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# THE STRUCTURE(S) OF PARTICLE VERBS*

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ABSTRACT   This paper argues that particle verb combinations do not display a uniform structure but are represented either as a small clause structure or a complex V'-structure. The central claim is that particle verb combinations fall into two classes semantically—*transparent* vs. *idiomatic* particle verb combinations—and that this interpretive difference is reflected in the syntactic structure of particle verb combinations. It is argued that transparent particle verb combinations involve a small clause structure whereas idiomatic particle verb combinations involve a complex V'-structure. The arguments for different structures come from a number of syntactic and semantic properties (in particular, thematic properties of the two kinds of particle verb combinations, predication contexts, topicalization, verb second, and verb (projection) raising contexts) that consistently differentiate between transparent and idiomatic particle verb combinations. The analysis proposed does not only bear on the structure of particle verb combinations but also has consequences for the theoretical status of PF-movement.

1. INTRODUCTION

Among the numerous analyses of particle verb combinations (henceforth PVCs) such as *throw out*, two sets of approaches can be distinguished—a *complex head* approach vs. a *small clause* approach. Proponents of the first set of approaches consider PVCs to be *complex heads* that are formed either in the lexicon (cf. Booij 1990, Johnson 1991, Koizumi 1993, Neeleman 1994, Neeleman & Weerman 1993, Stiebels 1996, Stiebels & Wunderlich 1994, Wiese 1996, Ackerman & Webelhuth 1998) or by some kind of overt or covert incorporation of the particle into the verb (cf. van Riemsdijk 1978, Baker 1988, Koopman 1995, Olsen 1995a, b, Zeller 1997a, b, 1998). According to the second set of approaches, PVCs are assigned a *small clause* structure (cf. Kayne 1985, Guéron 1987, 1990, Hoekstra 1988, Grewendorf 1990, Bennis 1992, Mulder 1992, den Dikken 1992, 1995, Zwart 1997 among others).[1] The two basic structures—for each of which numerous convincing arguments have been provided—are illustrated in (1).

(1)   *Small clause structure*   *Complex head structure*

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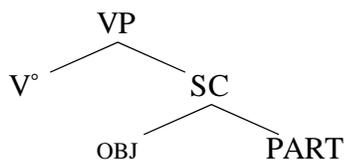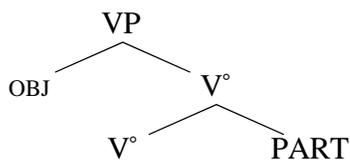
[1] Some of the small clause approaches also involve (covert) incorporation (cf. Grewendorf 1990, den Dikken 1995).

This paper tries to shed light on this long-standing debate. In particular, we will argue that both structures exist (modulo certain qualifications) and that the choice between the two structures is predictable from the semantics of a PVC. The main empirical evidence will be drawn from PVCs in West Germanic.

The analysis we propose will be based on the observation that PVCs fall into two (basic) classes from a semantic point of view. PVCs like the ones in (2)a are *transparent*—i.e., the meaning of the PVC is determined by the meaning of its parts (*throw* and *out*). PVCs like the ones in (2)b, on the other hand, are *idiomatic*—i.e., the meaning of the PVC is not composed from the meaning of the two parts. Rather, these combinations receive a non-transparent, idiomatic interpretation.

(2) a. *Transparent PVC*   b. *(Semi-)Idiomatic PVC*

        hinaus   werfen   hinaus   werfen
        out   throw   out   throw
        'throw out' (lit.)   'throw out' ('fire')

The central claim in this paper is that this interpretive difference is reflected in the structure of PVCs since transparent and idiomatic particles are subject to different (semantic) licensing conditions. In particular, we will argue that PVCs express the following relations: transparent particles are licensed in a predicate/argument relation, which is prototypically represented by a small clause structure as in (3)a. Idiomatic particles, on the other hand, are not licensed as small clause predicates but in a local relation (to be made precise below) with the verb. Syntactically, we will argue that idiomatic PVCs are represented by a complex V'-structure as in (3)b.[2]

(3) a. *Transparent PVC*   b. *(Semi-)Idiomatic PVC*

           'to throw out' (lit.)   'to fire'

In the first part of the paper (section 2), we will discuss the idiomatic vs. transparent distinction as well as the phrasal status of PVCs. In the second part of the paper (section 3), we will discuss a number of syntactic and semantic properties of transparent vs. idiomatic PVCs that will provide evidence for two different structures along the lines suggested.

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[2] Note that throughout this paper, we do not assume that the symbols X° or X' have a real syntactic meaning; we simply use them here as labels to refer to minimal vs. non-minimal syntactic categories, respectively (in the flavor of Chomsky 1994).

2. IDIOMATIC VS. TRANSPARENT PARTICLE VERB COMBINATIONS

2.1 The phrasal status of PVCs

As a first step, we will discuss the motivation for a phrasal structure for PVCs as opposed to a complex head (i.e., V°) structure. As has been discussed extensively in the literature (see for instance Zeller 1997a, b, 1999, Wurmbrand 1998), the major problem for a complex head approach is that the particle and the verb appear separated from each other in a number of contexts. As is illustrated in (4)a vs. (4)b, the verb has to leave behind the particle when it moves to verb second (V2) position in German or Dutch; furthermore, inflectional affixes like the participle marker have to occur between the particle and the verb in German (cf. (4)c vs. (4)d). The same is the case for the infinitival marker *zu* 'to' which appears between the particle and the verb (cf. (4)e vs. (4)f).

(4)   *Separability*

a.	Hans	warf	seinen Mitarbeiter	hinaus	t_V	
	John	threw	his employee	out	t_V	
	'John fired his employee'					

b.	*Hans	hinauswarf	seinen Mitarbeiter		t_V	
	John	out-threw	his employee		t_V	

c.	Hans	hat	seinen Mitarbeiter	hinaus	ge	worfen
	John	has	his employee	out	PCPLE	thrown
	'John has fired his employee'					

d.	*Hans	hat	seinen Mitarbeiter	ge	hinaus	worfen
	John	has	his employee	PCPLE	out	thrown

e.	Hans	versuchte	seinen Mitarbeiter	hinaus	zu	werfen
	John	tried	his employee	out	to	throw
	'John tried to fire his employee'					

f.	*Hans	versuchte	seinen Mitarbeiter	zu	hinaus	werfen
	John	tried	his employee	to	out	throw

Assuming V2 is syntactic movement of the verb to the complementizer position, this distribution is unproblematic under both the small clause structure and the V'-structure in (3)a,b. Since only X° categories (i.e., minimal categories in syntax) undergo head movement and the particle is not part of the V° node of the verb, it cannot be carried along with the verb. For complex head approaches, on the other hand, separability—in particular the fact that particles have to be stranded when the verb moves to C°—constitutes a serious challenge. Since particles are part of the V° node of the verb (be it formed in the lexicon or by overt movement in the syntax), it

would be expected that the particle moves along with the verb, contrary to fact. Note that this problem cannot easily be attributed to the fact that PVCs are morphologically complex, since complex verbs do occur in V2 position in other contexts. More specifically, complex verbs involving a prefix as in (5) have to carry the prefix along when they undergo V-movement and stranding is impossible (see Wurmbrand 1998 for extensive discussion of the differences between prefixes and particles).

