above on focus assignment and accent placement.

In the continuous construction, i.e. in the sentences of the kind (17b), (18b), and (19b), the accent was placed on the noun as the focus exponent within the DP-complement. In contrast, but again as expected, the accent was placed on the particle in the discontinuous construction. This can be seen in the intonation curves in (20) through (23). I have chosen the same speaker for each sentence, exemplarily. (20) represents (17b). We can see an obvious rise of the contour from a low point (199 Hz) to a high level (243 Hz) (L+H*) on the first syllable of radio. (17b) is represented by the curve in (21). Here, the rise from a low to a high tone can be seen on the particle down (227 to 250 Hz). This is a result that is quite reasonable for compositional particle verbs. One could argue that the particle has its own semantic content and can therefore be stressed.

However, the same pattern can be found for idiomatic and aspectual particle verbs. As can be seen in (22a) and (23), the accent is placed on the noun in the continuous construction in (19b), and on the particle in the discontinuous construction in (19a). (18) shows the same pattern, but cannot be given here for space reasons.)
The type of pitch accent in all examples is a rise from a low to a high level of the intonation contour.

(20) ... to turn down the radio

(21) ... to turn the radio down

(22) ... what we did was load up mother's car

I take these results as supporting evidence for the theory outlined above, namely that in the continuous construction the focus exponent is the noun as the most deeply embedded element within the focus domain. Movement of the object is not necessary. The focus feature corresponds to a prominence feature in phonology that is assigned to the focus exponent. In the discontinuous construction, the particle is the focus exponent. It remains in the focus domain after movement of the object. Consequently the particle is assigned the accent and then the phonological prominence feature.

To sum up the results: we can maintain the assumption that the choice of the word order in English PV constructions is dependent on the focus structure of the sentence. The neutral order is the continuous one. Movement of the complement-DP is triggered by the focus feature, i.e. the mismatch of feature specifications when the object-DP is a background constituent. As shown above, the focus feature in the syntax corresponds to a prominence feature in phonology, which is illustrated in (24) for the example in (18). The placement of the accent is indicated by the capital letters.

(23) ... but to load the van up

(24) a) She had to vP[give [[t, the job] vP2, t [t, UP b]]].

   b) She didn't [give up her JOB].

6 Some Final Remarks

I have shown that the choice of the word order in transitive PV constructions in English is dependent on the information structure of the context, in particular the
focus background structure, and that this claim is supported by the intonational properties of the PV constructions. I have mapped these assumptions onto the syntactic structure of particle verbs.

I would like to add that this can only be a default analysis, so far. We can of course imagine sentences where for example the accent is placed on the object despite its appearance in the discontinuous construction. An example is given in (25).

(25) Lisa is doing the washing-up. She asks her brother:

"Can you bring me the glasses, please, I want to wash THEM up, not the cups."

Here the pronoun them is a background constituent in that it refers back to the DP the glasses. But it is also focused. This is a case of contrastive focus, where I would have to assume that the default analysis is overridden by a contrastive focus rule that corresponds to the placement of the accent.

There are of course other examples, not necessarily involving contrastive focus. I will have to leave this problem to future research.

Notes

1 With contrastive focus, it might be possible to place the accent on the object in the discontinuous construction. I will come back to this assumption in the final section.

2 Note that both Chomsky (1995) and Olsen (1997) do not assume overt object-DP-movement within the VP as suggested by Koizumi (1993), Harley & Noyer (1997), and others.

3 Thanks to Katie White and her family and to Sam and Val Gage, and Val's friends.

4 Compositional PV. The meaning of the complex verb is made up of the meaning of the verb plus the meaning of the particle.

5 Idiomatic PV form a semantic unit. Their meaning is not fully predictable from the meaning of the constituents.

In aspectual PV, the particle adds a telic interpretation to the verb, such as in eat vs. eat up.

6 For space reasons, I cannot give a full description of the experimental design. I would like to add that the materials also contained 30 filler items and that the order of the reading list was pseudo-randomized. The participants were instructed to read the sentences in a natural way.

7 I can only offer a descriptive analysis here, but will hopefully add a statistic analysis in the near future.

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