

Moved preverbs in German: displaced or misplaced?*

Jochen Zeller (2003)

1. Introduction

A crucial question that arises in the study of preverb-verb constructions across languages concerns the way the preverb is combined with the verb. One can pose this question from a semantic point of view: Are the preverb and the verb semantically independent or is the preverb-verb construction lexicalized? If the meaning of the preverb can be defined in isolation, how is it combined with the meaning of the verb - is the preverb a semantic argument of the verb, or an aspectual operator etc.? Another line of investigation would be to focus on the structural side of the construction, for example by asking if the combination of preverb and verb is formed in morphology or if it has the status of a phrasal syntactic construction.

A particular class of preverb-verb combinations in German (the class of so-called *particle verbs*) has created a controversial debate with respect to the latter question. The main reason for this controversy is that although particle verbs shows a lot of properties typical of complex words formed in morphology, they allow for the preverb (the particle) and the verb to be separated. As is well known and undisputed, the preverb and the verb can be split by moving the verb away from the preverb. A more controversial question is whether separation may also be the result of moving the particle. It is this latter type of movement with which I am concerned in this paper.

In the following sections I present and discuss a number of examples of particle- and PP- movement.¹ Speakers' judgements about the possibility of particle movement are often quite delicate and show a great degree of idiolectal variation. I therefore collected judgements on these examples from 16 German mother tongue speakers; the method by which I evaluated these judgements is discussed in section 2. In section 3, I address the issue of separability in the study of particle verbs. I then turn to the various instances of particle movement. In section 4, I re-examine some of the data that have been presented in the literature supporting the view that particles can be *topicalized*, i.e. moved to SpecCP. I show that neither a purely structural nor a purely semantic approach can fully explain the properties of particle topicalization. I then focus on two types of particle movement that to my knowledge have not yet been sufficiently studied, namely *long* particle topicalization (= movement from an embedded clause into SpecCP of the main clause), which is discussed in section 5, and particle *scrambling* (= adjunction to IP or VP), which is the topic of section 6. Finally, in section 7, I discuss the problems that arise with respect to movement of particles and offer possible explanations for some of the observations made in previous sections. I intend to show that some of the characteristics of particle movement are the result of the ambiguous properties of particle verbs, whereas others follow from independent principles of grammar.

2. Method

Most examples of particle movement that can be found in the literature are examples of "short" particle topicalization (i.e. particle fronting within the clause in which the particle verb originates). Since the judgements associated with these examples are notoriously inconsistent and are often based on the idiolect of only one or two speakers, my first objective was to test the reliability of the existing data. Some of the examples which I asked my respondents to evaluate were therefore identical to or based on particle topicalization-examples from the literature. My second objective was to present new data which illustrate two different kinds of particle movement, namely *long* particle topicalization and particle *scrambling*. I also collected judgements on these instances of particle movement. My third objective was to compare constructions with moved particles to constructions in which a full PP has moved; I therefore also asked my informants for judgements on this latter type of movement.

Most of the data which I present in sections 4-6 were collected on the basis of the judgements of 16 German mother tongue speakers who were all linguists.² All respondents were presented informally (mostly electronically) with identical, typed examples in the same order, which they were required to judge. Anticipating ambiguous responses to most of the examples, I allowed for graded judgements. All informants therefore were instructed to mark examples not only as grammatical or ungrammatical, but also by using symbols like ? or ?* to indicate marginal acceptance.

The examples were designed to test whether respondents detected asymmetries between the three different types of particle movement (i.e. particle scrambling; long and short particle topicalization) and between particle movement on the one hand and PP-movement on the other. Speakers were allowed to use Topic/Focus intonation in evaluating the data. For some examples, I provided an additional sentence which provides a contrastive context and hence facilitates the respective Topic/Focus interpretation. Where this was done, these contrastive sentences are provided in parentheses with the examples in the text. In the examples in the text I mark particles and PPs in bold for ease of exposition, but in the sentences which respondents were asked to judge, these constituents were unmarked.

I assigned points to the judgements of the respondents (ok =1, ? = 2, ?? = 3, ?* (or ???) = 4, * = 5), then calculated the average number for each example, and retranslated this number into a judgement. For example, an average of 1.8 would correspond to ?, 4.5 to ?* etc. A concern with this method, discussed in greater detail in section 5, is that the calculated "average response" may mask a wide distribution of individual judgements. I attached the distribution of responses to the examples where they are discussed in the text.

3. Separating preverb and verb

In German, particle verbs are obligatorily separated if the verb moves to the sentence initial position (which I assume to be C⁰). As (1b) shows, the particle is stranded when the verb moves (particles are glossed as "Prt"):

- (1) a. (Er sagt) dass er uns ein Bier **ausgibt**
 he says that he us a beer Prt-gives
 '(He is saying) that he is going to buy us a beer.'
 b. Er **gibt** uns ein Bier **aus** __
 he gives us a beer Prt

- (2) [CP Er [C' **gibt** [IP [uns ein Bier **aus** __]]]
-

The kind of separation illustrated in (2) is not what one expects from a morphologically derived complex verb. In the light of data like (1b), particle verbs seem rather to look like syntactic constructions; if the particle is analyzed as a phrasal complement of the verb, separation under verb movement no longer comes as a surprise. However, the property of particle verbs depicted in (2) would only provide conclusive evidence against a morphological analysis if there was an independent principle that forbids the movement of part of a word.³ A number of authors have rejected the existence of such a principle. For example, Neeleman & Weerman (1993) and Neeleman (1994) allow for a word to be split by movement of one of its parts as long as the moved part is the head of this word. If the particle verb is analyzed as a word, then its verbal part counts as its head, and consequently, it is allowed to move, leaving the nonhead (the particle) behind.

There is also empirical evidence suggesting that parts of words can be moved. McIntyre (2001) shows that in German, not only particle verbs, but also certain prefix verbs can be split if the verb moves to C⁰:

- (3) a. ??Peter **überbewertet** die Auseinandersetzung
 P. Pref-estimates the argument
 b. ?Peter **bewertet** die Auseinandersetzung **über**-
 P. Pref-estimates the argument Pref
 'Peter overestimates the argument.'

The verb *überbewerten* is derived from the base verb *bewerten* and the prepositional element *über-*, which is a prefix (shown by the fact that it can also move with the verb to C⁰ in (3a), an option unavailable for particles). Prefixes are usually unstressed in German. However, since the first syllable of the base verb in (3) is unstressed as well (*bewerten* is also a prefix verb), *über-* is stressed in order to avoid a succession of unstressed syllables. This situation allows for the separation of the prefix verb in (3b), a genuine morphological object. Therefore, given that the splitting of morphologically complex words does not seem to be generally excluded, and in the light of the fact that empirical evidence for a morphological analysis of particle verbs can also be found (see e.g. Neeleman 1994, Stiebels 1996 and Booij & van Kemenade (this volume)), it is at least controversial that examples like (1b) constitute conclusive evidence in favor of a syntactic analysis of particle verbs.

More insights into the structural properties of particle verbs might be gained if another question is explored: Is it possible to separate the particle verb by moving away not the verb, but the *particle*? Here, the two competing approaches to particle

verbs make different predictions. The syntactic approach treats the particle as a phrasal complement of the verb. As such, it is expected that it can move away from the verb just like other phrasal complements. For example, German is a verb second (V2) language which allows phrases of any category to undergo topicalization (= movement to SpecCP, a position preceding the finite verb in C⁰). The syntactic approach therefore predicts that particles can be fronted. In contrast, according to the morphological analysis, movement of the preverb (the nonhead of the particle verb) should be impossible. Therefore, proponents of a morphological approach often reject the frontability of particles (cf. e.g. Neeleman & Weerman 1993, Stiebels & Wunderlich 1994, Neeleman 1994, Haider, Olsen and Vikner 1995, Stiebels 1996, Olsen 1997, Zifonun 1999) and present examples like (4) that challenge the syntactic approach:

- (4) a. ***Aus** gibt er uns ein Bier
 Prt gives he us a beer
 'He buys us a beer.'
- b. ***Auf** hat er ein Gedicht gesagt
 Prt has he a poem said
 'He recited a poem.'
- c. [_{CP} **Prt** [_{C'} **gibt** [_{IP} er [uns ein Bier ___ ___]]]]
- d. [_{CP} **Prt** [_{C'} hat [_{IP} er [ein Gedicht ___ **gesagt**]]]]]
-

In (4), particle topicalization is impossible. Numerous other examples, where separating the particle verb through movement of the particle yields ungrammaticality, can be found and have been listed in the literature. If one could safely conclude from these examples that particle movement *in general* is excluded, they would provide a strong argument against a syntactic analysis.

However, the view that particles cannot be moved has also been challenged, and it has been shown that, in contrast to examples like (4), some particles can in fact undergo phrasal movement like other XPs. In the next section I take a closer look at some of the data that illustrate this possibility.

4. Particle topicalization

There are certain criteria that are often identified in the literature as necessary conditions for particle fronting. It is claimed (cf. Lüdeling 1998; Wurmbrand 2000; Zeller 2001) that particle movement is contingent on the particle verb having a *transparent semantics* and the possibility of a *contrastive reading* of the particle (i.e. there must be at least one particle verb derived from the same base verb, but with a different particle). These conditions are based on the assumption that movement to

SpecCP automatically triggers a Topic - or Focus reading of a topicalized (non-subject) XP (cf. Büring 1996, 55; Wurmbrand 2000, 18).