(5) a. Hans   **über**setzte   das Gedicht
         John   PRFX-translated   the poem
         'John translated the poem'

     b. *Hans   setzte   das Gedicht   **über**
         John   translated   the poem   PRFX
         'John translated the poem'

Although proponents of complex head approaches have suggested various solutions to the separability issue, they all seem to involve a special (construction specific) mechanism or stipulation that turns PVCs into syntactic constructions (i.e., categories bigger than heads) despite their X° status (e.g., Booij 1990 assumes that PVCs are categories that are bigger than V° but smaller than V'; Stiebels and Wunderlich 1994 state a *Visibility Condition* for particles in PVCs; Neeleman 1994 employs a *Complexity Filter* that blocks complex heads in C°; and Koopman 1995 allows excorporation). We thus conclude on the grounds of parsimony that the structures in (3) are superior since no special mechanisms are necessary to account for obligatory stranding in V2 contexts (for verb raising contexts see section 3.3). In the next section, we will discuss an argument that is often made to motivate a complex head approach for PVCs (see for instance Stiebels 1996, Stiebels and Wunderlich 1994), namely the possibility of an idiomatic interpretation.

2.2 Idiomatic interpretations

The major motivation for a complex head structure is the fact that PVCs can receive (semi-)idiomatic interpretations that cannot be determined compositionally from the meanings of their parts. To be more specific, many authors assume that only words (i.e., X° categories) can occur with an idiomatic interpretation, and hence conclude that the (semi-)idiomatic character of PVCs provides evidence for the lexical (i.e., X°) status of PVCs (cf. Booij 1990, Neeleman 1994, Neeleman and Weerman 1993, Stiebels 1996, Stiebels and Wunderlich 1994, Wiese 1996, Ackerman and Webelhuth 1998). As has been argued by Zeller 1997a, b, Wurmbrand 1997, 1998, however, this conclusion is not tenable since the underlying assumption (namely that only X° categories can involve special meaning) is not motivated. As has been observed by Marantz (1984, 1995, 1997), Jackendoff (1997) the availability of idiomatic readings is not limited to heads but constructions that clearly qualify as syntactic phrases also show up with special meaning. To give just a few examples, the verb phrases in (6) all have some kind of (semi-)idiomatic reading that cannot be determined strictly compositionally (cf. Marantz 1984, 1997).

(6)   *Phrasal idioms*

take a break/nap, take a leap, take a leak/piss, take advantage of, take five, take two aspirins, take notes, take revenge, take the 5 o'clock bus, take offense, take over/up/down, take cover/issue/heart etc.

Thus, nothing seems to force (semi-)idiomatic interpretations to be restricted to X° categories. Taking into consideration phrasal idioms, PVCs do not differ from many other verb complement constructions with respect to the possibility of (semi-)idiomatic interpretations. While it is uncontroversial that phrasal idioms such as the ones in (6) receive a 'special' interpretation that has to be listed in some encyclopedic component, it is hardly arguable that phrasal idioms are actually formed in the lexicon *and* inserted as heads in the syntax. However, this is exactly what is often proposed for PVCs. We conclude that this distinction is unnecessary (and in fact not desirable). Rather, we take it that special meaning of PVCs—like special meaning of phrasal categories—does not imply that the particle and the verb form a complex head in the lexicon.

We take special meaning for a phrasal category (i.e., non-minimal syntactic category) to be the case when one or more of the elements involved does not contribute the full range of what might be seen as its default semantic properties. In examples like (7)a, the meaning of the verb ('hear') and the meaning of the particle ('up') seem completely lost and a full idiomatic interpretation ('stop') is assigned to the PVC. In examples like (7)b, on the other hand, the verb does contribute its basic meaning; i.e., *eat up* involves an act of *eating*. The fact that there are degrees of idiomaticity is thus another parallel between PVCs and phrasal idioms such as the ones in (6), and hence a fact that supports a phrasal structure for PVCs.

(7)   a.   *Idiomatic PVC*   b.   *Semi-idiomatic PVC*

auf   hören   auf   essen
PART   hear   PART   eat
'stop'   'eat up'

To sum up, under the assumption that special meaning is not restricted to minimal categories but can be assigned to elements in complex syntactic units, phrasal approaches to PVCs provide a straightforward account for the syntactic properties (e.g., separability; further syntactic properties will be discussed below) as well as of the special interpretation of idiomatic PVCs.

2.3 Contrastive vs. non-contrastive particles

Since as mentioned above PVCs display graded idiomaticity it is not always obvious how to draw the line between transparent and idiomatic PVCs. In this section, we will propose a way to distinguish the two classes of PVCs. Assuming that transparent PVCs involve particles that contribute their own meaning to the PVC, it is expected that transparent PVCs are not restricted to occur with specific particles but should allow the replacement of the particle in a given PVC with a different particle from the same semantic class. Idiomatic PVCs on the other hand are not transparent in this way, rather each PVC is unique and therefore does not allow for different

particles in the same PVC (i.e., in a PVC with similar meaning). This prediction is borne out. As is illustrated in (8), transparent PVCs allow contrastive particles.[3]

(8)   *Contrastive particles*

a.   ⎧ hinauf   'up'   ⎫
      ⎪ hinunter   'down'   ⎪
      ⎪ hinüber   'to the other side'   ⎪
      ⎨ hinein   'in'   ⎬   führen, schicken, gehen, kommen
      ⎪ hinaus   'out'   ⎪   lead, send, go, come
      ⎪ zurück   'back'   ⎪
      ⎩ weg   'away'   ⎭

b.   auf   (machen) und   zu   machen
      open   (make)   and   closed   make
      'open and close'

Idiomatic PVCs, on the other hand, are composed uniquely and no contrastive particles are available (cf. (9)).

(9)   *No contrastive particles*

a.   aufessen und ??essen
      'eat up and eat ??'

b.   aufführen und ??führen
      'act out and act ??'

c.   hinaus   (werfen) und   hinein   werfen
      out   (throw)   and   in   through
      'throw out and throw in' (lit. only)

Note that it is possible to contrast the whole PVC (e.g., *die Suppe aufessen nicht austrinken* 'eat up not drink up the soup'; *hinauswerfen und wieder einstellen* 'fire and hire again'). Whether the PVC is contrasted or only the particle is often not easy to distinguish. For instance, in (10)a one might think that the particles are contrasted. Since these PVCs receive an idiomatic interpretation ('take control of' and 'kill, disable') they seem to challenge the generalization suggested here. There are, however, several ways to distinguish contrastive PVCs from contrastive particles. The first is coordination reduction. As is illustrated in (10)b vs. (10)c idiomatic particles cannot be coordinated whereas transparent particles allow this form of coordination.[4]

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[3] Note that we do not assume that particles are inherently idiomatic or transparent. Rather, the whole PVC functions as an idiomatic PVC or a transparent PVC. Thus, if we refer to a particle as a 'contrastive particle' it simply refers to that particle in the present context and it does not mean that that particular particle always occurs as a contrastive particle

[4] The empirical difficulty with this test is that the impossibility of coordination of idiomatic particles (in particular

(10) a.   He didn't take OVER the opposition, he took them OUT
     b.   *take (them) over not out
     c.   take the garbage in and out

Similarly, transparent particles can be clefted in certain contexts whereas idiomatic particles can never be stranded in a cleft construction.

