0. Introduction

In this chapter I discuss VERB-PARTICLE constructions, which are typified by the pattern in (1a-b) below. To save space, such alternations in word order will sometimes be represented as in (1c), with the braces indicating alternative placements (different from parentheses, which indicate optional placement).

(1) a. Francine turned the television on.
    b. Francine turned on the television.
    c. Francine turned {on} the television {on}.

A PARTICLE is an intransitive preposition (following Emonds 1972; but see below). In the analysis to be detailed in this chapter, the DP the television in (1) is not a direct object of the verb; I will refer to it pretheoretically as the POSTVERBAL DP. I will refer to the alternation in word order (between V-DP-Prt as in (1a) and V-Prt-DP as in (1b)) as PARTICLE SHIFT (this term is not so pretheoretical, as it anticipates my analysis of the alternation as involving leftward movement of the particle).

There are ‘compositional’ verb-particle constructions, as in (2a), where the meaning of the construction is more or less transparently related to the meanings of the individual words, as well as idiomatic ones, as in (2b) (some works, e.g. Fraser 1976 and Aarts 1989, have treated the two types separately, but I do not think there is sufficient ground for a syntactic distinction; see Bolinger 1971 and Declerck 1978 for discussion).

(2) a. Richard chased [out] the dog [out].
    b. Phoebe brought [up] the kids [up].

Verbs that take prepositional phrase complements, as in (3a), are not verb-particle constructions; particle shift is not possible, as indicated in (3b).

(3) a. The dog doted on its master.
    b. * The dog doted its master on.

I will argue in this chapter that the differences between (1) and (3) stem from the fact that in (1), the DP is the ‘subject’ of a nexus (the predicate of which is the particle) (as in Bolinger 1971 and Kayne 1984). In (3), on the other hand, the DP is the complement of the preposition, and there is no embedded nexus, simply a prepositional phrase complement to the verb. In other words, the structure of (1a) is roughly as in (4a) (omitting details), and the structure of (3a) is essentially (4b).

(4) a. Francine [vpturned [scthe television on]]
    b. The dog [vpdoted [ppon its master]]

I will argue that particle shift is movement of the particle from its base-generated position to a functional head position (the ‘Raising Pred’ of Chapter 2) in the small clause.

To facilitate discussion, I will further define some terms here. I will refer to structures in which a PP follows a verb, including not only examples like (3a) but also examples where the PP is an adjunct (e.g. The dog barked in the tunnel), as PREPOSITIONAL constructions, to distinguish them from verb-particle constructions.

As another point of terminology, I would like to use the term PARTICLE not simply to refer to intransitive members of the category P, but more generally to those elements that enter into the verb-particle construction; of course, this presupposes a certain analysis. I will refer to on in (5) as a particle, even though it is transitive in (5b) and (as a result, I will argue) does not undergo particle shift.

(5) a. Edward put [on] a wig [on].
    b. Edward put {*on} a wig [on] Dorothy.

I will not use the term particle to refer to elements such as upstairs in (6a), over with the meaning ‘again’ in (6b), or on in (6c-d); none of these constructions can undergo particle shift.

(6) a. Francine put the piano upstairs.
    b. Franz wrote the document over.
    c. Freida decided on Beijing.
    d. Felix wants his sweater on.

However, according to my analysis, on and into in the examples in (7) must be particles. The reason for this will become clear in the discussion below (ultimately, all the elements that I refer to as particles will be prepositions used predicatively and c-selected (or l-selected) by a verb; the term has no theoretical significance but is a convenient label for this class of elements).
(7)  a. The light turned on.
    b. Dracula turned into a bat.

The chapter is organized as follows: in §1, I present the basic data to be accounted for. In §2, I summarize some previous accounts. In §3, I develop the analysis, and show how it accounts not only for the data presented in §1, but also for a range of other facts that have not (to my knowledge) been discussed in the literature.

1. Data to be accounted for

In this section I briefly present the main features of the verb-particle construction that have been discussed in the literature. Each thorough account of the construction has attempted to deal with these problems, or most of them.

1.1. The classic problems

The hallmark, as it were, of the verb-particle construction is that the postverbal DP and the particle freely alternate in order, except under certain conditions. First, if the DP is an unstressed pronoun, it must precede the particle, as shown in (8).

(8)  a. Francine put it on.
    b. * Francine put on it.

This restriction holds for the basic personal pronouns me, you, us, him, her, them, and it, when they are unstressed. It does not hold for stressed pronouns, as in (9a), nor coordinated pronouns, as in (9b), nor for the possessive pronouns such as mine and hers, as indicated in (9c); nor does it hold for demonstrative pronouns such as that and those, as in (9d), nor for the indefinite pronoun one, as in (9e).1

(9)  a. I'll give it up, and I'll give up YOU.
    b. Al threw out him and her.
    c. He would cut off mine, if he got the chance.
    d. Al threw out these.
    e. Al threw out one.

The restriction that unstressed personal pronouns must precede the particle can be referred to as the PRONOUN PROBLEM. The pronoun problem will be discussed in detail in §3.

Particle shift is also restricted when the particle is modified: only an unmodified particle may appear before the postverbal DP, as shown in (10).

1 Jespersen 1949:105-6 (MEG VII), cites several examples, including (9a) and also [ia] from Dickens, and [ib] from Shaw, repeated here, in the interests of science.

[i]  a. If you want to ease your mind by blowing up somebody, come into the court and blow up ME.
    b. What! Cut off your brother’s head? Why not? He would cut off mine, if he got the chance.
1. DATA TO BE ACCOUNTED FOR

5

(10) a. Nina coiled {up} the whip {up}.
    b. Nina coiled {*all the way up} the whip {all the way up}.
    c. Dan took {off} the bandages {off}.
    d. Dan took {*completely off} the bandages {completely off}.

The pattern in (10) may be referred to as the MODIFIER PROBLEM.

Another restriction on the placement of the particle has to do with its complements. When a particle has a prepositional phrase complement, as in (11), it may undergo particle shift (unless the PP is headed by of, as in (11d)). But when it has a DP complement, as in (12), it may not.

(11) a. Roll {up} the ball {up} over the ridge.
    b. Throw {out} the dog {out} into the yard.
    c. Slide {down} the rope {down} into the hole.
    d. Break {*off} the branch {off} of the tree.

(12) a. Roll {*up} the ball {up} the ridge.
    b. Throw {*out} the dog {out} the door.
    c. Slide {*down} the rope {down} the hole.
    d. Break {*off} the branch {off} the tree.

The pattern in (12) might be referred to generally as the DP COMPLEMENT PROBLEM.

Another very well known trait of the verb-particle construction is its distinctive stress pattern. The contrast between pairs like (13a-b) and (13c-d) is pointed out in many introductory English grammars. In the examples, I have marked main word stress impressionistically, based on a plausible pronunciation; the marks are not meant as a theoretical statement, only to indicate the distinction between the verb-particle construction ((13b) and (13d)) and prepositional constructions ((13a) and (13c)).

(13) a. The 'passenger 'flew in the 'plane.
    b. The 'pilot flew 'in the 'plane.
    c. 'Maggie 'looked up the 'tree (to see if her cat was there).
    d. 'Maggie looked 'up the 'tree (in her Field Guide to North American Trees)

In (13a) and (13c), the preposition is unstressed. It forms a prosodic phrase with the noun phrase it takes as a complement. In (13b) and (13d), on the other hand, the particle is likely to be stressed; it forms a prosodic unit with the verb, and the main stress for that prosodic unit tends to fall squarely on the particle (sometimes the stress falls on the verb, leaving the particle unstressed; but I assume that even in such cases, the verb and the particle form an intonational unit). Syntactic structure is relevant to prosodic phrasing (see e.g. Selkirk 1984), so we want our syntactic account to be able to accommodate the pattern in (13). Call this the INTONATION PROBLEM.

One more classic problem which has driven previous analyses has to do with constituency tests. The P-DP sequence in prepositional constructions (which as was noted above never undergo particle shift) passes constituency tests, as in (14a), indicating that it comprises a syntactic constituent (namely, a PP). The Prt-DP sequence and the DP-Prt sequence of the verb-particle construction, on the other hand, fail to behave as a constituent, as shown in (14b-c).

(14) a. It was on the potato crop that their lives depended.
    b. * It was on her sweater that she put.
    c. * It was her sweater on that she put.

This phenomenon can be referred to as the CONSTITUENCY PROBLEM.

1.2. More problems

The facts just presented are often explicitly recognized in works on the verb-particle construction (cf. §2 below) as issues to be dealt with. There are some other facts that are more often taken for granted, but which I think can profitably be treated as problems. For example, consider the optional variation in word-order typified in (1). In such works as Chomsky 1957 and Emonds 1976, this was a prototypical optional transformation. However, in general, options of word order turn out to have some effect on interpretation, either with respect to truth-conditional information, as when scrambling forces 'strong' readings for DPs (see, e.g. de Hoop 1992), or with respect to information packaging, as when a fronted element is interpreted as a topic (see, e.g. Vallduví 1990). For example, (15a) is a possible dialogue, but the same response in (15b) is bizarre.

(15) a. A: How does Martha feel about fish?
    B: Fish, she likes.
    b. A: What do you think Martha would like for dinner?
    # B: Fish, she likes.

Thus these movements are not truly optional: their use or non-use has an effect on interpretation, even if in some cases it is only pragmatic. A recent view (Chomsky 1993) holds that there are no optional movements; the principle Procrastinate states that no movements are made before they
1. DATA TO BE ACCOUNTED FOR

are forced. A topic might be ‘forced’ to move because it is marked as a topic; but there should be no truly free movements with no interpretational effect. Yet particle shift seems to be just that: in the usual case, the two orders have no discernible distinction in truth conditions or felicity conditions (cf. Diesing & Jelinek 1993, for whom this is also a problem, though for different reasons). Both versions of both dialogues in (16) are equally good (the responses in (16a) are best with stress on out, while the responses in (16b) are best with stress on dog).

(16) a. A: What did Louise do with the dog?
   i. B: She threw the dog out.
   ii. B: She threw out the dog.

   b. A: What did Louise throw out?
   i. B: She threw the dog out.
   ii. B: She threw out the dog.

I will refer to this as the OPTIONALITY PROBLEM.

Another fact that is well known but not usually regarded as a problem is the fact that only certain constructions participate in particle shift. For example, the prepositions in prepositional constructions never undergo shift, as noted above; cf. (17a) below. Nor do particles which appear as the predicates in the types of small clauses discussed in Chapter 2; cf. (17b). Furthermore, words other than the core locational prepositions such as on, off, up, down, in, and out generally do not undergo particle shift, as suggested by (17c).

(17) a. Sam climbed {up} the tree {*up}.
   b. Jorge considered {*out} the runner {out}.
   c. Bernadette pushed {*sideways} the latch {sideways}.

As the data in (17) actually reflect disparate phenomena, I will refrain from applying a label here; but the problem of determining what does and does not undergo particle shift is one to which I will return.

2 It would be wrong to think that prepositional constructions are distinguished from verb-particle constructions solely or even chiefly by their inability to undergo particle shift; apart from the differences in stress (cf. (13) above) and constituency (cf. (14)), there are important semantic differences, as verb-particle constructions are essentially resultative (cf. Bolinger 1971); this will be discussed in detail below.

1.3. Some new problems

There are, in addition, some peculiarities of the verb-particle construction that have not received widespread attention.

One of these is the fact that the Mainland Scandinavian languages exhibit a three-way contrast (cf. Taraldsen 1983): in Danish, the particle must follow the postverbal DP, as shown in (18a); Norwegian is like English in that both orders are acceptable, as in (18b); and in Swedish, the particle must precede the postverbal DP, as in (18c).

(18) a. Vi slap {*ud} hunden {ud} (Dan)
   b. Vi slapp {ut} hunden {ut} (Nor)
   c. Vi släpte {ut} hunden {*ut} (Swe)

   we let out the dog out
   ‘We let the dog out’

The contrast is interesting, since the grammars of the three languages are otherwise so similar; an analysis must be sufficiently constrained so as to not falsely predict nonexistent differences in the languages. Let the pattern in (18) be known as the SCANDINAVIAN PROBLEM.

Another usually overlooked problem is exemplified in (19). The DP-Prt sequence can be coordinated, as in (19a-b), but the Prt-DP sequence cannot, as shown in (19c-d) (noted previously in Svenonius 1992b).

(19) a. Try to hold your hands up and your elbows down.
   b. The storm windows keep the heat in and the cold out.
   c. * Try to hold up your hands and down your elbows.
   d. * The storm windows keep in the heat and out the cold.

This can be dubbed the COORDINATION PROBLEM.

Different patterns of data are problems for different analyses. Problems other than those listed in this section will be discussed as they come up. In the next section, I discuss some of the previous literature.
2. Previous accounts of the verb-particle construction

The verb-particle construction has been much-studied; it is sometimes hailed as the embodiment of the genius of the English language; for example, Roberts (1936:480) calls it “one of the most effective instruments of thought ever evolved”, and Smith (1925:255) suggests that “[i]t would almost seem as if these particles and verbs of action took the place in our northern speech of the gestures in which our intercourse is lacking, but which are so vivid an accompaniment to the speech of the Latin peoples, whose languages are poor in the emphatic use of particles.” Here I will not undertake a review of the great body of work on the topic; I will briefly summarize only a few of the more recent discussions, focusing on those which bear directly on the proposal at hand. See Declerck 1978 for a list of pre-generativist works on the construction.

This section is organized in a way that makes sense (I think) for exposition; it is not strictly chronological. First, three early proposals for different base structures are discussed (Chomsky 1955, Emonds 1976, and Bolinger 1971), then more recent works are discussed, including those of Kayne, myself, Taraldsen, and den Dikken. Other works are mentioned in passing as they relate to these works.

2.1. Chomsky 1955: A complex [\(V^-P^-\)]

Over the years there have been various proposals for the structure of the verb-particle construction: Chomsky 1955 (cf. also Chomsky 1957) proposed a complex [\(V^-P^-\)] at deep structure, which took a DP direct object (the analyses of Fraser 1976 and Johnson 1991 are similar in relevant respects). Particle shift was effected by a transformation. Various objections to this analysis can be raised on the grounds that the \(V^-P^-\) sequence is not a single word; and it is not clear whether the base-generation of complex zero-level categories which are not words should be permitted; on one view, each zero-level category is a word (e.g. Selkirk 1984). The verb+particle combination, though it is a prosodic unit, is not a word phonologically (each part of it bears word stress) or morphologically (inflection appears on the verb only). Note, too, that the verb+particle never moves as a syntactic unit, which we would expect it to do if it were a complex verb. This can be seen in the Norwegian V2 construction in (20) (cf. the similar examples in Åfarli 1985, who makes the same point).4

(20) a. Olaf kastet ut hunden. (Nor)  
    Olaf threw out the dog  
    ‘Olaf threw out the dog’

b. I går kastet Olaf ut hunden.  
    Yesterday threw Olaf out the dog  
    ‘Yesterday Olaf threw out the dog’

c. * I går kastet ut Olaf hunden.  
    Yesterday threw out Olaf the dog

In (20a), the V+Prt order is shown for a Norwegian sentence. When the verb precedes the subject, as in (20b), the particle stays in place; it cannot be moved along, as indicated in (20c). Thus, although it is true that the verb and the particle are tightly knit, they do not form a complex word for purposes of head movement.5

Another serious problem for the \([V^-P^-]\) analysis is that the particle can project a whole phrase, if it is separate from the verb. If a movement transformation derives (21b) from (21a), then it is unclear how (21c) is to be generated.

(21) a. Those hoodlums snapped off the antenna.  
    b. Those hoodlums snapped the antenna off.  
    c. Those hoodlums snapped the antenna right off my car.

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4 Some varieties of English, for example Northern Irish English, allow verb-fronting past an overt subject in imperatives, as in [i] (pointed out and supplied to me by Jim McCloskey).

[i] a. Open you that door!  
    b. Do you your homework!

If a verb-particle combination appears in this construction, the particle must be stranded, as in [ii]. [iii] in particular shows that the particle must be stranded even if it has shifted.

[ii] a. Shut you up!  
    b. Take you them clothes out to the kitchen!  
    c. Take you out them clothes to the kitchen!

5 Of course, the possibility cannot be ruled out that this is EXCORPORATION, i.e. head movement of a subconstituent of a complex head as in Roberts 1991 and Koopman 1993a, b. Such movement may be necessary in order to accommodate the German separable-prefix constructions referred to in fn. 3 above.

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3 As is the analysis of Dutch separable prefix verbs in Neeleman & Weerman 1993. The objections I raise here to Chomsky 1955 (and Johnson 1991) do not apply to Dutch, where the separable prefix does attach morphologically to the verb stem, does not project a phrasal projection, and does not undergo XP movement. Thus I follow Neeleman & Weerman for Dutch (and German).
Presumably the full PP right off my car could not be generated below V'.
For further discussion of the [V'-V-P] analysis, see Kayne 1984 and
Svenonius 1992b.

2.2. Emonds 1972: A ternary structure

Another analysis of verb-particle constructions which is sometimes
assumed (for example, Emonds 1972, 1976, Huang 1977, Afarli 1985) is
a triple-branching structure, where the DP and Prt are both generated as
sisters to V', under V. A simple ‘local’ transformational rule or even an
LP statement (as in Falk 1983 or Gazdar et al. 1985) can provide for
particle shift. The fact that the particle can appear with complements and
modifiers is not a problem, since (in most triple-branching analyses) the
particle projects a full PP. I am aware of no compelling arguments against
triple branching structures in principle, but here there are reasons not to
adopt one.

First, compare the sentences in (22). In the sentences on the right,
the postverbal DP is the direct object of the verb. It is is the thing taken,
brought, made, or kept; its thematic interpretation is determined wholly
by the verb, in a sense usually formalized by assuming that the verb
assigns it its θ-role. But in the sentences on the left, the interpretation of
the postverbal DP is completely different.

(22) a. Dick took his socks off ≠ Dick took his socks
    b. Phoebe brought the kids up ≠ Phoebe brought the kids
    c. Bart made the castle up ≠ Bart made the castle
    d. Garlic keeps the mosquitos away ≠ Garlic keeps the mosquitos

The interpretation of the postverbal DP in the sentences on the left in (22)
depends on the particle, or more exactly, on the combination of the verb
and the particle. Compare other cases where a verb (arguably) takes two
complements, as in (23).