The particle verbs in the following examples all meet these criteria: All particle verbs in (5)-(10) have a transparent semantics, and, as is sometimes indicated by the clauses in brackets, every particle verb can be contrasted with at least one other particle verb based on the same base verb. (The data are adopted from or based on similar examples from the literature, as indicated):⁴

- (5) **Auf** geht die Sonne im Osten (aber **unter** geht sie im Westen).
 Prt goes the sun in.the east (but Prt goes she in.the west
 'The sun rises in the east but it sets in the west.'
 (Lüdeling 1998, 57)
 (*aufgehen*, 'rise', vs. *untergehen*, 'set')
- (6) (Die hübschen Frauen stiegen alle ein). **Aus** stiegen eigentlich nur Männer.
 the pretty women climbed all Prt Prt climbed actually only men
 'The pretty women all got in. It was only men who got off.'
 (*einsteigen*, 'get in', vs. *aussteigen*, 'get off') (cf. Zeller 2001)
- (7) ?(Die meisten Leute reisen aus). **Ein** ist dieses Jahr noch niemand gereist.
 the most people travelled Prt Prt is this year still nobody travelled
 'Most people left the country. Nobody has entered (the country) this year.'
 (*ausreisen*, 'leave (a country)', vs. *einreisen*, 'enter (a country)')
 (cf. Zeller 2002)
- (8) ?(Angola führt viele Waren ein.) **Aus** führt das Land nur Kaffee.
 Angola takes many goods Prt Prt takes the country only coffee
 'Angola imports a lot of goods. The country exports only coffee.'
 (*ausführen*, 'export', vs. *einführen*, 'import')
 (cf. Hoeksema 1991, 19, for the same example from Dutch)
- (9) ?**Auf** laden die Männer das Heu.
 Prt load the men the hay
 'The men load up the hay.'
 (*aufladen*, 'load up', vs. *abladen*, 'load off', *einladen*, 'load in')
 (cf. Zeller 2002)
- (10) ??(Lachst du mich aus?) Nein, **an** lache ich dich.
 laugh you me Prt No Prt laugh I you
 'Are you laughing at me? No, I'm smiling at you.'
 (*anlachen*, 'smile at', vs. *auslachen*, 'laugh at') (Lüdeling 1998, 57)

Table 1 shows the individual judgements for (5)-(10):

Table 1. Particle topicalization I

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (5) | 13 | 2 | 1 | 0 | 0 | 1.3 |
| (6) | 12 | 1 | 3 | 0 | 0 | 1.4 |
| (7) | 8 | 4 | 2 | 0 | 2 | 2.0 |
| (8) | 7 | 3 | 2 | 1 | 3 | 2.4 |
| (9) | 6 | 5 | 2 | 0 | 3 | 2.3 |
| (10) | 5 | 3 | 0 | 2 | 6 | 3.1 |

The examples in (5)-(10) are acceptable (although some only marginally). This acceptability has an important consequence for the structural analysis of particle verbs. It means that, at least in these specific cases, particles are phrases. This provides strong support for the syntactic approach, which treats the particle as a complement of the verb and therefore analyzes the verb-particle combination essentially as a syntactically complex category (a V' or a VP respectively).

What does the morphological analysis have to say about these examples? There are two possibilities: It could be claimed that only those particles that can be topicalized are phrases (proposals along these lines can be found in the literature, cf. le Roux (1988) for Afrikaans, Kratzer (1994) and Stiebels (1996) for German and Neeleman & Werman (1993) for Dutch). According to this approach, if a particle can be fronted, the respective particle verb receives a syntactic analysis, whereas all other particle verbs are still treated as morphological objects. This, however, is an unfortunate conclusion, since it denies the possibility of giving a uniform account for all particles. Furthermore, the judgements about topicalization of particles do not show the kind of distribution that one expects from a structural difference. If there were really some syntactic particle verbs and some morphological ones, then we would expect that speakers draw a clear line between those particles that can and those that cannot be moved. But this is not what one finds: As Table 1 shows in detail, speakers' judgements about particle topicalization vary considerably. This clearly suggests that the reasons that determine whether or not a particle can be topicalized cannot be exclusively structural.

Alternatively, if the assumption that particle verbs are words was to be maintained in the light of examples like (5)-(10), its proponents would have to assume that (i) these words include phrases and (ii) that these phrases can in fact be moved out of these words. Point (ii), however, is an *ad hoc* stipulation that lacks independent evidence. Words that include phrases do exist (cf. Toman 1983; Lüdeling 1998), but moving the phrasal non-heads out of these word is absolutely impossible:

- (11) a. Die Wer-war-das-Frage
'the who was it question'
- b. Inspektor Morse beantwortete die Wer-war-das-Frage.
Inspector Morse answered the who was it question
- c. [Die Wer-war-das Frage] beantwortete Inspektor Morse t
- d. *[Wer war das] beantwortete Inspektor Morse die [t Frage]

- (12) a. Die Schmeckt-gut-macht-Laune-Limo
 the tastes-well-makes-fun-lemonade
 b. Nur er kauft Schmeckt-gut-macht-Laune-Limo.
 only he buys tastes-well-makes-fun-lemonade
 c. [Schmeckt-gut-macht-Laune-Limo] kauft nur er t
 d. *[Schmeckt-gut-macht-Laune] kauft nur er [t -Limo]

As (11) and (12) show, the phrasal non-head of a phrasal compound is syntactically invisible and cannot undergo XP-movement out of a word. I cannot see how one would explain why this general restriction does not hold for the phrasal preverb-part of a particle verb. Since the particles in (5)-(10) are phrases that can be moved away from the verb, I conclude that the respective particle verbs are syntactic constructions. I henceforth assume that the particle verbs in (5)-(10) are represented as V'- or a VP-nodes that dominate the verb and the particle phrase.

How does this assumption explain why particle topicalization is not possible with all particle verbs? As noted above, proponents of a syntactic approach have assumed that particle topicalization is only possible if the particle verb is semantically transparent and if there are possible alternatives to the topicalized particle. Consequently, it has been suggested that impossible cases like those in (4) in section 3 can be excluded on semantic grounds alone. To see how this works, let me take a closer look at the semantics of the examples in (5)-(10).

Rooth (1985) assumes that each node in a syntactic tree, apart from its ordinary meaning, denotes a second semantic object, its *Focus value*. The Focus value of a sentence is a set of propositions which count as contextually plausible alternatives to the proposition expressed by the sentence. This set of alternatives is derived by combining the Background of the sentence (= everything which is not the Focus) with each element of the Focus value of the element marked as the Focus. In (10) and (presumably) in (9) above, the particle is the *Focus* of the sentence. This means that the Focus value of (10) (= (13)) is derived on the basis of possible alternatives to the particle *an*. Since there are not many possible alternatives to *an* in (10), the Focus value of (13) is rather small. It is informally given in (14) (the Focus accent is indicated by capitals):⁵

- (13) [AN]_F lache ich dich.
 Prt laugh I you
 'I'm smiling at you.'

- (14) {Ich lache dich aus, Ich lache dich an}
 'I'm laughing at you, I'm smiling at you'

The Focus value in (14) shows that there is at least one proposition which is a possible alternative to the proposition expressed by the sentence in (13). In the context of this proposition, (13), with the particle as the Focus, is acceptable.

The topicalized particles in (5)-(8) are what Büring (1996) calls *Topics*, not Foci. (For reasons that are not clear to me, particle topicalization is slightly better in Topic-Focus- than in Focus constructions.) Topic-Focus constructions are characterized by a

typical rise-fall accent, with a rising pitch accent on the Topic and a falling pitch accent on the Focus, as shown in (15):

(15) /[AUF]_T geht die Sonne im [OSTEN]_F\

In Büring's (1996) analysis, the meaning of a Topic-Focus construction is determined by yet another semantic level, its Topic value. Whereas the Focus of a sentence introduces alternative propositions (its Focus value), the Topic of the sentence introduces *alternative Focus values*. This means that the Topic value of a sentence is a set of sets of propositions. According to this approach, the Topic value of (15) is (16):

(16) { {Die Sonne geht im Osten auf, Die Sonne geht im Norden auf, Die Sonne geht im Westen auf, ...},
{Die Sonne geht im Osten unter, Die Sonne geht im Norden unter, Die Sonne geht im Westen unter, ...} ... }

{ {The sun rises in the east, The sun rises in the north, The sun rises in the west, ...},
{The sun sets in the east, The sun sets in the north, The sun sets in the west, ...} ... }

In order to derive the Topic value of (15), the Background (= the sentence minus Focus and Topic) first has to combine with each alternative defined by the Focus, and each outcome then has to combine with the alternatives defined by the Topic. The Focus in (15) is the NP *Osten*, hence it is alternatives to this NP which define the direct object-part of the Focus values in (16). The Topic is the particle *auf*, and the two alternative Focus values listed in (16) are therefore also determined on the basis of the Topic value of this element.

The semantics of Topic/Focus constructions explains why only semantically transparent particle verbs with contrastable particles can be separated through particle movement. Only if there are possible alternatives to the particle can a Focus - or Topic value be defined; only semantically transparent particle verbs guarantee that the combination of the Background and an alternative particle yields a meaningful proposition (which becomes an element of the Focus - or Topic value of the sentence). However, the particle verbs in (4) in section 3 are idiomatic; their meanings cannot be derived from a particular meaning of the particle and the meaning of the verb. Furthermore, there are no particles with which the particles *aus* and *auf* in (4) could be contrasted. Therefore, it seems that impossible cases of particle topicalization can all be explained by a semantic approach: idiomatic particle verbs simply do not meet the semantic requirements of Topic/Focus constructions; hence their particle-parts are predicted to be immobile.

However, there are problems with a purely semantic approach. First, notice that it is possible in German that a moved verbal complement can establish VP-Focus (cf. Krifka 1994):

- (17) Question: Was hat er gemacht? 'What did he do?'
 Answer: [Die KÜCHE] hat er [t gestrichen]
 the kitchen has he painted
 'He painted the kitchen.'