(11) a.   Where he should take the garbage is in not out
     b.   *What/how… he should take them is over not out

We conclude that in (10)a indeed the whole PVCs are contrasted and not the particles. The fact that the particles receive contrastive stress does not seem to pose a problem for the claim that the whole PVCs are contrasted. Assuming that contrastive stress requires a contrast—i.e., it can only be assigned to two different elements, stress cannot fall on the verbs in (10)a since these idiomatic PVCs (accidentally) involve the same verb. Hence, contrastive stress falls on the particles.

We will thus assume that idiomatic PVCs are PVCs that require a specific (arbitrary) particle and that do not allow the replacement of the particle by a particle of the same semantic class.

Having said that much, various distributional facts of idiomatic particles fall out. Since by definition idiomatic PVCs cannot involve contrastive particles, we predict that idiomatic particles cannot occur in contexts that require a contrastive interpretation. The first example was already illustrated in (9). In coordination constructions, transparent PVCs can involve either a contrastive interpretation for the particle or the whole PVC. Idiomatic PVCs, on the other hand, can only involve a contrastive interpretation for the whole PVC, not the particle alone.

A further well-known issue arising for PVCs in German and Dutch is the question of topicalization of particles. While some authors deny the frontability of particles altogether (cf. Haider 1990, 1993, 1997, Haider, Olsen & Vikner 1995, Fanselow 1993, Olsen 1997), it has also been shown in a number of studies that this claim is an overgeneralization and that certain particles can appear in sentence initial position (cf. Müller 2000 for a literature survey). Although the characterizations of which particles can occur in SpecCP are stated within different theoretical backgrounds, they all point to conclusion that only particles from transparent PVCs can do so. Grewendorf (1990) for instance assumes that only particles that assign a theta-role can be fronted (we will see below that only transparent particles are in a predicate/argument relation with the object); Stiebels and Wunderlich (1994) assume that only resultative or directional particles can be fronted; and similarly, Webelhuth & Ackerman (1999) assume that only resultative particles can be fronted. Again, resultatives and directional particles are the core of the transparent particles. In what follows, we will see that this generalization (i.e., the ban against fronting of idiomatic particles) is straightforwardly accounted for under the assumption that the defining difference between transparent and idiomatic PVCs is the possibility of contrastive

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coordination of a transparent particle and an idiomatic particle) is often used as a stylistic or rhetorical means to achieve a certain effect (e.g., in speeches, literature, puns etc.). Ignoring this usage, however, coordination distinguishes correctly between idiomatic and transparent particles.

particles in the former vs. the impossibility of contrastive particles in the latter (see also Ackema 1999, Bayer & Weiß 1999 for similar claims; we will return to an apparent exception in section 3.2.2).

Let us assume that the sentence initial position (unless it is occupied by the subject or an expletive) is a topic or focus position and that topic/focus is interpreted semantically.[5] Thus, topic/focus can only be expressed by elements that have (compositional) semantic content—i.e., elements that contribute their own meaning as diagnosed for instance by the ability to bear contrastive focus. Since idiomatic particles are caught in an idiomatic domain (i.e., they do not contribute meaning except in construction with a verb) they cannot receive a topic/focus interpretation on their own and hence should be barred from positions that require such an interpretation. This account thus makes the correct prediction for topicalization of particles—only particles that have the ability to be focused (i.e., particles that can receive a contrastive interpretation) are allowed in topicalized position. The examples in (12) illustrate this generalization. While particles from transparent PVCs can be topicalized when they are focused (cf. (12)a), this operation is illicit for particles from idiomatic PVCs (cf. (12)b).[6]

(12) *Topicalization of particles*

a.	$[AUF]_{PART}$	hat	er	die Tür	t_{PART}	gemacht
	$[open]_{PART}$	has	he	the door	t_{PART}	made
	'He opened the door'					

	$[WEG]_{PART}$	hat	er	den Brief	t_{PART}	geschickt
	$[away]_{PART}$	has	he	the letter	t_{PART}	sent
	'He sent away/off the letter'					

b.	*$[AUF]_{PART}$	haben	sie	das Stück	t_{PART}	geführt
	$[PART]_{PART}$	have	they	the piece	t_{PART}	performed
	'They performed the piece'					

	*$[AUF]_{PART}$	hat	sie	die Suppe	t_{PART}	gegessen
	$[PART]_{PART}$	has	she	the soup	t_{PART}	eaten
	'She ate up the soup'					

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[5] For the discussion here, the distinction between topic and focus does not seem to be crucial and we do not commit ourselves to any theory or analysis of the topic/focus distinction. Needless to say that a number of semantic, pragmatic, and discourse factors are involved in topic/focus interpretations, however, the claim that topicalization (i.e., movement of an XP other than the subject to sentence initial position) has some effect on the interpretation seems to be a minimal assumption of all approaches.

[6] Note that the fact that particles can be topicalized argues against covert incorporation of these particles. In order to incorporate into the verb, the particle would have to reconstruct at LF and then undergo further head movement. This form of covert incorporation, however, seems unattested—although topicalized phrases can reconstruct, it is generally assumed that they are then 'frozen' for further movements (cf. Barss 1986, Sauerland 1997 and references therein).

The claim that the impossibility to front idiomatic particles is caused by the lack of a contrastive interpretation and not by a syntactic or structural property of particles is further supported by idiomatic constructions that do not involve particles. As illustrated by the examples in (13), parts of the idiomatic expressions *unter den Tisch fallen* 'to go unmentioned' [lit. 'to fall under the table'] and *die Leviten lesen* 'to read somebody the riot act' cannot appear in topic/focus position. Thus, we conclude that the ungrammaticality encountered in (12)b indeed has to do with the idiomaticity of these PVCs.[7]

(13) a.   *Die Leviten   hat   er   der Maria   gelesen
          The riot act   has   he   the Mary   read
          'He has read Mary the riot act'

     b.   *Unter den Tisch ist gefallen   dass   Hans   für den Konflikt   verantwortlich   war
          under the table   is   fallen   that   John   for the conflict   responsible   was
          'What has not been mentioned is that John was responsible for the conflict'

We conclude that PVCs that occur with fixed particles and block contrastive particles are idiomatic PVCs, whereas PVCs that permit contrastive particles are transparent PVCs. Whether idiomatic PVCs are fully idiomatic or semi-idiomatic will not make a difference for the discussion here. We refer the reader to Zeller (1999) who develops a "class based semantic" approach to account for sub-regularities found in idiomatic PVCs. In the next section, we will show that the transparent vs. idiomatic distinction correlates with a number of syntactic properties, hence leading to the conclusion that this basic semantic distinction is also encoded syntactically.

3. TWO SYNTACTIC STRUCTURES

In the previous section, we have argued for two classes of PVCs. In this section, we will argue for different licensing conditions and hence different configurations for the two kinds of PVCs. In particular, we will show that transparent PVCs are licensed thematically (i.e., they have to be in a thematic relation with an argument) whereas idiomatic particles are licensed structurally (i.e., they have to be in a local relation with a predicate). Syntactically, these two licensing relations correspond to a small clause structure for transparent PVCs and a complex V'-structure for idiomatic PVCs.