(23) a. Dick loaded the wagon with hay. |≠ Dick loaded the wagon.
    b. Phoebe loaded boxes into the truck. |≠ Phoebe loaded boxes.
    c. Bart sent the packages to Holland. |≠ Bart sent the packages.
    e. Matt persuaded Richard to stay. |≠ Matt persuaded Richard.

The sentences on the left in (23) entail the sentences on the right; the
second complement does not change the relation between the verb and
the DP that follows it.6 An account in which the DP and the particle are
both complements to V, the special idiosyncratic interpretation of the
whole requires some additional explanation.

Of course, there is a large number of verb-particle combinations
that are transparently related to simple transitive uses of the same verbs,
so that the postverbal DP in the verb-particle construction does seem to
get the same interpretation as the direct object of the verb. Some
examples are given in (24).

(24) a. The cook cut the carrots (up).
    b. The courier sent the package (off).
    c. The carpenter glued the tiles (down).

I will assume that productive cases like these are allowed by a regular
lexical rule which allows resultative structures, as in Hoekstra 1988; the
affected object of a transitive verb is replaced in the subcategorization
frame with a state of affairs small clause, and the subject of that small
clause is generally (though not necessarily) interpreted as if it were the
affected object. See Kayne 1985, Hoekstra 1988; see also Fermad 1992
for problems with this account; see §5.2 below for some specific cases of
productivity. Treating the compositional verb-particle constructions in
(24) as having the same structure as the idiosyncratic ones in (22) has the
advantage of allowing them to have the same syntactic properties (e.g. the
ones noted in §1 above). Otherwise, the account of particle shift proposed
here would have to be supplemented with another rule which mimicked
its effects, in constructions like those in (24).

As noted in §1, the usual constituency tests such as clefting and
topicalization fail to pick out the DP-Prt sequence as a constituent (the
constituency problem), contrary to the predictions of the small clause
analysis. This might be taken as indirect evidence for the triple-branching
analysis, but I believe instead that the impossibility of displacement of

6 In some cases a particle (as in [i]) or a second complement (as in [iii]) is obligatory,
and the V+DP is not grammatical without it.

[i] a. The explosion caved the roof in ≠ The explosion caved the roof
    b. Matt looked the information up ≠ Matt looked the information
    c. Richard put the music down ≠ Richard put the music

[ii] a. Alex gave Vanna an envelope ≠ Alex gave Vanna
    b. George put the fish in the bucket ≠ George put the fish
    c. Vanna hit the stick against the fence ≠ Vanna hit the stick (*on
        instrumental reading)

I think that cases like those in [i] are examples of exactly the same phenomenon
observed in (21) above; cases like those in [ii] have been analyzed as involving small
clauses, e.g. in Kayne 1984 and Hellan 1988.
the small clause is due to aspects of interpretation, a situation similar to
that affecting the propositional small clauses examined in Chapter 2. The
small clause is dependent on the verb and cannot be moved away from it.

One constituency test that does not separate the small clause from
the verb (and hence does not interfere with interpretation) is coordination;
the observations made above regarding coordination provide evidence for
the small clause analysis. The DP and particle can be treated as a
constituent in a coordinate structure (as pointed out in §1).

(25) a. Pauline turned [the acetylene on] and [the oxygen off].
    b. The storm windows keep [the cold out] and [the heat in].
    c. Try to hold [your hands up] and [your elbows down].
    d. Bill switched [the TV on] and [the light off].

Of course, coordination is notoriously unreliable as a constituency test,
but the pattern in (25) is expected on the small clause analysis and not
easy to account for otherwise (see Svenonius 1992b for arguments that
the examples in (25) are not produced by Gapping). In stark contrast, the
particle and following DP cannot be treated as a constituent in this
manner, as shown in (26).

(26) a. * Pauline turned [on the acetylene] and [off the oxygen].
    b. * The storm windows keep [out the cold] and [in the heat].
    c. * Try to hold [up your hands] and [down your elbows].
    d. * Bill switched [on the TV] and [off the light].

The triple-branching analysis is hard-pressed to account for the contrast
between (25) and (26), whereas the small clause analysis automatically
predicts the pattern in (25), and the analysis of the V-Prt-DP order as
derived by leftward movement of the particle will be shown (in §3.5
below) to provide an account for the pattern in (26).

2.3. Bolinger 1971: A nexus

Bolinger (1971) noted the predicational relation between the postverbal
DP and the particle, comparing examples like those in (27) (from

(27) a. He let the reins go.
    b. He let the reins out.

Bolinger suggested that the DP-Prt sequence constituted a clausal
constituent (S), complement to the verb. This is essentially the position I
take here, modulo the exact category of the constituent (here it is not
identical to a main clause, though it is clausal). In fact, most recent
accounts have assumed that the DP and the particle form a constituent in
the base-generated structure (e.g. the accounts of Taraldsen 1983, Kayne
1985, and den Dikken 1992, all discussed below).

It should also be noted that Bolinger stressed the ‘resultative’
nature of the verb-particle construction (see esp. his Ch. 8), which I take
to be a defining characteristic. This will be taken up in detail in §5 below.

2.4. Kayne 1985: Rightward movement of DP

Kayne 1984 (in the introduction, page x) and 1985 proposes a Stowell-
style small clause structure for the verb-particle construction; that is, he
proposes that the postverbal DP is base-generated in SpecPP, and remains
there at S-structure in the V-DP-Prt order. He provides a number of
arguments for this position, most of which carry over to the analysis of
particle constructions as small clauses with a functional head. For
example, Kayne notes that there are no verb-particle constructions where
a CP or PP occupies the position I have been referring to as the
‘postverbal DP.’ Some of Kayne’s examples are given in (28) (from
Kayne 1985:104).

(28) a. John teamed {up} with Bill {*up}.
    b. They stocked {up} on foodstuffs {*up}.
    c. They’ve done {away} with free wine {*away}.
    d. She pointed {out} that he was wrong {*out}.

Kayne suggests that this sort of pattern is expected if the postverbal DP is
base-generated as a subject, subjects generally being realized as DPs (cf.
Kayne notes that PPs may sometimes be subjects, as in (29a), and
suggests that in similar circumstances, they can be the subjects of particle
small clauses, as in (29b) (from Kayne’s p. 107; I retain his judgments).

(29) a. Is under the bed a good hiding place?
    b. ? I bet they pick under the bed out as their new hiding place.

Kayne argues that the V-Prt-DP order is derived by rightward movement
of the DP across its predicate, a special instance of Heavy NP Shift
(HNPS). The same proposal was made by Huang in his 1977 LSA paper,7
though he assumed an Emonds-style triple-branching structure. The
HNPS analysis accounts for the pronoun problem, since pronouns are not

7 Huang’s 1977 paper was published as Huang 1985. There, he mentions that the
same analysis came up in LSA talks by C. Hoffman in 1978 and R. Smaby & P. Baldi
in 1979, but I do not know whether those papers ever appeared in print.
HEAVY’ IN THE RELEVANT SENSE. HOWEVER, I ARGUED IN SVENONIUS 1992b THAT
THIS ANALYSIS OF PARTICLE SHIFT WAS INCORRECT. FIRST, NOTICE THAT HNPS
ONLY AFFECTS INFORMATIONALLY AND PROSODICALLY ‘HEAVY’ DPs, AS SHOWN IN
(30b-c), WHERE OVER IS A VP ADVERBIAL; BUT NON-HEAVY DPs REGULARLY APPEAR TO
THE RIGHT OF PARTICLES, WITHOUT ANY DIFFERENCE IN INTERPRETATION, AS IN (30d),
WHERE OVER IS A PARTICLE.

(30) a. We had to plan the party over.
b. * We had to plan over the party.
c. We had to plan over the surprise party for Janet.
d. We had to think over the party.

Another problem with the HNPS analysis of particle shift is that HNPS
MOVES A DP TO THE RIGHT PERIPHERY OF THE VP, AS IN (31a), BUT PARTICLE SHIFT
ONLY REORDERS THE DP AND PARTICLE, AS IN (31b); (31c) SHOWS A NON-HEAVY
DP AT THE RIGHT PERIPHERY OF VP, INCORRECTLY PREDICTED GRAMMATICAL BY
KAYNE’S ANALYSIS.

(31) a. Jason lined up on the wall a bottle each of a hundred and
twenty different kinds of beer.
b. Jason lined up the bottles on the wall.
c. * Jason lined up on the wall the bottles.

2.5. SVENONIUS 1992b: PRt MOVEMENT TO V

IN SVENONIUS 1992b I ADOPTED KAYNE’S BASE STRUCTURE (WITH THE STOWELL-
STYLE PP SMALL CLAUSE, WITH NO FUNCTIONAL HEAD), AND ARGUED THAT THE V-
PRt-DP ORDER WAS DERIVED BY THE ATTACHMENT OF THE PARTICLE TO V0 BY HEAD
MOVEMENT IN THE FASHION OF BAKER 1988, AS SKETCHED IN (32).8

(32) a. Jason lined [the bottles [up on the wall]]
b. Jason [lined up] [the bottles [i t over on the wall]]

SUCH AN ANALYSIS HAS THE ADVANTAGE OF ACCOUNTING FOR THE CLOSE RELATION
BETWEEN THE VERB AND THE PARTICLE (E.G. NOTHING OTHER THAN THE DP COMES
BETWEEN THEM, AND ALSO THE FACT THAT THEY COMBINE PROSODICALLY, CF. THE
INTONATION PROBLEM OF §1) AND THE FACT THAT WHEN THE PARTICLE PRECEDES THE
DP, IT IS ALWAYS A BARE HEAD, NEVER HAVING MODIFIERS OR COMPLEMENTS (CF.

8 UNBEKNOWNST TO ME AT THE TIME, HOLMBERG 1986:201-2 HAD ALREADY TENTATIVELY
SUGGESTED THE SAME THING.

THE SCANDINAVIAN LANGUAGES PROVIDE ONE MORE POSSIBLE PIECE OF
EVIDENCE AGAINST THE ANALYSIS OF THE V-PRT-DP ORDER AS THE RESULT OF HEAD
MOVEMENT OF PRt TO V. DANISH HAS REAL INCORPORATED VERB-PARTICLE
STRUCTURES, WHICH ARE QUITE DISTINCT FROM THE VERB-PARTICLE SEQUENCE IN THE
V-PRT-DP CONSTRUCTIONS.9 THE ALTERNATIONS IN (33a-d) ARE ADAPTED FROM

(33) a. Han gav sine studier op. (Dan)
b. Han opgav sine studier.
   he up.gave his studies up
   ‘He gave up his studies’
c. Han peger noget ud.
d. Han udpeger noget.
   he out.points something out
   ‘He points something out’
e. Han fyldte skemaet ud.
f. Han udfyldte skemaet.
   he out.filled the.form out
   ‘He filled out the form’

HERSLUND STRESSES THAT THE ALTERNATION SHOWN IN (33) IS QUITE LEXICALLY
RESTRICTED, MORE THAN THE VERB-PARTICLE ALTERNATION IN ENGLISH OR
NORWEGIAN. IN MANY CASES, A V-DP-PRt CONSTRUCTION DOES NOT HAVE A

9 NORWEGIAN AND SWEDISH HAVE OVERTLY INCORPORATED FORMS ONLY IN THE PASSIVE; E.G.
SKATTEN BLE BORTGJEMT ‘THE TREASURE WAS AWAY.HIDDEN’ IS THE PASSIVE OF GJEMME SKATTEN
BORT ‘HIDE THE TREASURE AWAY.’ I WILL RETURN TO THIS BELOW.
corresponding prefixed alternative (and, of course, there are lexicalized prefixed verbs which do not have a V-DP-Prt alternative, like English *overthrow*). However, the great number of such alternations in Danish in contrast to Norwegian, Swedish, and English suggests that it be treated as a (semi-)productive process. One option is to consider it a lexical rule that derives V-Prt compounds from the lexical entries for verb-particle combinations; the other is to treat it as syntactic head movement. If the latter approach is taken, then the alternation in (33) militates against an incorporation analysis for the more loosely confederated V-Prt sequence in English, Norwegian, and Swedish. Otherwise, we would have to distinguish two different forms of incorporation, contra Baker (1988), who argues that if one head moves to another, they are morphologically and phonologically incorporated (see also den Dikken 1992 for the same argument, including observations about overt V-P incorporation in Dutch). The Danish incorporation structure is considered further in §3.6.

### 2.6. Taraldsen 1983, 1991b: Leftward movement of DP

Based on data from the Mainland Scandinavian languages, Taraldsen 1983, 1991b proposes an analysis in which the two possible word orders have slightly different structures. In the V-Prt-DP order, the DP is the complement of a P, which heads a PP complement to V, as in (34a). In the V-DP-Prt order, the DP is also base-generated as the complement of P, but moves into a small clause subject position, as in (34b) (the examples are from Taraldsen 1983:240).

(34) a. Vi slapp [PP ut hunden]. (Nor)
    b. Vi slapp [SC hunden, [PP ut t]].

Taraldsen notes parallels between the verb-particle construction and the Scandinavian construction which he calls the LA-CAUSATIVE, for the causative verb *la* ‘let, make.’ The la-causative, as Taraldsen notes, is very similar to the Romance causative construction that Kayne (1975) dubbed the *faire par* construction (see also Burzio 1986); it is illustrated in (35) (from Taraldsen 1983:203).

(35) a. Vi lot løslate *fangene*. (Nor)
    we let *release* the.prisoners
    ‘We had the prisoners released’
    b. Vi lot *fangene* løslate
    we let the.prisoners *release* the.prisoners
    ‘We had the prisoners released’

Unlike the secondary predicate in the English translations, the Norwegian verb *løslate* in (35) is not passive in form; nor is it an unaccusative verb (*fangene *løslo*); it is an obligatorily transitive verb, just like *release* — yet its external argument is suppressed in (35), and only its internal argument is realized. Thus we can assume, in accordance with general principles of the realization of arguments, that the DP *fangene* ‘the prisoners’ in (35) is base-generated as the complement to the verb *løslate* ‘release’, suggesting that (35a) is basic.

Taraldsen notes that the pattern observed with respect to particle shift, where Danish allows only the V-DP-Prt order and Swedish allows only V-Prt-DP, is repeated in the la-causatives: Danish allows only (35b), and Swedish has only (35a); the examples are diagrammed in (36) (with the DP in braces rather than the predicate; this is intended to suggest Taraldsen’s analysis, in which it is the DP that moves).

(36) a. Vi lod *fangene* løslade {*fangene*}. (Dan’)
    we *let* the.prisoners *release* the.prisoners
    ‘We had the prisoners released’
    b. Vi låt {*fångarna*} släppa {*fångarna*},
    we *let* the.prisoners *release* the.prisoners
    ‘We had the prisoners released’

Taraldsen supports his analysis by showing that the DP which follows the secondary predicate in (34a) and in (35a) behaves like an object for the purposes of binding, while the DP which precedes the predicate in (34b) and (35b) behaves like a subject, suggesting that it has moved into a

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10 Sometimes, a lexicalized form shares a meaning as a verb-particle combination, as is the case with English *turn over* and *overturn* (*The mob turned [over] my car [over]*/*The mob overturned my car*). This is quite rare in English, less so in Norwegian (which, it should be noted, has extensive historical contact with Danish). Its rarity recommends treating it as a lexical accident, and not deriving one form from the other by syntactic movement in those languages.

11 There is a great deal of literature on the Romance *faire par* construction. See Moore 1991, Chapter 5, for discussion and references. As Guasti 1990 notes, most Germanic languages have something corresponding to *faire par* as well; English seems to have a relic of this construction in *let go*; the OED has *He let make a proclamation* from 1440, but all later examples with verbs other than *go* have an overt subject. Roberts 1993 gives several examples from the fourteenth and fifteenth centuries; see Roberts (esp. pp. 286 ff.) for discussion and references. Jespersen (1940, §4.5.35 (MEG V)) gives some examples with *make* with adjectival predicates: *he woundeth, and his hands make whole* (Bunyan); *Morelet could be so happy in making happy* (Carlyle).

(37) a. * Vi lot arrestere banditten uten å få snakke med sin
    we let arrest the.bandit without to get speak with his-REFX
    advokat.
    ‘We had the bandit arrested without (him) getting to speak
    with his lawyer’

b. Vi lot ham arrestere uten å få snakke med sin
    we let him arrest without to get speak with his-REFX
    advokat.
    ‘We had him arrested without (him) getting to speak with his
    lawyer’

c. * Vi lot arrestere spionen like før sin avreise.
    we let arrest the.spy just before his-REFX departure
    ‘We had the spy arrested just before his departure’

d. Vi lot spionen arrestere like før sin avreise.
    we let the.spy arrest just before his-REFX departure
    ‘We had the spy arrested just before his departure’

e. * Vi jaget ut ulven for å gjenfinne sin tapte frihet.
    we chased out the.wolf for to re.find its-REFX lost freedom
    ‘We chased out the wolf to find its lost freedom again’

f. Vi jaget ulven ut for å gjenfinne sin tapte frihet.
    we chased the.wolf out for to re.find its-REFX lost freedom
    ‘We chased the wolf out to find its lost freedom again’

The reflexive possessive pronoun sin is subject-oriented. It can be bound by spionen ‘the spy’ in (37d), but not in (37c). In (37e), the DP ulven ‘the wolf’ is unable to bind the PRO subject of the purpose clause, but it can do so in (37f). Taraldsen argues that these are indications that the pre-predicate DP in each case has moved from complement position up into a subject position.

Taraldsen’s analysis is complex, and I will not be able to do it justice here (his analysis is also intended to account for cross-linguistic variation with respect to auxiliary selection and extends to Romance languages). Taraldsen proposes a parameter (1991b:240): languages have SUBJECT-DRIVEN LINKING or OBJECT-DRIVEN LINKING. Simplifying greatly, a verb (or particle) in a subject-driven linking language can only have a subject if it also has an object; a verb (or particle) in an object-driven linking language can only have an object if it has a subject. Now, consider the structures in (34) again, repeated in (38) with English in place of Norwegian.

