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76 Verb Particle Constructions

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Sections

1 Introduction

Verb particle constructions (also known as 'phrasal verbs' and 'serial verb constructions') are collocations of a verb and another element, like *call+up* in (1). These constructions are productive and well discussed in the Germanic languages. Recently, Hungarian has received increased attention. The theoretical challenge posed by verb particle constructions is rooted in the relation between the particle and other elements in the verb phrase. Ad Neeleman (p.c.) sketches the problem roughly as follows:

> (i) Does the particle form an initial constituent with the verb or with a VP-internal DP/PP?
>
> (ii) What determines the position of the particle with respect to the verb and VP-internal DPs/PPs? If the particle forms an initial constituent with the verb, does it separate by verb movement or movement of the particle? If it forms an initial constituent with a VP-internal DP/PP, does it combine with the verb through incorporation or reanalysis?

Verb particle constructions also pose a methodological problem. Following native speakers' intuitions, various V+X combinations have been called particle constructions in the literature. Incidentally, those constructions exhibit largely inconsistent patterns of behavior, especially from a comparative perspective, and a unified account of all such constructions is virtually impossible. Lüdeling (2001) calls this a 'delimitation problem'.

In the generative tradition, problems of this sort are solved in a theoretical, not an empirical way. An explanatory theory must determine class membership of an element or configuration on the basis of its properties, and not on pretheoretical, intuitive groupings. Thus, many authors have singled out a class of core V+P combinations as particle constructions (e.g., Emonds 1972a). This strategy will be adopted here too, with references to other approaches where there is significant disagreement.

1.1 Distributional properties

1.1.1 English-type particle movement

In English, particles may break up the otherwise obligatory adjacency of the verb and its NP object (Emonds 1972a; Fraser 1976; Stowell 1981; Kayne 1985; Johnson 1991; Den Dikken 1995c; Dehé 2001; Gries 2002; Neeleman 2002):

(1)

a. He called his friend up.

b. He called up his friend.

c. *He called from Boston his friend.

The mobility of the particle, as illustrated in (1a) vs. (1b), is often referred to (especially in early generative literature) as 'particle movement'. This is the most salient property of the construction in the Germanic VO languages. Apart from English, it has been discussed in great detail for Norwegian (Taraldsen 1983; Åfarli 1985; Den Dikken 1995c), but also for Icelandic (Collins and Thráinsson 1996); see Svenonius (1996) for a comparative discussion:

(2)

a. Vi slapp ut hunden. Norwegian
we let out the-dog

b. Vi slapp hunden ut.
we let the-dog out
'We let out the dog.'

Swedish (Toivonen 2001) and Danish (Herslund 1984) particles are considerably more restricted in their distribution. In Swedish, simple, unmodified particles precede an NP object; in Danish, the particle follows NP:

(3)
a. Matts kastade in soporna. Swedish
Matts threw in the-garbage
'Matts threw in the garbage.'
b. *Matts kastade soporna in.
Matts threw the-garbage in

(4)
a. *Han knugede sammen sine hænder. Danish
he clasped together his hands
b. Han knugede sine hænder sammen.
he clasped his hands together
'He clasped his hands together.'

1.1.2 Particles and V2

In the Germanic OV languages, particles (known also as 'separable prefixes') are always left-adjacent to the main verb in final position. No constituent other than a verb may follow the particle. This is illustrated with Dutch stranded prepositions in (5) (see on Dutch: Koster 1975; Van Riemsdijk 1978a; Hoekstra et al. 1989; Booij 1990; Bennis 1991; Neeleman and Weerman 1993; Neeleman 1994a; Den Dikken 1995c; Koopman 2000a; on German: Stiebels 1996; Wurmbrand 1998b; McIntyre 2001; Zeller 1999; Müller 2002a; Lüdeling 2001; on Afrikaans: Le Roux 1988):

(5)
a. de brief waar Jan zijn moeder in uit nodigt Dutch
the letter that Jan his mother in prt. invites
b. *de brief waar Jan zijn moeder uit in nodigt
the letter that Jan his mother prt. in invites
'the letter in which Jan invites his mother'

When the verb occupies the clause-initial (V2) position, the adjacency of verb and particle is broken up: the particle must be stranded in final position (6). V2 also separates the verb from the particle in VO languages, as in Toivonen's (2002) Swedish example (7):

(6)
a. Jan nodigt zijn moeder uit. Dutch
Jan invites his mother prt.
b. *Jan uit nodigt zijn moeder.
Jan prt. invites his mother
'Jan invites his mother.'

(7)

De gamla kyrkorna räckte inte till. Swedish
the old churches-the reached not to
'The old churches were not enough.'

1.1.3 Particles and V raising

In V-raising contexts (see chapter 75), Dutch particles show up either left-adjacent to the verb they lexically depend on, or left-adjacent to the verbal complex (example adapted from Koster 1975):

(8)

a. omdat hij mij probeert op te bellen
because he me tries up to call

b. omdat hij mij op probeert te bellen
because he me up tries to call
'because he tries to call me up'

1.1.4 Modification

English particles may be modified by PP-modifiers like *right*. Modified particles cannot break up the adjacency between verb and NP object (example adapted from Emonds 1972a):

(9)

a. They brought the bottle right up.
b. *They brought right up the bottle.

A similar constraint holds for Norwegian: modified particles must follow NP (Åfarli 1985):

(10)

a. *Jon sparka langt ut hunden.
Jon kicked far out the-dog
b. Jon sparka hunden langt ut.
Jon kicked the-dog far out
'Jon kicked the dog far out.'

In Dutch, simplex particle modifiers block incorporation of the particle into the verbal complex (example adapted from Den Dikken 1995c):

(11)

a. dat Jan de bal pal over heeft geschoten
that Jan the ball right over has shot
'that Jan has shot the ball right over'
b. *dat Jan de bal pal heeft over geschoten
dat Jan the ball right has over shot
c. *dat Jan de bal heeft pal over geschoten
that Jan the ball has right over shot

1.2 Morphological properties

Morphologically, particle verbs exhibit a paradoxical behavior: they behave like a single, word-level unit with respect to certain rules of derivation and composition, while inflectional affixes always attach to the verb in exclusion of the particle (Bolinger 1971; Groos 1989; Booij 1990; Guéron 1990; Hoeksema 1991; Johnson 1991; Neeleman and Weerman 1993; Stiebels and Wunderlich 1994; Zeller 1999; Van Marle 2002; Müller 2002a; Lüdeling 2001).

1.2.1 Derivational morphology

Verb particle combinations allow the formation of both nouns and adjectives, as illustrated for English [1] and Dutch below. In English, morphological derivation usually requires adjacency of verb and particle:

(12)

a. his dusting off of the table

b. *his dusting of the table off

c. the dusted off table

(13)

a. op- merke- lijk Dutch
   up notice able
   'remarkable'

b. uit- sterv- ing
   out die ing
   'extinction'

At least in some cases, the resulting constructions show strong signs of being word-level entities, as evidenced by a heavily constrained operation like German *un*-prefixation (cf. section 3.3.4):

(14)

a. das un- ab- geschickte Manuskript
   the un off sent manuscript
   'the unsent manuscript'

Particles are also, quite regularly, involved in the formation of verbs from non-verbal stems (Stiebels 1996; Booij 2002; McIntyre 2002):[2]

(15)

a. tough out
   dumb down

b. soldier on
   horse around

1.2.2 Inflectional morphology

Inflectional affixes always attach to the verb, excluding the particle. This is true for both the V-particle and the particle-V languages:

(16)

a. He look- ed up the information.

b. *He look- up- ed the information

(17)

a. Er ist ein- ge- gangen. German
He is in pref gone
'He/It has died.'

b. *Er ist ge- ein- gangen.
he is pref in gone

1.3 Syntactic category

For the Germanic languages, there is some consensus in the literature that verbal particles are prepositional elements (Emonds 1972a; Van Riemsdijk 1978a; but see also Zeller 1999; Lüdeling 2001; and Toivonen 2001 on non-P particles, and Koopman and Szabolcsi 2000 on Hungarian).