Let us recall first the two structures proposed for transparent vs. idiomatic PVCs and repeated in (14).

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[7] These examples might improve again in figurative speech (cf. fn. 4).

(14) a. *Transparent PVC*   b. *(Semi-)Idiomatic PVC*

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            VP                                        VP
          /    \                                    /    \
        SC      V°                               OBJ      V'
       /  \     throw                                    /  \
     OBJ   PartP                                      PART    V°
           out                                        out    throw
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        'to throw out' (lit.)   'to fire'
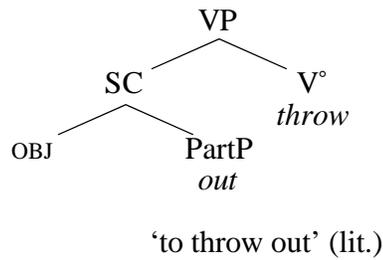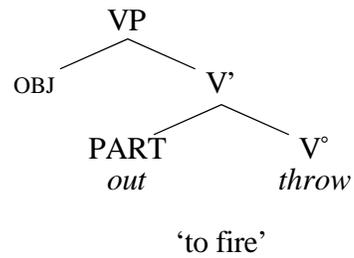
So far, nothing seems to force us to the assumption of a small clause structure for transparent PVCs or a complex V'-structure for idiomatic PVCs. One could assume that the V'-structure in (14)b represents PVCs in general, and that the difference between transparent PVCs as in (15)a and idiomatic PVCs in (15)b is simply a difference between the presence vs. absence of an idiomatic interpretation. That is, only the PVCs in (15)b involve a special meaning, whereas the meaning of the PVC in (15) is determined straightforwardly compositionally.

(15) a. *Transparent PVC*   b. *(Semi-)Idiomatic PVC*

hinauf   führen   auf   führen
up   lead   PART   lead
'lead up'   'perform'

auf   machen   auf   hören
open   make   PART   hear
'open'   'stop'

weg   schicken   auf   essen
send   send   PART   eat
'send away'   'eat'

Similarly, one could assume a small clause structure as in (14)a for both kinds of PVCs, and posit that the difference between transparent PVCs as in (15)a and idiomatic PVCs in (15)b is again a difference between the presence vs. absence of an idiomatic interpretation—only the PVCs in (15)b involve a special meaning, whereas the meaning of the PVC in (15) is determined compositionally. In what follows, we will see, however, that there are a number of syntactic and semantic differences that correlate with the two classes of PVCs and that are best described by different licensing configurations and hence different syntactic structures as in (14). The conclusion we will reach is that at least at some level of syntactic computation, PVCs differ as to whether they involve a configuration as in (14)a or a configuration as in (14)b. Although we believe that this difference is a basic difference we will also note that it could in principle be derived. Whether eventually an analysis involving uniform original structure plus various 'overruling' additional operations or an analysis involving different original structures that more closely represent the meaning of a construction is chosen, is a decision that we leave to the reader. What is important for us, however, is that there are interesting correlations between the syntactic and semantic properties of idiomatic vs. transparent PVCs that should not be ignored.

3.1 Transparent particle licensing

The support for a small clause structure can be drawn from two facts. First, the standard assumption and motivation for small clauses is that the subject and the predicate are in a predicate/argument relation (cf. den Dikken 1995, Aarts 1992, Moro 1997). However, crucially, it can be shown that only transparent PVCs represent a predicate/argument relation (section 3.1.1). Second, we will show that only transparent PVCs show signs of constituenthood between the object (i.e., the small clause subject) in a PVC and the particle (section 3.1.2).

3.1.1 Predication

In this section we will investigate the relation established between the (surface) object in a PVC and the particle (i.e., the relation between *the garbage* and *out* in a constructions like *throw out the garbage*). Under the assumption that PVCs are represented by small clause structures, we expect to see some effect of a predicate/argument relation.

This is indeed the case if we look at predicative constructions formed with the copula *be*. Interestingly, only transparent particles such as the ones in (15)a can be construed predicatively (cf. (16)a. A predicative use of idiomatic particles such as the ones in (15)b is impossible (cf. (16)b.[8]

(16) a.   *Transparent PVC*   b.   *(Semi-)Idiomatic PVC*

Die Tür	ist	auf		*Das Stück	ist	auf
the door	is	open		the play	is	PART
'The door is open'				'The play was (acted) out'		

Der Brief	ist	weg		*Die Suppe	ist	auf
the letter	is	away		the soup	is	PART
'The letter is gone'				'The soup was (eaten) up'		

The contrast in (16) receives a straightforward explanation if we assume that only transparent PVCs are licensed in a predicate/argument relation between the particle and the (deep) object. The logical structure for transparent PVCs is then a small clause structure rather than a complex V°/V'-structure. However, it is important to stress again that we are not claiming that it is impossible to derive a predicate/argument relation in a complex V'/V° structure. The point is simply that without further assumptions, a small clause structure appears to be the most straightforward way to represent the predicate/argument relation expressed by transparent PVC since it is able to establish a tight syntax/semantics connection. Taking the syntax/semantics connection seriously, it then follows that a small clause structure is not motivated for idiomatic PVCs, since these PVCs do not express a predicate/argument relation.

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[8] It is worth pointing out that this difference seems to hold in English as well as the other OV Germanic languages (see below). Furthermore, Vinka 1998, 1999a, b observes that Swedish particles also fall into two classes with respect to the possibility of a predicative use. Vinka, however, does not correlate this distinction with transparent vs. idiomatic readings or with a small clause vs. complex V°/V'-structure.

Note that we are not suggesting that transparent particles always can be construed predicatively. Rather, the observation is that if particles can appear as predicates to the copula *be*, they are transparent particles. It is easy to see that additional (syntactic and/or semantic) conditions have to be met to license a *be*-predication relation which we cannot discuss extensively here. We will, however, discuss two cases that apparently seem to pose a problem for the generalization.

First, transparent PVCs involving the complex particle '*hin-* + PART' (e.g., *hinaufführen* 'lead up') do not have corresponding predicative constructions involving the particle '*hin-* + PART'. The reason is that the *hin-* prefix functions as a directionality marker—i.e., complex particles of the form '*hin-* + PART' express directional relations. A property of *be*-predication, on the other hand, is that it expresses an inherently stative relation and it is thus incompatible with directional predicates (cf. (17)b). If, however, it is possible to replace the directional prefix *hin-* with a non-directional stative prefix (i.e., the prefix *d(a)r-*), predicative constructions become available again as is shown in (17)c.[9]

(17) a. Er   hat   den Kaktus   hinaus   getragen
          he   has   the cactus   HIN-out   carried
          'He carried the cactus outside'

    b.   *Der Kaktus ist   hinaus
          the cactus   is   HIN-out
          'The cactus is out'

    c.   Der Kaktus ist   draussen
          the cactus   is   DR-out-*en*
          'The cactus is outside'

Thus, it is not a property of small clauses per se that they have to be stative predicates. However, if a small clause occurs as the complement to a stative verb such as *be*, the small clause has to receive a stative interpretation and directional small clauses are excluded. Small clauses as complements to non-stative verbs (e.g., *tragen* 'carry'), on the other hand, do not underly the stative constraint and hence nothing prohibits directional small clauses as parts of transparent PVCs.