(38) a. We threw [pp out the dog].
    b. We threw [sc the dog, [pp out t]].

Now, recall that in Swedish, only (38a) is possible. Taraldsen argues that this is because Swedish has object-driven linking: in order for the particle to have an object, it must have a subject. In (38a), the particle is considered to have a subject because it is coindexed with the verb: the verb and the particle undergo P(redicate)-COMPOSITION (his pg. 237; cf. also Gawron 1986a), and projections of V are defined as projections of P; some projection of VP has a subject, so P has a subject; thus, it can have an object, and the DP in PP in (38a) is licensed. (38b), on the other hand is out: the preposition still has an object (though it has moved), but the SC node prevents P-composition, and P has no subject.

Danish, on the other allows (38b) but not (38a). Taraldsen proposes that Danish is a subject-driven linking language: in order for a predicative head to have a subject, it must have an object. In (38b), the particle has no subject, so the condition does not apply to it. The verb, on the other hand, has a subject; it must therefore have an object. The DP in SpecSC, to which the verb assigns Case, counts as a ‘canonical object’ under Taraldsen’s definition (his page 240), so the subject of V is licensed. (38a), however, is bad: the verb has a subject, but has no object (either Danish does not have p-composition, or else the object of the preposition does not count as a ‘canonical object’ of P even if V and P are composed). Taraldsen suggests that Norwegian allows both subject-driven and object-driven linking, and can generate either of the structures in (38).

Taraldsen’s analysis is appealing in a number of respects. The movement of a DP complement to a subject position is definitely called for in some cases, such as that in (39) (from Taraldsen 1983:203).

(39) a. De lot sette krone på mannen. (Nor)
    b. De lot mannen sette krone på.
    they let the.man set crown on the.man
    ‘They had the man crowned,’ i.e. they made him king

However, (39) is a frozen form; it does not represent a productive pattern. In most cases, the base-generation of the postverbal DP as a complement to P is inconsistent with some facts about the argument structure of

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12 Åfarli 1985:26 disputes the data, with respect to the verb-particle constructions.
2. Previous Accounts

Prepositions, which I will explore in detail in §4 below. There, I argue that while the glass may indeed be base-generated as the complement to out in (40a) (cf. (34)), the milk in (40b) must be base-generated in SpecPP; and since particle shift is possible there, too, Taraldsen’s analysis is not adequately general.

(40) a. Wilbur rinsed {out} the glass {out}.
   b. Wilbur rinsed {out} the milk {out}.

The fact that Taraldsen’s analysis does not capture the predicative nature of the particle is underscored by the fact that he must postulate a semantically vacuous SC; the main function of the SC node in Taraldsen’s analysis is to block p-composition. It has no effect on interpretation at all, since the two structures in (38) are completely synonymous.

Some of the technical details of Taraldsen’s analysis are also questionable. The definitions of ‘canonical object’ and ‘canonical subject,’ on which the analysis is crucially based, are not independently motivated; for instance, note that although the pre-predicate DP in the examples in (37) counts as a subject for purposes of binding sin, it must not for purposes of linking, or Swedish would allow the V-DP-Prt order. Furthermore, p-composition allows a verb and a particle to share a subject in an object-driven linking language, thereby licensing an object, but the same mechanism does not allow the same heads to share an object in a subject-driven linking language.

It is especially vital for Taraldsen’s analysis that the conditions on, and formal properties of, p-composition be determined, since it must distinguish verb-particle constructions from prepositional constructions; i.e., the examples in (41), for Taraldsen, are distinguished only in that on p-composes with tie in (41a), but not with rely in (41b); both involve a PP complement to V.

(41) a. Johann Olav tied on his skates.
   b. Johann Olav relied on his skates.

Without any structural distinction between (41a) and (41b), we must have a clear notion of what p-composition is, since it is the only thing accounting for the differences between these two sentences in terms of the intonation problem, the constituency problem, the modifier problem, or the pronoun problem, as illustrated in (42).

(42) a. * It was on his skates that Johann Olav tied.
   b. It was on his skates that Johann Olav relied.
   c. * Johann Olav tied right on his skates.
   d. Johann Olav relied completely on his skates.
   e. * Johann Olav tied on them.
   f. Johann Olav relied on them.

There are some obvious similarities between the notion of p-composition and the notion of head-chain formation. In the account developed in §3 below, I will make use of head-chains, and also postulate a layer of (semantically significant) functional structure for (41a) (and for its alternative Johann Olav tied his skates on), but not for (41b).

2.7. Den Dikken 1992: Reanalysis as LF head movement

Den Dikken 1992 provides an extensive discussion of verb-particle constructions. He is primarily concerned with complex constructions, like They made John out (to be) a liar (cf. also Kayne 1985, den Dikken 1990) and They sent the schedules out to the shareholders. I will not discuss complex constructions here; but some of den Dikken’s arguments and observations are relevant here, and I outline them in some detail because I build on them in §3 below.

Den Dikken notes the possibility of a functional head in the particle construction, but opts not to make use of it; his analysis of particle shift involves leftward DP movement from complement to specifier, just like that of Taraldsen’s just discussed, except that for den Dikken, the two orders involve the same structure (a PP small clause complement to V°). This is diagrammed in (43).

(43) a. We threw {pp [p out the dog] [t]}
   b. We threw {pp the dog, [p out t] [t]}

According to den Dikken, the postverbal DP receives Case in (43b) from the verb, but in (43a) it cannot receive Case from the particle, the particle being by definition an intransitive preposition. In order to get Case to the postverbal DP, the particle must REANALYZE with the verb (his page 55). For den Dikken, reanalysis of the verb and the particle is defined as head movement of P to V at LF — this makes it identical to Stowell’s 1991a restructuring, already discussed in Chapter 2; in order to avoid confusion with the different senses of reanalysis already introduced, I will call den Dikken’s reanalysis restructuring.13 The complex head formed by

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13 Cf. also Baker’s 1988 analysis of Romance causatives, where “cosuperscripting”
restructuring is a Case assigner, since its subconstituent V is a Case-assigner, and it governs the DP complement of P by the GTC (the Government Transparency Corollary of Baker 1988, which entails that a complex head governs everything governed by a trace of one of its subconstituents), since the trace of its subconstituent P governs that DP. Thus the post-particle DP receives Case from the complex V-P constituent. If restructuring does not occur, the particle is not a Case assigner (cf. §4.3 below), and the DP must move to the Spec position in order to receive Case.

Den Dikken does not explain why particles should not be able to assign Case of their own in the verb-particle construction, given that they are perfectly capable of doing so in other contexts (e.g. in PPs such as up the creek, on the counter, etc.). In fact, constructions such as kick the dog out the door are particularly problematic for him, as the dog is supposed to originate as the complement to out, and there is no obvious place to put the door; den Dikken suggests (p. 94) that the door is an adjunct in such cases. I provide evidence against this in §4. Den Dikken’s account falls prey to some of the same objections that I levied against Taraldsen’s, particularly since the postverbal DP is not in general interpreted as if it were the complement of P; instead, the DP is the subject of P, which requires that the DP be generated in its Spec (note that den Dikken assumes Baker’s 1988 UTAH (Uniformity of Theta-Assignment Hypothesis), cf. his p. 19); and the predication of that DP by P, following Bowers 1993, can only obtain with the assistance of a functional head.

Den Dikken’s analysis also relies on certain problematic assumptions about Case assignment. If accusative Case assignment by V occurred at S-structure (i.e. before Spell-Out), then restructuring would have to occur overtly, as in the proposal in Svenonius 1992b, in order for the DP to receive Case in complement position, or the DP would have to raise to Spec position; den Dikken argues convincingly (pp. 87-90) that P does not move overtly to V (cf. the discussion in §2.5 above), but only at LF. This suggests that Case is an LF phenomenon, as in Chomsky 1993. But if Case is an LF phenomenon, then why does DP movement ever occur overtly? It seems that den Dikken can either motivate DP movement before Spell-Out, assuming that Case is checked early, or restructuring at LF, assuming that Case is checked late, but cannot account for optionality: if Case can be checked ‘anywhere’ (as in Johnson 1991), then principles of Economy (e.g. Procrastination) would require that it be checked as late in the derivation as possible.

Den Dikken addresses this matter briefly, in footnote 25 on page 56. He notes the possibility that Case is an LF phenomenon but does not explain why DP movement would then ever be motivated. Assuming that Case is checked at S-structure, on the other hand, he follows Baker 1988 in supposing that the verb and the particle which undergo reanalysis at LF are co-superscripted at S-structure, which in this case, he assumes, confers Case-assigning properties on P at S-structure. This is essentially equivalent to allowing a HEAD-CHAIN to be formed between V and P, and assigning Case to the complement of P by CHAIN GOVERNMENT (government by a member of a head-chain that includes the Case-assigner; cf. Chapter 1, §2.2 here, or Sigurðsson 1990). But if a head-chain can be formed, then it is again unclear why the DP should ever move, since principles of Economy should prevent unnecessary movement. Den Dikken, noting this, suggests (in footnote 26, p. 57, citing unpublished work by Eric Hoekstra) that English speakers might be “bilingual,” using two different grammars to generate the two different options. This would require a sentence like John threw out the garbage and took the laundry in to be analyzed as code-switching; if this is possible, then the theory is seriously compromised. Consider the lack of predictive power if any speaker could entertain two grammars at once, each with a different setting for a particular parameter, and switch freely between them, even in mid-sentence.

Den Dikken’s account for the obligatory movement of pronouns (i.e. the fact that they must precede the particle and can’t follow it) is that pronouns cannot receive Case by chain-government. He provides support for this from other examples of non-local Case assignment, namely Locative Inversion and Dative Shift constructions, where pronouns are prohibited. However, he does not explain why pronouns should not be able to receive Case by chain-government. I return to this point in §3.4.

In §3 below, I adopt an account that is similar to den Dikken’s in several respects; specifically, I assume that ‘reanalysis’ of V with P makes P a Case assigner (i.e. a Case-chain is formed between V and P) and allows it to assign Case to the postverbal DP, which is therefore not required to move to a higher specifier position. However, my analysis diverges from den Dikken’s on a number of important points. For example, I assume that a layer of functional structure, motivated by the predication relation between the postverbal DP and the particle, crucially figures in to reanalysis, and that reanalysis is possible only after overt movement of P° to that functional head position.

(cf. Rouveret & Vergnaud 1980) of the causative verb and the embedded verb is allowed just when head movement occurs at LF.
2.8. Summary of previous works

The previous accounts discussed in this section fall into three general classes in terms of the base structure they posit: the complex $V^0$-$P^0$, as in Chomsky 1955, the triple-branching structure, as in Emonds 1976, and the small clause structure, as in Bolinger 1971. I place myself in the last camp; but within this camp there is a further division: Kayne, Taraldsen, and den Dikken all account for the word-order alternation by moving the DP (Kayne to the right, Taraldsen and den Dikken to the left), whereas I proposed in Svenonius 1992b that the word-order alternation should be treated as a matter of particle movement (to $V^0$); this was intended to capture some of the insights of the complex $V^0$-$P^0$ analysis, since a $V^0$-$P^0$ complex appeared at some level of representation (S-structure, rather than D-structure as in Chomsky 1955 and Johnson 1991). However, problems for that analysis were pointed out, especially by den Dikken 1992.

In the account to be detailed below, two threads are combined: movement of the particle to a higher head position is still the basis for the $V$-$P$-$D$ order, as in Svenonius 1992b (though the higher head position is not $V$ but the functional head of the small clause), but DP movement is implicated in the $V$-$D$-$P$ order, as in Taraldsen 1983 and den Dikken 1992. The new analysis, I think, escapes the criticisms leveled at the old one, and in addition accounts for a much wider range of data than has hitherto been considered.

3. The analysis

In this section, I detail my own analysis of the verb-particle construction, illuminated by the work summarized in the preceding sections. As suggested briefly in the introduction to this chapter, I analyze the verb-particle construction as involving a small clause including the postverbal DP as its subject and the particle as the head of its predicate. Recall from Chapter 2 that the SC complement of want-type verbs, interpreted as a state of affairs, was independent in the sense that it could be interpreted independently of the selecting verb, while the SC complement to consider-type verbs, a proposition-denoting small clause, was dependent on features supplied by a higher node for its interpretation. Particle small clauses are like the complements to want-type verbs in that they denote states of affairs, rather than propositions, but they are like the complements to consider-type verbs in being dependent for their interpretation — although for a different sort of feature. The particle small clause and the verb enter into a very close relationship, which allows idiomatic interpretation (e.g. the meaning of bring up is only very abstractly related to the usual meanings of bring and up) and prevents displacement, just as in the dependency observed with propositional small clauses (e.g. clefting is impossible: *It was a little monster up that we brought*).

In my analysis, which builds directly on those discussed in §2 above, the basic surface structure of a sentence containing a verb-particle combination is shown in (44), where the small clause is indicated as PredP, and its head as Pred$^0$ (based on Bowers’ 1993 ‘Pr’; cf. Chapter 1, §1).

\[
\text{[The doctor [VP looked [PredP the file] Pred$^0$ [PP ti up]]]]}
\]

In (44), the subject of the small clause has been base-generated in SpecPP and moved to SpecPredP, where it receives Case from V. So far, the verb-particle construction is like any other construction where a small clause is complement to V. There is, however, one crucial difference: whereas verbs like want and consider simply take a state of affairs or a proposition, we cannot just say that the verb look s-selects or c-selects a state of affairs; if we said the same of throw in *Throw off your chains!, we would falsely predict the grammaticality and interpretability of *Look off your chains!.

Instead, look must be specified in the lexicon as having a special meaning when it combines with up. Now, recall the discussion of c-selection in Chapter 1, §2. The traditional conception of c-selection is that it is STRICTLY LOCAL, i.e. defined under sisterhood; Baltin 1989
argues that c-selection is better thought of as a head-head relation, a relation defined as LOCAL in Chapter 1, §2. Noting that many head-complement relations could be defined over head-chains, I suggested that c-selection could also be defined over head-chains; but since extended head-chains (i.e. those with more than one link) allow non-local relations, this would allow non-local c-selection, which is generally assumed not to exist (though I noted in Chapter 1 and argued in Svenonius 1993b that it does exist in some cases). There are, at this point, two options. One, we could assume that there is a special relation of c-selection that is local (we might use Pesetsky’s term l-selection for this, as it would correspond closely to his use of that term). Or two, we could assume that conditions on head-chains rule out the non-existent cases of long-distance c-selection. In the interest of keeping to a minimum the number of mechanisms used in this work, I will attempt an account along the latter lines; but if it were stipulated that there IS l-selection, and that it is local, and then the rest of my account would go through as desired. I will quickly explain how, and then turn to constructing the account in which there is no l-selection, and c-selection is a function of head-chains.

Assume that there is l-selection, and that this means that a head (perhaps only a lexical head) has a subcat value which it checks against its sister (or the head of its sister) at LF. This is how depend ensures that its sister is headed by on. Now, if look l-selects up, then up must be the head of the sister of look at LF. In the structure I am assuming, in which the sister of look is PredP, the only way the l-selectional requirements of look can be satisfied is for up to move to Pred (either at LF or before then). This is all that is needed of l-selection for the account I develop here.

Now, what if there is no l-selection? Then look controls the head of its complement via a head-chain. Head-chains, it will be recalled, allow feature values to be shared among heads in the right configuration. What I will need, as it turns out, is to motivate the movement (at or before LF) of up to Pred. Observationally, what this means is that the kind of chain that requires up cannot cross Pred. Suppose, now, that this chain specifies the identity of up; it specifies a set of feature values that no other lexical item could satisfy. Given the assumptions about heads-chain made in Chapter 1, each head in the chain must be unspecified for the feature being determined through the chain. Now, all we need to assume is that Pred has some categorial value; its category, after all, is Pred and not P. Therefore, this restrictive chain cannot cross Pred, and the only way to satisfy the requirements of look is for up to move into Pred.

I will argue below that particle shift is the result of pre-Spell-Out movement of the particle to PredP (but not all the way to VP, contra
The hallmark of the verb-particle construction is the alternation in word order. As noted in §1, particles do not in general alternate in order with the subjects of small clauses that they head; this is a special characteristic of the verb-particle construction. I propose here that particle shift is movement of the particle to the functional head position of the small clause. This in turn makes it possible for the small clause subject (the postverbal DP) to remain in SpecPP, rather than moving up to the Spec of the functional head (cf. den Dikken’s analysis summarized in §2.7).

Consider the small clause constructions in (50) (the first three were motivated in Chapter 2) (I label the small clauses SC rather than PredP, just for perspicuity since the complement of Pred will often be PP in the discussion that follows).

(50) a. The Baltic republics consider [SC Zhirinovsky [AP dangerous]]
   b. Yeltsin regards [SC Zhirinovsky as [DP a threat]]
   c. The US wants [SC Zhirinovsky, [PP t out of the race]]
   d. Bulgaria threw [SC Zhirinovsky, [PP t out]]

In (50a-b), the subject of the small clause is base-generated in SpecPredP, as discussed in Chapters 1-2; in (50c-d), the subject is base-generated in the maximal projection of the lexical head of the predicate, and moves into Spec of the functional projection. The usual assumption is that this is motivated by considerations of Case assignment: the DP needs Case, and needs to get close enough to the verb that the verb governs it and can assign it Case; this must happen at S-structure, assuming that structural Case is assigned at S-structure (e.g. Chomsky 1981). Let us proceed with this set of assumptions; an alternative will be brought up shortly.

Recall from §2.5 above that I argued (in Svenonius 1992b) that when the particle precedes the postverbal noun phrase, it has moved across it and attached to V\(^0\). The present proposal is a modification of that proposal: the particle does move across the noun phrase, but not to V\(^0\); instead, it moves to the functional head position in the small clause. Just when it does this, the subject of the small clause stays in SpecPP. Thus the structure of (51a) is as in (51b).