According to Emonds (1972a), almost all postverbal particles in English, and most well-behaved particles in the other Germanic languages (cf. Åsdahl Holmberg 1976; Marle 2002 on some ill-behaved examples) have transitive preposition counterparts. Below, *over* is used as a transitive preposition with an NP object in (18a), as an intransitive (adverbial) preposition in (18b), and as a particle with alternating position in (18c) vs. (18d):

(18)
a. They were flying over New York.
b. They came over for a moment.
c. He has taken over the government.
d. He took the government over.

Particles appear in a number of typical PP environments. First, verbs selecting for directional adverbials may take either a full PP or a particle (19a). Second, particles show up in the PP-*with*-NP construction (19b). And third, particles, like PPs, are allowed in locative inversion constructions (example adapted from Emonds 1972a):

(19)
a. Why do you glance at Mary/down/in/away/up/back/etc.?
b. Off with his head.
c. Down rolled the carriage.

1.4 Particle functions

The grammatical function of particles is a matter of debate and strong disagreement in the literature. This is to a large extent due to what Lüdeling (2001) calls the 'delimitation problem': different theories give rise to a different delimitation of the data (see sections 2 and 3). Therefore the most salient sets of data, which have been used to support various competing theories, will be sketched in a pretheoretical way here: thematic structure, aspect, focus, and information structure. (For detailed discussion, see Bolinger 1971; Fraser 1976; Neeleman 1994a; Den Dikken 1995c; Olsen 1995, 1998; Stiebels 1996; McIntyre 2001; Zeller 1999; Müller 2002a; Dehé 2001; Koopman and Szabolcsi 2000; Lüdeling 2001; Toivonen 2001; Dehé et al. 2002.)

1.4.1 Thematic structure

Verbal particles can appear in a variety of thematic contexts. Some particles satisfy (often directional) selected positions. In this type of construction, the reference object of the corresponding preposition usually remains implicit, and varying degrees of idiomaticity may result, as in German example (20),

adapted from Stiebels (1996):

(20)

a. Sie stellt die Skulptur auf den Tisch. (full PP)
she puts the sculpture on the table
'She puts the sculpture on the table.'

b. Sie stellt die Skulptur auf. (particle)
she puts the sculpture on
'She erects the sculpture.'

Other particles correspond to unselected modifiers of the verbal predicate. Such particles tend to introduce additional arguments into the thematic structure of a sentence. In (21), a possessor relation and its arguments are introduced by the particle (cf. section 3.3.4; example adapted from Stiebels 1996):

(21)

a. Sie liest (Bücher).
she reads books
'She reads (books).'

b. Sie las sich ein breites Wissen an.
she read refl. a broad knowledge at
'She learned a lot by reading.'

1.4.2 Aspect

In some contexts, particles may have an aspectual import. The best-known group of aspectual verb particle constructions introduces a resultative meaning, as in Swedish example (22), from Toivonen (2001):

(22)

Hon drack upp mjölken på en timme.
she drank up the-milk on an hour
'She drank up the milk in an hour.'

In other contexts, particles are related to an imperfective, ongoing action reading (23a), an inchoative reading (23b), a partial action reading (23c), etc. (cf. Bennis 1991; Verkuyl and Zwarts 1992; Van Hout 1996; Stiebels 1996; Zeller 1999):

(23)

a. Jan heeft/is door gelopen. Dutch
Jan has/is on walked
'Jan kept up a pace.'

b. Der Skin hat los- getreten. German
the skinhead has prt. kicked
'The skinhead started kicking.'

c. Er brät das Fleisch an. German
he fries the meat prt.
'He fries the meat lightly.'

1.4.3 Hungarian particles and aspect

In Hungarian, verbal particles show some very clear interactions with aspect. First, some particles are inherently perfective. Those prefer a preverbal position (Vörös 1980; Kiss 1987):

(24)

János (épp) ette meg az ebédet amikor a postás csengetett.

János just ate up the lunch-acc when the postman rang

'János was just finishing lunch when the postman rang.'

Lexically unspecified particles acquire an aspectual reading related to their position, and to the information structural organization of the clause. On a neutral intonation, and with the focus field empty, a postverbal particle is related to progressive aspect (25a) white preverbal unfocused particles are related to perfective aspect (25b) (example from Kiss 1987):

(25)

a. János ment fel a lépcsőn.

János went up the stairs-on

'János was going upstairs.'

b. János fel ment a lépcsőn.

János up went the stairs-on

'János went/has gone upstairs.'

1.4.4 Hungarian particles and focus

The position of Hungarian particles is also determined by focus. Focused constituents appear in the focus field, left-adjacent to the finite verb (see chapter 26). Unstressed particles occupying that position mark neutrality with respect to focus (Kiss 1987; Brody 1990b; Koopman and Szabolcsi 2000):

(26)

a. Haza mentem.

home go-past-1sg

'I went home.'

b. ÉN mentem haza.

I go-past-1sg home

'It is me who went home.'

In the presence of auxiliaries, and in restructuring environments, the particle may appear to the left of the verbal complex. This option exists for neutral focus (27a, b). In the presence of a focused constituent (27c), the particle appears left-adjacent to the verb it depends on:

(27)

a. Haza fogok menni.
home will-1sg go
'I will go home.'

b. Haza fogok akarni menni.
home will-1sg want go
'I will want to go home.'

c. ÉN fogok akarni haza menni.
I will-1sg want home go
'It is me who will want to go home.'

1.4.5 English particles and information structure

The topic-focus structure of a sentence has an influence on the position of particles in English too (Bolinger 1971; Fraser 1976; Dehé 2001). The neutral order with respect to focus is *particle* > *NP*. This order allows the projection of focus:

(i) to NP in an answer to (28a);
(ii) to VP in an answer to (28b); and
(iii) to the whole sentence in an answer to (28c) (example adapted from **Dehé 2001**):

(28)
a. What did Durban turn off?
b. What did Durban do?
c. What happened?
He turned off the camera.

On the other hand, NP objects belonging to the background information of the sentence precede the particle. This generalization also captures the widely known fact that unstressed pronouns always precede the particle (29b):

(29)
a. 'What did Durban do with the camera?'
Durban turned the camera/it off.
b. *Durban turned off it.

2 Lexicalist and semi-lexicalist accounts

The lexicalist position in its purest form holds that verb particle constructions are formed in the lexicon, and enter the syntactic derivation as a single projecting head. It has been pioneered by Chomsky (1975a: VII-444), who claims that "*called^up* is a *Verb* in *John^called^up^his^friends*, though perhaps not in *John^called^up^the^stairs*, etc."