The second set of apparent counterexamples is illustrated by PVCs such as the ones in (18). Since the particles can be contrasted (cf. (18)a) they would qualify as transparent particles. A construal of the alleged small clause subject as the argument of *be* predication, however, is blocked (cf. (18)b). The account we would like to suggest is somewhat preliminary but it seems to be supported by a number of examples. Let us assume that the PVCs in (18) do indeed involve transparent particles, but that in contrast to the transparent PVCs discussed earlier which

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[9] There are also a number of interesting morphological and lexical restrictions on the directional/non-directional alternation which we cannot go into detail here. The complex particle *hinauf* 'up-directional' has two non-directional forms which are not interchangable: *oben* 'upstairs' and *drauf* 'on top of something'. Both are possible in predicative constructions. Furthermore, many *dr-* particles also require the suffix *-en* which we ignore here.

involved a *direct* predication relation, the predication relation in (18) is established *indirectly*. Leaving the aside the details of the structure of (18)a, we suggest that the actual small clause subject is not *der Stoff* 'the cloth' but rather the incorporated *Farbe* 'color'. As is illustrated in (18)c, *be* predication becomes licit again when the true small clause subject is predicated of the particle.

(18) a. den Stoff einfärben   nicht   umfärben
          the cloth in-color   not   re-color
          'to color the cloth, not to change the color'

    b. *Der Stoff ist   drinnen   c.   Die Farbe   ist   drinnen
          the cloth   is   *dr*-in   the color   is   *dr*-in
          'The cloth is in'   'The color is in'

To conclude, we assume the following licensing condition for transparent particles:

(19) *Transparent particle licensing*

Transparent particles are licensed in a direct or indirect predicate/argument relation.

Following standard assumptions about thematic licensing, transparent particles are thus licensed at the level where argument structure operates. Under the assumption that structures are not arbitrary constructs but interact in certain ways with the meaning of a construction, the conclusion for idiomatic PVCs can only be that they do not form a small clause structure. That is, if all PVCs were generated as small clause structures it would not be clear why idiomatic particles can never express a (direct or indirect) predicate/argument relation (neither syntactically nor semantically).

3.1.2 Topicalization

A syntactic argument for the two structures as suggested in (14) comes from topicalization. Comparing the structures in (14), a crucial difference is that the particle and the object (the small clause subject) form a constituent excluding the verb in the small clause structure but not in the complex V'-structure. We thus expect that the object and the particle should show some sign of constituency in transparent PVCs but not in idiomatic PVCs. Although the data are somewhat marked, topicalization can be taken to make this point. As has been observed by Stechow & Sternefeld (1988), Grewendorf (1990:96), topicalization of the object + the particle is possible in certain PVCs. What is crucial, however, for the discussion here, is that this form of topicalization is again only possible with transparent particles (cf. (20)a), and it is prohibited with idiomatic PVCs (cf. (20)b).[10]

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[10] Some speakers do not like examples like (20)a that much; however, they do confirm that there is a clear contrast between the two examples in (20) which we believe should not be ignored by simply declaring (20)a ungrammatical. That is, even if (20)a is not considered completely grammatical but degraded it seems inappropriate to overlook this important systematic contrast (see also Müller 2000 for many other examples of this sort).

(20) *Topicalization of small clause*

    a.   ?[Die Tür   auf]$_{SC}$ hat   nur der Hans   t$_{SC}$ gemacht
        [the door   open]$_{SC}$ has   only the John   t$_{SC}$ made
        'Only John opened the door'

    b.   *[Das Stück auf]$_{SC}$ haben   nur die Philharmoniker   t$_{SC}$ geführt
        [the piece   PART]$_{SC}$ have   only the Philharmoniker   t$_{SC}$ performed
        'Only the Philharmoniker performed the piece'

To see how this pattern follows from the structures in (14), a few remarks on the syntactic properties of topicalization are necessary. The acceptability of (20)a is straightforward under a small clause structure for particles as in (14)a—the whole SC (i.e., one constituent) is moved to topic position. The only way to derive topicalization of the object + the particle in a complex V'-structure would be to assume that the whole VP is topicalized. However, since the verb is not part of the topicalized phrase we would have to assume that it has moved out of the VP (e.g., to a higher functional head) prior to topicalization. We will show, however, that this option is ruled out independently in German.

      We will not take a position here on whether there is indeed movement of the verb to a higher functional projection in embedded (non-bridge) clauses in German. The important fact for the discussion here is that even if there is such a movement there is independent reason to assume that topicalization of a VP that does not include the verbal head is illicit (see also Haider 1993; exceptions will be discussed in section 3.2.2). In German, only one XP can appear in topic position. The two phrases in (21) (the adverbial phrase and the object) thus have to be part of one constituent—presumably the VP or some higher functional projection. However, since there is a clear contrast between (21)a and (21)b, these examples provide evidence for the claim that topicalization of a VP is possible only if the topicalized VP includes the main verb.

(21) *Topicalization of VP*

    a.   *[Gestern   die Maria   t$_V$]$_{VP}$ hat   nur der Hans   t$_{VP}$ getroffen
        [yesterday the Mary   t$_V$]$_{VP}$ has   only the John   t$_{VP}$ met
        'It was only John who met Mary yesterday'

    b.   ?[Gestern   die Maria   getroffen]$_{VP}$ hat   nur der Hans   t$_{VP}$
        [yesterday the Mary   met   ]$_{VP}$ has   only the John   t$_{VP}$
        'It was only John who met Mary yesterday'

Let us assume the following condition on topicalization in German:

(22) *Topicalization* (1 of 2)
    An XP can realize topic/focus if its head is in a topic/focus position

Given (22), it follows that VPs can only be fronted when the verb is carried along as well—thus excluding examples such as (21)a. Furthermore, since (22) eliminates a derivation involving VP-topicalization for (20)b, the contrast between the grammatical (20)a and the ungrammatical (20)b

strongly suggests that the PVCs in these examples involve different structures. In the approach that we pursue here, the distribution in (20) falls out automatically: only transparent PVCs such as (20)a form a small clause—i.e., are part of one constituent with the object excluding the verb. Hence, only transparent particles can be part of a topicalized phrase that does not involve the main verb.

Note again that as mentioned earlier, we do not claim that it is impossible to derive the contrast under uniform structures for PVCs. The point is simply that if both types of PVCs were represented by the same syntactic structure it would a priori not be clear why there is a contrast such as the one in (20) whereas this contrast is not only accounted for but also predicted under the assumption that PVCs have different structures which closely correspond to their meanings. In particular, we do not see a (non-stipulative) way to derive this distinction if both kinds of particles are represented by a complex V°/V'-structure. As for a uniform small clause structure, an obvious way to derive the contrast would be to assume that idiomatic particles but not transparent ones have to incorporate (covertly) into the verb and that incorporation is impossible after topicalization (i.e., one would have to assume that reconstruction of the small clause and further head movement is blocked which does not seem to be unmotivated; cf. fn. 6). Note, however, that this would then create exactly the structure that we are suggesting as the base structure for idiomatic PVCs (ignoring the X' vs. X° difference which seems irrelevant for interpretational purposes). Thus, even under a uniform approach to PVCs, one has to assume that at least at the level of interpretation idiomatic vs. transparent PVCs involve different structures. To decide whether this difference is the result of different original structures (as suggested here) or of identical original structures but different derivations seems to be a conceptual and theoretical issue that ultimately has to be left to the reader. The reason we believe that the first option is superior is first that the distribution of particles in predicative contexts falls out whereas something else has to be said again in a uniform small clause approach; and second that there is no theoretical or empirical need to postulate a uniform structure for all PVCs since as we have seen not all PVCs are the same. Idiomatic and transparent particles involve very different semantic properties; assuming that syntax and semantics are not independent of each other we expect that this difference is also reflected in the syntax.