(51) a. Bulgaria threw [SC out, [PP Zhirinovsky t]]

In the construction, in which an Actor brings about a state of affairs. As noted by Dowty 1979, the verb-particle construction shares many features with the resultative construction (which Dowty called ‘factive’); I suggest that all causative constructions, including those with causative verbs like make and have, resultative constructions, and verb-particle constructions, involve a state of affairs SC complement to V. What is special about the verb-particle construction is that the verb c-selects a specific head for the predicate of the SC (cf. Pesetsky’s 1992 L-SELECTION, selection for a particular lexical item). This requires the particle to move up to a higher head position, which, I will argue, accounts for the special properties of the construction.

3.3. Particle-shift: P\(^0\) moves to Pred\(^0\)

In addition, the particle can be extracted, as in (49).

(49) a. How high up did she turn the volume?
b. They said they would throw the dog out, and out they threw him.

The acceptability of extraction of the particle is affected by various factors, for example the fact that the only way to question a predicate is typically with a degree phrase (how high up, how far out, etc.), and many particles are not gradable (*How high up did you look the information?); or the fact that topicalization is usually restricted to discourse topics, and particles do not usually have the right semantic content to act as discourse topics; but when such difficulties are overcome, as in (49), extraction is possible. This indicates that the particle in such examples is contained within a phrasal projection that excludes the postverbal DP, which must then be in some position external to the phrase, namely the Spec of a functional head, following the discussion in Chapter 1.

3.2. The nature of the particle small clause

I speculated in Chapter 2 that the nature of the heads of the proposition-and state of affairs-denoting small clauses were responsible for certain aspects of their interpretation (as in Raposo & Uriagereka 1993); the legitimacy of those particular categories was then strengthened by the fact that propositions and states of affairs are plausible members of a semantic ontology. What, then, is the particle small clause? I argue in §5 that it denotes a state of affairs; states of affairs are the kinds of things that one can have emotions about, as with the want-type verbs, and they are also the kinds of things that can be perceived, as with the perception verbs; and in addition to this, states of affairs can be brought about, as with the causative verbs (cf. Davidson 1967b, 1969). The resultative construction (e.g. paint the house red; cf. Hoekstra 1988, Carrier & Randall 1991, Fernald 1992) is a productive sort of causative construction, in which an Actor brings about a state of affairs. As noted by Dowty 1979, the verb-particle construction shares many features with the resultative construction (which Dowty called ‘factive’); I suggest that all causative constructions, including those with causative verbs like make and have, resultative constructions, and verb-particle constructions, involve a state of affairs SC complement to V. What is special about the verb-particle construction is that the verb c-selects a specific head for the predicate of the SC (cf. Pesetsky’s 1992 L-SELECTION, selection for a particular lexical item). This requires the particle to move up to a higher head position, which, I will argue, accounts for the special properties of the construction.

3.1. State of affairs denoting small clauses

(48) a. The dog went {right/partway/completely/the hell} out.
b. I shoved the dog {right/partway/completely/the hell} out.

In addition, the particle can be extracted, as in (49).

(49) a. How high up did she turn the volume?
b. They said they would throw the dog out, and out they threw him.

The acceptability of extraction of the particle is affected by various factors, for example the fact that the only way to question a predicate is typically with a degree phrase (how high up, how far out, etc.), and many particles are not gradable (*How high up did you look the information?); or the fact that topicalization is usually restricted to discourse topics, and particles do not usually have the right semantic content to act as discourse topics; but when such difficulties are overcome, as in (49), extraction is possible. This indicates that the particle in such examples is contained within a phrasal projection that excludes the postverbal DP, which must then be in some position external to the phrase, namely the Spec of a functional head, following the discussion in Chapter 1.

3.0 V

PARTICLE CONSTRUCTIONS

Recall from §2.5 above that I argued (in Svenonius 1992b) that when the particle precedes the postverbal noun phrase, it has moved across it and attached to V\(^0\). The present proposal is a modification of that proposal: the particle does move across the noun phrase, but not to V\(^0\); instead, it moves to the functional head position in the small clause. Just when it does this, the subject of the small clause stays in SpecPP. Thus the structure of (51a) is as in (51b).

(51) a. Bulgaria threw [SC out, [PP Zhirinovsky t]]

In the construction, in which an Actor brings about a state of affairs. As noted by Dowty 1979, the verb-particle construction shares many features with the resultative construction (which Dowty called ‘factive’); I suggest that all causative constructions, including those with causative verbs like make and have, resultative constructions, and verb-particle constructions, involve a state of affairs SC complement to V. What is special about the verb-particle construction is that the verb c-selects a specific head for the predicate of the SC (cf. Pesetsky’s 1992 L-SELECTION, selection for a particular lexical item). This requires the particle to move up to a higher head position, which, I will argue, accounts for the special properties of the construction.

3.3. Particle-shift: P\(^0\) moves to Pred\(^0\)

The hallmark of the verb-particle construction is the alternation in word order. As noted in §1, particles do not in general alternate in order with the subjects of small clauses that they head; this is a special characteristic of the verb-particle construction. I propose here that particle shift is movement of the particle to the functional head position of the small clause. This in turn makes it possible for the small clause subject (the postverbal DP) to remain in SpecPP, rather than moving up to the Spec of the functional head (cf. den Dikken’s analysis summarized in §2.7).

Consider the small clause constructions in (50) (the first three were motivated in Chapter 2) (I label the small clauses SC rather than PredP, just for perspicuity since the complement of Pred will often be PP in the discussion that follows).

(50) a. The Baltic republics consider [SC Zhirinovsky [AP dangerous]]
   b. Yeltsin regards [SC Zhirinovsky as [DP a threat]]
   c. The US wants [SC Zhirinovsky, [PP t out of the race]]
   d. Bulgaria threw [SC Zhirinovsky, [PP t out]]

In (50a-b), the subject of the small clause is base-generated in SpecPredP, as discussed in Chapters 1-2; in (50c-d), the subject is base-generated in the maximal projection of the lexical head of the predicate, and moves into Spec of the functional projection. The usual assumption is that this is motivated by considerations of Case assignment: the DP needs Case, and needs to get close enough to the verb that the verb governs it and can assign it Case; this must happen at S-structure, assuming that structural Case is assigned at S-structure (e.g. Chomsky 1981). Let us proceed with this set of assumptions; an alternative will be brought up shortly.

Recall from §2.5 above that I argued (in Svenonius 1992b) that when the particle precedes the postverbal noun phrase, it has moved across it and attached to V\(^0\). The present proposal is a modification of that proposal: the particle does move across the noun phrase, but not to V\(^0\); instead, it moves to the functional head position in the small clause. Just when it does this, the subject of the small clause stays in SpecPP. Thus the structure of (51a) is as in (51b).

(51) a. Bulgaria threw [SC Zhirinovsky]
   b. Bulgaria threw [SC out, [PP Zhirinovsky t]]
This analysis retains several of the advantages of the one outlined in §2.5; for example, the movement is subsumed under a widely accepted and relatively well-understood form of movement, namely head movement; the badness of (52a-b) is due to the fact that a moved head cannot drag modifiers or complements along with it; and the badness of (52c) is due to the fact that the VP-adjunct over is never in a position to undergo head movement (cf. §1).

(52) a. * Bulgaria threw right out Zhirinovsky.
   b. * The president of Bulgaria threw out of the country Zhirinovsky.
   c. * Wallace sang over his song.

In addition, this analysis avoids some problems with the earlier analysis, particularly those raised by den Dikken (1992): the particle does not morphologically incorporate into the verb (cf. the Danish examples in §2.5 above), and is stranded by verb movement, as in the Norwegian example in (53a) (repeated from (20) above).

(53) a. I går kastet Olaf ut hunden. (Nor)
   ‘Yesterday Olaf threw out the dog’
   b. * I går kastet ut Olaf hunden.

However, we just saw in (50d) that the small clause subject moves to SpecSC, which would put it to the left of the head position that I am now postulating is the landing site for particle-movement. For some reason, movement of the subject is unnecessary just when particle movement has occurred, as indicated in (51b) above (I am assuming that if a movement is unnecessary, it does not occur, following general considerations of Economy). 14

Assuming that DP movement to SpecSC is motivated by Case theory, the obvious conclusion is that, when overt particle movement applies, the particle in the SC head position acquires the ability to assign or transmit Case to SpecPP, via a head-chain. In other words, there are two ways for the postverbal DP in the D-structure in (54a) to receive Case; it can move to SpecSC, and receive Case from V0, as in (54b), or

(54) a. chop [sc [pp the vegetables up]]
   b. chop [sc the vegetables, [pp t1 up]]
   c. chop [sc up [pp the vegetables t1]]

There are reasons to believe that the D-structure in (54a) is not a valid S-structure; if it were, we might expect to find PP modifiers between the verb and the DP, as in (55a), and we might expect to see the DP-particle sequence undergo A-bar movement, as in (55b) (cf. (49), where the PP minus the subject was moved; cf. also §4.3 below).

(55) a. * Roseanne chopped {completely/right/the hell} the vegetables up.
   b. * They said they would turn the volume up, and the volume up they did turn.

The question immediately raised is, why can’t a Case-chain be formed in general from V to Pred, without movement of a head into Pred? This would obviate DP movement into SpecPredP in the general case. Recall from Chapter 1, §2, that a head-chain can only specify values for unspecified features. Assuming that P is in general a potential Case-assigner, a Case-chain from V to P is possible, as P bears the feature ‘Case-assignment’; the value for that feature is set to “+” or “Acc” when a head-chain is formed between V and P, if V is specified, say, [Case-assignment:+]. If Pred is not a potential Case-assigner, a chain of this sort could not cross it. It is impossible, then, for the verb to form a Case-chain with Pred, or with P-in-situ.

On this analysis, the postverbal DP receives the Case of the verb in both the V-DP-Prt and the V-Prt-DP orders, unlike the situation in Taraldsen’s analysis (cf. §2.6) where P assigns Case to the verb in the V-Prt-DP order. (56) shows that this is correct. The Case on the postverbal DP is determined by V, or by the V-Prt combination, never by P. In (56a), the verb henta is a dative Case-assigner, and the postverbal DP is dative; in (56b), the verb leggja assigns accusative Case; the particle út

14 For this reason I do not make the stronger claim, that when P has moved, DP movement of the postverbal DP is impossible. In fact, it is difficult to tell whether it is impossible, since if both movements occurred, the surface order would be V-DP-Prt, just as if only the DP had moved (or nothing had moved at all).

15 Movement of the particle in this case would violate Chomsky’s 1993 principle of Greed; however, problems for this principle have already been pointed out, for example in Lasnik 1993 (though perhaps his principle of Enlightened Self-Interest would also be violated by particle movement in (54c), since an alternative derivation is available).
3. THE ANALYSIS

(56) a. Við hentum {út} nokkrum hundum {út}.
   we threw out some dogs.
   ‘We threw out some dogs’

b. Við lögðuð {út} nokkrar bækur {út}.
   we laid out some books.
   ‘We translated some books’

Notice, too, that English particles which govern of when they appear with complements cannot do so when they undergo particle shift.

(57) a. We chased the cat out (of the house).
   b. We chased out the cat.
   c. * We chased out of the cat.

What is happening in (57a) is that the cat receives Case directly from the verb chase; there is no Case chain. Out, used in this sense, does not assign Case but allows a DP complement marked with of. In (57c), of cannot appear, because the DP the cat is not the complement of out; out transmits the Case of the verb to the cat.

3.4. Applying the account to the data

The account may seem unnecessarily complex, since each of the two possible surface structures requires some element to have moved, and in one case, the movement is string-vacuous. However, this extra complexity turns out to allow a natural account for many of the problematic facts noted in §1. In the following subsections, I discuss those facts in turn, as well as a few new ones.

3.4.1. The optionality problem

For example, consider the optionality problem: given a principle like Chomsky’s 1993 Procrastinate, which requires that movements not be made before they have to be, how is the optionality of particle shift accounted for? Under the current analysis, the answer is that in order for the postverbal DP to receive Case, some movement must occur prior to Spell-Out. Either the DP must move, so that it can receive Case from V0, or the particle must move, so that it can assign Case to the DP. Neither of these moves counts as “shorter” than the other, so no principles of Economy are violated (cf. Chomsky’s 1993 SHORTEST MOVE condition, which prevents a derivation from converging if a parallel derivation involves a shorter move). Which option the speaker exercises determines which surface order results. Any account in which one of the two orders is basic, the other derived, will have a harder time accounting for the optionality problem (recall den Dikken’s suggestion, mentioned in §2.7, that speakers of English are “bilingual”, having one grammar that produces the V-DP-Prt order and another for the V-Prt-DP order).

This may be a slight oversimplification. If the particle is l-selected by V (i.e. its categorial features are checked via a head-chain), then it must move to Pred0 at LF. Let us take a possible derivation, and call it derivation A. In derivation A, the particle moves to Pred0 at S-structure, and assigns Case to the DP; there is one movement chain at LF. In derivation B, on the other hand, DP moves to SpecPredP at S-structure, and P moves to Pred0 at LF; then at LF there are two chains, the DP chain and the head-chain. Derivation B might then be ruled out by the Shortest move condition, since derivation A has fewer chains. However, consider the situation if the postverbal DP has to move to SpecPredP at LF anyway. This would be forced, for example, by the requirement that every predicate have a subject (Rothstein 1983), since PredP is nexal (cf. Chapter 1). Then, in derivation A, there is another chain at LF, namely a DP chain. The two derivations are identical at LF; they are therefore equally ‘costly’ (note that further movement of the DP to SpecAgP, as in Chomsky 1993, will not affect these results, since it will occur in both derivations. This is discussed in §3.7 below).

3.4.2. The modifier problem

The modifier problem is the following puzzle: why is it that the particle can only take modifiers in the V-DP-Prt order? Consider the data in (58).

(58) a. Vincent sliced his ear completely off.
   b. * Vincent sliced completely off his ear.
   c. Vincent sliced off his ear completely.
   d. Vincent sliced his ear off completely.

(58a) shows that off can be modified by completely. (58b) shows that completely cannot modify off when it precedes the postverbal DP, as is expected under a head movement analysis. It appears from (58c) that completely can be stranded by P0 movement, though (58c) could also involve right-adjunction of completely, as in (58d). Given a restrictive theory of modification in which modifiers are XPs adjoined to XPs (the tenability of this position will be questioned in §4.3 below), there are only two possible adjunction sites for completely, if it is left-adjointed to some projection of the complement of slice. One, shown in (59a-b), is PP.
The other, shown in (59c-d), is SC. Only (59a) represents a substring of a grammatical sentence, as indicated.

(59) a. sliced [SC his ear, [Pred t completely [PP t, [P off ]]]]
   b. * sliced [SC [Pred off [PP completely [PP his ear [P t]]]]]
   c. * sliced [SC completely [sc his ear [pred t pred t, [P off ]]]]
   d. * sliced [SC completely [SC [Pred off [PP his ear [P t]]]]]

First, note that the Adjunct Prohibition of Chomsky 1986 and McCloskey 1992 prohibits adjunction to XP selected by a lexical head. This immediately rules out (59c-d), as desired. Since nothing prevents DP movement across the adjoined modifier completely in (59a), the grammaticality of (58a) is perfectly consistent with this analysis. (59b) requires some further discussion, however. Head movement across an adjunct is usually assumed to be allowed, as in the Norwegian examples in (60).

(60) a. De leser [alltid / egentlig/desverre /ikke] avisa (Nor) 
   they read always/actually/unfortunately/not the.newspaper
   ‘They {always/actually/unfortunately/don’t} read the
   newspaper’
   b. De leser desverre alttid avisa. 
   they read unfortunately always the.newspaper
   ‘They unfortunately always read the newspaper’

Why, then, should (59b) be blocked? One possibility is simply that Case is assigned under adjacency (cf. Chomsky 1981, Stowell 1981), even when it is assigned by an element in a head-chain with a Case-assigner. The problem with this is that it is quite unclear why objective Case remains in its original position. In (64c), on the other hand, the particle is the Case-assigner for the hill; this prevents it from entering into a Case-chain with the verb, following assumptions about head-chain formation.

(62) a. ? I wonder who next year they’ll invite to Norway.
   b. ? I wonder what in the meantime the board should do.

These examples are marginal, but improve with the right intonation, whereas the examples in (61) are quite hopeless. Perhaps (62a-b) are just stylistically bad; there are, after all, many ill-understood restrictions on the placement of adverbials.

This is less than conclusive, which makes the Case account more attractive. I will return later to the issue of the overall plausibility of the Case account. One more remark needs to be made regarding the modifier problem: the modifiers right, straight and the fuck pattern with completely in (58a-b) and (59a-d), but cannot be right-adjoined, and so do not appear in the position of completely in (58c-d). There are many adjectives which require left adjunction (for example the adjective mere, or the adverb never), so there is nothing particularly unusual about these modifiers in that respect. Some data will be considered in §4, however, below that suggests that at least right may be an X'-modifier, that is, adjoined to X and capable of moving with the particle under certain circumstances (cf. den Dikken 1992:104-8, who suggests that right is adjoined to X, but argues that it cannot be moved along: it seems that at least some heads can be moved, however, for example back in Take the top back down/
Take back down the top).

3.4.3. The DP complement problem

This account also provides a natural explanation for the DP complement problem noted in §1, that is, the fact that although a PP complement to a particle can be stranded by particle movement, as in (63a), a DP complement cannot be, as in (63b).

(63) a. Max rolled up the ball over the ridge.
   b. * Max rolled up the ball the hill.

According to the proposal outlined in this section, the sentences in (63) have D-structures like that in (64a), and S-structures like (64b-c).

(64) a. Max rolled [SC [PP the ball up [the hill/over the ridge]]].
   b. Max rolled [SC up, [PP the ball] over the ridge]].
   c. * Max rolled [SC up, [PP the ball] the hill]].

In (64b), the particle enters into a head chain with the verb, and assigns Case to SpecPP, as already discussed. The PP complement over the ridge remains in its original position. In (64c), on the other hand, the particle is the Case-assigner for the hill; this prevents it from entering into a Case-chain with the verb, following assumptions about head-chain formation.