In (17), the accent-bearing direct object has been topicalized, but nevertheless, the whole VP bears Focus. Büring (1996, 64) adds the idiomatic example in (18) (see also Lüdeling 1998; Wurmbrand 2000; Müller 2002):

- (18) [Den GARAUS] hat man ihm NICHT [t gemacht]
 the G. has one him not made
 'They didn't finish him off.'

In (18), the NP *den Garaus* has been topicalized, but, as noted by Büring, the Topic in (18) is the whole VP. Crucially, the topicalized NP does not even have a meaning in itself; it is only possible as part of the idiom *jemandem den Garaus machen*, 'finish someone off'. (17) and (18) pose a problem for the abovementioned claim that impossible instances of particle movement can be excluded semantically. Examples like (18) predict that topicalization of idiomatic particle verbs should be possible, with VP-Topic or VP-Focus established by the topicalized particle. However, acceptable examples that can be analyzed along these lines are rare. For example, the idiomatic particle verbs in (4) mentioned in section 3 do not allow a VP-Focus reading to be established by fronting the particle. In the light of the sentences in (17) and (18), it is unclear how a semantic account would explain this.

It has to be noted, however, that some examples where a topicalized particle is neither the Focus nor the Topic have been listed in the literature, and I sought to corroborate their acceptability by asking my informants for their judgements. The sentences in (19)-(23) are adopted from Müller's (2002, 255f.) vast collection of corpora data (see Wurmbrand 2000 and Zeller 2001 for presentation and discussion of more examples):⁶

- (19) ?***Auf** tritt im blauen Anzug der König.
 Prt steps in.the blue suit the king
 'The king appears in the blue suit.'

- (20) ?***Auf** schrie die Ziehharmonika
 Prt screamed the accordion
 'The accordion shrieked.'

- (21) ??Es klopfte. **Ein** trat der Studienrat.
 it knocked Prt stepped the teacher
 'There was a knock on the door. The teacher came in.'

- (22) ?**Los** ging es schon in dieser Woche.
 Prt went it already in this week
 'It already started this week.'

- (23) **?Vor** hat er das jedenfalls.
 Prt had he it anyway
 'But he does plan this.'

The judgement's of my informants are shown in Table 2:

Table 2. Particle topicalization II

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (19) | 0 | 5 | 0 | 2 | 9 | 3.9 |
| (20) | 3 | 2 | 0 | 2 | 9 | 3.8 |
| (21) | 4 | 2 | 3 | 2 | 5 | 3.1 |
| (22) | 10 | 3 | 2 | 0 | 1 | 1.7 |
| (23) | 11 | 1 | 4 | 0 | 0 | 1.6 |

Taken out of their original context, not all examples were accepted by my informants. For example, as shown in Table 2, (19) and (20) were possible only for a small minority. It seems that the particle fronting in (19)-(21) does not have the typical semantic effect associated with topicalization; if these data are acceptable at all, then this is only in their original stylistic or poetic contexts.

The majority of speakers judged the fronting of the particles in (22) and (23) as permissible. In these examples, the whole particle verb or VP is the Topic or the Focus, and the sentences can probably be analyzed on a par with (17) and (18). However, as Müller (2002, 258) notes, examples like (19)-(23) are not very frequent. If we wanted to treat particle topicalization semantically rather than structurally, we would predict that examples similar to (22) and (23) occur more often; in the light of (17) and (18), they should be the rule rather than the exception. Notwithstanding the acceptability of (22) and (23), the question why VP-Focus cannot be established by particle topicalization in general remains open.

A second problem for a semantic explanation is raised by the observation that the data in (5)-(10) above, although grammatical, are not perfectly acceptable. Importantly, similar examples with full PPs being topicalized are definitely better than the ones with topicalized particles. The following sentences include the same verbs that appear as base verbs in the examples (5)-(10), but instead of particles, full PPs have been moved to SpecCP (the PP in (25) is an adjunct; the other PPs are optional or obligatory arguments of their verbs):

- (24) **Auf die Party** geht Hans mit Maria (aber in den Zoo mit Usch).
 on the party goes H. with M. but in the zoo with U.
 'Hans goes to the party with Maria but to the zoo with Usch.'

- (25) **Über dich** lache ich.
 about you laugh I
 'I laugh about you.'

- (26) **Aus dem Zug** stiegen eigentlich nur Männer.
 out the train climbed actually only men
 'Only men got off the train.'
- (27) **Aus dieser Stadt** führte der Rattenfänger gestern alle Kinder.
 out this city led the pied-piper yesterday all children
 'Yesterday, the pied-piper led all children out of this city.'
- (28) **Auf diesen Wagen** laden die Männer das Heu.
 on this wagon load the men the hay
 'The men are loading the hay onto this wagon.'
- (29) **In dieses Land** ist dieses Jahr noch niemand gereist.
 in this country is this year still nobody travelled
 'Nobody has entered this country this year.'

Table 3. PP-topicalization

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (24) | 16 | 0 | 0 | 0 | 0 | 1.0 |
| (25) | 16 | 0 | 0 | 0 | 0 | 1.0 |
| (26) | 16 | 0 | 0 | 0 | 0 | 1.0 |
| (27) | 15 | 1 | 0 | 0 | 0 | 1.1 |
| (28) | 16 | 0 | 0 | 0 | 0 | 1.0 |
| (29) | 16 | 0 | 0 | 0 | 0 | 1.0 |

As the judgements in Table 3 show, speakers accept sentences with topicalized PPs without exception. Although particle topicalization in the related examples (5)-(10) was also tolerated, the contrast is notable: PP-topicalization is unequivocally fine, particle topicalization is only marginally acceptable. So far, an account based on the semantics of Topic and Focus does not explain why an example like e.g. (10) is considerably worse than (25).

The third and most serious problem comes with the observation that the examples in (30) are perfectly grammatical:

- (30) a. Die Männer laden das Heu nicht AUF, sondern ab.
 the men load the hay not Prt but Prt
 'The men are not loading the hay off, they're loading it down.'
- b. Ich lache dich nicht AUS, sondern an.
 I laugh you not Prt but Prt
 'I'm not laughing at you, I'm smiling at you.'

The particles in (30) bear contrastive Focus, as in (9) and (10) respectively. But crucially, the examples are not marked like the ones in (9) and (10). Many particle verbs that do not allow topicalization of the particle nevertheless allow a contrastive

reading of the particle. For example, although most speakers rejected (19), (31) is grammatical:

- (31) Der König trat (im blauen Anzug) nicht AUF, sondern ab.
the king steps in.the blue suit not Prt, but Prt
'The king didn't appear in the blue suit, but left.'

McIntyre (2002) also provides examples which illustrate the lack of a 1:1-correspondence between the contrastibility and the topicalizability of particles. He concludes that semantic transparency cannot be a sufficient condition for particle movement. This conclusion, however, leaves open the question of what other factors influence the (in)ability of particles to undergo topicalization.

The crucial difference between (30) and (31) on the one hand, and the examples (9), (10) and (19) on the other, is that the particle has not been moved in the former cases. It would be an oversimplification to assume that particle verbs do not allow for particle movement just because their semantics is incompatible with a Topic/Focus construction. Rather, it seems that the problem only arises if the respective Topic - or Focus feature is assigned *as a result of movement* of the particle. This observation suggests that not only the semantic, but also the structural, properties of particle verbs have an effect on the acceptability of particle movement. I offer an account which is based on this conclusion in section 7.2.

5. Long topicalization

As shown in (32)-(36) and Table 4, PP-topicalization is also possible if the PP originates inside an infinitival clause and moves across the sentence boundary into SpecCP of the matrix clause:

- (32) ?**Auf die Party** versprach Hans mit Maria zu gehen.
on the party promised H. with M. to go
'Hans promised to go to the party with Maria.'
- (33) **Über dich** versuche ich zu lachen.
about you try I to laugh
'I try to laugh about you.'
- (34) ?**Aus dem Zug** haben eigentlich nur Männer zu steigen versucht.
out the train have actually only men to climb promised
'Only men tried to get off the train.'
- (35) **Auf diesen Wagen** haben die Männer das Heu zu laden versucht.
on this wagon have the men the hay to load tried
'The men tried to load the hay onto this wagon.'

- (36) **Aus dieser Stadt** versuchte der Rattenfänger alle Kinder zu führen
 out this city tried the pied-piper all children to lead
 'The pied-piper tried to lead all children out of this city.'

Table 4. Long PP-topicalization

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (32) | 14 | 0 | 0 | 0 | 2 | 1.5 |
| (33) | 16 | 0 | 0 | 0 | 0 | 1.0 |
| (34) | 10 | 3 | 1 | 1 | 1 | 1.8 |
| (35) | 15 | 1 | 0 | 0 | 0 | 1.1 |
| (36) | 11 | 5 | 0 | 0 | 0 | 1.3 |

Given that topicalization out of infinitives is not significantly worse than short topicalization, and in the light of the possibility of topicalizing particles clause-internally, we expect that long particle topicalization is possible as well. However, this expectation is not borne out by the judgements:

- (37) ?***Auf** begann die Sonne im Osten zu gehen.
 Prt began the sun in.the east to go
 'The sun began to rise in the east.'

- (38) ***An** versuche ich dich zu lachen.
 Prt try I you to laugh
 'I'm trying to smile at you.'

- (39) ?***Aus** haben eigentlich nur Männer zu steigen versucht.
 Prt have actually only men to climb promised
 'Only men tried to get off.'

- (40) ??**Auf** haben die Männer das Heu zu laden versucht.
 Prt have the men the hay to load tried
 'The men tried to load up the hay.'