Lexicalism is supported by two major classes of data. First, verb particle combinations may undergo morphological derivations (Johnson 1991; Neeleman and Weerman 1993; Stiebels and Wunderlich 1994). And second, the meaning and selectional properties of verb particle constructions are idiosynchratic to an extent that might not be expected from genuinely syntactic constructions.

The central problem faced by the lexicalist position is the separability of particle and verb. Given the Principle of Lexical Integrity, syntactic rules may not refer to subconstituents of words. In the case of

verb particle constructions under lexicalism, this is exactly the case.

Proponents of the lexicalist position have therefore postulated:

(i) modifications to the strict version of Lexical Integrity; and

(ii) conditions under which violations of strict lexical integrity are indeed forced by independently motivated constraints.

Two families of assumptions can be found related to the weakening of Lexical Integrity. One class of theories postulates a level of morphologically maximal projection below the word level that is visible to the syntactic component. The other class of theories allows the formation of complex words in syntax. It must be stressed that especially the latter strategy is often applied by authors who would not consider themselves lexicalists. However, since syntactic word formation is certainly there to account for data supporting the lexicalist position, the technical device will be sketched under this heading.

The separation of the particle is usually related to constraints on verbs merging with inflectional affixes.

2.1 Morphological maximality

Although the assumption of lexically stored, complex-word verb particle constructions is widespread (see Zeller 1999; Lüdeling 2001; Dehé et al. 2002), for a critical assessment of the literature), the morphosyntactic mechanisms allowing for their separation are not always discussed in much detail.

An elaborated proposal can be found in Stiebels and Wunderlich (1994) and Stiebels (1996). According to them, the lexicon is not just a list of words. It incorporates powerful generative mechanisms involved in the derivation of argument structure and morphology.

As for verb particle constructions, it is assumed that UG provides for a (parametrically activated) morphological template that generates syntactically transparent X-V compounds:

(30) $[Y^{+max}\ V]$

(30) expresses the intuition that some elements, if they occupy a position left-adjacent to a verb, are morphologically maximal. It is important to bear in mind that, according to this proposal, the properties of particles are not specified in individual lexical entries. They are derived as a consequence of the configuration (30).

The generative template (30) interacts with a Visibility Condition stating that morphologically maximal constituents must be visible. In other words, morphologically maximal constituents must remain at the periphery of the word they are part of, and the rules of syntax can freely refer to them.

Turning now to particle verbs in derivational morphology, Stiebels and Wunderlich's (1994) proposal derives a systematic bracketing paradox. Stiebels (1996: 48ff.) is completely explicit in her conclusion that, strictly speaking, there are no particle verbs in derivational morphology. She gives the following German example:

(31)

a. [ein [[führ]$_V$ ung]$_N$]

b. *[[ein^{+max} [führ]$_V$] ung]$_N$

in lead suff

'introduction'

While (31b) would be expected semantically and, even more so, by the spirit of lexicalism, it is not

well-formed in Stiebels and Wunderlich's theory. The reason is that the particle is forced to be morphologically maximal by (30), yet it would not be visible inside the nominalization. In (31a), on the other hand, the particle is attached to N, not V, as a non-maximal constituent of a regular compound.

Elegant as it is, notice that this account trades away one of the central arguments offered in favor of lexicalism: the existence of morphologically derived verb particle combinations does not show anything regarding their syntactic representation in verbal contexts.

2.2 Syntactic word formation

If the availability of verb particle combinations in derivational morphology does not imply that particle-verbs are morphological constructs in all contexts, the lexical-semantic and morphological properties of the construction can still be considered evidence in favor of a quasi-lexicalist analysis. Such an analysis could be reconciled with Lexical Integrity by the assumption of a syntactic word-formation mechanism.

Syntactic word formation with respect to verb particle constructions has been proposed in the literature in various different ways. Some authors constrain it to the base component of phrasal projection. Groos (1989) suggests that particles are adjoined to V at D-structure; the approach can also be found in standard textbooks like Radford (1988). Toivonen's (2001) LFG account assumes the existence of non-projecting, zero-level categories too. Neeleman and Weerman (1993) and Neeleman (1994a) defend an intermediate position. Complex predicates (of which verb particle constructions are a subclass in their theory) are derived by adjunction to V, which may happen either in morphology or at D-structure.

Others attribute the formation of adjunction structures at the X^0 level to the transformational component. All approaches involving incorporation, be it overt or covert, can be counted in this group (e.g., Van Riemsdijk 1978a; Stowell 1981; Koopman 1995).

Finally, some authors reject any form of particle incorporation, yet see the need to capture the lexicalist intuition that particle and verb are, in some sense, one word. Those authors assume reanalysis as their mechanism of choice (Taraldsen 1983; Den Dikken 1995c; Zeller 1999).

2.2.1 Adjunction to V^0 at D-structure

The position that preverbal elements may be adjoined to the head V^0 in Dutch was elaborated for the first time by Groos (1989). According to this proposal, adjunction to V may happen either in morphology or in syntax.

If adjunction happens in morphology, then the result is a complex word which is opaque to the rules of syntax. This is typically the case where we are dealing with morphologically derived (32a) and compounded particle-verbs (32b) (notice that Groos's analysis does not face the bracketing paradox of Stiebels's proposal):

(32)

a. [[aan-drijf-] ing]
prt.-drive suff
'drive'
[[uit-drijf-] ing]
prt.-drive suff
'exorcism'

b. [[in-schrijf-] formulier]
prt.-write form
'registration form'

If adjunction happens at D-structure, then the result is a syntactically transparent, separable particle-verb.

Neeleman and Weerman (1993) and Neeleman (1994a) generalize this proposal in order to account for both verb particle constructions and resultative secondary predicates, which are realized, according to that thesis, in a configuration of adjunction to V^0. In Neeleman (1994a), it is assumed that particles project syntactically only if they must, in order to host a modifier. If they do not project, they are merged with V in morphology. However, a significant relaxation of the principle of Lexical Integrity makes these constructions transparent in syntax, thus assimilating them to D-structure adjunction as in Groos (1989).

The lack of syntactic projection has a number of consequences for assimilating particles to affixes. Most importantly, they do not break up the adjacency between V and NP in English (section 1.1.1) or the adjacency of stranded P and V in Dutch (section 1.1.2, and see chapter 51), they may be morphologically derived together with the verb (section 1.2.1), and they may undergo V-raising together with V (section 1.1.3).

When the particle is modified, however, it must project syntactic structure. Consequently, it introduces a case-adjacency violation in English, and it must be stranded by V-raising in Dutch (cf. Neeleman 1994a, 2002 on some necessary auxiliary assumptions and modifications):

a. V^0 / X^0 prt, V^0

b. V^0 / XP_{prt}, V^0

(33)

2.2.2 Adjunction to V in LFG

An analysis very similar to the one proposed in Neeleman and Weerman (1993) is defended in the framework of LFG by Toivonen (2001).

Toivonen observes that the class of particles cannot be defined on the basis of grammatical functions: particles may serve several grammatical functions, and no grammatical function is served exclusively

by particles (cf. section 1.4). Instead, she gives a purely distributional definition of particles.