(65) a. sliced [SC his ear, [Pred t completely [PP t, [P off ]]]]
   b. * sliced [SC [Pred off [PP completely [PP his ear [P t]]]]]
   c. * sliced [SC completely [sc his ear [pred t pred t, [P off ]]]]
   d. * sliced [SC completely [SC [Pred off [PP his ear [P t]]]]]
established in Chapter 1 (following Sigurðsson 1990). There is a single head-chain in (64) with a single Case-assigning potential (cf. also Holmberg 1986:202 for a similar observation).

It is interesting to note that a PP headed by of behaves like a DP in this context, as seen in (65).

(65) a. The wind broke the branch off of the tree.
   b. * The wind broke off the branch of the tree.
   c. The monster chased the children out of the house.
   d. * The monster chased out the children of the house.

It seems that of is licensed by the particle under the same conditions that allow it to assign Case; since the particle moves to Pred only in order to transmit Case from V, it cannot license of if it moves.

### 3.4.4. The pronoun problem

Den Dikken 1992:101 suggests that pronouns cannot receive Case from a head chain; if this is correct, then the analysis sketched so far accounts for the pronoun problem as well (recall that this was the fact that unstressed personal pronouns must precede the particle).

(66) a. Max put \[SC \textit{it} \quad \text{[PP \textit{ti} \downarrow \textit{down}]}\].
   b. * Max put \[SC \textit{down} \quad \text{[PP \textit{ti} \textit{it}]}\].

In (66a), the pronoun \textit{it} gets Case directly from the verb \textit{put}; but in (66b), it can only get Case from \textit{down}; if \textit{down} in (66b) is inherently intransitive, and only becomes a Case-assigner by virtue of forming a head-chain with \textit{put}, then it gets Case from a head-chain in (66b), which according to den Dikken’s hypothesis is impossible. This account raises some questions, for example: why should pronouns not be able to receive Case from a head-chain\footnote{In support of his proposal den Dikken points out that pronouns are bad in other constructions where a DP is claimed to receive Case indirectly, such as locative inversion (in [i]) and double-object constructions (in [ii]) (examples from den Dikken 1992:99).}

And why should \textit{down} not be able to assign Case of its own (in 66b), since in other constructions it does assign Case (e.g. in The hill was steep so we rolled down it)?

3.5. VERB-PARTICLE CONSTRUCTIONS

The pronoun problem is clearly part of a larger problem having to do with the special placement requirements of pronouns not only in English but cross-linguistically. Consider the data in (67), from Zwicky 1986.

(67) a. Martha told Noel \{the plot of Gravity's Rainbow/*it\}.
   b. Across the plains came \{the Twentieth Century Limited/*it\}.
   c. Posing on the couch was \{Henry Kissinger/*he\}.
   d. “Gee whillikers!” exclaimed \{Oona/*she\} with great feeling.

Zwicky points out that stress improves the status of pronouns in such examples; at least the verb-particle constructions can be made completely grammatical this way, as in (68a) (cf. also Jespersen’s examples in fn. 1 above), and so perhaps can the quotation inversion example, as in (68b) (from Zwicky 1986) and the ditransitive, as in (68c).

(68) a. They took \textit{in} HER, and we took \textit{in} HIM.
   b. “Gee whillikers!” exclaimed S\textit{HE}, of all people.
   c. No, Noel didn’t tell Martha those jokes, Martha told Noel \textit{T}HE\textit{M}.

The same pattern is replicated in OBJECT SHIFT in Scandinavian (cf. Holmberg 1986, Vikner 1990, Diesing & Jelinek 1993, Josefsson 1992, 1993, and Holmberg & Platzack forthcoming). Object shift occurs when a main verb moves out of VP, as in a V2 structure; a light object pronoun moves to a position outside VP. This can be seen in (69a). If the direct object is coordinate or stressed, as in (69b), or if it is a full DP, as in (69c), it does not undergo object-shift.

(69) a. Studentene leste \{dem\} ikke \{*dem\}. (Nor)
   b. Studentene leste ikke DEM
      \textit{the.students read them not them}
      ‘The students didn’t read them’
   c. Studentene leste \{*bøkene\} ikke \{bøkene\}.
      \textit{the.students read the.books not the.books}
      ‘The students didn’t read the books’

I will assume that the pronoun problem is a prosodic issue; I will return to it in §3.5. However, nothing in the present account is compromised if den Dikken’s analysis is adopted instead, and it is simply assumed that pronouns cannot receive Case from head-chains.
3.4.5. The problem of determining what can undergo particle shift

Consider another one of the problems mentioned in §1, the problem of determining what shifts (some of the examples in (17) in that section are repeated here as (70)). Ordinary prepositions do not shift, as noted in (70a). This is because there is no small clause, hence no functional head position for the preposition to move to (besides, the DP gets Case directly from P, so there’s no motivation for movement).

(70) a. Sam climbed {up} the tree {*up}.
    b. Bernadette pushed {*sideways} the latch {sideways}.

(70b) indicates that elements other than the basic locative prepositions do not participate in particle shift. This could be explained if, in order to transmit Case from V₀, an element must itself be a potential Case-assigner; *sideways is not a Case assigner (*sideways the path; cf. *down/up/on/off the path) and therefore cannot transmit Case from the head of SC to the Spec of the embedded predicate. This explanation leaves some facts unexplained; I will return to the matter momentarily.

Another problem raised in §1 was that particles in other small clauses do not shift, as indicated in (71).

(71) a. The umpire considered {*out} the runner {out}.
    b. I want {*out} that dog {out}.
    c. We saw {*on} the lights {on}.

This fact falls out from the current proposal, under the assumptions outlined so far. Recall that in general, the verb and the particle in the verb-particle construction combine to form an idiosyncratic meaning, whereas the kinds of small-clause taking verbs exemplified in (71) combine with their complements in a strictly compositional way. This means, for our purposes, that the verb in the verb-particle construction non-locally l-selects the head of the predicate of its complement. Above, I proposed that such cases of non-local l-selection became local at LF by head movement of the selected item. Since P₀ moves to Pred₀ at LF, it seems plausible that it may do so at S-structure, given some motivation to do so (in this case, Case assignment); the heads of the predicates in the SCs in (71) are not l-selected, and do not ever have to move to V₀. ¹⁷

¹⁷ This could actually be used as an argument against Stowell’s restructuring account involving abstract head-movement. If Stowell were right, and the small clause head moves up to V in the general case, then I would have no explanation for the fact that it is not generally possible to form a Case-chain with a small clause head in Pred₀, and leave the small clause subject in the lexical XP.

The secondary predicates in (72) do not productively make verb-particle combinations; the examples in (74) are all bad with the shifted order. ¹⁸

(72) a. Walter brought {*home} a puppy {home}.
    b. Frank put {*together} a jigsaw puzzle {together}.
    c. The wind blew {*open} the door {open}.

Notice that unstressed pronouns must precede the particle, as shown in (73).

(73) a. Walter brought {*home} him {home}.
    b. Frank put {*together} them {together}.
    c. The wind blew {*open} it {open}.

The secondary predicates in (72) do not productively make verb-particle combinations; the examples in (74) are all bad with the shifted order. ¹⁸

(74) a. Walter drove {*home} a puppy {home}.
    b. Frank placed {*together} the candlesticks {together}.
    c. The wind blew {*closed} the door {closed}.

However, Walter drove home his point is acceptable, with the meaning ‘Walter made his point understood.’ This is exactly the pattern we expect: idiomatic combinations should, in general, allow shift (provided they are causative; cf. §5), while non-idiomatic ones, such as those in (74), may not.

Thus each of the combinations must be listed. This leads us to expect that licit verb-particle combinations will vary from dialect to dialect or even from speaker to speaker. For example, let go for many speakers allows the alternation in (75a), and make clear for another set of speakers (perhaps partially overlapping) allows the alternation shown in (75b), and similarly for (75c).

(75) a. Let {%go} my foot {go}!
    b. I would like to make {%clear} my proposal {clear}.
    c. Jasper set {%free} the bears {free}.

For speakers who allow the ‘shifted’ variants, I claim, the relative ‘weight’ of the postverbal DP is irrelevant (all speakers, presumably, ¹⁸ Again, Heavy NP Shift must be controlled for.)
have HNPS). Norwegian has similar examples, such as those in (76) (from Åfarli 1985:2 and 16; I retain his Nynorsk spellings).

(76) a. Jon heiste {løs} bilen {løs}.
   ‘Jon hoisted free the car free’
   (Nor)
   
   b. Vi jaga {heim} hunden {heim}.
   ‘We chased home the dog home’

Åfarli (1985) points out that the specific combinations which undergo particle shift vary from dialect to dialect; he provides the examples in (77), where the fronted variants of (77a) is acceptable in his dialect (Trøndelag), but not in Standard Norwegian (Oslo dialect). Only core color words undergo shift, apparently; thus even for Åfarli, the fronted order in (77b) is bad (the examples are from his page 6).

(77) a. Vi måla {gul} bilen {gul}.
   ‘We painted yellow the car yellow’
   (Nor)
   
   b. Vi måla {*fiolett} bilen {fiolett}.
   ‘We painted violet the car violet’

Although there is considerable lexical variation in the verb-particle construction, it is not completely unconstrained. All cases of possible shift have a causative interpretation, as discussed in §5; and certain particles enter into completely productive patterns; this is also discussed in §5.

3.4.6. Additional evidence from quantifier float

As an additional piece of evidence for the analysis, consider the pattern of quantifier float seen in (78) below (cf. Kayne 1975 and Maling 1976 for early discussion of this pattern).

(78) a. Barchan cleaned all the bugs off.
   b. Barchan cleaned off all the bugs.
   c. Barchan cleaned the bugs all off.
   d. * Barchan cleaned off the bugs all.
   e. * Barchan cleaned the bugs off all.

The DP all the bugs may appear to the left or the right of the particle, as shown in (78a-b). When it appears to the left of the particle, the quantifier may be ‘floated’ to its right, as in (78c); this is impossible when the DP appears to the right of the particle, as indicated in (78d). Nor can the quantifier be floated farther to the right, across the particle, as shown in (78e).

Sportiche 1988 proposes that quantifier float is the result of leftward movement of a subpart of a DP; if all is a DP-adjunct, or a quantifier taking a DP complement, then quantifier float is the leftward movement of a DP, e.g. the bugs in (78), stranding the quantifier all in some specifier position formerly occupied by the entire DP; in other words, the quantifier does not move at all. Now consider the structures assigned to (78a-c), assuming the analysis of the verb-particle construction developed in this section.

(79) a. Barchan [vcleans [sc all the bugs, [pred PrdP [PP ti [P off]]]]]
   b. Barchan [vcleans [sc [pred off[PP all the bugs [P ti [P]]]]]]
   c. Barchan [vcleans [sc all the bugs, [pred PrdP [PP all ti [P off]]]]]

Recall that according to the analysis developed so far we have movement of a DP in those cases (such as (78c)) in which the DP precedes the particle. In the cases (such as (78b)) in which the particle precedes the DP, there is only head movement (of P0 to Pred0). Since Q-float depends on DP-movement, this means that we expect Q-float to appear in the DP-Prt order, and not in the Prt-DP order. This is just what is seen in (78).

The relevant structures are illustrated in (79).

In (79a), the DP all the bugs has moved to SpecPredP; in (79c), only the bugs has moved, and all is stranded in SpecPredP, to the left of off. When the DP is to the right of off, it has not moved; it remains in its base-position, as in (79b), and no quantifier float is possible. Thus exactly the grammatical patterns are possible, given my analysis, and there is no source for the ungrammatical examples in (78d-e). I am aware of no other account of the verb-particle construction that handles this data neatly.

3.4.7. Pseudopassives

The assignment by proxy of the verb’s Case by the particle is reminiscent of another construction, namely the pseudopassive, illustrated in (80).

(80) a. This bed was slept in by George Washington.
   b. The desk was sat on by a gorilla.
   c. The solution has often been talked about.

Recall the standard GB analysis of passive: the external argument of the verb is suppressed, and (in accordance with Burzio’s 1986 Generalization) the verb loses its ability to assign Case. Some accounts, such as that of Baker, Johnson, & Roberts 1989, link the loss of Case
3. THE ANALYSIS

3.1. Verb-Particle Constructions

Directly to the passive morphology. In the pseudopassive, the verb shows passive morphology and loses its external argument, but it is the preposition that seems to lose its ability to assign Case.

Van Riemsdijk 1978, Hornstein & Weinberg 1981, and Chomsky 1981 argue that the verb and the preposition combine in cases like those in (80) by a process they call Reanalysis; each of the works cited has a different conception of the extent of reanalysis, but they agree, I think, on the cases in (80). There are some restrictions on the pseudopassive; it does not apply in general to any verb and any preposition. One restriction that is usually assumed to apply to the construction is that the verb and preposition must be adjacent, as indicated in (81).

(81) a. * This bed was slept restlessly in by George Washington.
    b. * Gerard was given a book to.
    c. * The solution has been talked often about.

Possibly, then, the pseudopassive is made possible by the same thing that makes particle shift possible: P forms a case-chain with V. However, the case-chain in this case seems to be backwards in a sense. Intransitive verbs are ordinarily assumed to have an unspecified value for the feature 'case-assignment' (or perhaps they are specified negatively), but in English passive applies only to verbs specified as '+' (according to Baker, Johnson, & Roberts 1989, the passive morpheme needs Case). In the pseudopassive, a head-chain allows the verb (the 'initial' of the chain, in Sigurðsson's terms) to receive the positive specification from the preposition (the 'terminus'). This is backwards with respect to the usual head-chain (cf. Chapter 1); in fact, the definition adopted there would not allow it, since it is stipulated that the terminus inherits the initial's specification.

There is another way to analyze the pseudopassive that would involve a 'forward' head-chain. Say that a transitive preposition must discharge its Case; this prevents A-movement from the complement of a preposition in the general case (there are no constructions like ‘Mary seems to that it is raining). Passive morphology might specify a verb as ‘−’ (‘minus’) for the feature Case-assignment; then the head-chain passes that value down to the preposition. But this violates another condition on head-chain formation, since non-initial members are supposed to be unspecified for the relevant feature. It seems that the pseudopassive must be regarded as slightly exceptional however it is analyzed. Perhaps this accounts for the cross-linguistic rarity of the construction (it is impossible in French and the other Romance languages, as well as in Dutch and German, cf. van Riemsdijk 1978; Icelandic, Maling & Zaenen 1985; some varieties of Swedish, Ejerhed 1981; and in Danish, cf. Herslund 1984).

The fact that the chain is somehow exceptional might also account for the adjacency requirement. There are, however, some counterexamples to the adjacency requirement, such as those in (82) (van Riemsdijk 1978:220 notes (82c); (82b) is from Bresnan 1978:21).

(82) a. You’ll be taken good care of in the Sunshine Villa.
    b. The closet was made use of.
    c. The hapless tourists were really taken advantage of.
    d. The doctors are always being made fun of.

The constructions in (82) involve idioms. Note that modification of subparts of the idiomatic strings take (good) care of, make use of, take advantage of, and make fun of reduces the acceptability of the passive forms.

(83) a. ?? You’ll be taken excellent care of in the Sunshine Villa.
    b. *? The closet was made ingenious use of.
    c. *? The hapless tourists were taken great advantage of.
    d. * The doctors were always being made cruel fun of.

Possibly, a head-chain can be formed exceptionally in the constructions in (82) simply because they involve idioms, which are listed in the lexicon.

3.5. Prosody

One problem that has not yet been discussed is the intonation problem, i.e. the fact that the particle (when it precedes the postverbal DP) forms an intonational unit with the verb, unlike an ordinary preposition. The data from (13) in §1 is repeated here in (84).

(84) a. The ‘passenger ‘flew in the ‘plane.
    b. The ‘pilot flew ‘in the ‘plane.
    c. ‘Maggie looked ‘up the ‘tree (to see if her cat was there).
    d. ‘Maggie looked ‘up the ‘tree (in her Field Guide to North American Trees)

It is generally accepted that syntactic constituency is relevant to prosodic constituency (cf., e.g., Selkirk 1984). On the face of it, then, the patterns

19 I am indebted to Kari Swingle for very helpful discussion of the matters dealt with in this section.
in (84) would seem to support an analysis in which the verb and the particle form a syntactic constituent (cf. the discussions in §2 of Chomsky 1955 and Svenonius 1992b). Consider, for example, the prosodic parsing rules proposed in Hayes 1989; in (85) I give his rules for the formation of Clitic groups.

(85) Clitic group formation (Hayes 1989:208)
   a. Every content word (lexical category) belongs to a separate Clitic Group.
   b. Definition: The HOST of a Clitic Group is the content word it contains.
   c. Definition: X and Y SHARE CATEGORY MEMBERSHIP in C if C dominates both X and Y.
   d. Rule: Clitic words are incorporated leftward or rightward into an adjacent Clitic Group. The group selected is the one in which the clitic shares more category memberships with the host.

A CLITIC GROUP is a particular level of organization of prosodic structure; following Nespor & Vogel 1986, a Clitic Group is built up of Phonological Words, and a Phonological Phrase is built up of Clitic Groups (above the Phonological Phrase is the Intonational Phrase). The rule in (85d) refers to syntactic structure, because the definition of sharing category membership (in (85c)) refers to syntactic structure. Now, consider how example (84a) is parsed by the rules in (85). In (86a), each content word is set off with brackets, because each will define its own Clitic Group. In (86b) Clitic Groups are formed; the function words (Hayes’ “clitic words”) are incorporated into the Clitic Group defined by the closest content word, following the rule in (85d). In (86c), a single stress mark is assigned to each of the Clitic Groups, giving the stress pattern shown in (84a).

(86) a. The [passenger] [flew] in the [plane]
   b. [c the passenger] [flew in] [in the plane]
   c. [c the 'passenger'] [flew] [in the 'plane]

Now consider (84b). Parsing of (84b) will be identical to (86), if Hayes’ rules are followed, given the analysis proposed here, since although PO has moved to Pred', it still shares more category memberships with the DP than with the V (since P and DP are dominated by more nodes than are V and P). However, consider that complementizers in English often seem to associate leftward, with the verb (as in (87a)), rather than rightward, with the embedded subject; and that auxiliaries also typically associate leftward (as in (87b)), unlike determiners and prepositions, even though this violates Hayes’ rule. This is most clearly seen when the auxiliary actually cliticizes to the subject, as in (87c).