3.2 Idiomatic particle licensing

We will now turn to the licensing conditions for idiomatic particles. The conclusion of this section will provide the final argument for two different structures of PVCs. We will first present our analysis of idiomatic particles which will then allow us to solve a peculiar puzzle which we have ignored so far and which poses a problem for most analyses, namely the possibility of topicalization of idiomatic particles in cases where the main verb occurs in C°.

3.2.1 The analysis

Our analysis involves two ingredients. First, we claim that movement is feature-driven. Second, we claim that particles have to be licensed semantically in specific configurations.

The assumption that movement is feature-driven has already been indirectly invoked. Recall that there is a contrast with respect to topicalization between idiomatic and transparent particles. The relevant examples are repeated in (23).

(23) *Topicalization of particles*   =(12)

    a.   [AUF]$_{PART}$ hat   er   die Tür   t$_{PART}$ gemacht
        [open]$_{PART}$ has   he   the door   t$_{PART}$ made
        'He opened the door'

    b.   *[AUF]$_{PART}$ haben sie   das Stück   t$_{PART}$ geführt
        [PART]$_{PART}$ have   they   the piece   t$_{PART}$ performed
        'They performed the piece'

Since idiomatic particles cannot be construed contrastively they cannot receive focus and therefore they could not check a topic or focus feature in SpecCP. Thus, what rules out (23)b is the lack of relevant features on the particle—since the particle cannot move to check topic/focus features movement would not be triggered and is hence ruled out.

The second assumption we make is that idiomatic particles are subject to the following locality constraint:

(24) *Idiomatic particle licensing*

Idiomatic interpretations are licensed in a local relation at LF

Local relations (cf. Bobaljik 1995):

    Head-complement configuration (cf. Zeller 1999)
    Specifier-head configuration

Let us illustrate this condition by first looking at a standard V2 context in which (both kinds of) particles have to be stranded. Assuming the conditions in (24), the only thing we have to add to account for the grammaticality of stranded idiomatic particles (cf. (25)) is that V2-movement is not visible at LF. That is, either the verb reconstructs to its base position, or verb movement leaves a copy which is privileged at LF, or verb movement is not syntactic at all but applies at PF. All options yield a configuration where the verb and the particle are in a local relation at LF and hence an idiomatic interpretation is licensed. As discussed in the previous section, transparent particles, on the other hand, are licensed thematically—i.e., as part of a small clause.

(25) *Particle licensing in V2*

    a.   Hans   warf   seinen Mitarbeiter   hinaus   *warf*   =(4)a
        John   threw   his employee   out   *threw*

    'John fired his employee'

b. | Hans | machte | die Tür | | auf | *machte* |
    |------|--------|---------|--|-----|----------|
    | John | made | the door | | open | *made* |

'John opened the door'

3.2.2 Special Fronting

In this section, we will discuss some exceptional fronting cases that to our knowledge have not received an account so far and that will support the analysis outlined in the previous section. As mentioned before, idiomatic particles cannot move to topic/focus position (cf. (23)b). However, there is one context in which idiomatic particles can appear in initial position. If the main verb occurs in C° as part of the V2 movement, fronting of idiomatic particles improves significantly as is illustrated in (26) (see also Zeller 1999, Bayer and Weiß 1999, Müller 2000; Hans den Besten, p.c. for Dutch).[11]

(26) *Topicalization of particles*

a. ?$[AB]_{PART}$ trat   Nixon   1974 t_{PART} t_V
    $[down]_{PART}$ stepped   Nixon   1974 t_{PART} t_V
    'Nixon resigned in 1974' [Zeller 1999:64]

b. ?$[AUF]_{PART}$ führten   sie   das Stück   schon oft t_{PART} t_V
    $[up]_{PART}$ lead   they   the play   already often t_{PART} t_V
    'They have performed this play often [but never…]'

Note that these examples also argue against the claim that idiomatic and transparent particles differ in size and that the contrast in (23) is due to the fact that idiomatic particles are heads (and hence cannot occur in SpecCP) whereas transparent particles are XPs. Since idiomatic particles can occur in SpecCP (as long as the corresponding verb is also in the C domain) an analysis along these lines cannot be maintained.

Interestingly, the same effect as encountered in (26) can be found in constructions with idiom parts and head-less VPs: the presence of the main verb in C° obviates violations that would otherwise occur when parts of idioms or head-less VPs are fronted. The examples in (27) illustrate that fronting of parts of an idiom becomes significantly more acceptable when the verb is in C; the examples in (28) illustrate the same point for head-less VPs.
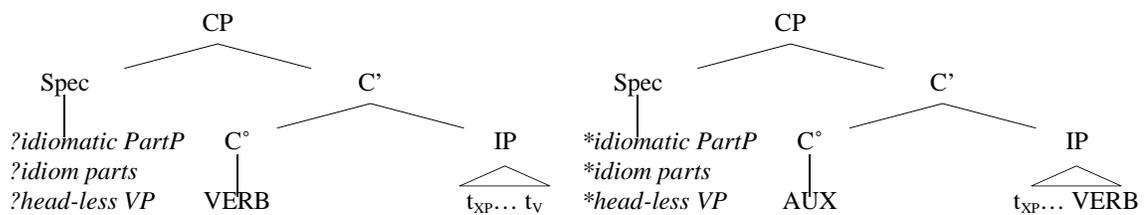
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[11] A note on the data in (26) is necessary again. The judgements are very delicate; most speakers find the examples slightly degraded and some speakers even reject them quite vehemently (Ackema, p.c.). However, what nevertheless seems to be the case (in German and Dutch) is that for most speakers there is a very strong and clear contrast between for instance (23)b and (26)b. Abstracting from what mark one eventually wants to assign to these examples, we believe again that the contrast is real and cannot be ignored (a collection of other acceptable examples of this sort can be found in Müller 2000).