Capitalizing on the fact that full PPs in Swedish (34a) differ in distribution from particles with the same function (34b), (cf. also section 1.1.4), Toivonen claims that particles are non-projecting heads:

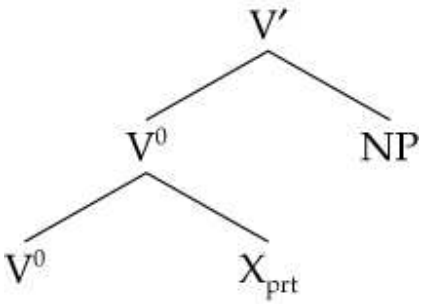
(34)

a. Petra försöker sparka (*mot skogen) bollen (mot skogen).
Petra tries kick towards forest-the ball-the towards forest-the
'Petra tries to kick the ball towards the forest.'

b. Petra försöker sparka (bort) bollen (*bort).
Petra tries kick away ball-the away
'Petra tries to kick the ball away.'

The existence of non-projecting heads is restricted to head-adjoined positions. Thus, the configuration in (35) arises as the canonical one for particles:

(35)



2.2.3 Particle incorporation

Theories proposing versions of particle incorporation have a long history in the generative literature. An early version was proposed by Emonds (1972a), who classifies the 'particle movement transformation' as a 'minor movement rule' (1972a: 548, 560). Explicitly, a rule of P-incorporation was stated for the first time in Van Riemsdijk (1978a).

Both Emonds (1972a) and Van Riemsdijk (1978a) supply exclusively distributional evidence (i.e., word orders) in support of their proposals. Nevertheless, Van Riemsdijk resorts to a lexical filter in order to constrain incorporation to particles and certain postpositions (cf. Stiebels's 1996 particle template). According to Van Riemsdijk (1978a: 107), incorporation is possible only if a target position has been created by the following morphological rule:

(36) [V X] → [V [P Y] [V X]]

Particle incorporation is assumed also in most small-class accounts that otherwise reject lexicalist assumptions. The most explicit account of particle incorporation is given in Koopman (1995). According to that theory, all particles incorporate to V for lexical reasons, but V may then excorporate.

Technically, Koopman (1995) employs a two-stage theory of incorporation. First, a head X adjoins to a c-commanding head Y. Adjunction leaves the structure syntactically transparent and excorporation possible. As a second step, the adjoined head X may be substituted for an X-receptor in Y. The result of this is syntactic opacity and the impossibility of excorporation. Receptor binding comes close to bracket erasure in standard morphological theories.

Since particles only adjoin to V, but do not bind a receptor until LF, the verb may excorporate, according to Koopman (1995).

2.2.4 Reanalysis

As a final option, the particle may form a complex predicate together with V by means of reanalysis. This option has been defended by Taraldsen (1983), Den Dikken (1995c), and Zeller (1999).

In Taraldsen (1983), reanalysis is assumed to apply to particles just as it applies to causative constructions, because they are identical configurations in his theory: both require the formation of a complex predicate. But reanalysis also derives a major consequence related to Taraldsen's (1983) analysis of particle movement (section 3.3.1): if the particle forms a complex predicate together with the verb, the specifier (i.e., subject) position of its projection is rendered non-thematic, and therefore becomes eligible as a host for movement.

Notice that overt incorporation (i.e., preverbal position) is constrained to passives in Norwegian, and even there it is not obligatory (example adapted from Åfarli 1985):

(37)

a. Vi har (*ut) sparka (ut) hunden (ut).
we have out kicked out the-dog out
'We have kicked out the dog.'

b. Hunden vart (ut) sparka (ut).
dog-the was out kicked out
'The dog was kicked out.'

2.3 Excorporation triggers

Except for those theories where incorporation is optional, notably Emonds (1972a) and Van Riemsdijk (1978a), both purely lexicalist and incorporation accounts must allow for excorporation of the verb, at least in the context of V2.

The force that drives excorporation is usually related to constraints on the affixation of tense and agreement markers. Koster (1975: 129) claims that only the 'tensed part of a complex verb' is targeted by Verb Second. This statement has been refined technically, but not in its spirit, since; cf. Johnson (1991), Roberts (1991a), and Koopman (1995).

Stiebels and Wunderlich (1994) and Stiebels (1996) endorse considerations relating to inflection too. However, the constraints operating in their theory apply in the lexicon and morphology, not in syntax. To start with, we are confronted with two conflicting requirements:

(i) the inflectional affix must enter into a local relation with the verb; and

(ii) the particle (being morphologically maximal) must remain visible.

In other words, affixation must not touch the position of the particle at the periphery of the verb. Therefore, a rebracketing operation is postulated, which serves two purposes: the excorporation of the particle, and the incorporation of the affix. The full derivation, adapted from Stiebels (1996: 46), is as follows:

(38)

rebracketing bracket erasure

[[prt [V]] aff] → [prt [[V] aff]] → [prt [V – aff]]

A different approach is taken by Neeleman and Weerman (1993) and Neeleman (1994a), who claim that a 'Complexity Constraint' holds for all syntactic heads (Neeleman and Weerman 1993: 460):

(39)

Complexity Constraint:

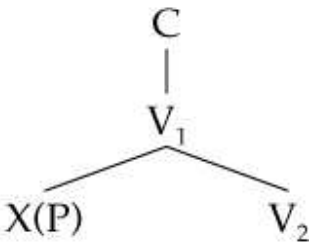
X^0 should either be a lexical head or have a lexical head.

In other words, every X^0 must have an immediate non-branching, lexical head. Therefore the structure resulting from movement of a complex verb into an empty Comp is ill-formed, and the verb must strand the particle (Neeleman and Weerman 1993: 464):

(40)

a.

b.*



3 Independent projection

Independent syntactic projection of particles is strongly supported by the mere fact that the particle and the verb can be separated. Therefore they must be visible to the movement rules of syntax, as indeed they are, even for a lexicalist. The most natural assumption, then, is that particles are also visible to phrasal projection.

3.1 Inconclusive data

Before turning to particular accounts, consider some inconclusive sets of data, which have nevertheless received considerable attention in the literature.

3.1.1 Listedness and lexical access

It is an uncontroversial fact about verb particle constructions that they exhibit varying degrees of idiomaticity. Therefore, it is a justified assumption that (at least clearly idiomatic) verb particle combinations are listed in the lexicon. But must they be listed as words?[3]

It has been established already by Emonds (1972a) (see Jackendoff 2002a on a recent rehearsal of arguments) that the idiomaticity of particle-verb combinations in no way implies that they had to be listed as words. Emonds (1972a: 549) quotes obligatorily non-contiguous phrasal idioms as evidence:

(41)

a. John took his students to task.

*John took to task his students.

Furthermore, processing experiments seem to show that verb particle combinations (even idiomatic ones) have composite lexical entries: both the verb and the particle in idiomatic constructions prime their non-idiomatic counterparts (see Schreuder 1990, Hillert and Ackerman 2002, Lüdeling and De Jong 2002, and Urban 2002 for a summary and critical assessment).

3.1.2 Gapping

Fraser (1976) claims that gapping treats verb plus particle as a unit and gives examples like the

following in support of this claim:

(42)

a. He sped up the street and (full PP)
she sped up the hallway.

b. *He sped up the process and (particle)
she sped up the distribution.