(87) a. [I know that] [he said that] [you 'like him].
   b. [John is] ['leaving].
   c. John’s leaving.

The facts in (87) could be accounted for by augmenting Hayes’ (85) with a special stipulation that function words of the categories C' and V' associate with the Clitic Group to their left; or, we could say that function words occupying C' or Infl' nodes associate with the Clitic Group to their left. By explicitly implicating the structural position, rather than the lexical category, we allow an account for the prosodic properties of the verb-particle construction: an element in Pred' associates leftward. This means we do not have to make a distinction between the category of in in (84a) and in in (84b); the different prosodic effects are the result of the same lexical element occupying two different structural positions, a distinction which is independently motivated. (84b) will then be parsed prosodically as in (88).

(88) a. The [pilot] [flew] in the [plane]
   b. [c the pilot] [flew in] [in the plane]
   c. [c the pilot] [flew in] [in the plane]

In (88a), the content words are identified; in (88b), the function words associate with the appropriate Clitic Group; the determiners follow Hayes’ rule, and the particle is subject to our special auxiliary stipulation. In (88c), one main stress is assigned to each Clitic Group (I am simplifying matters by ignoring the construction of prosodic phrases and intonational phrases).

The prosodic account developed here might be used to explain some recalcitrant problems associated with the verb-particle construction. For one thing, prosody might be used to explain the pronoun problem; recall from §1 that when pronouns appear with contrastive stress, or when they are coordinated, they may follow the particle, as in (89b-c).

(89) a. The bouncer threw {'out} him {'out}.
   b. The bouncer threw out HIM.
   c. The bouncer threw out him and her.

Den Dikken’s account for the pronoun problem, that pronouns cannot receive Case from a head chain, seems to incorrectly prevent (89b-c); it is unclear why stress should have anything to do with Case assignment. If,
on the other hand, prosodic considerations dictated that the pronoun attach to a content word, and the particle does not qualify, then the pronoun problem would be accounted for. Stress is known to allow a function word to define its own Clitic Group, and a coordinate structure like the coordinated pronouns in (89c) would also be able to define its own Clitic Group.\(^{20}\)

The prosodic account can also be extended to account for the coordination problem. Recall that the DP-Prt sequence can be coordinated, but that the Prt-DP sequence cannot, as in (90).

(90) a. Turn the TV on and the lights off.
b. * Turn on the TV and off the lights.

On the analysis outlined in this section, both of the sentences in (90) should be coordinations of PredP; in (90a), there has been an internal movement of DP from SpecPP to SpecPredP in each half of the coordinate structure, and in (90b) there has been an internal movement of P\(^{0}\) to Pred\(^{0}\) in each half. Now, if the particle in Pred\(^{0}\) were a clitic, and truly prosodically dependent on V\(^{0}\), then (90b) would be like (91a), in which a clitic auxiliary is leftmost in the second conjunct.

(91) a. John\’s tired and \’s going to be leaving soon.
b. John\’s tired and is going to be leaving soon.

A left-leaning clitic cannot in general appear at the left edge of a right conjunct, nor at the left edge of a displaced constituent. Of course, the particles are not true clitics; they are more like the unstressed function word in (91b), which is perfectly licit at the left edge of a right conjunct.\(^{21}\) Thus cliticization cannot by itself be the answer. However, an account is available within the literature on prosody.

Hayes\’ rules for the construction of phonological phrases from Clitic groups incorporates the observation (cf. Nespor \& Vogel 1986) that a prosodically light complement may be incorporated into the phonological phrase of its immediately preceding head; \‘prosodically light,\' for Hayes, is defined as \‘consisting of only one Clitic group.\' This

\(^{20}\)Recall that stress and coordination can also allow pronouns not to undergo Object shift.

\(^{21}\)A problem is that if P\(^{0}\) is going to move to V\(^{0}\) at LF, then movement of two different P\(^{0}\)s to the same V\(^{0}\) at LF must be allowed. This might suggest that the weaker of the two versions of c-selection suggested in Chapter 1 might be the right one (namely, that P\(^{0}\) need only move to Pred\(^{0}\) in order to be \‘close enough\' for V to check its categorial features). In any case, this issue does not seem to shed light on the coordination problem.

allows, for example, \textit{comprehend} everything to be treated either as two phonological phrases or as one, because \textit{everything} defines a single Clitic group and is complement to \textit{comprehend}, while \textit{comprehend Mary\’s problems} must be two phonological phrases (Swingle\’s 1993 example).

\begin{itemize}
\item a. \([\phi [\text{comprehend}]] \phi [\text{everything}]\)
\item b. \([\phi [\text{comprehend}]] \phi [\text{everything}]\)
\item c. \([\phi [\text{comprehend}]] \phi [\text{Mary\’s} [\phi [\text{problems}]]]\)
\end{itemize}

Swingle 1994 notes, based on data from Right Node Raising (RNR), that small clause subjects (specifically consider-type SCs) do not appear to form a phonological phrase with their predicate; rather, the facts are more consistent if SC subjects optionally incorporate into the phonological phrase of the preceding verb as if they were objects of that verb. As Swingle notes, this could be taken as evidence against a small clause analysis of these structures (in fact Postal 1974 made this argument based on the assumption that the \‘raised\' material in RNR constructions is always a syntactic constituent, an assumption which Abbott 1976 shows to be false). However, this relies crucially on a very specific formulation of the rule for phonological phrase construction; for Hayes, a complement of X\(^{0}\) is specifically mentioned in the formulation of the rule. If instead we adopted some notion like \textsc{Selectional Domain}, then we could capture the observed facts: let the selectional domain of X\(^{0}\) be a head that X\(^{0}\) l-selects (i.e. a head that X\(^{0}\) places categorical restrictions on; independent properties of head-head relations will require that that head be local to X\(^{0}\) in the sense defined in Chapter 1; a head is local to X\(^{0}\) if it is the head of the complement of X\(^{0}\), or adjoined to the head of the complement of X\(^{0}\)). Assume that a head can form a phonological phrase with a head that it l-selects. Then depend can form a phonological phrase with \textit{on, look} with \textit{up, arrange} with \textit{for}, etc. See won\’t form a phonological phrase with \textit{the in see the dog}, because it doesn\’t place any l-selectional restrictions on \textit{the}.

Now the account is almost in place: only one more observation is needed, namely the observation that the optional prosodic incorporation of light material to the preceding head is obligatory for unstressed pronouns unless they are the final element in the sentence; in other words, the incorporation rule is actually obligatory, but there is also a right-edge rule which allows a constituent at the right edge of a sentence to become a phonological phrase.

The result of this machinery, which is all independently motivated, is that an unstressed pronoun acting as a SC subject will be illicit at the left edge of a coordinate structure, because it needs to incorporate with the preceding V\(^{0}\) (it is important to avoid stressing the pronouns):
3. The Analysis

(93) a. Max saw Mary jump and John laugh.
b. * Max saw her jump and him laugh.

The contrast is striking; (93b) can only be rescued by putting contrastive stress on the pronouns. Now, if we assume that a particle in Pred\(^0\) has the same prosodic status as an unstressed pronoun, the account extends naturally to (94).

(94) a. I turned the oxygen on and the gas off.
b. * I turned on the oxygen and off the gas.

Again, (94b) can be improved by placing contrastive stress on the particles; this promotes them to a status sufficient to form their own phonological phrases.

3.6. On the differences among the Scandinavian languages

I have outlined a proposal where the movement of some element in PP (either the DP in SpecPP or the P\(^0\) head) into the functional projection dominating PP is necessary in order for the postverbal DP to get Case. Now how to account for the Scandinavian problem noted in §1? Recall that Danish has no particle shift (the examples in (95) are adapted from Herslund 1993:56).

(95) a. Boris skrudde {*ned} musikken {ned}. (Dan')
   ‘Boris turned the music down’
b. Boris flyttet {*rundt} möblene {rundt}.
   ‘Boris moved the furniture around’
c. Boris skrev {*under} kontrakten {under}.
   ‘Boris signed the contract’

We can model this in the current proposal by saying that Danish lacks the possibility of moving P\(^0\) to Pred\(^0\), or that P\(^0\) in Pred\(^0\) does not gain the Case-assigning properties of V\(^0\). Recall that Danish cannot form pseudopassives, which might indicate that it is generally unable to form a Case-chain between V\(^0\) and P\(^0\). It does not seem that Danish is unable to form Case chains in general, as it has impersonal constructions, which might involve assignment of Case via a head chain, following Sigurðsson 1990. Thus we are simply stipulating that Danish has no rule of V-P reanalysis, much as previous work on reanalysis, e.g. van Riemsdijk 1978 or Hornstein & Weinberg 1981 stipulated for languages like French (cf. also Maling & Zaenen 1985 on Scandinavian languages).

Let us turn, then, to Swedish. Recall that Swedish has obligatory particle shift, as shown in (96) (examples adapted from Holmberg 1986:200).

(96) a. Johan skrev {upp} numret {*upp}.
   ‘Johan wrote up the number’
b. Han lämnade inte {in} uppgaven {*in}.
   ‘He didn’t hand in the assignment’
c. Nyström spelade helt enkelt {ut} honom {*ut}.
   ‘Nyström quite simply outplayed him’

As Holmberg points out, particle shift is obligatory even when the postverbal DP is an unstressed pronoun, as indicated in (96c) (though Swedish does have Object Shift; cf. Holmberg 1986, Josefsson 1992). We could say, then, that reanalysis (i.e. the formation of a Case-chain between V\(^0\) and P\(^0\)) is obligatory in Swedish. Why should this be so? In the Minimalist program, obligatory pre-Spell-out movement is ordinarily forced by ‘strong’ features, which must be supported by overt lexical material. Could Swedish have strong head-features in (Raising) Pred\(^0\)? At first sight this seems implausible, if any connection is to be made between strong features and overt morphology, since Swedish particles never show anything like agreement. However, the connection between strong features and overt morphology often turns out to be rather weak; consider the fact that in Chomsky 1993, English is supposed to have strong NP features in Agr\(_S\), in order to force an overt subject to move to SpecAgr\(_S\) prior to Spell-out; yet only five lexical items in English show anything that could plausibly be called overt Nominative m-case (namely I, he, she, they, and we). Now, the fact that Swedish has agreement on participles, in contrast to Danish and Norwegian, suggests that there might be some hope in analyzing Swedish as having a strong feature in Pred\(^0\). This is shown in (97-98), where Swedish requires number agreement and Norwegian and Danish simply use the singular form (the plural form is only used as an attributive adjective; I have argued at length in Svenonius 1993b and 1993c that attributive adjective agreement is crucially different from Spec-head agreement, which is presumably what Swedish has in (97-98)).
3. THE ANALYSIS

(97) a. Hunden är {bunden/*bundna}. (Swe)
b. Hunden er {bundet/*bundne} (Nor)
c. Hunden er {bundet/*bundne} (Dan)
   the dog is tied.

(98) a. Hundarna är {bunden/*bundna}. (Swe)
b. Hundene er {bundet/*bundne} (Nor)
c. Hundene er {bundet/*bundne} (Dan)
   the dogs are tied.

(97-98) suggest that Swedish has a kind of strong agreement feature that is lacking in Norwegian and Danish. The examples in (99) show one kind of small clause structure that uses these participles, and here, too, Swedish shows obligatory agreement (here gender agreement is shown), while Norwegian and Danish make do with a single form (see Hedlund 1992 for extensive discussion of the construction type in (99a) and related constructions in Swedish).

(99) a. Jag fick boken {skriven/*skrivet} (Swe)
   I got the book written.
   b. Jeg fikk boka skrevet (Nor)
   c. Jeg fik skrevet bogen (Dan)
   I got written the book

Thus, for Swedish to have a strong inflectional feature lacking in the other MS languages is not utterly implausible; this would motivate the claim made above that particle-shift is obligatory in Swedish.

If strong agreement on participles motivates obligatory particle movement, then Icelandic should have obligatory particle movement, since Icelandic has overt agreement on participles, as demonstrated in (100).

(100) a. Báturinn er farinn/*farið (Ice')
   the boat is left
   ‘The boat has left’
   b. Skipið er farið/*farinn
   the ship is left
   ‘The ship has left’

However, Icelandic allows both word orders in the verb-particle construction, as seen in (101), with a number of different quantified DPs.

(101) a. Við hentum út {mörgum/flestum/nokkrum/öllum} hundum.
   ‘We threw out many most some all dogs out
   b. Við hentum {mörgum/flestum/nokkrum/öllum} hundum út.
   ‘We threw out [many/most/some/all] dogs’

One possibility is that the particle obligatorily moves to Pred, but then the DP optionally moves in addition to SpecPredP. This preserves the correlation between agreeing participles and obligatory movement. But it raises another question: why should there be optional DP movement to SpecprP, if the DP gets Case in SpecPP from the moved P? It is possible that interpretive factors control this movement in Icelandic. That this is true is suggested by the following facts: when the postverbal DP is a simple definite, as in (102a), there is a preference, at least for some speakers, for it to precede the particle, and when it is indefinite, it is preferred that it follow the particle, as in (102b).

(102) a. Við hentum {út} hundinum {út}. (Ice)
   we threw out the dog out
   ‘We threw the dog out’
   b. Við hentum {út} hundi {út}.
   ‘We threw out {a dog/the dog}’

This pattern is reminiscent of Object shift, though not identical to it; Object shift is generally considered to be optional for definites, impossible for indefinites, whereas the placements in (102) appear to be preferences rather than absolutes.23 Let us assume, however, that Object

22 However, it is not clear that that is an important correlation. Icelandic in general has a very active agreement system; it is possible that the particles do not count as having strong agreement in that language, since they are not overtly inflected, even if they could pass as having strong agreement in Swedish. So it seems that the data in (100) is not decisive.
23 Diesing & Jelinek 1993:24 claim that an indefinite DP in Icelandic can undergo Object shift if it has a strong reading, as in [i] (cf. their ex. (49)):
   [i] Ég LES bækur ekki, ég bara kaupi þeir (Ice)
   I read books not, I just buy them
   ‘I don’t read books, I just buy them’
However, the contrastive stress in [i] is apparently crucial. In a non-contrastive context with a strong-reading indefinite, object-shift is impossible, as in [ii] (modelled on Diesing’s 1992:108 German example, where scrambling of the direct object forces a strong reading).

(continued next page)
shift is responsible for the preference in (102); the DP, being both light and definite, is preferred in the Object-shifted position; if that position is adjoined to PP, then the particle cannot have moved; if it is adjoined to PredP (in violation of the Adjunction Prohibition), then the particle may have moved. Indefinites, being new information, are preferred in sentence final position, which might account for the preference in (102b) (though it is strange that Icelandic should be so much more sensitive to this than English).

There is one last piece to this puzzle: Icelandic does not allow pseudopassives (Maling & Zaenen 1985, whence (103b)).

(103) a. * Hann var hlegið að
   he was laughed at
b. * Ég tel         refinn  aldrei hafa verið skotið á.
   I believe the fox never have been shot at
‘I believe the fox never to have been shot at’

If the possibility of pseudopassives is any indication, Icelandic should not have particle shift. However, many speakers of Swedish have obligatory particle shift but no pseudopassives. It seems, then, that the possibility of forming a Case chain from P’ to V is a necessary condition for the possibility of forming pseudopassives, but not a sufficient one.

3.7. The Ghost of the Extended Projection Principle

In the Minimalist program of Chomsky 1993, accusative Case is checked at LF in languages like English and Norwegian, in SpecAgr. It is not assigned under government by V, as in Chomsky 1981. If we are to adopt the Minimalist conception of Case-assignment, then the analysis of particle shift outlined in §3.3 cannot be correct. In this section I will explore an alternative account, in which the structures and movements described in §3.3 are retained, but are motivated by considerations other than those of Case assignment.

Recall from Chapter 1 that the requirement that every clause have a subject, loosely referred to as the EPP, could not follow from any fact about argument structure, since subjectless predicates (such as weather predicates and intransitive passives in Germanic) take an expletive subject, with no θ-role (cf. Rothstein 1983, and the discussion in Chapter 1). Nor can the EPP follow from any fact about IP, since it applies to small clauses as well.

(104) a. I’ve never seen there be so many roses on one bush.  
b. I want it cold when I go skiing.  
c. I consider it important for unpublished work to be summarized.  
d. They found it out that we were impostors.  
e. They played it up that they could arrest us.  
f. They were getting it on.

(104a-c) show that small clauses in general can have expletive subjects. (104d-f) suggest that verb-particle constructions can have expletive subjects as well. (104d-e) are extraposition expletives; they may appear to be optional because of the alternative derivation in which the particle precedes the CP; i.e. extraposition only occurs when the CP precedes the particle, perhaps because of a general requirement that CPs be peripheral in S (cf. Ross’ 1967 ‘Internal S Condition’). (104f) involves a possible dummy pronoun of the pseudo-argument type; see Rizzi 1990, Cinque 1991, Postal & Pullum 1988. There is generally excluded from verb-particle constructions because there is no verb, and there apparently always needs a verb. Only when a verb-particle construction appears where the particle takes a complement that can have a verb in it could there appear (cf. Lasnik’s I consider there likely to be a riot), as in They made there out to be more food than there was (see Kayne 1985, den Dicten 1991, Postal & Pullum 1988 for extensive discussion of this construction).

Following Rothstein, the EPP is the result of a grammatical requirement that a grammatical predicate have a grammatical subject; in our terms, this just means that something must appear in SpecPredP. But in the Minimalist Program, such a requirement cannot be an S-structural requirement; it can only be an LF condition or a PF condition. Consider first the possibility that the EPP (i.e., the requirement that some DP occupy SpecPredP) is an LF condition. Then we would have to explain why it is that the subject of a Raising Pred structure cannot in general move to SpecPredP at LF. That this is not possible is indicated by the following pattern.