(27) a.   ?Unter den Tisch   fällt   dass diese Kritiker weniger die Interessen der Autofahrer, sondern viel mehr die der Wirtschaft vertreten
under the table   falls   that these critics do not represent the interests of motorists, but rather those of the economy
'What is not mentioned is that…'   [Müller 2000]

   b.   *Unter den Tisch   ist   wieder   gefallen   dass…
under the table   is   again   fallen   that…
'What has not been mentioned is that…'

(28) a.   ?Zum zweiten Mal   die Weltmeisterschaft   errang   Clark   1965
For-the second time   the world championship   won   Clark   1965
'In 1965, Clark become world champion for the second time'   [Müller 2000]

   b.   *Zum zweiten Mal   die Weltmeisterschaft   hat   Clark   1965   errungen
For-the second time   the world championship   has   Clark   1965   won

To summarize, we get the following distribution of phrases in SpecCP:

(29) a.   *Main V in COMP*   b.   *AUX in COMP*

```
              CP                                          CP
            /    \                                      /    \
       Spec      C'                               Spec        C'
         |      /  \                                 |       /   \
?idiomatic PartP  C°      IP              *idiomatic PartP  C°       IP
?idiom parts      |      / \              *idiom parts       |      /  \
?head-less VP   VERB   t_XP… t_V          *head-less VP    AUX   t_XP… VERB
```

In order to account for this topicalization puzzle we first have to outline our assumptions about movement to SpecCP. We assume that topicalization is not a unitary phenomenon but is either syntactic movement or PF-movement. Syntactic topicalization is triggered by interpretable topic/focus features which are situated in the CP-domain. PF-topicalization, on the other hand, has no semantic effects but is triggered by the (PF) requirement that SpecCP and C° have to be filled in German declarative main clauses. There are two ways to satisfy the PF-constraint: either an expletive is inserted or an XP is shifted to the initial position. We assume further that PF does not look down the tree to pull up an XP but simply inverts the first XP—i.e., generally the subject—with the verb in C.[12] Thus, only expletive or subject initial sentences can lack a topic/focus interpretation. Note that PF-topicalization is only possible in the absence of topic/focus features. If topic/focus features are present, syntactic movement has to occur to check these features. In this case, the PF-requirement is satisfied by the topicalized XP. The interface conditions relevant for topicalization are summarized in (30).
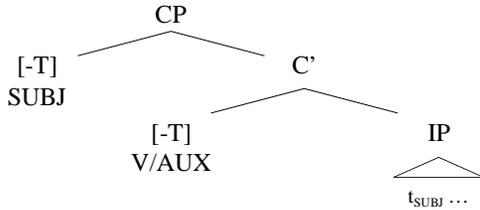
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[12] Alternatively, one could assume following Travis (1984) that subject-initial main clauses do not involve movement to SpecCP at all. I will not pursue this approach here.
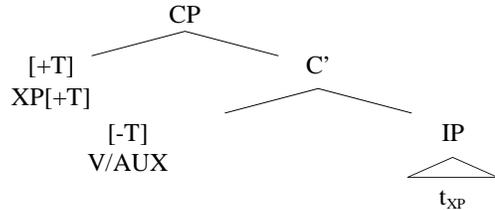
(30) a.   *Topicalization* (final)

   PF: SpecCP and C˚ have to be filled in declarative matrix clauses
   LF: Tocip/focus features are interpreted in C˚ or SpecCP
              An XP realizes topic/focus if its head is in a topic/focus position

An illustration of syntactic vs. non-syntactic topicalization is provided in (31) where [+T] refers to topic or focus features.
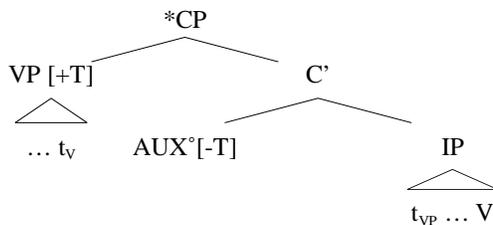
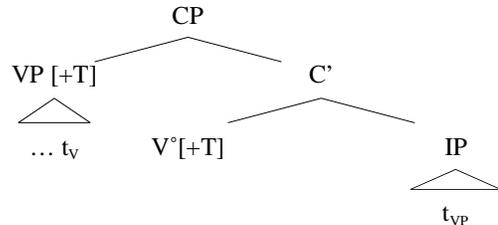(31) a.   *PF-topicalization*   b.   *Topic/focus interpretation*

```
              CP                                            CP
          /        \                                    /       \
    [-T]            C'                             [+T]           C'
    SUBJ        /        \                         XP[+T]      /       \
          [-T]            IP                              [-T]          IP
          V/AUX          /\                               V/AUX         /\
                    t_SUBJ …                                          t_XP
```

Assuming that topic/focus features can be in SpecCP or C˚ opens the possibility for two other structures which as we will see below are instantiated by the special fronting cases discussed here. The first case we will consider is fronting of head-less VPs. Since PF-topicalization can only affect the subject, fronting of a VP has to be syntactic. Let us start with the ungrammatical example in (28)b partially depicted in (32)a. Since the head of the topicalized VP is not in a topic position, the LF-interface condition is violated and the structure is ruled out. Note that covert movement of the verb to a topic/focus position is also not available under standard assumptions about head movement in German: first, C˚ is occupied by the auxiliary and hence this position (even if it were taken to involve [+T] features) is blocked; second, movement of the verb across the (trace of the) auxiliary would constitute a locality violation.[13] The situation is different in (28)a (illustrated in (32)b) where the main verb moves to C˚. Assuming that in this case, C˚ has topic/focus features, the LF-condition is met since the head of the topicalized VP ends up in a topic/focus position.

(32) a.   *Head-less VP fronting: ***   b.   *Head-less VP fronting: OK*

```
                 *CP                                           CP
             /         \                                   /        \
      VP [+T]           C'                          VP [+T]          C'
        /\          /        \                        /\         /        \
     … t_v      AUX˚[-T]       IP                   … t_v     V˚[+T]        IP
                            /\                                              /\
                        t_VP … V                                         t_VP
```

_____

[13] Furthermore, given the assumption that movement that has no semantic effects applies in the PF component, one would have to conclude that V2 movement of auxiliaries is PF-movement since auxiliaries cannot bear topic/focus features (though much of this claim depends on the analysis of *verum* focus). Thus, in sentences with an auxiliary in V2 position, C˚ cannot have any topic/focus features and as a result, there is no topic/focus position available for the verb at LF. In other words, LF movement of the verb to C˚ in examples such as (32)a would be illicit since the features of the verb (i.e., [+T]) and the features of C (i.e., [-T]) would not match.

Turning now to idiomatic particles, an important fact about the interpretation of examples such as the ones in (26) is that—as has been observed by Zeller (1999:64f)—they do not involve a contrastive interpretation of the particle but rather a contrastive interpretation of the whole VP (i.e., (26)a contrasts with something like *...but he died in 1994*). Thus, these examples provide strong evidence for the claim that what checks the topic/focus feature does not have to be in SpecCP but can also be in C°. Given the LF-interface condition on topicalization in (30), a topic/focus interpretation can be realized if the head of an XP is in a topic/focus position. We thus assume that in the examples in (26), the topic/focus feature is in C° and that movement of the verb to a topic/focus position is indeed sufficient for a VP-topic interpretation. Although this assumption accounts for the interpretation of the sentences in (26), the question that is still open is how movement of the particle is possible. Recall that idiomatic particles cannot realize a topic/focus interpretation. Thus, a structure such as (33)a in which idiomatic particles move to a [+T] specifier is excluded since idiomatic particles do not have the right features. The structure in (33)b, on the other hand, faces the problem that either syntactic movement would not be triggered or PF-movement would look too far down in the tree.