- (41) ??Angola führte viele Waren ein. **Aus** versucht das Land nur Kaffee zu führen.
 Angola took many goods Prt Prt tries the country only coffee to lead
 'Angola imported a lot of goods. The country is trying to export only coffee'

Table 5. Long particle topicalization

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (37) | 2 | 4 | 1 | 2 | 7 | 3.5 |
| (38) | 0 | 0 | 1 | 1 | 14 | 4.8 |
| (39) | 2 | 2 | 3 | 2 | 7 | 3.6 |
| (40) | 3 | 2 | 3 | 1 | 7 | 3.4 |
| (41) | 3 | 4 | 0 | 3 | 6 | 3.3 |

The data are difficult to interpret. According to the judgements given in (37)-(41), some examples of long particle topicalization are marginally acceptable, whereas others are ungrammatical. Four out of the five sentences receive an average judgement somewhere between ?? and ?*; they are not perfect, but also not straightforwardly excluded. For each of these four sentences, at least two of the 16 informants could be found that judged them as grammatical. (38) was the only sentence that was clearly judged as ungrammatical, but here the corresponding sentence with short topicalization is already slightly degraded to begin with ((10) is marked as ??).

That judgements about long particle topicalization vary considerably means also that the average may not be the appropriate measure to describe the data. For example, the average response to sentence (37) is that the sentence is unacceptable. Ideally, ?* should reflect the uniform judgement of *all* speakers, i.e. all speakers are expected to find (37) (almost entirely) ungrammatical. However, the frequency distribution in Table 5 shows that more than a third of the speakers actually accepted (37) (i.e. marked it as ok or with a ?). ?* is the result of a wide distribution of judgements about (37), which a (slight) majority found unacceptable. But what does the judgement given in (37) say about the grammar of those speakers that accept long particle movement? How far can we go in ignoring variation?

Despite these problems, there remain some interesting observations that can be made with respect to (37)-(41). As Table 1 has shown, the majority of speakers accepted short particle topicalization with the examples in (5)-(10) above (with the exception of (10), the highest number of judgements is always listed in the ok-column). In contrast, as Table 5 verifies, the majority of speakers finds the data in (37)-(41) ungrammatical (most speakers assign a * to these sentences). It is also interesting to investigate the judgements of each individual speaker with respect to a particular pair of sentences (short vs. long topicalization). For example, one notices that with the exception of one speaker, all informants saw a contrast between short and long topicalization with respect to (5) vs. (37).⁷ For example, the judgements show that of the nine speakers that found (37) impossible (judgements * or ?*), seven completely accepted (5) (i.e. did not even mark it with a ?), while two marked it with a ?. Even for most speakers that found (37) marginally acceptable (?), there is a contrast between (37) and (5) with short topicalization (which these speakers completely accepted). Similar contrasts can be observed with respect to the other examples of short vs. long particle topicalization, but no comparable observations can be made with respect to PP-topicalization.

In sum, although the data perhaps are not sufficiently strong to conclude that particle topicalization is generally clause bound, they nevertheless indicate a definite

contrast between short and long particle topicalization.⁸ Moreover, long particle topicalization shows even more clearly than short topicalization that (i) particle movement is much more constrained than extraction of full PPs and (ii) judgements with respect to particle topicalization are not uniform, but vary considerably from speaker to speaker.

6. Particle scrambling

The following examples show that scrambling of particles is impossible or at least highly marked. In contrast, full PPs allow scrambling. Consider first the examples in (42)-(45), which exhibit scrambling in front of the subject:

- (42) *Angola führt viele Waren ein, obwohl **aus** das Land nur Kaffee führt.
 Angola takes many goods Prt although Prt the country only coffee takes
 'Angola imports a lot of goods, although the country only exports coffee.'
- (43) *...weil **auf** die Männer noch kein Heu geladen haben.
 because Prt the men still no hay loaded have
 'because the men still haven't loaded up any hay.'
- (44) ??...weil **aus** eigentlich nur Männer gestiegen sind.
 because Prt actually only men climbed are
 'because actually only men got off.'
- (45) *...weil **ein** dieses Jahr noch niemand gereist ist.
 because Prt this year still nobody travelled is
 'because nobody has entered (the country) this year.'

Table 6. Particle scrambling; adjunction to IP

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (42) | 0 | 0 | 0 | 1 | 15 | 4.9 |
| (43) | 0 | 1 | 0 | 0 | 15 | 4.8 |
| (44) | 5 | 2 | 3 | 1 | 5 | 2.9 |
| (45) | 1 | 1 | 0 | 1 | 13 | 4.5 |

In (42)-(45), a particle has been moved to a position between the complementizer and the subject. In contrast to the data in section 4, which illustrated that the very same particle can be moved to SpecCP, the scrambling examples are unacceptable (with (44) as a notable exception). (46)-(49) shows that PP-scrambling in comparable examples is possible throughout:

- (46) ...weil **aus dieser Stadt** der Rattenfänger gestern alle Kinder führte.
 because out this city the pied-piper yesterday all children led
 'because the pied-piper led all children out of this city yesterday.'

- (47) ...weil **auf diesen Wagen** die Männer noch kein Heu geladen haben.
 because onto this wagon the men still no hay loaded have
 'because the men still have not loaded any hay onto this wagon.'
- (48) ...weil **aus dem Zug** eigentlich nur Männer gestiegen sind.
 because out the train actually only men climbed are
 'because actually only men got off the train.'
- (49) ...weil **in dieses Land** dieses Jahr noch niemand gereist ist.
 because into this country this year still nobody travelled is
 'because nobody has entered this country this year.'

Table 7. PP-scrambling; adjunction to IP.

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (46) | 12 | 2 | 2 | 0 | 0 | 1.4 |
| (47) | 15 | 0 | 1 | 0 | 0 | 1.1 |
| (48) | 16 | 0 | 0 | 0 | 0 | 1.0 |
| (49) | 15 | 1 | 0 | 0 | 0 | 1.1 |

The following examples show the same contrasts with respect to scrambling of particles and PPs in the German *Mittelfeld*:

- (50) ?*...weil die Sonne **auf** im Osten geht (aber unter im Westen).
 because the sun Prt in.the east goes but Prt in.the west
 'because the sun rises in the east but it sets in the west.'
- (51) *...weil viele Mädchen dich **an** gestern gelacht haben
 because many girls you Prt yesterday laughed have
 'because many girls smiled at you yesterday.'
- (52) *Noch niemand ist **ein** dieses Jahr gereist.
 still nobody is Prt this year travelled
 'Nobody has entered (the country) this year.'
- (53) *Angola führte viele Waren ein, obwohl das Land **aus** nur Kaffee führt.
 Angola takes many goods Prt although the country Prt only coffee takes
 'Angola imports a lot of goods, although the country only exports coffee.'

Table 8. Particle scrambling; adjunction to VP.

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (50) | 2 | 1 | 3 | 0 | 10 | 3.9 |
| (51) | 0 | 0 | 0 | 0 | 16 | 5.0 |
| (52) | 0 | 0 | 0 | 0 | 16 | 5.0 |
| (53) | 0 | 1 | 0 | 1 | 14 | 4.8 |

Scrambling has moved the particle to a position following the subject and in front of a PP in (50), in front of an adverb in (51) and (52), and in front of the direct object in (53). This kind of particle movement is even less acceptable than scrambling in front of a subject. Again, there is a strong contrast between scrambling of particles and the scrambling of full PPs:

(54) ...weil Hans **auf die Party** mit Maria geht (aber in den Zoo mit Usch).
 because H. on the party with M. goes but in the zoo with U.
 'because Hans goes to the party with Maria but in the zoo with Usch.'

(55) ...weil viele Mädchen **über dich** gestern gelacht haben
 because many girls about you yesterday laughed have
 'because many girls laughed at you yesterday.'

(56) ?Noch niemand ist **in dieses Land** dieses Jahr gereist.
 still nobody is into this country this year travelled
 'Nobody has entered this country this year.'

(57) ...weil der Rattenfänger **aus dieser Stadt** gestern alle Kinder führte.
 because the pied-piper out this city yesterday all children led
 'because the pied-piper led all children out of this city yesterday.'

Table 9. PP-scrambling; adjunction to VP.

| Sentence Number | Ok (= 1) | ? (= 2) | ?? (= 3) | ?* (= 4) | * (= 5) | Average |
|-----------------|----------|---------|----------|----------|---------|---------|
| (54) | 13 | 3 | 0 | 0 | 0 | 1.2 |
| (55) | 13 | 1 | 1 | 0 | 1 | 1.4 |
| (56) | 9 | 3 | 2 | 1 | 1 | 1.9 |
| (57) | 13 | 1 | 0 | 2 | 0 | 1.4 |

(54)-(57) show that the majority of speakers accepts *Mittelfeld*-scrambling of PPs in German. Notice that some of the data in (42)-(57) require Topic-Focus intonation in order to be acceptable; they are instances of what Neeleman (1994) calls "focus scrambling". Respondents were explicitly asked to use this kind of intonation to improve particle scrambling as much as possible. Despite this option, the examples in (42)-(45) and (50)-(53) were not accepted.⁹

The data are much clearer than those for long particle topicalization. Although there are also a few exceptions, the vast majority of speakers rejected the scrambling of particles. The contrast between particle topicalization and particle scrambling is quite

remarkable, particularly given that no comparable contrast can be observed between topicalization and scrambling of full PPs. Any theory of particle verbs that builds on the possibility of particles undergoing topicalization ultimately needs to say something about their inability to undergo scrambling.

7. Discussion

In this section I discuss the observations made in sections 4-6 and offer some possible explanations. Before I analyze particle topicalization and particle scrambling in sections 7.2 and 7.3, I look at the licensing conditions for particle verbs in section 7.1. I argue that the movement of any part of a particle verb must be reconstructed at LF in order to derive a local configuration which is necessary in order for the particle verb to be licensed. In section 7.2 I argue that particle verbs are conceptually represented as heads and phrases simultaneously and that syntactic operations must preferably be compatible with both representations. I suggest that this requirement explains some of the puzzling properties of particle topicalization. In section 7.3 I propose an answer to the question of why particle scrambling is impossible.