In a review of Fraser (1976), Kroch (1979) points out systematic exceptions to this constraint, quoting particles which allow for polar oppositions (43a). In addition, Dixon (1982) observes that gapping is much less likely to be ungrammatical with the order <NP – particle>:

(43)

a. Jones pulled the old tablecloth off and Peters pulled the new one on.

b. *Jones pulled off the old tablecloth and Peters pulled on the new one.

Gapping therefore does not show anything about the projectional status of particles (cf. Johnson 1991 and Zeller 1999 for discussion; see also chapter 29).

3.1.3 Fronting and stress

It is sometimes claimed (on the basis of Fraser 1976) that particles lack the full range of stress distinctions. However, this is true only for idiomatic verb particle combinations (44b). In transparent constructions (44a), the particle can be contrasted with another particle belonging to the same semantic class. This is most clearly the case in clefts (cf. Wurmbrand 1998b, 1999b; Lüdeling 2001; Capelle 2002; Müller 2002b; and see chapter 61):

(44)

a. Where he should take the garbage is IN, not OUT.

b. *What/how . . . he should take them is over not out.

Similarly, topicalization of Dutch and German particles depends on semantic, not structural factors. If the particle has a certain degree of semantic independence, as Lüdeling (2001) puts it, it topicalizes just fine (45a). Idiomatic particles, on the other hand, resist topicalization (45b):

(45)

a. Zurück werde ich mit Lufthansa fliegen. German
back will I with Lufthansa fly
'I will fly back with Lufthansa.'

b. *Ab handeln wir das Thema heute nicht mehr.
off deal we the issue today not more
intended: 'We will not exhaust this topic today.'

3.1.4 Particles and resultatives

Following an observation by Neeleman and Weerman (1993), it is sometimes claimed that particles and resultative predicates (see chapter 58) do not productively co-occur, because they compete for a single structural slot. Where a particle and a resultative do seem to coincide, as below in (47), Neeleman and Weerman claim that the apparent secondary predicate is a modifier. Consider first a standard contrast from Neeleman (1994a):

(46)

a. dat Jan het meisje op- belt
that Jan the girl up calls
'that Jan calls the girl up'

b. dat Jan het meisje gek belt
that Jan the girl crazy calls
'that Jan calls the girl crazy'

c. *dat Jan het meisje gek op belt
that Jan the girl crazy up calls

However, this is not the only option considered in the literature. Den Dikken (1995c) offers a book-length discussion of well-formed verb particle constructions involving an additional, predicate-like element in several languages (sections 3.3.2 and 3.3.3). For the moment, suffice it to give the following Dutch example from Den Dikken (1995c: 76). According to him, the poor grammaticality of *wh*-movement militates against an analysis of the AP *rood* 'red' as a modifier:

(47)

a. dat ze de schuur rood over hebben geschildered
that they the barn red prt have painted
'that they painted the barn up red'

b. ??Hoe rood/Wat voor kleur hebben ze de schuur over geschildered?
how red/what for color have they the barn over painted

Ad Neeleman (p.c.) replies that predicates added to verb particle constructions do not have the transitivizing effect which is typical of resultatives: they consistently fail to introduce any argument in addition to the ones licensed by the verb particle unit. Furthermore (47b) does not support Den Dikken's (1995c) position without particular assumptions on the structural description of the construction at hand: in principle, resultatives can be questioned.

In sum, the question whether *rood* in (47a) is a resultative secondary predicate or a modifier, and, more generally, whether (46c) and (47a) are instances of the same configuration, is another manifestation of Lüdeling's (2001) delimitation problem and its standard solution. Neeleman's theory predicts that (47a) involves a modifier; Den Dikken's assumptions suggest an analysis as a resultative. Without particular assumptions on the theory of grammar, the contrast between (46c) and (47a) does not decide among the two options.

3.2 Dutch postpositions

A milestone in the analysis of verb particle constructions is Van Riemsdijk's (1978a) discussion of Dutch PPs. Although, building on Emonds (1972a), he defined particles as intransitive prepositions, he nevertheless prepared the ground for the small-clause analysis.

The crucial set of data involves Dutch motional postpositions, which are identical to transitive particle constructions at the level of the phonetic string:

(48) NP > P > V

Van Riemsdijk (1978a) observes that, while motional postpositions can be argued without doubt to be complement-taking Ps, they share with particles their affinity to split from their complement and join the verbal complex. He explains the similarity with the claim that both particles and motional postpositions may incorporate to V.

The constituency of the postposition with its complement can most clearly be observed in extraposition structures (see chapter 25). The PP complement of the postposition (49a) cannot be extraposed without the postposition – (49b) vs. (49c):

(49)

a. omdat hij [bij de tandarts vandaan] gebeld had
because he at the dentist's from called had

b. *omdat hij vandaan gebeld had bij de tandarts
because he from called had at the dentist's

c. omdat hij gebeld had [bij de tandarts vandaan]
because he called had at the dentist's from
'because he had called from (at) the dentist's'

P-incorporation can be observed in restructuring environments (50a) and where adverbial phrases separate the postposition from its NP complement (50b):

(50)

a. omdat hij *de boom* [probeert] *in* te klimmen
because he the tree tries in to climb
'because he tries to climb the tree'

b. omdat zij *de boom* [op blote voeten] *in* klommen
because they the tree on bare feet in climbed
'because they climbed the tree barefoot'

In sum, it is possible for a P to take a complement, and to incorporate to the verb too. These two properties are the main ingredients of the small-clause analysis.

3.3 Small clauses

The small-clause analysis of verb particle constructions (see chapter 58) was first introduced by Taraldsen (1983) for Norwegian, and then applied to English by Kayne (1985). A thorough comparative discussion of verb particle constructions from the perspective of small clauses is Den Dikken (1995c).

3.3.1 Norwegian subject effects

Norwegian (51) exhibits a positional alternation of particle and NP like English (1). Taraldsen (1983) observes that causative constructions (49) show the same alternation:

(51)

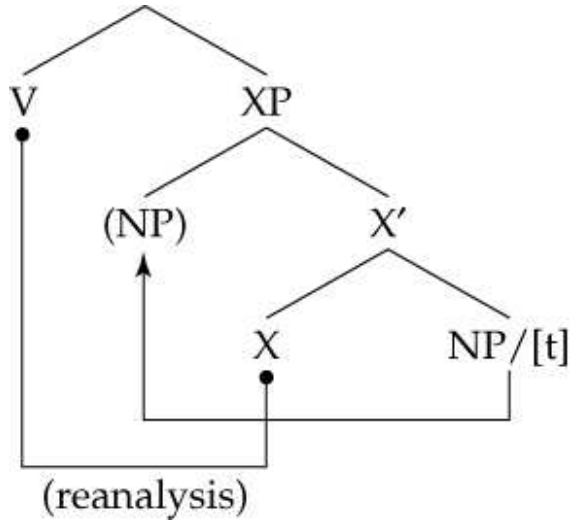
a. Vi har sparka ut hunden.
we have kicked out the-dog

b. Vi har sparka hunden ut.
we have kicked the-dog out
'We have kicked out the dog.'

(52)

a. Vi lot løslate fangene.
we let release the-prisoners
b. Vi lot fangene løslate.
we let the-prisoners release
'We made the prisoners be released.'