[102] Ottó les {alltaf} bækur um flóðhesta {alltaf} (Ice)
   Otto reads always books on hippopotamuses always
‘Otto always reads books on hippopotamuses’

The Icelandic example in [ii] has two readings, just like its English gloss (roughly, ‘at any given time, Otto reads books on hippo,’ and ‘for any given book on hippo, Otto reads it’; cf. Diesing 1992 for discussion). Thus I conclude that the generalization that Object shift is only possible for definite DPs is correct for Icelandic, and that some additional statement needs to be made regarding [i] (cf. de Hoop’s 1992 discussion of contrastive predicates).
Alternatively, consider the possibility that the EPP is a PF condition. Compare V2, which is plausibly driven by some PF condition; for example, German and Icelandic have null expletives (as discussed in Holmberg & Platzack 1994) and references cited there; but these null expletives can never satisfy V2; an overt DP must appear in SpecCP in all V2 languages (note also that PRO never satisfies V2; cf. also Anderson 1992). If Warlpiri (see e.g. Hale 1983) is analyzed as a V2 language, it must also be subject to a PF condition, since it apparently has pro, but pro does not satisfy the need for an overt XP to occupy the pre-aux position. But the EPP is not quite this strict; there are various indications that a nexus, cross-linguistically, must have a subject, but it may be unpronounced (cf. Chomsky & Lasnik 1991, Lasnik 1993). All the same, let us proceed on the assumption that the EPP is a PF condition, although it may be satisfied by some null elements (including trace).

If the EPP is a PF condition, then what we need to explain is why it is that the movement of P to Pred calls this requirement off. One possibility is that the EPP is really an epiphenomenon of a more general requirement that a phrasal structure can only exist if it is filled with something; this is reminiscent of Emonds’ 1985 Invisible Category Principle, which requires an overt element to license a syntactic projection; for example, for Emonds, overt morphological Case on a DP might license an empty preposition, allowing PPs with null heads in languages with overt Case (m-case) and prohibiting null Ps in languages with no m-case.

What is needed here is slightly different conception, along the following lines: if there is no overt element in the head position, then there must be an overt element in the Spec position. Call this the ICP account, because the intuition is the same as that behind Emonds’ Invisible Category Principle, even though the specifics are different. It may be that the strongest version of this position cannot be maintained; for example, if we adopt the split Infl of Pollock 1989 or Chomsky 1991, then certain functional projections in the clause will have to be allowed without any overt morphological indication of their existence; but for the time being I will assume that the ICP in its strongest form holds at least of PredP; in order for a projection of a head Pred to be interpreted at PF, either Pred or SpecPredP must be filled with something that is interpretable at PF. If the entire PredP projection is empty at PF, the derivation crashes, in the sense of Chomsky 1993. If we do not adopt the
lexically restricted and context-dependent; the implicit argument of intransitive *eat* is some contextually dependent amount of food, ordinarily a meal; and the implicit argument of *give up* in (107a) is some contextually dependent effort or enterprise, often a game or contest. The verb-particle combination *towel off* in (107d) is more lexically restricted; an overt DP may be non-reflexive (*Sonya toweled Seymour off*), but an implicit argument must be interpreted as a reflexive (cf. *shave*, *wash*, *bathe*, etc.). Note that just as with simple verbs, verb particle combinations do not freely occur with implicit arguments; this is an idiosyncratically specified feature of particular lexical entries (e.g., *eat* and *give up* take implicit arguments, but *devour* and *tear up* do not).

On a Case-theoretic account, when the postverbal DP does not appear, there is no motivation for movement of the particle, so it must remain in P₀. On the ICP account, on the other hand, when the postverbal DP does not appear, the only way to get lexical material into the functional projection is to move the particle, so it must move up from P₀. How are we to tell which is the case? There are at least two possible diagnostics for P₀ movement, one being the possibility of modifiers (recall from the discussion of the modifier problem that a moved P₀ cannot be modified), and the other being the possibility of DP complements (recall from the DP complement problem that a particle with a DP complement cannot move). These diagnostics do in fact seem to show that a particle must move when there is an implicit argument, that is, when there is no postverbal DP. I will discuss this evidence below.

4. The argument structure of prepositions

In this section I discuss the argument structure of prepositions, showing that in general, the postverbal DP of the verb-particle construction must be base-generated in SpecPP, not in the complements position of P₀, as in the accounts of Taraldsen and den Dikken reviewed in §2. I also show some evidence from limitations on word-order in unaccusative verb-particle constructions for the particular proposal made in this chapter.

4.1. Figure and Ground

Prepositions, like verbs, can denote one-place states (or locations) or two-place relations. For example, the preposition *on*, in the examples in (108), denotes an asymmetric relation between two objects which includes at least the following requirements: the two objects are in contact, and either the first one is spatially located above the other (as in (108a)) or the first one is smaller than the other (as in (108b)).

(108) a. You’re on my foot
    b. There’s a bug on your sweater

Of course, this is only a very rough approximation of the notion *on* (for fuller discussion see Talmy 1985), but it captures two crucial facts about the relation: it is bivalent, or two-place (in the spatial sense, a thing cannot simply be “on” without being on *something*), and it is asymmetric (compare *My foot is on you* and *Your sweater is on a bug* with the sentences in (108)). Exploiting the parallel between prepositions and verbs, we might call the first element in the relation (the subjects in the examples in (108)) the “external argument,” and the second (the complement of *on* in (108)) the “internal argument.”

There are also non-spatial uses of *on*, and some of them might be characterized as (one-place) properties or states, rather than as relations; for example, *on* denotes a state enjoyed by motors and electric gadgets (*The headlights are on*). This may historically derive from a bivalent use, but seems to be treated as strictly one-place in Modern English (*The headlights are on {the battery/power/electricity}*).

Similarly, the preposition *out* is typically a two-place relation: the external argument is an object, and the internal argument is a container, and the relation is such that the container does not contain the object. The relation might be one of movement (Case-assigning *out*), as in (109a), or location (non-Case-assigning *out*), as in (109b).
Other uses of *out* might be characterized as one-place or two-place; if someone is out, she is generally out of something: depending on context, she might be out of her office, or out of the game. There are other, more abstract, uses, for example *She’s out cold* (‘unconscious’), or *The fire’s out*. Such examples are probably best considered one-place senses of *out*.

Some generalizations can be made about the expression of the arguments of a preposition. The typical use of prepositions is in a prepositional phrase (formed of a P and its complement), which is attached to some projection of some category as a complement or modifier. Some examples are given in (110).

(110) a. On Saturday, Gina flew a kite.
   b. Gina broke her kite on her knee.
   c. The string on Gina’s kite was yellow.

In each of the examples in (110), the preposition appears with its internal argument as its complement. The thing modified (plausibly, the IP in (110a), the VP in (110b), and the NP in (110c)) is interpreted as the external argument, at least in some sense. This pattern is never reversed; we never see *the sweater on the pattern* with the interpretation ‘the pattern on the sweater.’ Taking a modifier to be a kind of one-place predicate, we can make the generalization that a PP modifier always has an open place corresponding to the external argument of P.24

Talmy (1978 inter alia) uses the terms FIGURE and GROUND (taken from Gestalt psychology) for the arguments of prepositions in general; the Figure corresponds to the theta-role Theme (e.g. Jackendoff 1972) and is the entity whose location or movement is at issue, while the Ground is equivalent to the Goal, Location, or Source of earlier work on thematic roles; it is the relatively immobile object or location with respect to which the Figure is located or moving. In all of the cases which interest us, the external argument of a preposition, or the thing modified by or predicated of a prepositional phrase, is the Figure, and the internal argument is the Ground. Thus we can make the descriptive claims in (111) (these are meant to hold of the spatial prepositions that appear in the verb-particle construction, and may not be appropriate for Agentive *by* or instrumental *with*, for example).25

(111) When a preposition appears with a complement, the following hold:

a. The complement is interpreted as the Ground
b. The PP formed has an open place corresponding to the Figure

This is reminiscent of the pattern of argument structure seen with verbs: if there is an Agent and a Theme, the complement is always the Theme, and the external argument is always the Agent. In fact, Agents are never complements, and it is possible that Themes, or at least Undergoers, are never base-generated as external arguments; see Grimshaw 1990 or Jackendoff 1990 for recent discussion. Verbs certainly have more flexibility in their argument structure than is suggested by (111); possibly, verbs can specify that their internal argument be the Figure and their external argument the Ground (for example, in *Sweaters collect lint*, or *The boy learned the lesson*; cf. Emonds 1991); other differences include the fact that verbs can denote events or actions (with Actors or Agents). But (111) can be assumed to hold at least of the spatial prepositions under consideration here.

When prepositions appear as modifiers or as predicates with the copula, it is always the Figure (the external argument) that is available, and the Ground (the internal argument) that is implicit or suppressed; *X is out* can’t possibly mean that something else is not contained in X; nor can *X is on* mean that something is in contact with X and is either above it or smaller than it. The same is true of *up, down, away, off*, and the other prepositions that commonly occur without complements. Some examples are given in (112).

(112) a. Morris is {in/out/around/away/back}
   b. *Morris’ office is {in/out/around/away/back}*

The examples in (112b) only make sense if the office is interpreted as the Figure; *Morris’ office is in* cannot mean that someone is in the office, for example. Thus it appears that we can make the strong claim that a PP

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24 For example, using the MOD value of Pollard & Sag 1993, the PP *on Saturday* has a MOD value <e>, allowing it to modify a phrase by taking its (Davidsonian) event variable as its ‘argument’, roughly as in Parsons 1990; it seems to be a general principle of the interpretation of PP modifiers that e is to be interpreted as the external argument of the PP (in GB, it would get the external theta-role of P; in HPSG, the MOD value would be structure-shared with the value of SUBJ, or with the first item on the SUBCAT list of P). See also Gawron 1986a for an explicit proposal.

25 For the purposes of this discussion it makes no difference whether θ-roles are seen as primitive relations linked with argument positions by some sort of mapping rules (e.g. as in Grimshaw 1990), or are derived from general rules of lexical structure (e.g. as in Jackendoff 1990).
always has an open place corresponding to the Figure, whether the PP consists of a preposition plus its complement or simply of a particle; this is a stronger claim than that made in (111); (111) is accordingly revised in (113) below.

(113) For all prepositional phrases PP headed by a preposition P,
   a. PP has an open place interpreted as the Figure
   b. A complement of P (if there is one) is interpreted as the Ground

(113a) might actually follow from more general principles of theta assignment, if every predicate must have a Theme or Figure (e.g. as in Emonds’ 1991:395 principle of FIGURE SPECIFICATION).

4.2. Evidence for the ICP account

I am now in a position to make good on a promissory note issued in §3. Recall that the ICP (Invisible Category Principle) account predicted that if there was no postverbal DP, the particle would have to move (in order to get some lexical material into PredP), whereas the Case account predicted that if there was no postverbal DP, the particle should not move (since it moved only in order to become a Case-assigner for the DP). I claimed that the evidence favored the ICP account, but postponed discussion of that evidence because of the complexity of the argument. Part of the problem was that I had not yet introduced unaccusative verb-particle structures. The superficial similarity of the strings in (114) belies their different structures.

(114) a. Friederich cleaned up.
   b. The milk dried up.

In (114a), there is an implicit argument; Friederich cleaned up some contextually determined area (or perhaps himself). In (114b), there is no implicit argument; dry is unaccusative, and the milk is the so-called postverbal DP; it has raised to subject position, leaving a trace in SpecPP and another in SpecPredP. Now let us consider what the two competing analyses, the ICP and the Case account, have to say about these two structures. On the Case account, the particle should not move in either case, since it does not need to become a Case-assigner in either structure. Thus the structures are as in (115).

(115) a. Friederich cleaned [SC | PP up | ]
   b. The milk dried [SC t | PP t up | ]

On the ICP account, the particle should move in (114a), in order to identify PredP, but should not move in (114b), since the trace of the subject DP in SpecPredP serves to identify PredP. The structures of the two examples are as in (116), on the ICP account.

(116) a. Friederich cleaned [PredP up | PP t | ]
   b. The milk dried [PredP t | PP t up | ]

There is evidence that the structures in (116) are correct, and that the structure in (115a) is not a possible surface structure.

One possible diagnostic for movement of P is whether P can take a DP complement (the DP complement problem from §1 above). Recall that P in situ can take a DP complement, or a PP complement with of, as in (117a-c), but that P in Pred cannot, as in (117d-f).

(117) a. Jack bailed water out of the boat.
   b. Mikhail yelled his name out the window.
   c. Jill helped Jack out of trouble.
   d. * Jack bailed out water of the boat.
   e. * Mikhail yelled out his name the window.
   f. * Jill helped out Jack of trouble

The examples in (118) are all of the unaccusative type, and DP and of complements to the particle are perfectly acceptable.

(118) a. The blood drained out (of his veins).
   b. Edgar got out (of jail).
   c. The ball rolled down (the hill).
   d. The drunk fell off (the bench).

This suggests, given (117), that there is no particle raising in the complements of unaccusative verbs, consistent with the ICP account, assuming that DP trace in SpecPredP is sufficient to license PredP (cf. the structure in (116b)).

In (119) it is shown that those verb-particle constructions which allow implicit arguments do not allow DP complements to the particle.

(119) a. Jill helped out (*of trouble).
   b. Mikhail yelled out (*the window)
   (good only as a prepositional verb, not with verb-particle stress)
   c. Jack bailed out (*of the boat).
   (good only on another reading, where Jack jumped out of the boat)
Note that PP complements to particles are always licit following a particle in Pred', and similarly they are licit following a particle with an implicit argument.

(120) a. He drove (the car) away from the scene of the accident.
   b. He called (Raisa’s name) out to the passing crowd.

I conclude from the data presented above that the contrasts predicted by the ICP account are real. This does not entail that a Case-chain is not formed from V to P in Pred. The ICP account makes no independent predictions about when or how Case is assigned to the postverbal DP; it simply provides an additional motivation for overt movement of some element into the layer of functional structure dominating PP, a motivation which is needed if we are to adopt a Minimalist account in which LF movement is generally sufficient to satisfy such conditions as the need of DP for Case, or the need of P to be checked against the I-selectional features of V.

The possibility of modifiers to P' is another possible diagnostic for movement of P'; recall that modifiers cannot be moved along with P' under head movement. In (121), some unaccusative structures with modified particles are shown.

(121) a. The blood drained completely out.
   b. The branch broke partway off.
   c. Humpty Dumpty fell all the way down.

These are unaccusative structures; the Case account and the ICP account assign to them identical structures ((115b) and (116b)). Now consider the transitive structures in (122). (122a-b) show some structures in which a post-DP particle is modified, with reasonably acceptable results;26 (122c-d) show that the same modifier cannot occur with the same particle if the DP subject is omitted.

(122) a. ? Boris gave up (painting) completely.
   b. ? Natasha threw right up.
   c. * Boris gave completely up.
   d. * Sonya towed briskly off.

26 As above, the problem in finding better examples is that the verb-particle constructions which allow an implicit argument are restricted in number, and only a small fraction of particles in general have the right semantic content to allow modification.

Notice that these modifiers are licit following the particle, with or without the postverbal DP, as in (123).

(123) a. Boris gave up (painting) completely.
   b. Sonya towed off (Seymour) briskly.

Of course, in (123) the adjuncts may be VP-adjuncts; but at any rate the pattern is consistent with the prediction made by the ICP account that if there is no postverbal DP, then the particle must move to Pred'.

It seems, at any rate, that although our diagnostics are limited, there is evidence for the claim that when there is no postverbal DP, Prt must move into Pred', consistent with the ICP account. That this movement has the effect that P' enters into a head-chain with V' which combines their Case-assigning properties is not a problem for the ICP account, only for the Minimalist theory of Case. In other words, the Case-based account by itself cannot account for all of the environments in which movement of P' necessarily occurs.

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27 The sentences in [i] are a problem. They are not perfect, but not as bad as my analysis would lead one to expect.

[i] a. ? Boris gave right up.
   b. ? Natasha threw right up.
   c. ? Mikhail called right out.
   d. * Sonya towed right off.

If the particles in [i] have moved to Pred', then it must be possible for the modifier right to move along with the particle, something which seems to falsely predict the grammaticality of the structures in [ii].

[ii] a. * Boris gave right up the game.
   b. * Natasha threw right up her dinner.
   c. * Mikhail called right out Raisa’s name.
   d. * Sonya towed right off the children.

One possibility is that the account I gave in §3 above for the ungrammaticality of examples like those in [ii] was incorrect (though it still holds for full phrasal modifiers like completely and all the way). Instead, it might be the case that right can move along with a particle, to Pred', but if it does, the particle cannot act as a Case assigner; it is embedded under two segments of P' and cannot enter into a head-chain with V'.
5. On the semantics of the construction

It is important to the analysis developed in this chapter that there exists a close relation between the verb and the particle, one which I have sometimes referred to as l-selection, a special case of c-selection. This relation is behind many of the patterns of data observed in §1, for example the possibility of particle-shift. In this section I discuss some of the semantic properties associated with the verb-particle construction, and motivate the claim that only in that construction does the verb l-select the predicative head of its complement.

Recall that I suggested in §3 above that the small clause complement to the verb in the verb-particle construction is a state of affairs; more specifically, we might call this particular kind of state of affairs a CHANGE OF STATE. A Change of state is an event in which an entity moves in space or acquires a property, essentially the same events which are described by Dowty (1979) as ACHIEVEMENTS (Dowty adopts this term from Vendler, who used it to classify verbs; as shown by Verkuyl 1972, whether a sentence describes an Achievement or not depends not only on the verb, but on other parts of the sentence such as the direct object). Following Dowty 1979, when something causes an Achievement, the larger event including the causation is described as an ACCOMPLISHMENT. The sentence in (124a) describes an Achievement (the stick acquires the property of being broken), and (124b) describes an Accomplishment (John causes the stick to acquire the property of being broken).

(124) a. The stick broke.
   b. John broke the stick.

Similarly, the event described by the sentence in (125a) is an Achievement: the branch acquires the property of being broken off. (125b) describes an Accomplishment: Linda causes the branch to acquire the property of being broken off.28

28 This abbreviated description does not entail that Linda broke something; cf. the classic discussions of the difference between Jill caused the stick to fall (by frightening Ed, who was holding it) and Jill dropped the stick, e.g. Fodor 1970, Shibatani 1976, McCawley 1978 (related concerns go back to Hume and Mill and beyond). A better paraphrase might be Linda caused the branch to be broken off by means of breaking; cf. §5.3.