7.1 Lexical licensing of particle verbs and reconstruction

Although the possibility of particle topicalization shows that particles are phrasal complements of the verb, it is clear that a particle complement is in a crucial way more closely linked to the verb than "regular" complements like full PPs. Even the meaning of a so-called "semantically transparent" particle verb cannot always simply be reduced to the meaning of the verb and the meaning of the particle. In order to illustrate this fact, consider the examples in (58) (cf. McIntyre 2001):

- (58) a. eine Langspielplatte auflegen
a record Prt-put
'put on a record'
b. einen Brief einwerfen
a letter Prt-throw
'post a letter'
c. aussteigen
Ptr-climb
'get off'

The particle verbs *auflegen*, *einwerfen* and *aussteigen* have a transparent semantics. The particles *auf*, 'on', *ein*, 'into', and *aus*, 'out', express the same directional concepts as the corresponding prepositions. They are just used intransitively; their reference objects (= the places onto which the record is placed, into which the letter is thrown etc.) are left implicit.

However, McIntyre (2001, 2002) observes that these implicit reference objects cannot be just anything of the right semantic type. The particle verb *auflegen* in (58a)

is only possible with one particular reading: the reference object of *auf* must be a record player. (58a) cannot be used to express that the record has been put on the shelf or the table.¹⁰ Similarly, *ein* in *einwerfen* has only one possible reference object, namely a letter box; (58b) cannot be used if the letter is thrown into a rubbish bin. Finally, *aussteigen* in (58c) is only possible in combination with some means of transportation. Although both *Er stieg aus dem Zug*, 'He got off the train', and *Er stieg aus dem Fenster*, 'He climbed out of the window', are possible, only the former meaning can be expressed with the particle verb *aussteigen*.¹¹

The specific idiosyncratic properties of these verbs cannot be derived from the meaning of the verb or the particle in isolation. Instead, the conceptual restriction on the implicit reference object must be associated either with the particle verb as a whole or with a special meaning of the particle which is licensed only in the context of the respective base verb.

In Zeller (2001), this link between particles and their verbs is expressed in terms of a theory of *lexical licensing* (cf. Jackendoff 1997). The idea is that for a prepositional element to count as a particle, it has to occur in a specific local configuration with the verb (see Booij (2002) for a similar proposal based on Goldberg's (1995) construction grammar). I suggest that the lexical representation of a preposition states that its realization as a particle (which is often associated with a particular particle semantics, e.g. the requirement to select a particular reference object) is only possible if the preposition is *strictly head-governed by the verb*.¹² This condition can be compared to the morphological subcategorization frame of an affix whose lexical representation also includes information about the category of its host and about the structural relation between the two elements (i.e. if the affix is a prefix or a suffix etc.).

The claim that "special" particle meanings of prepositions are licensed in the local context of a verb implies that the notions "semantically transparent" versus "idiomatic" are not incompatible when it comes to particle verbs. A particle verb like *aussteigen* in (58c) is certainly semantically transparent (its meaning is based on the special meaning of the particle and the meaning of the verb), but the special meaning of *aus* is only licensed in combination with the verb *steigen*, and the lexical representation specifies that the particle and the verb must bear a particular structural relation in order to license this special meaning. In that sense, the particle verb is a "phrasal idiom" (cf. Marantz 1997 for the claim that the meaning of every terminal node is determined by its syntactic context). McIntyre (2002) provides evidence that such construction-specific meanings of lexical items are not peculiar to particle verbs, but are also attested elsewhere in the grammar.

The view that the particle and the verb must be realized in a strictly local configuration requires that this relation is established at the relevant level of syntax where lexical relations are established and checked. I assume that this level is LF.¹³ Crucially, this means that verb- or particle movement that takes place in overt syntax must be "undone" at LF in order to restore the local relation between the verb and the particle. The relevant LF process which achieves this is known as reconstruction. If the base position of a moved element is represented as a trace, then reconstruction means that this element is moved back into the trace position at LF. If the base position is represented as an identical copy of the moved element, then reconstruction refers to the fact that it is this copy which is semantically interpreted and accessed by the

operations of lexical licensing. Since the lexical licensing of a particle verb requires the particle and the verb to be in a local relation, verb- or particle movement has to be reconstructed at LF.

That verb movement is reconstructed at LF is an uncontroversial assumption. Overt verb movement is quite generally taken to be "invisible" at LF (see e.g. Uriagereka 1995, 98f.; Wurmbrand 2000, 16). Evidence is provided by idiomatic expressions with immobile phrasal parts (i.e. if they are moved, the idiomatic reading disappears). For example, the following (b)-examples show that topicalization of the PP-parts of these idioms is impossible.¹⁴ In contrast, the (a)-examples with the verb in C⁰ show that verb movement does not affect the acceptability of the idiomatic reading (following Jackendoff (1997), I signal an impossible idiomatic reading through #):

- (59) a. Er schlägt zwei Fliegen mit einer Klappe
he beats two flies with one swatter
'He kills two birds with one stone'
b. #Mit einer Klappe schlägt er zwei Fliegen

- (60) a. Er malt den Teufel an die Wand
he paints the devil on the wall
'He tempts fate'
b. #An die Wand malt er den Teufel

The structural conditions on lexical licensing of particle verbs require that it must also be possible to reconstruct a topicalized particle into its base position at LF. The assumption that topicalized constituents undergo reconstruction is independently required to account for examples like (17) and (18) in section 4 where a topicalized direct object establishes VP-focus. However, this does not mean that topicalization is really "invisible" at LF. In contrast to verb movement, topicalization has a direct impact on the interpretation of the sentence. As noted above, for a non-subject to move to SpecCP, it must be either a Topic or a Focus. I assume with Büring (1996) that Topic and Focus are syntactic features which are automatically associated with a topicalized constituent. Then we can assume that movement of a particle to SpecCP marks it as a Focus or a Topic (presumably under Spec-Head agreement with the respective feature in C⁰, cf. Wurmbrand 2000), and that this property is preserved after reconstruction. In other words, although the LF representation of a sentence whose overt form includes a topicalized particle finds the particle in its base position, the reconstructed particle is now marked with a Focus or Topic feature as a result of overt movement.

7.2 The multirepresentational status of particle verbs and topicalization

In section 4, I showed that neither an exclusively structural nor a purely semantic approach can explain the facts that have been observed with respect to particle topicalization. A morphological analysis of particle verbs that denies that particles are phrases might account for those particles that cannot undergo XP-movement, but fails

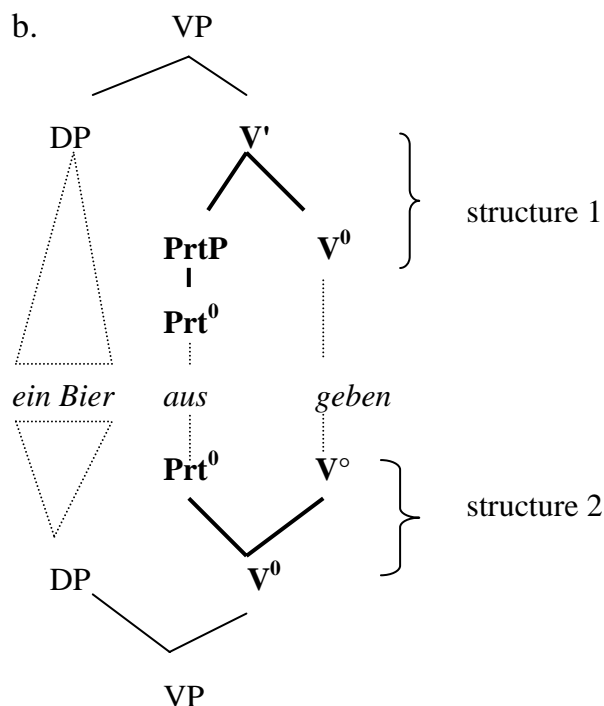
to explain the fact that some particles can be topicalized. The alternative proposal, which assumes that certain particles are immobile because they lack the semantic potential to be Topics or Foci, cannot explain why many of these particles are licensed in Focus constructions if Focus is assigned to them *in situ* and not as the result of movement of the particle.

I want to propose a possible explanation for the properties of particle topicalization that combines insights of the structural and the semantic approach. From the structural approach I adopt the idea that the impossibility of certain particles to be moved has something to do with the "word-like" character of particle verbs. I assume with the semantic approach that particle topicalization establishes Focus- or Topic-marking on the particle and that it is this fact that renders movement impossible in certain cases.

My proposal is based on the idea that particle verbs are not conceptualized as *either* words *or* phrases, but as *words and phrases at the same time*. I assume that both representations are activated simultaneously whenever a particle verb occurs in a sentence. Crucially, particle topicalization is based on the syntactic representation of the particle verb (because the particle can only be moved to SpecCP if it is a phrase). Therefore, speakers are forced to interpret the particle verb unambiguously as a syntactic construction if the particle has been moved. Marginality or even unacceptability results from the speaker's inability to match this syntactic representation with the particle verb's representation as a word.