Taraldsen suggests that both constructions should be treated alike, and that they should be assigned the structure in (53):



(53)

This analysis is supported by the observation that the direct object NP acquires subject-properties when it precedes the particle.

Take first a construction containing a particle, an NP object, and a PP embedding a pronoun bound by the subject of the sentence, as in (54a). As expected, the bound pronoun introduces a violation of Principle B:

(54)

a. ?*Vi viftet vekk myggen fra oss.
we waved away the-mosquitoes from us
b. Vi viftet myggen vekk fra oss.
we waved the-mosquitoes away from us
'We waved the mosquitoes away from us.'

The Principle B effect disappears when the NP object precedes the particle. This suggests that the object NP defines a binding domain as an accessible subject, once it has moved across the particle. It also supports the assumption that the direct object c-commands the pronoun.

Second, Norwegian has a class of purpose clauses which are obligatorily controlled by a subject. Again, NP objects may act as controllers if, and only if, they precede a particle:

(55)

a.	*Vi	jaget	ut	ulven	for å gjenfinne sin tapte frihet.
	we	chased	out	the-wolf	to find again its lost freedom
b.	Vi	jaget	ulven	ut	for å gjenfinne sin tapte frihet.
	we	chased	the-wolf	out	to find again its lost freedom

'We chased out the wolf in order for it to find its lost freedom again.'

Taraldsen (1983: 242ff.) concludes that these effects follow from the structure of the construction: the NP object in transitive particle constructions indeed occupies a (non-thematic) subject position when it precedes the particle – the specifier of P.

Movement into that position is constrained to particles (and excluded for regular prepositions) because only particles undergo reanalysis with the verb, forming a complex predicate. As a consequence, the particle does not assign a subject theta-role to its specifier, and the Projection Principle no longer excludes it as a movement target.

3.3.2 Complex constructions

Kayne (1985), Guéron (1990), and, in great detail, Den Dikken (1995c) discuss constructions containing a particle plus another predicative constituent, like (56). These constructions are called complex particle constructions in Den Dikken (1995c):

(56)

a. We made John out a liar.

b. John turned out intelligent.

c. They put the books down on the shelf.

First, Kayne (1985) adds to Taraldsen's observations the fact that the pre-particle position in simple particle constructions acts as a left branch, constraining A′-movement in English. Left-branch effects support a small-clause analysis, because they would be unexpected if the NP were a right-branch complement to V:[4]

(57) *What did they look [the information [about [t]] up]?

Guéron (1990) points out that this left-branch effect holds for the particle-final order only. If the particle precedes, then extraction from inside NP is grammatical (Guéron's bracketing):

(58) Who did you write [up [a paper [about [t]]]]?

Importantly, both Kayne (1985) and Guéron (1990) defend the claim that the particle forms a constituent with NP in transitive particle constructions.

Svenonius (1992) further supports this claim with an observation about ellipsis (see chapter 29). In English, no more than two constituents may be left behind by gapping (59). This constraint, however, does not 'see' the particle in transitive particle constructions (60) (example from Den Dikken; note that the gapping examples are ungrammatical if the particle precedes the NP, which Den Dikken 1995c attributes to obligatory reanalysis of V+particle under that order):

(59)

a. John eats with chopsticks and Mary eats with a fork.

b. John eats spaghetti and Mary eats chop suey.

c. *John eats spaghetti with chopsticks and Mary eats chop suey with a fork.

(60)

Turn [the oxygen off] with your knee and
turn [the acetylene on] with your elbow.

Now turn to complex constructions. PP predicates following the particle in complex constructions form a constituent with the particle: they can be pied-piped by *wh*-movement (cf. Stowell 1981; example from Den Dikken 1995c; notice that examples like (61) are rejected by some speakers for, it seems, stylistic reasons; cf. Den Dikken 1995c: 2):

(61)
a. [Down on which shelf] did they put the book?
b. [Out to whom] did they send a schedule?

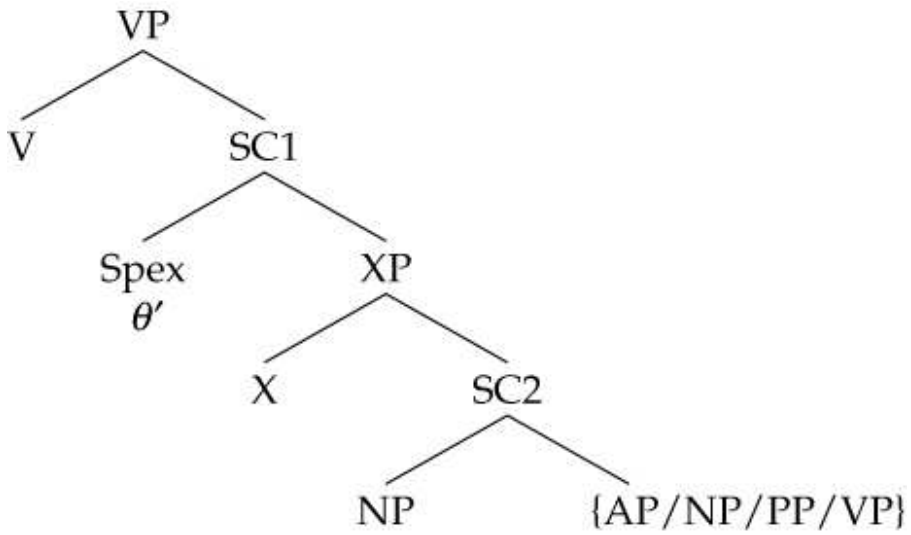
And this constituent may also include the NP object, as evidenced again by gapping (Svenonius 1992; example from Den Dikken 1995c):

(62)
Send [the documents back to the CIA] by mail and
send [the secret memos up to the White House] by courier.

3.3.3 The structure of predication

Den Dikken (1995c: 269) concludes his discussion by assigning the structure in (63) to complex particle constructions:

(63)



He then relates this structure to further predicative contexts, most notably to triadic, causative, and applicative constructions (see chapters 58, 21, and 6). According to Den Dikken (1995c), the structure in (63) is a central ingredient of predication structures in UG. It is left to parametric choice whether particles are overt, covert, or affixal. Recently, this type of approach has been taken up in the framework of VP shells; cf. Nicol (2002).

At this point, the small-clause analysis coincides in spirit with virtually all other analyses of verb particle constructions. Recall that Stiebels and Wunderlich (1994) and Stiebels (1996) posit their particle template (30) as a generative device of UG, and particles play a central role in the derivation of predicate-argument structures in their theory.

Particles are also related to resultative secondary predication in Neeleman and Weerman (1993) and Neeleman (1994a). Both constructions are considered manifestations of a single configuration underlying complex predicates (see chapter 58): adjunction to the head V (33a, b).

For recent discussion of this line of argument, see Wurmbrand (1999b), Zeller (1999), Koopman and Szabolcsi (2000), Lüdeling (2001), Nicol (2002), and Müller (2002a) for an HPSG account.