As Bolinger (1971) points out, it is a characteristic property of the verb-particle construction that it describes a change of state.29 Thus, verb-particle constructions do not in general occur with stative verbs such as know, hope, resemble, and so on; in a few cases they do, but then they take on a non-stative sense, as in (126).30

(126) a. Hear me out.
   b. We looked the answer up.
   c. His friends saw the traveler off.

There are small clause constructions which do not have this sense of change of state. Keep your hands up has only a stative reading, ‘cause your hands to remain held up’; but notice that it does not undergo particle-shift: *Keep up your hands. Similarly, Hold your hands up is ambiguous; but Hold up your hands has only a change of state reading. It cannot mean ‘keep your hands up.’ The same applies to Hold your hands out.

Åfarli (1985) notes that the same is true of Norwegian. He cites the following examples (from his p. 9; I retain his Nynorsk spelling).

(127) a. Marit kjørte bilen varm. (Nor)
   b. Jon ønska Petter bort.

\[
\begin{align*}
\text{Marit drove the car warm} & \\
\text{'Marit drove the car warm'} & \\
\text{Jon wished Petter away} & \\
\text{'Jon wished that Petter wasn’t there'}
\end{align*}
\]

29 “In its core meaning (though not necessarily in the figurative extensions discussed in Chapters 9 and 10) the particle must contain two features, one of motion-through-location, the other of terminus or result” (Bolinger 1971:85). I believe that even the “figurative extensions” of verb-particle combinations can be classified as describing changes of state, but that the resultant state (or location) is determined not by the particle alone, but by the combination of the verb and the particle.

30 There is a small number of verb-particle constructions where the result-state might be interpreted as having a stative sense, with the meaning ‘cause X to stay in state/location’: for example in {lock/keep/hold} the dog out, the dog doesn’t go out but stays out; similarly for keep your head {up/down/out/in}. But in each case the construction as a whole is interpreted dynamically, not statively; the change of state interpretation holds if the verb and the particle are taken together to determine the state: ‘the dog becomes {locked-out/kept-out/held-out}’.
Áfarli notes that the most natural interpretations of (127a) have the predicate as a depictive adjunct, meaning either that Marit was warm when she drove the car or that the car was warm when Marit drove it (exactly as with the English translation, context can make one reading or the other salient); in addition, these sentences have a possible resultative reading, though (127b) only makes sense on that reading if Jon is some sort of wizard. (127b) involves a want-type small clause; as with (127a), there is no sense of causation. Now, Áfarli notes that if particle shift is forced on these structures, the only possible interpretations are resultative.

(128) a. Marit kjørte varm bilen. (Nor)
   ‘Marit drove warm the car’ (resultative interpretation only)
   b. Jon ønska  bort Petter.
   ‘Jon wished away Petter’ (resultative interpretation only)

The question is why the construction should have these particular properties, given that it is easy to imagine a language very much like English or Norwegian but in which non-resultative constructions undergo particle shift. I will address this question in the following three subsections.

5.1. Result states

Notice that the particles themselves can denote states; in the sentences in (129), the particles are used as predicates, and the subjects are asserted to have the state denoted by the predicate.

(129) a. The power is off.
    b. The lights are on.
    c. The temperature is up.
    d. The Dow is down.
    e. Big shoes are in.
    f. The doctor is out.

The state use of the particles is retained in the bracketed small clauses in (130); there is no change of state asserted or implied; for example, (130a) could be used even if the car was manufactured with the hood up. Similar (unlikely) contexts can be constructed for each of the other examples, showing that any indication that a change of state has occurred is purely pragmatic and cancellable.

(130) a. We drove with [the hood up].
    b. With [the lights out], we’ll have to read by candlelight.
    c. The fans considered [the runner out].
    d. I know they’re home — I saw [the lights on].
    e. I like [the TV off] when I read.

Thus the notion of a change of state is not something contributed by the particle, not even when it appears in a small clause in general. Instead, it is a constraint on the construction;31 the verb-particle construction is a construction in which a verb c-selects a state of affairs-denoting small clause and l-selects a (particular) particle; the fact that this state of affairs-denoting small clause must denote a change of state (unlike the case with the want-type verbs discussed in Chapter 2) follows from other factors (discussed immediately below). It has been observed that there are non-causative combinations of a small clause-taking verb and a prepositional small clause predicate, such as the examples in (130c-e). However, notice that in no such case is the combination of the verb and the particle idiosyncratic; if the fans can consider the runner out, then they can think him out, believe him out, regard him as out, or prove him out. Clearly, there are restrictions on l-selection. I propose that although particles denoting result states can be l-selected, lexical heads denoting propositional predicates and perceived states or activities cannot. This presumably has something to do with lexical semantics; the item l-selected must denote something which can be specified in a verb’s lexical semantics; result states clearly can, but perceived states cannot (cf. Jackendoff 1990, Levin & Rappaport Hovav 1991, Choi & Bowerman 1991, Gropen et al. 1991 for some recent discussion of constraints on the content of lexical entries).

5.2. Causation

Another observation that may be made about the verb-particle construction is that when it has an external argument, the external argument is always seen as the causer of the Change of state; that is, there are no verb particle combinations like ‘see out’ or ‘like in,’ as in (131).

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31 This sort of connection between a construction and an interpretation or a restriction on meaning made explicit in CONSTRUCTION GRAMMAR; see Goldberg 1991 for an account of resultatives and related constructions using concepts developed in construction grammar.
The intended meanings here would be ‘The fans saw the runner become out’ and ‘I like the money to come in’; both involve a change of state, but both are bad. Compare the valid use of see out, which means something like ‘to accompany [a guest] to the door.’ Must we posit a restriction on verb-particle constructions that their external argument (if they have one) must be a Causer (or Actor or Agent)? I believe not. There are some general restrictions on the kinds of arguments that a verb may have; for example, there are a great number of verbs denoting changes of state (e.g. go, mix, clear, break, freeze), and many of them have optional causer subjects (the ‘causative-inchoative’ alternation); but (as far as I know) no change of state verb indicates a resultant state in its lexical composition takes a non-causer subject. For example, consider the psychological predicates: they have long been noted to group into two general classes, the stative class with Experiencer subjects and Theme objects (e.g. like, love, hate) and the other class with Causer subjects and Experiencer objects (e.g. please, delight, satisfy); see Pesetsky 1992 for arguments that the former class is always stative and the latter class always causal. Now, consider that please, delight, and satisfy all specify resultant states; the states of being pleased, delighted, and satisfied, respectively. The verbs like, love, and hate, on the other hand, do not specify resultant states; they are more easily characterized as relations (for example, if you hate something, it may make you angry, or it might make you depressed; but if something delights you, it necessarily makes you delighted). Without attempting to delve further into restrictions on possible verb meanings, let me simply suggest that the restriction of the external argument of the verb-particle construction to the role of Causer is the product of a more general restriction: a verb which specifies a result state (as all verb-particle constructions do, by means of l-selecting the head of the predicate of their state of affairs complement) can only have a Causer external argument (cf. Ritter & Rosen 1993 on causation as determined by clause structure; or Choi & Bowerman 1991, who show that in Korean, transitive verbs indicating caused motion generally express Path of motion in their lexical conceptual structure, while intransitive verbs expressing spontaneous motion must express Path separately).

5.3. Lexical Subordination

It is possible to characterize the meaning of the resultative construction (see e.g. Jackendoff 1990) as follows: a resultative construction of the form ‘X V Y P,’ where X is a DP (an Actor), V an activity verb, Y a DP (an Undergoer), and P a predicate (a state or location), has the interpretation ‘X causes Y to go to/become P by means of V’; e.g. The crowd booted the actor off the stage means ‘the crowd caused the actor to go off the stage by means of booing’; and Sid painted the house orange means ‘Sid caused the house to become orange by means of painting.’ As Levin & Rapoport 1988 point out, the activity described by the main verb becomes subordinate to the the primitive predicate CAUSE (they call this LEXICAL SUBORDINATION). The meaning of the main verb shows up in what looks like a manner or means adjunct (Jackendoff’s 1990 SUPERORDINATE ADJUNCT).

The verb-particle construction has a very similar interpretation, with one crucial difference: the state attained by the Undergoer is not completely described by the particle alone, but is determined by the particle and verb in combination. Alice looked the information up means ‘Alice caused the information to become looked up,’ and Edgar cut the vegetables up means ‘Edgar caused the vegetables to become cut up,’ where cut up is a telic version of passive cut. The superordinate adjunct is (at least in some cases) still necessary; Moira turned off the TV does not appropriately describe a situation in which Moira caused the TV to be off by pulling the plug; it means that she turned a knob or pressed a button, i.e. ‘Moira caused the TV to become turned off by means of “turning”’ (where “turning” has an extended sense), where the means adjunct modifies the clause headed by CAUSE, of which Moira is the subject (if it modified the embedded clause, it would not entail that Moira did the turning).32

32 This brings us to a point where it is possible to speculate more vividly about the nature of the relation between the verb and the particle. Following up on the observation from the lexical semantics literature that inchoative verbs generally specify either manner of movement (e.g. roll, slide) or result state (e.g. break, melt), we could assume that there is a lexical restriction on predicate meaning that only manner or result can be specified on a single head, but not both. The verb-particle construction can be seen as a language-specific device for expressing both manner and result in the same clause, without using an adjunct phrase; since there are two lexical heads, both pieces of information can be supplied (this could be represented by allowing two θ-roles to be assigned to the single argument of the preposition, perhaps by allowing the ability to assign a θ-role to be a feature which can be passed down to the particle via a head-chain). In many cases, the combination is so thoroughly lexicalized that neither manner nor result can uniquely be associated with one lexical head.
5. The interpretation of the particle

I have extensively used l-selection of the embedded predicate by the verb to account for various aspects of the verb-particle construction. L-selection is clearly motivated when a verb-particle combination is idiomatically interpreted, as those in (132) are; but is it also motivated for more compositionally interpreted combinations, such as those in (133)?

(132) a. The distraction threw the pilot’s timing off.
    b. We cashed all our traveler’s checks in.
    c. They eked out a spartan existence.
    d. The announcement broke the meeting up.

(133) a. We dried the dishes off.
    b. They dented the fender in.
    c. These sunglasses screen UV rays out.
    d. The announcement drove stocks up.

In order to answer this question, I will first briefly discuss the range of interpretations of the particle.

The various particles have taken on different special extended meanings in English. Thus, the particle out can mean ‘unconscious’, of a person, as in (134a), or ‘to unspecified human recipients’, as in (134b-c).

(134) a. Tyrone {blacked/conked/was knocked/passed} out
    b. The Salvation Army {dishes/doles/ladles/gives/hands} food out.
    c. The company {lends/rents/hires/charters} planes out.

Out also takes on meanings in the verb-particle construction that are not easily paraphrasable without referring to the whole construction. For example, there are several verbs which, when in combination with out, mean ‘insult’ or ‘chastize’, as in (135a). In (135b), several verb-particle combinations are shown which act as psychological predicates.

(135) a. The goalie {bawled/chewed/cursed} the referee out.
    b. The forward {psyched/faked/freaked} the goalie out.

Such examples are most easily described not by establishing separate idiosyncratic meanings for these uses of out, but by allowing fake out to mean ‘fool’, etc. This is even more apparent in the case of examples like those in (136), which depict events of creation or of revealing things to someone’s perception, and those in (137), which depict events of destruction or of concealing things from perception.

(136) a. They {carried/mapped/laid/worked/hatched/figured} out a plan.
    b. We {read/printed/sang/called/scratched/acted/carved} out the numbers.
    c. I {counted/measured/dealt/laid} out the beans.

(137) a. They {hammered/ironed/rolled/out/rubbed} out the bumps.
    b. We {drowned/blackened/inked/scrubbed/scratched} out his answer.

A couple of minimal pairs are given in (138).

(138) a. The two sides hammered out a truce. (created)
    b. The two sides hammered out their differences. (destroyed)
    c. We scratched out a symbol on the rock. (created)
    d. We scratched out the symbol on the rock. (destroyed)

It seems that out has taken an extended sense on the model of such examples as pull a rabbit out (of a hole), where the rabbit comes into view, so that combinations with out can mean something like ‘create’ or ‘provide’; and it has in addition taken an extended sense on the model of such examples as chase the fox out (of the chicken coop), where the fox disappears from view, so that combinations with out can mean something like ‘eliminate’ or ‘dispose of.’ In English, this has become quite regular, so for example any verb of removal (in the sense of Levin & Rappaport Hovav 1991) which is perceived as affecting a location (the Ground) by the removal of some substance or objects (the Figure) can appear as a verb-particle combination with off, in the frames [V Ground off] or [V Figure off (Ground)]; for example dry, clean, clear, wipe, scrub, scrape, chisel, sand, etc. This is quite productive; for example, if I choose to use squeegie as a verb, then if I can say (139a), I can say (139b-f).

(139) a. Hey, Kid — squeegie my windshield.
    b. Hey, Kid — squeegie my windshield off.
    c. Hey, Kid — squeegie off my windshield.
    d. Hey, Kid — squeegie those bugs off my windshield.
    e. Hey, Kid — squeegie those bugs off.
    f. Hey, Kid — squeegie off those bugs.

Similar facts apply to out; verbs like mop, sweep, rub, brush, or clear, when understood as affecting a location by the removal of something, can be used with out in the same two patterns. For some reason, in and on are not so productive: *spray the wall on is quite impossible, though it fits
5. On the Semantics of the Construction

the frame \[ V \text{ Ground on} \], and the Ground is certainly affected by the activity, if for example the Figure is paint. This may indicate that sentences like those in (139) are made possible by lexical rules which specifically apply to \textit{out} and \textit{off}. This is consistent with the position taken here that the verb-particle construction requires the particle to be specified in the lexical entry for the verb.

Another productive construction involves aspectual \textit{up}. \textit{Up} can be added to an achievement or accomplishment construction to indicate a degree of thoroughness, or completeness. If you tear a piece of paper, it may just have a small rip in it; but if you tear it up, it must end up in small pieces.

My answer, then, to the question of whether it makes sense to say that even compositional verb-particle constructions involve \textit{l}-selection is yes, they do, but in some cases that \textit{l}-selection is derived (in the lexicon) by a productive lexical rule.

Extroduction

In this dissertation, I have attempted to provide a workable analysis of a particular body of data. I have used the analytic tools developed in GB theory as a starting point, and have made some proposals and revisions regarding some of those tools. Here I will briefly summarize what I take to be the main points of the dissertation.

Chapter 1 is properly divided into three sections. Section 1 is a discussion of the notion of predication, with a focus on previous works on the topic. Drawing on these works, I adopt a notion of predication that is used elsewhere in the dissertation, specifically one which marries the syntactic structure-bound conception of GB work to the semantic considerations of the philosophers. Specifically, I adopt a notion of predication as mediated by a predicator, following Bealer, Chierchia, and others, and assume that this predicator has a syntactic status as a functional head, following Bowers.

The next section of Chapter 1 deals with the relations between a head and its complement. I discuss the history of the idea of \textit{c}-selection, and provide a formal characterization of it and some other head-complement relations, cast in terms of head chains, based on work by den Besten and Sigurðsson. I argue that there are many morphosyntactic features whose values can be specified on a complement by a head, feature specifications which cannot be so influenced on subjects and adjuncts. The mechanism of head-chains captures this relation nicely, either defined using government as in den Besten and Sigurðsson, or defined in terms of locality, as here (in order to avoid the various ancillary assumptions that the notion of government carries with it).

In the third section of Chapter 1, I developed a notion of dependency. This notion makes crucial reference to the semantic interpretation of a node; if the node can be translated by the mapping rules for semantic interpretation as something of type \textit{e} (in the extended sense of Chierchia & Turner 1988), then denotes an entity and can have properties predicated of it (it can be a subject), and it can bind variables (it can be displaced). Thus anaphoric variables which get bound by syntactic constituents are restricted to type \textit{e}, in a way reminiscent of the restriction in first-order logic to functions over individuals. Constituents which do not translate as basic types are dependent; they cannot be coindexed with an anaphoric variable and therefore cannot be displaced.

In Chapters 2 and 3, I apply the concepts of predication, head-chains, and dependency from Chapter 1 to some data drawn from English and the Scandinavian languages. Chapter 2 treats a set of contrasts between epistemic verbs like \textit{believe} and emotive or desiderative verbs...
like *want* and *hate*. It is proposed that the denotation of the complement of an epistemic verb is a proposition, which is anchored to some set of possible worlds, in the sense of Farkas 1992b. This anchoring is provided by the epistemic verb, and mediated by the complementizer. The operator which must be anchored is located in Infl. In a small clause, there is no Infl, hence no modal operator; this makes it impossible for a small clause by itself to denote a proposition. However, a head-chain of the sort defined in Chapter 1 may be formed between the epistemic verb and the embedded Pred (the predicator in the small clause, as determined in Chapter 1), and the feature values for the modal operator may be copied onto the lower Pred. This allows a small clause to denote a proposition, when embedded under a verb such as *consider*.

Other small clauses denote states of affairs, in approximately the sense of Barwise & Perry 1983. States of affairs do not need to be modally anchored, and are not dependent on a higher head. In Chapter 2 I also explore the possibility that there are two kinds of Pred, corresponding to the two types of Infl proposed by Diesing 1992. I suggest various distinctions between the two predicators, one of which is ultimately associated with propositional interpretations, and the other of which is associated with descriptions of states of affairs.

In Chapter 3, I take up the verb-particle construction. The verb-particle construction is analyzed as involving a small clause, following Bolinger and Kayne; particle shift is analyzed as involving P movement to Pred, across SpecPP, where the postverbal DP resides. The movement of P to Pred is necessitated by the fact that V l-selects P, a relation which requires sisterhood (at LF). Once P has moved, a head-chain can be formed between V and P, and P can assign Case to the postverbal DP. Various other features of the verb-particle construction are also explored.

The success of the analyses in Chapters 2 and 3 in accounting for the patterns of data provides indirect support for the notions of predication, c-selection, head-chains, and dependency developed in Chapter 1. It is to be hoped that these proposals will find credence elsewhere, in the analysis of other constructions and in other languages.