In Zeller (2002) I argue that particle verbs in the Germanic languages are represented by two parallel structures. In one, the particle is a phrase and the particle verb is a V' or VP (structure 1 in (61b)). In the other, the particle is *not* a phrase, since the verb and the particle have been *reanalyzed* as a complex head (structure 2):

(61) a. ein Bier ausgeben, 'invite (somebody) for a beer'



The syntactic representation in structure 1 is motivated (among other things) by the fact that verb movement can leave the particle behind in V2 and (Dutch) Verb Raising constructions like (62b).¹⁵ Evidence for structure 2 is provided by (62a), which shows that particle verbs can also move as complex heads in Dutch Verb Raising constructions (for more details of this analysis, see Zeller 2002):¹⁶

- (62) a. dat Jan zijn moeder wil **opbellen** [[t_i] matrix verb [particle verb]_i]
 that Jan his mother wants Prt-phone
 b. dat Jan zijn moeder **op** wil **bellen** [[particle t_i] matrix verb verb_i]
 that Jan his mother Prt wants phone
 'that Jan wants to call up his mother' (Neeleman 1994: 24)

Syntactic rules can trigger either of the two structures in (61). For example, particle topicalization is possible if PrtP in structure 1 is moved, whereas a sentence like (62a) is derived if head movement triggers the complex V⁰ in structure 2.

Before I analyze particle movement in the light of the structure in (61b), let me first address some common objections that have been leveled against the reanalysis proposal and multi-representational structures like (61b). For example, one reviewer raises the question to what extent the double structure in (61b) is merely an *ad hoc* way of capturing the ambiguous character of the verb-particle construction. Others have criticized multi-representational approaches for enriching the theoretical formalism, and some reject reanalysis as too powerful a tool and as being too unrestricted.

I think that these objections are unwarranted. It is an observable and undisputed fact that the rules of grammar "see" the particle verb sometimes as a word and sometimes as a phrase. Representing this situation by two parallel structures, one in which the particle verb is a phrase and one in which it is a head, is a straightforward approach to this problem. Both structures in the two-sided diagram in (61b) are formed according to the general rules of syntax. Specific rules which license the occurrence of two parallel structures and which determine the contexts for reanalysis have been stated in the literature. As discussed in Van Riemsdijk (1998), one such condition for reanalysis is *linear adjacency* of the two elements which are reanalyzed (here: the particle and the verb). If the verb and the head of its complement in structure 1 were separated by a complement of the particle (and therefore were not adjacent), then reanalysis could not apply. Another condition is proposed in Zeller (2001). There I suggest that a verb and the lexical head of its phrasal complement can only be reanalyzed if *no functional structure* intervenes between the two heads. Assuming that particle phrases lack functional structure (in contrast to "regular" NP-, AP- or PP-complements, which have functional extended projections), it follows that a double representation like (61b) is only available for particle verbs, but not for similar constructions with intransitive prepositions or resultative adjectives (see Zeller (2001, 2002) for more details of this proposal). Conditions like these limit the scope of reanalysis and hence avoid overgeneralization. They might increase the complexity of the theory, but this cannot seriously be regarded as a problem; if it was, then the same objection would also have to be raised with respect to e.g. the introduction of abstract functional heads in syntax or possible worlds in formal semantics.

It should also be pointed out that a particle verb is by far not the only construction which simultaneously shows properties of two different structural representations. Interestingly, for many constructions with similar ambiguous properties, a reanalysis rule and/or multi-representational structures have been proposed in the literature. Such proposals include (among others) Hornstein & Weinberg's (1981) account of preposition stranding, Sadock's (1985) analysis of noun incorporation in Greenlandic, Zubizarreta's (1985) study of Romance causative constructions and Van Riemsdijk & Haegeman's (1986) treatment of verb cluster formation in various Germanic languages (cf. also the theory of coordination proposed in Moltmann (1992) and the proposal made in Van Riemsdijk (2000) regarding free relatives). For all these phenomena, alternative proposals based on standard tree representations exist as well (cf. e.g. the head movement analysis proposed in Baker (1988)). However, in Zeller (2002) I provide a discussion of particle verbs in the context of a comparison between some of these alternative theories and the multi-representational approach, and the discussion shows that only the latter can fully account for the heterogeneous properties of the verb-particle construction. The hybrid status of particle verbs is a challenge for tree-representability, but as long as one does not want to give up hierarchically structured syntactic representations when confronted with problematic data, a multi-representational theory can be considered an adequate and well-motivated approach.

Let me return to the representation of particle verbs at LF. As noted above, both particle- and verb movement are reconstructed at LF in order to establish the syntactic configuration required for lexical licensing. This configuration, which I expressed as head government in section 7.1, can now be reinterpreted as the requirement that in *both* representations, the syntactic relation between the verb and the particle must be *strictly local*. This locality requirement is met if the verb governs the particle, but also if both the verb and the particle form a complex head.¹⁷

I assume that the interpretation of particle verbs involves the checking of structure 1 against the properties of structure 2 at LF. What has to be checked is whether all semantically interpreted features of one representation are also present in the other. Only if the feature specifications of both structures are the same is LF fully interpretable.

This assumption does not predict that *verb* movement causes any problems. Since verb movement is "invisible" at LF, both structure 1 and structure 2 have the same properties at LF after reconstruction, regardless of whether verb movement has actually been initiated from structure 1 (V2 and (62b)) or structure 2 ((62a)). However, *particle* movement has a different effect. Only structure 1 allows for this option. As noted above, a topicalized particle receives a Focus- or Topic-feature which is preserved in structure 1 after reconstruction. But this feature is not present in structure 2. If the speaker checks structure 1 against the properties of structure 2, the interpretation fails.

However, it might be possible to "save" the structure by suppressing the word-like conceptualization of the particle verb. In order to accept particle topicalization, a speaker is forced to abandon the multirepresentational format of particle verbs and to treat them basically as phrasal constructions. Therefore, only if the phrasal representation of a particular particle verb is dominant for a speaker does topicalization of the respective particle become acceptable.

I assume that this is what explains the problematic properties of particle topicalization. For some speakers, the conceptualization of particle verbs as words might be too strong for an exclusively phrasal representation to be acceptable. For others, the phrasal representation of particle verbs might be strong enough to ignore the V^0 -structure in particular contexts. The more dominant a speaker's representation of the particle verb as a V' or a VP, the more acceptable will (s)he find the examples with topicalized particles. The "conceptual weight" of the syntactic representation differs from particle verb to particle verb and from speaker to speaker, causing inconsistent judgements and idiolectal variation.

It is an interesting question of what determines the conceptual strength of the two representations. One aspect that certainly favors the V^0 -representation (and therefore renders particle topicalization more difficult) is the non-transparent character of certain particles. Of course, lexical listedness of a construction cannot be taken as evidence that this construction is a word. However, as McIntyre (1998, 26) notes, "listedness can carefully be reinstated as a sign that a structure is a morphological object rather than a phrase under the important proviso that the phrase has a 'plausible morphological structure'." The point is that a phrasal idiom like *jemandem den Garaus machen*, 'finish somebody off', is unlikely to be analyzed as a word, because its properties are too obviously syntactic. For example, the idiom includes articles and other functional elements that are typically absent from morphological structures. In contrast, particle verbs clearly have a "plausible morphological structure"; I even assume that this structure is represented in tandem with their phrasal representation. The more idiomatic the properties of the particle verb, the more pronounced is its V^0 -representation at LF. I take this to be the reason for the ban on particles in SpecCP that are part of a particle verb with a non-compositional semantics. The idiomatic status of the particle verb makes it impossible for the speaker to overwrite the word-like representation of structure 2. Therefore, even though topicalized phrases can sometimes establish Topic or Focus on the whole VP, an LF with a topicalized particle simply becomes uninterpretable if the particle verb is not semantically transparent.

Notice that it is not the fact that the particle receives a Focus- or Topic-feature, but the fact that this feature is assigned as a result of topicalization of the particle, which causes interpretative problems at LF. Since particle movement is only possible with structure 1, it is only in this structure that the particle phrase bears that feature. In contrast, if a particle is assigned this feature *in situ*, it can be assigned to the particle node in both representations. Consequently, focused particles without topicalization are perfectly acceptable.

Certainly, a number of questions remain open. For example, it is not clear how the proposed analysis of LF-interpretation and licensing can account for there being more diverse judgements about long particle topicalization than about short particle topicalization. However, the data support the general idea behind my proposal: since particle verbs are represented as heads *and* phrases, the fact that particle movement requires a unique analysis of the particle as a phrase causes difficulties. This explains why the acceptability of particle topicalization often cannot be evaluated on the basis of a sharp distinction between "grammatical" and "ungrammatical", but is rather a matter of degree.

7.3 Scrambling and lexical licensing

Finally, let me turn to the observation that for most speakers, even those particles that can be topicalized cannot be scrambled, whereas scrambling of full PPs is readily acceptable. One way of explaining this would be to assume that, in contrast to topicalized constituents, scrambled phrases do not reconstruct at LF. This would imply that particle verbs cannot be licensed if the particle has been scrambled because the local configuration required for lexical licensing is not established at LF. In contrast, the combination of full PPs and verbs does not require lexical licensing. Therefore, the fact that scrambled PPs are not in their base position at LF does not affect the acceptability of these examples.