3.3.4 Argument licensing and morphology

The small-clause analysis of particles has been supported from a different perspective in Kratzer (1993). In the context of a discussion of adjectival passives (see chapter 2), she observes that certain verb particle combinations in German behave as if they were heads, and others as if they were phrases. As a test, she uses the negative prefix *un-*, which cannot attach to phrasal hosts. In the following example, the verb particle combinations have exactly the same meaning. Yet only one of them allows for *un*-prefixation. Kratzer (1993) claims that it is the necessarily phrasal status of the particle in (64b) which bans prefixation:

(64)

a. das un- ab- geschickte Manuskript
   the un off sent manuscript
   'the manuscript that wasn't sent off'

b. *das un- weg- geschickte Manuskript
   the un off sent manuscript
   'the manuscript that wasn't sent off'

Now consider the particle *ab* in a little more detail. Even in combination with the same verb, *ab* can be fully transparent, or idiomatic:

(65)

a. den Dreck vom Auto ab- waschen (transparent)
   the dirt from-the car off wash
   'to wash the dirt off the car'

b. das Geschirr ab- waschen (idiomatic)
   the dishes off wash
   'to do the dishes'

Lüdeling (2001) observes that *un*-prefixation to the participle of *abwaschen* is possible only on the idiomatic reading:

(66)

a. der Teller ist un- ab- gewaschen
   the plate is un off washed
   'the plate is unwashed'

b. *das Auto ist un- ab- gewaschen
   the car is un off washed
   'the car is unwashed'

Similar considerations hold for topicalization (section 3.1.3): it is excluded for idiomatic particles. Both Kratzer (1993) and Lüdeling (2001) conclude that transparent verb particle combinations must be phrasal, even when they are embedded morphologically.

In a further step, Kratzer (1993) argues that idiomatic particles may head phrases and project syntactic argument positions, too. In the following example, the indirect object is licensed by the particle, as the contrast between (67b) and (67c) shows:

(67)

a. weil sie die Antwort flüsterten
because they the answer whispered
'because they whispered the answer'

b. *weil sie ihm die Antwort flüsterten
because they him the answer whispered

c. weil sie ihm die Antwort zu- flüsterten
because they him the answer to whispered
'because they whispered the answer to him'

The particle-verb *zuflüstern* can form an immaculate adjectival passive, conserving the dative in (68a). But *un*-prefixation renders that construction ungrammatical (68b). This indicates that particle+V is a phrasal construct. Kratzer (1993) argues that it must be phrasal, because the particle projects an argument position:

(68)

a. die Antwort war ihm zu- geflüstert
the answer was him to whispered
'the answer had been whispered to him'

b. *die Antwort war ihm un- zu- geflüstert
the answer was him un to whispered

Now notice that the same holds even for idiomatic/listed constructions: if the particle introduces an argument, it must project syntactic structure, and *un*-prefixation is banned:

(69)

a. Das Lob schmeichelt ihm.
the praise flatters him
'The praise flatters him.'

b. Sie schmeichelt ihm das Land ab.
she flatters him the land off
'She wheedled the country out of him.'

c. Das Land war ihm ab- geschmeichelt.
the country was him off flattered
'The country has been wheedled out of him.'

d. *Das Land war ihm un- ab-geschmeichelt.
the country was him un off flattered

3.4 Particles and functional categories

Starting with the introduction of functional prepositions in Van Riemsdijk (1990), the question about functional structure around particles has gained considerable importance. In particular, it has been asked whether particles are lexical or functional elements, and which functional elements can be found with particles, if any.

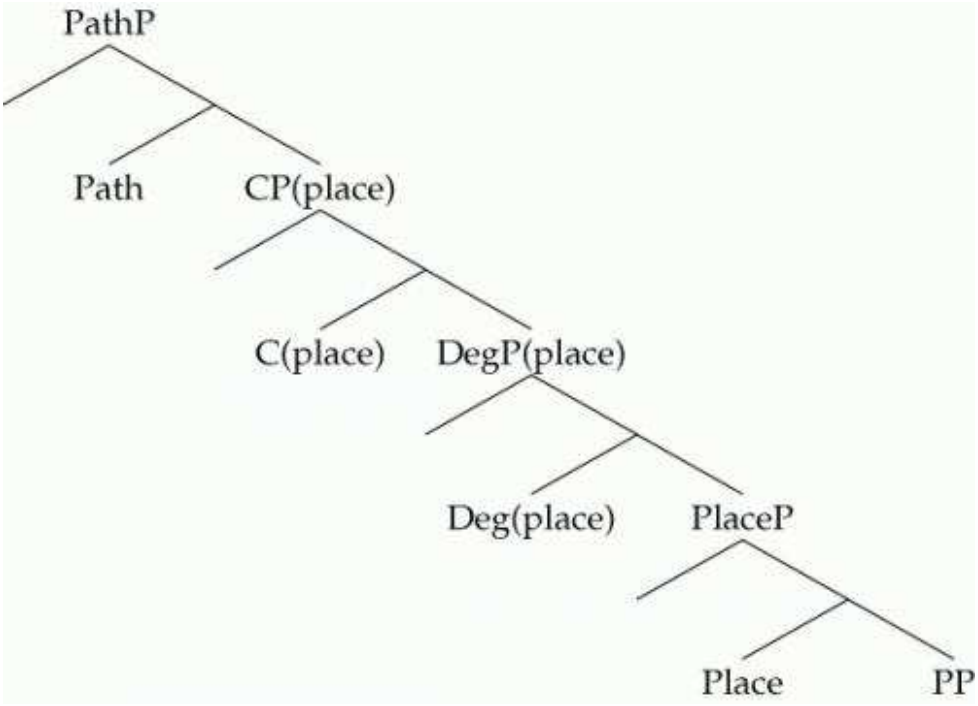
There seems to be some agreement that particles do not project the full functional structure of regular

PPs. Indeed, the lack of functional structure has been claimed to explain data which were attributed to the lack of any syntactic projection in earlier proposals (Zeller 1999; Koopman 2000a). The main asset of such an approach is that it allows us to ascribe the morpholexical properties of verb particle constructions to structural deficiency (lack of functional projections), and yet maintain the autonomy of syntax (no weakening of Lexical Integrity).

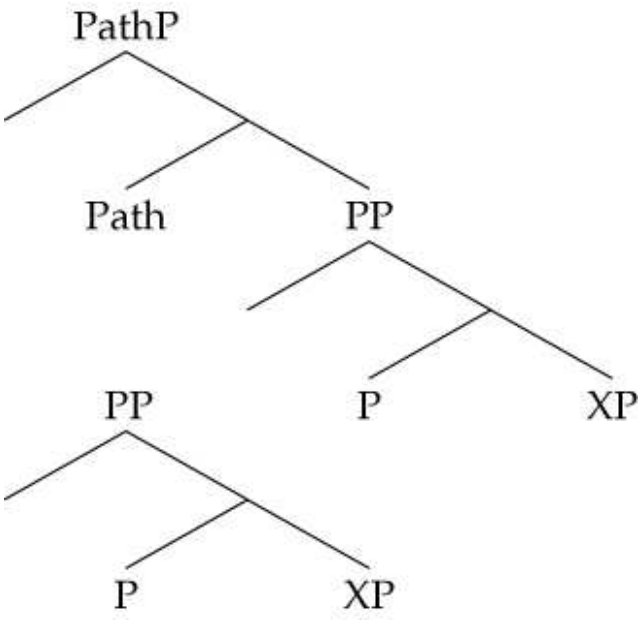
3.4.1 Split PPs

On the basis of the distributional patterns in Dutch PPs, and of the conceptual structures proposed by Jackendoff (1990b), Koopman (1993, 2000a) arrives at a universal template for the structure of prepositional phrases. According to her, local PPs incorporate (among others) a projection hosting material referring to places, a projection hosting degree expressions, and a maximal functional projection. Directional PPs are analyzed as projections of a directionality head which takes a local PP in its complement:

(70)



According to Koopman (1993, 2000a), particles differ from full prepositional phrases in that functional categories are absent from their projection. Thus, idiomatic particles are analyzed as bare PPs, and directional particles as PathPs embedding a bare PP:



(71)

This analysis predicts, first, that particles may incorporate to V: no head intervenes between the particle and the verb. It also predicts that NP objects to particles are not assigned case (cf. Emonds 1972a on particles as intransitive prepositions). The absence of PlaceP predicts that particles do not license Dutch R-pronouns (see chapter 51; example from Koopman 2000a):

(72)

a. *Ik heb *nergens* op-gepakt.
I have nothing+R up-picked

b. Ik heb *niets* op-gepakt.
I have nothing up-picked
'I picked up nothing.'

Furthermore, the absence of a DegP predicts that particles cannot be modified by degree expressions (example from Koopman 2000a):

(73)

a. Hij heeft het *vlak/*pal op-gepakt.
He has it right up-picked
'He picked it right up.'

However, the latter constraint especially has been observed to give rise to rather significant exceptions (cf. Emonds 1972a for English; Den Dikken 1995c and Neeleman 1994a for Dutch; and see section 1.1.4). Most of the observable patterns are accounted for in Koopman's (2000a) rich structural architecture. However, they would not be called particle constructions if they involved the projection of functional prepositions.

3.4.2 Case and reference

The question about a functional layer above particles may also be addressed from the perspective of case and reference. This position is taken by Zeller (1999).

First, consider a regular local preposition like German *aus* 'from'. Semantically, the preposition denotes a relation between a reference argument and a location. Syntactically, the reference object is licensed by the verb (by which it is assigned accusative case), and the location by the preposition (which assigns

dative):

(74)

Peter trinkt das Bier aus dem Glas. (full PP)

Peter drinks the beer from the glass

'Peter drinks the beer from the glass.'

By contrast, particle *auf* does not support two arguments (see Stiebels 1996 for an exhaustive description, including many different patterns):

(75)

a. Peter trinkt das Bier aus. (particle)

Peter drinks the beer from

'Peter drinks up the beer.'

b. Peter trinkt das Glas aus.

Peter drinks the glass from

'Peter drinks up the glass.'

c. Peter trinkt das Bier (*das Glas) aus (*das Glas).

Peter drinks the beer the glass from the glass

d. Peter trinkt das Bier aus dem Glas aus.

Peter drinks the beer from the glass from

'Peter drinks up the beer from the glass.'

This contrast can be explained on the assumption that prepositions, but not particles, project the functional structure necessary to license case. Thus, whether or not a particle assigns a thematic role to an argument, it might be claimed that all nominal arguments of a verb particle construction depend on the verbal domain to receive case. On the further assumption that the verb does not assign dative in the example above, the observed contrast follows (see Zeller 1999; Koopman 2000a; see also Emonds 1972a and Van Riemsdijk 1978a on the intransitivity of particles).

Incidentally again, particles show anything but consistent behavior in this respect. The term 'verb particle construction' covers too many distinct elements and configurations to allow for a single, consistent analysis. To give just one example, compare simple and (morphologically) complex directional particles in German, as discussed by McIntyre (2001) and Zeller (1999). Complex particles are formed of a regular particle, plus one of the deictic prefixes *hin-* (away from speaker), *her-* (toward/in proximity with speaker), and *da-* (here/there). It turns out that complex particles pattern with full PPs with respect to their referential properties. Zeller (1999) argues that, if reference is a property of the functional domain, then complex particles must project functional categories. In contrast to simple particles (76b), they introduce reference to locations (76a):

(76)

a. Hier strömt Gas heraus.

here streams gas HER-out

'Gas is escaping (out of some contextually salient entity).'

b. Hier strömt Gas aus.

here streams gas out

'Gas is escaping somewhere here.'

When simple particles do introduce reference to a location, it is usually a prototypical location specified in the lexical entry of the particle-verb, like the mailbox in (77a) below. Complex particles introduce specific local reference again, overriding the prototypical location (77b):

(77)

a. Ich habe heute drei Briefe ein- geworfen.
I have today three letters in thrown
'I have posted three letters today.'

b. Ich habe heute drei Briefe hinein- geworfen.
I have today three letters HIN-in thrown
'I have thrown three letters into something today.

And finally, complex directional particles imply that a contextually relevant distance is traversed by the reference object. As a result, (78b) means that the ring is given away by the agent. Simple particles do not give rise to such an implication – the ring most naturally ends up on the agent's own finger (78a):

(78)

a. den Ring an stecken
the ring at stick
'put on the ring'

b. den Ring dran stecken
the ring DA-at stick
'put the ring on something'

As for the presence of functional projections, then, particles exhibit strongly inconsistent behavior.

4 Conclusion

In retrospect, it might seem that firm conclusions about verb particle constructions have not been reached. This impression is caused to a large extent by what Lüdeling (2001) calls the 'delimitation problem', and which has recently been discussed also in Toivonen (2001) and Zeller (1999), among others: what native speakers perceive as a verb particle construction, a particle-verb, a phrasal verb, etc., in a given language does not have consistent phrase structural or functional properties, and therefore does not have a single representation in an explanatory theory.

The strategy which has been followed, explicitly in some and implicitly in most accounts, is to single out consistently behaving subclasses of data. Those subclasses and their properties are then dealt with in independently established explanatory contexts, in line with the elimination of the notion of a 'construction' from grammatical theory in general.

More than establishing insights about an intuitive, yet inconsistent concept, this strategy has indeed been successful in devaluing 'verb particle constructions' as a notorious counter-example to the modular organization of the language faculty.

NOTES

I profited a lot from extended discussions of this topic with Jochen Zeller during the late 1990s. Helpful comments on various versions in different formats were made by Hilda Koopman, Katharina Köhler, Andrew McIntyre, Ad Neeleman, an anonymous reviewer, and the residents at NIAS during the fall of 1996. Special thanks to Henk van Riemsdijk, who made this chapter possible in the first place.

1 Ad Neeleman (p.c.) points out that the prenominal constituent *dusted off* is not necessarily an adjective. Verbal prenominal modifiers do exist in English, and the adjectival modifier *very* is excluded in (i). However, particles do exhibit an exceptional behavior, since other postverbal constituents are excluded in this configuration (ii):

(i) *a very dusted off table

(ii) *a thrown at him ball

2 These examples are sometimes analyzed as involving conversion of N or A to V, before the particle is attached (e.g., Booij 2002). For the position that particles and prefixes may indeed be verbalizing affixes, see Selkirk (1982).

3 See Di Sciullo and Williams (1987) on general considerations on listedness and wordhood.

4 Notice that the complex predicate analysis can account for the data too, yet at the price of invoking additional mechanisms, like movement operations in Johnson (1991); see also Neeleman and Weerman (1999: ch. 2). In principle, the same applies to Guéron's (1990) and Den Dikken's (1995c) analyses, which generate NP as a complement to the particle. Only under Kayne's (1985) assumptions are left-branch effects a very natural consequence.

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