Büring (1996) argues explicitly that scrambled elements do not reconstruct. However, his only argument in support of this assumption is that according to Büring, scrambling is A-movement (which is generally taken not to be subject to reconstruction.) Apart from the fact that an analysis of scrambling as A-movement is itself controversial, Grewendorf & Sabel (1994:301) provide evidence that scrambled constituents do in fact reconstruct at LF. For example, in (63), the infinitival clause has been scrambled into the matrix clause. It includes the pronoun *sie*. Given that a bound-pronoun reading is available, the infinitive must be in its base position at LF because in its adjoined position, the pronoun would not be c-commanded by the quantifier *jeder/keiner Frau*:

- (63) weil [sie_i nicht zu vergessen] Peter jeder/keiner Frau_i t versprochen hat
since she not to forget Peter every/no woman promised has
'since Peter promised every/no woman not to forget her'

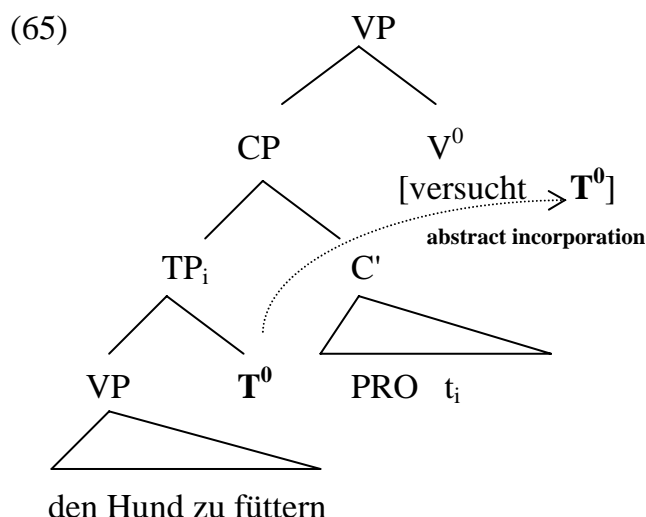
Given the problematic character of the claim that scrambled categories do not undergo reconstruction at LF, we might consider another explanation for the impossibility of particle scrambling. Notice that a contrast between scrambling and topicalization has also been observed with respect to so-called "remnant movement" (cf. Grewendorf 1992; Grewendorf & Sabel 1994, 265f.):

- (64) a. [t zu füttern] hat [den Hund] keiner t versucht
to feed has the dog nobody tried
'Nobody has tried to feed the dog'
b. *dass [t zu füttern] [den Hund] keiner t versucht hat
that to feed the dog nobody tried has
c. dass [den Hund zu füttern] keiner t versucht hat
that the dog to feed nobody tried has

In a first step, the direct object of the infinitival verb *zu füttern*, the DP *den Hund*, has undergone long scrambling in front of the main subject DP *keiner* in both (64a) and (64b). In a second step, the infinitive from which the DP has been extracted (the remnant [t *zu füttern*]) is moved as well. In (64a), the remnant is topicalized, in (64b), it is scrambled. (64a) is grammatical, (64b) is not. (64c) shows that scrambling of the infinitive is possible if the DP-object has remained *in situ*.

The contrast between (64a) and (64b) is interesting, because it corresponds to the contrast between particle scrambling and particle topicalization observed above¹⁸, and it seems in fact that there is a solution that accounts for both sets of data.

Grewendorf & Sabel's (1994) explanation of the contrast shown in (64) is based on their specific account of long scrambling. They argue that in long scrambling constructions, the infinitival TP has moved to SpecCP of the embedded clause, (65). Grewendorf and Sabel assume that in order for a constituent to leave the TP and move into the matrix clause, the head of the TP has to undergo *abstract incorporation* into the matrix verb. Abstract incorporation, as introduced by Baker (1988), takes place at LF and is therefore not visible in overt syntax. However, like overt incorporation, abstract incorporation "opens barriers". If the embedded T-head incorporates covertly into the matrix verb, the two heads count as non-distinct even in overt syntax. Nondistinctness of the two heads prevents the TP in the embedded SpecCP from being a barrier between an XP moved into the matrix clause and its trace. Therefore, long scrambling of the direct object in (64a) is possible because the embedded T-head incorporates into the matrix verb at LF.



This assumption provides the basis for Grewendorf & Sabel's (1994) account for the ungrammaticality of (64b). Without discussing the details of Grewendorf & Sabel's proposal, let me note their crucial claim:¹⁹

- (66) [A]djoined categories constitute barriers for heads contained within them
(Grewendorf & Sabel 1994, 288)

As mentioned above, Grewendorf and Sabel show that scrambled constituents reconstruct at LF (and therefore are not adjoined categories at the level where the ECP is checked). However, they assume that if a category is adjoined to another one in overt syntax, it receives a feature [+ barrier], and crucially, this feature is preserved under reconstruction. Because of (66), scrambling an infinitive into the matrix clause (which is an instance of adjunction) creates a barrier between the infinitive and the matrix verb and hence prevents the embedded T-head from incorporating at LF. But if

no abstract incorporation takes place, movement of a direct object out of the infinitive crosses a barrier (the TP). In (64b), scrambling of *zu füttern* has the effect that long scrambling of the direct object out of the infinitive crosses a barrier. In contrast, long topicalization of the infinitive (which is not subject to (66)) still allows abstract incorporation. Therefore, (64a) is grammatical.

If we adopt this proposal, it is clear that particle phrases are barriers at LF if they have been scrambled. Now recall that the licensing condition for particle verbs that I formulated above requires the relation between the particle and the verb to be local in both structures at LF. In their phrasal representation, particles are only licensed if they are strictly head-governed by the verb. However, although a scrambled particle phrase is in its base position at LF, the particle is not head-governed by the verb, because the particle phrase still bears the feature [+ barrier]. Particle scrambling is excluded, because this particular kind of movement prevents the particle from being licensed at LF.

8. Conclusion

In section 3 I discussed the controversial status of particle verbs in German, pointing out that the investigation of particle movement can yield new insights into the structural properties of these peculiar preverb-verb constructions. Three major observations about particle movement were made in this study:

- (i) Particle topicalization is possible if the particle is the Topic or the Focus of the sentence.
- (ii) Speakers' judgements about particle topicalization vary; most speakers find the acceptable cases slightly worse than the topicalization of full PPs.
- (iii) Particle scrambling is impossible.

What conclusions about the structure of particle verbs can be gained from these observations? First, I tried to show that (i) supports the "syntactic" view that particles can be represented as phrasal complements of their verbs, a view in line with many proposals made in the literature on particle verbs. However, I emphasized that a syntactic approach also has to take (ii) into account, i.e. the contrast between particle topicalization and PP-topicalization that is notable for most speakers. Therefore, instead of opting for a syntactic analysis of particle verbs that treats the preverb just like a regular (intransitive) PP-complement of the verb, I argued that the marked character of particle fronting is the result of the double-structure representation of particle verbs. I suggested that a particle verb can be represented as a V' or VP-construction which has a parallel representation as a V⁰ at LF. I argued that the conflicting properties of these two representations are responsible for the heterogeneous judgements of speakers about particle fronting.

Finally, (iii) provides evidence that the phrasal representation of particles is subject to licensing conditions that require a strictly local relation between the particle and the verb at LF. Since local relations between heads cannot be established if a phrase intervening between these heads is an adjunct at some level of syntax, scrambling of

particle phrases (an instance of adjunction to IP or VP) is impossible. The observation that the contrast between particle topicalization and particle scrambling can be compared to similar contrasts observed with respect to remnant movement of infinitives in German shows that not all properties of particle verbs are caused by the exceptional hybrid character of this construction. Some of the restrictions on the movement of particles follow directly from general principles that regulate syntactic operations.

9. Notes

* I thank Geert Booij, Andrew McIntyre, Stefan Ploch, Joachim Sabel and an anonymous reviewer for their comments and my informants for the time they took to provide me with their judgements. A special thanks goes to Dori Posel for her help with this article.

¹ I restrict myself to an examination of prepositional particles, and I use the term "particle" with respect to these elements only. A number of authors (cf. Booij 1990, 2001; Stiebels & Wunderlich 1994; Zeller 2001, 2002) also discuss examples of nominal particles. Movement of these elements is much less restricted than movement of prepositional particles.

² Included in the sample were also Austrian-German mother tongue speakers. I sampled only linguists because they were likely to be more sensitive to nuanced differences illustrated in the range of examples.

³ This principle is known as the *Principle of Lexical Integrity*, which has developed out of Chomsky's (1970) lexicalist hypothesis (cf. Lapointe 1980; di Sciullo & Williams 1987; Bresnan & Mchombo 1995). See Booij & van Kemenade (this volume) for some discussion.

⁴ (5), (6), (8) and (10) are judged as perfectly grammatical in the original publications. In Zeller (2002), I mark an example similar to (9) as ?? and one similar to (7) as ? (on the basis of judgements of only four informants).

⁵ The Focus value of a particle is not only restricted by the context, but also by the number of possible particle verbs that can be derived from the base verb that is part of the Background. In addition, the thematic and grammatical properties of these particle verbs have to match those of the original particle verb. For example, although *auf-lachen*, 'give a laugh', and *zu-lachen*, 'laught at', are particle verbs formed from the same base verb as *aus-lachen*, *auf* and *zu* cannot be elements of the Focus value of *aus*: *auf-lachen* is intransitive and hence does not have a θ -role which it could assign to the direct object which is part of the Background in (13), and *zu-lachen*, although semantically transitive, takes a dative object (in contrast to *an-lachen* and *aus-lachen*, which take accusative objects). It therefore seems that *an* is the only possible alternative to *aus* in (13).

⁶ Müller's examples in (22) and (23) are taken from newspaper articles, example (19) appeared in a weekly magazine, (20) and (21) were found in novels. In (19) and (21), I corrected the wrong spelling in the original data.

⁷ The tables do not provide the data on these individual responses to each example.

⁸ The data in (37)-(41) show particle extraction from control infinitives. I did not collect judgements with movement in ECM- or raising constructions. According to my own judgements, perception verbs allow for long topicalization, raising verbs do not:

- (i) ??Auf sehe ich die Sonne im Osten gehen
 Prt see I the sun in.the east go
- (ii) *Aus scheinen nur Männer zu steigen
 Prt seem only men to climb

⁹ I only tested one example with long scrambling of a particle which (unsurprisingly) was entirely ungrammatical:

(i) *...weil **auf** die Sonne [im Osten t zu gehen] begann
because Prt the sun in.the east to go began

(i) was judged as ?* by two speakers; the remaining 14 speakers found it entirely ungrammatical (*).

¹⁰ A different meaning of *auflegen* as in *den Hörer auflegen*, 'put down the phone', is also specific in this regard. This particle verb cannot be used to express that the receiver is put on a table or a chair, but only that it is put back on the phone.

¹¹ The particle verb *aussteigen* can also be used with the special meaning 'opt out of society' which is presumably based on a metaphorical extension of its transparent meaning in (58c).

¹² In Zeller (2001) I call the local configuration between the particle and verb "structural adjacency", which is defined as the relation between a head and the head of its complement. This definition implies that the particle is head governed by the verb.

¹³ This notion of LF corresponds to the levels of Lexico-Logical Form (LLF) in Brody (1995) and Syntactic Structure in Jackendoff (1997). This correspondence and the relation between (L)LF and lexical licensing are discussed in detail in Zeller (2001, chapter 1).

¹⁴ Examples like (59) and (60) therefore contrast with idioms like (18), discussed in section 4, whose meanings are preserved when one of its parts is topicalized.

¹⁵ I assume that verb movement that leaves the particle behind is based on structure 1, but recall that a structure 2 is not necessarily incompatible with verb movement (see section 3).

¹⁶ In Zeller (2002) I argue that the inflectional properties of particle verbs prevent the whole verb from appearing in Comp^0 . Therefore, the two options illustrated by (62) are only attested in Verb Raising constructions, but not in V2-contexts.

¹⁷ According to Roberts (1985), the verb in structure 2 "morphologically governs" the particle. See Roberts (1985) and Zeller (2001) for a discussion of the parallels between morphological government (inside X^0) and head government (in syntax).

¹⁸ Thanks to Joachim Sabel who first brought this correspondence to my attention.

¹⁹ The definition of barrier that Grewendorf & Sabel (1994) adopt defines a category C as a barrier if "the maximal projection that immediately dominates C does not include C" (p. 277). If a phrase is adjoined to XP, it is immediately dominated by (one segment of) XP, but not included in it. Adjoined categories are hence barriers.

10. References

- Baker, M. 1988. *Incorporation. A Theory of Grammatical Function Changing*. Chicago/London: The University of Chicago Press.
- Booij, G. 1990. "The boundary between morphology and syntax: separable complex verbs in Dutch." In *Yearbook of morphology* 3, G. Booij and J. v. Marle (eds), 45-63. Dordrecht: Foris.
- Booij, G. 2002. "Separable complex verbs in Dutch: A case of periphrastic word formation", in: N. Dehé, R. Jackendoff, A. McIntyre and S. Urban (eds), *Verb-Particle Explorations*, Berlin and New York: de Gruyter, 21-41.
- Booij, G. and A. van Kemenade (this volume), "Preverbs, an introduction".
- Bresnan, J. and Mchombo S.A. 1995. "The Lexical Integrity Principle: Evidence from Bantu." *Natural Language and Linguistic Theory* 13, 181-254.
- Brody, M. 1995. *Lexico-Logical Form*. MIT Press, Cambridge.

- Büiring, D. 1996. The 59th Street Bridge Accent. Ph.D. dissertation, University of Tübingen (SfS-Report 05-96).
- Chomsky, N. 1970. "Remarks on Nominalization". In *Readings in English Transformational Grammar*, R. Jacobs and P. Rosenbaum (eds), 184-221. Waltham, Mass.: Ginn.
- Di Sciullo, A.M. and Williams, E. 1987. *On the Definition of Word*. Cambridge: MIT Press.
- Goldberg, A. 1995. *Constructions. A Construction Grammar Approach to Argument Structure*. Chicago & London: The University of Chicago Press.
- Grewendorf, G. 1992. "German - A Grammatical Sketch". *Sprachwissenschaft in Frankfurt Nr. 8*.
- Grewendorf, G. & Sabel, J. 1994. "Long Scrambling and Incorporation", *Linguistic Inquiry* 25, 263-308.
- Haegeman, L. and H. van Riemsdijk (1986), "Verb Projection Raising, Scope, and the Typology of Rules Affecting Verbs", *Linguistic Inquiry* 17, 417-466.
- Haider, H, Olsen S. & S. Vikner 1995. "Introduction", in: Haider, H, Olsen S. & S. Vikner (eds), *Studies in Comparative Germanic Syntax* (Studies in Natural Language and Linguistics Theory 31), Dordrecht, Boston, London: Kluwer, 1-45.
- Hoeksema, J. (1991), "Theoretische aspekten van partikelvooropplaatsing", *TABU Bulletin voor Taalwetenschap* 21, 18-26.
- Hornstein, N. and A. Weinberg (1981), "Case Theory and Preposition Stranding", *Linguistic Inquiry* 12, 55-92.
- Jackendoff, R. 1997. *The Architecture of the Language Faculty*. Cambridge: MIT Press.
- Kratzer, A. (1994b), The Event Argument and the Semantics of Voice. Ms., University of Massachusetts, Amherst.
- Krifka, M. (1994), "Focus and Operator Scope in German". In P. Bosch, R. van der Sandt (eds.), *Proceedings of the Conference on Focus and Natural Language Processing*, Volume 1: Intonation and Syntax, Working Papers of the Institute for Logic and Linguistics, IBM Scientific Centre, Heidelberg, 1994, 133-152
- Lapointe, S. 1980. A Theory of Grammatical Agreement. Ph.D. dissertation, University of Massachusetts, Amherst (published 1985, New York and London: Garland).
- Le Roux, C. 1988. On the interface of morphology and syntax: Evidence from verb-particle combinations in Afrikaans. M.A. thesis, SPIL, University of Stellenbosch.
- Lüdeling, A. 1998. On Particle Verbs and Similar Constructions in German. Ph.D. dissertation, University of Stuttgart.
- Marantz, A. 1997. No escape from Syntax: Don't try Morphological Analysis in the Privacy of Your Own Lexicon. *Penn Working Papers in Linguistics, Volume 4/2* [Proceedings of the 21st Annual Penn Linguistics Colloquium], 201-225, University of Pennsylvania.
- McIntyre, A. 1998. Double Particles of the Type *Heran, Hinzu, Raus* and the German Preverb System. Doctoral Dissertation, University of Sydney.
- McIntyre, A. 2001. *German double particles as preverbs: Morphology and Conceptual Semantics*. Tübingen: Stauffenberg.
- McIntyre, A. 2002. Idiosyncrasy in particle verbs, in: N. Dehé, R. Jackendoff, A. McIntyre and S. Urban (eds), *Verb-Particle Explorations*, Berlin and New York: de Gruyter, 95-118.
- Moltmann, F. (1992), Coordination and Comparatives. Ph.D. Dissertation, MIT, Cambridge. Distributed by MIT Working Papers in Linguistics.
- Müller, S. 2002. Complex Predicates: Verbal Complexes, Resultative Constructions and Particle Verbs in German. Manuscript, University of Jena, (downloadable from <http://www.dfki.de/~stefan/PS/complex.pdf>).
- Neeleman, A. 1994. Complex predicates. Ph.D. dissertation, OTS, University of Utrecht.

- Neeleman, A. and F. Weerman (1993), The Balance between Syntax and Morphology: Dutch Particles and Resultatives. *Natural Language and Linguistic Theory* 11: 433-475.
- Olsen, S. 1997b. "Zur Kategorie Verbpartikel". *Beiträge zur Geschichte der deutschen Sprache und Literatur* 119: 1-32.
- Riemsdijk, H. van (1998), "Head Movement and Adjacency", *Natural Language and Linguistic Theory* 16, 633-678.
- Riemsdijk, H. van (2000), "Free Relatives Inside Out: Transparent Free Relatives as Grafts", in: B. Rozwadowska (ed.) PASE Papers in Language Studies -- Proceedings of the 8th Annual Conference of the Polish Association for the Study of English, pp 223-233. University of Wroclaw (downloadable at <http://cwis.kub.nl/~fdl/general/people/riemsdh/PASE.PDF>.)
- Roberts, I. (1985), "Agreement Parameters and the Development of English Modal Auxiliaries", *Natural Language and Linguistic Theory* 3, 21-58.
- Rooth, M. E. (1985) Association with Focus. PhD Dissertation. University of Massachusetts. Amherst.
- Sadock, J.M. (1985), "Autolexical Syntax: A proposal for the treatment of Noun Incorporation and similar phenomena." *Natural Language and Linguistic Theory* 3, 379-439.
- Stiebels, B. 1996. *Lexikalische Argumente und Adjunkte* [studia grammatica 39]. Berlin: Akademie Verlag.
- Stiebels, B. and Wunderlich, D. 1994. "Morphology feeds syntax: the case of particle verbs". *Linguistics* 32: 913-968.
- Toman, J. 1983. *Wortsyntax*. Tübingen: Niemeyer.
- Uriagereka, J. (1995), Aspects of the Syntax of Clitic Placement in Western Romance. *Linguistic Inquiry* 26, 79-123.
- Wurmbrand, S. 2000. The structure(s) of particle verbs. Unpublished manuscript, University of Montreal.
- Zeller, J. 2001 *Particle verbs and local domains*. Amsterdam: John Benjamins.
- Zeller, J. 2002. Particle verbs are heads and phrases, in N. Dehé, R. Jackendoff, A. McIntyre and S. Urban (eds), *Verb-particle explorations*, Berlin and New York: de Gruyter, 233-267.
- Zifonun G. 1999. "Wenn *mit* allein im Mittelfeld erscheint. Verbpartikeln und ihre Doppelgänger im Deutschen und Englischen. in: Heide Wegener (ed), *Deutsch kontrastiv*. Tübingen: Stauffenberg.
- Zubizarreta, M.L. (1985), "The Relation between Morphophonology and Morphosyntax: The case of Romance Causatives", *Linguistic Inquiry* 16, 247-289.

Jochen Zeller
Linguistics Programme
Faculty of Human Sciences
University of Natal, Durban
Durban
4041
South Africa

zeller@ukzn.ac.za
www.jzeller.de