(33) a.   *Topicalized idiomatic particles: **   b.   *Topicalized idiomatic particles: OK*
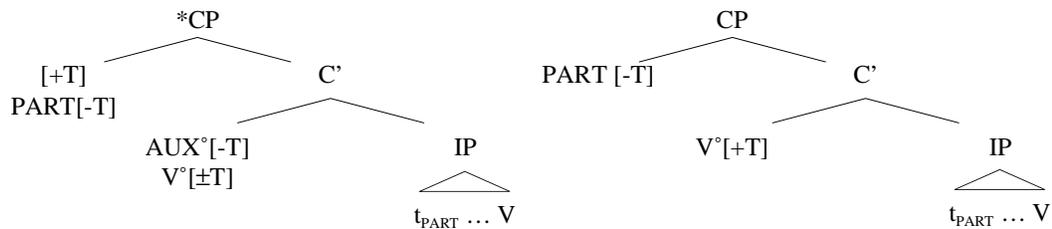
Looking at idiomatic particle licensing in more detail, we will see that the analysis proposed here allows us to account for this paradox. We will show that (33)b is the correct structure for (26) and that movement of the particle to SpecCP is indeed syntactic movement forced in this context in order to meet idiomatic licensing. Let us repeat the major parts of the analysis. We have suggested for V2 contexts in which the particle is stranded that the verb is or ends up in its base position at LF where it is in a local relation with the particle (cf. the discussion of (25) above). Given the LF-interface condition in (30), however, this option becomes unavailable in (33)b, since the verb realizes topic/focus which has to be interpreted in the CP-domain. Hence, the topic interpretation which is instantiated by the verb traps the verb in C° and prohibits reconstruction of the verb or an interpretation in the base position. In this constellation, idiomatic licensing would then not be met if the particle remains inside the VP. The solution we would like to suggest is that the only way for the particle to get licensed is to move to Spec CP where it ends up in a local configuration (i.e., specifier-head relation) with the verb. However, since this movement is not triggered by features of the host but rather by a self-interest of the particle (i.e., the need to get licensed) it should be prohibited. Examples of this sort thus represent a conflict between two requirements—idiomatic licensing and feature-driven movement (i.e., *Attract* in the sense of Chomsky 1995). The marked status of these examples can be taken to reflect this conflict: while movement in principle has to be feature-driven, this requirement can be relaxed or overridden to allow particles to be licensed.

3.3 Verb (projection) raising

The final section of this paper is concerned with the phenomenon of *verb raising* or *verb projection raising*. There are two well-known puzzles for the distribution of particles with respect to verb-movement in the West Germanic languages. First, while particles have to be stranded when the verb moves to C˚ (V2), they can or must taken along with the verb when the verb undergoes verb raising in the sense of Evers (1975). Second, while some languages allow particles to be stranded in verb raising contexts, most languages require particles to pied-pipe in these contexts. We will discuss these properties in detail below. Importantly, however, we will see that the difference between idiomatic and transparent PVCs plays a crucial role in verb raising constructions as well and that the analysis proposed so far will provide a natural way to account for the observed properties.

3.3.1 *Stranding vs. non-stranding languages*

The phenomenon of verb (projection) raising goes back to Evers (1975) who observed that in certain verb clusters the order of verbs is (partially or fully) inverted—i.e., assuming a head-final base for the West Germanic languages, the lower verbs appear to the right of higher verbs rather than to the left. The actual order of verbal elements in verb clusters depends on the language or dialect as well as the kind of construction involved (in particular auxiliary/participle constructions and modal/infinitive constructions behave differently within many languages; see *Table 1* and *Table 2* in the appendix for a summary of the distribution of verbal elements in a number of languages/dialects). As for the position of particles in verb clusters, the West Germanic languages fall into two classes: *stranding* languages (i.e., particles can be left behind) and *non-stranding* languages (i.e., particles cannot be left behind). As is illustrated in the (a) examples in (34) through (36), when the verb which is associated with the particle appears to the right of a higher verb, the particle cannot be left in its base position in German, Swiss, and Afrikaans (we will come back to exceptions to this generalization below). The (b) examples confirm again that in all languages, particles *have* to be stranded in a V2 context.

(34) *German*: *durch-sehen* 'to look through, examine'

    a.   Ich   glaube daß er das Buch **{*durch}**   hätte   **{durch}**   sehen sollen
          I   think that he the book {*through} had   {through} look   shall
          'I think that he should have looked through the book'

    b.   Er   **{*durch}**   sah   das Buch **{durch}**
          He   {*through}   saw   the book {through}
          'He looked through the book'

(35) *Swiss German:* Schönenberger (p.c.)

    a.   I   weiss dass er da Buech **{*doere}**   het soele **{doere}**   laese
          I   think that he the book {*through} had shall {through} read
          'I think that he should have read (through) the book'

b. Er **{*doere}** laest da Buech **{doere}**
He {*through} reads the book {through}
'He looks through the book'

(36) *Afrikaans:* Robbers (1997:61, fn. 14)

Die bende sal ons **{*aan}** bly **{aan}** rand
The gang will us {*PART} remain {PART} assault
'The gang will go on assaulting us'

The examples in (37)a and (38)b, on the other hand, illustrate that in Dutch and West Flemish verb (projection) raising constructions, the particle can be left behind or carried along with the verb.[14] Again, both languages require particle stranding in a V2 context (cf. (37)b and (38)b).

(37) *Dutch:* Neeleman (1994)

a. dat Jan zijn moeder **{op}** wil **{op}** bellen
that John his mother {up} wants {up} call
'that John wants to call his mother'

b. Jan **{*op}** belt zijn moeder **{op}**
Jan {*up} calls his mother {up}
'Jan calls his mother up'

(38) *West Flemish:* Rutten (1991:60), Haegeman (p.c.)

a. dan ze hem vu dienen cursus **{in}** moeten **{in}** schrijven
that they him for that course {in} must {in} write
'that they must register him for that course'

b. Ze **{*in)** schryven em vu dienen cursus **{in}**
They {*in} wrote him for this course {in}
'They wrote him in for this course'

To summarize, verb movement configurations show the following two contrasts with respect to the placement of particles:

❶ There is a difference between V2 contexts (stranding obligatory) and V(P)R contexts (pied-piping possible)
❷ There is a difference in V(P)R contexts between Dutch, West Flemish (stranding possible) and other West Germanic languages (stranding not possible)

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[14] However, it should be noted that although stranding is possible in West Flemish, it does not seem to be very natural (Haegeman p.c.).

3.3.2 Verb (projection) raising vs. verb second movement

We will start the discussion with a comparison of V2 movement and V(P)R in German; other languages will be discussed in the following subsection. Before we discuss the licensing of particles in verb (projection) raising constructions, we first have to say a few things about verb (projection) raising in German. In Standard German, inversion is only possible in the so-called *Infinitivus pro participio* ('Infinitive for participle', henceforth IPP) construction. All other contexts show strictly descending orders (i.e., 3-2-1 where 1 refers to the hierarchically highest verb; see Wurmbrand 1999 for a summary of the data). As has been demonstrated by Hsiao (1999), the unmarked word order in the IPP construction is 1-3-2 as in (39)a; some speakers also accept 3-1-2 (cf. (39)b) or 3-2-1 (cf. (39)c). All other orders are ungrammatical in German (though see below for Swiss).

(39) *Infinitivus pro participio*

    a.   weil   er ihr **hätte**   helfen   müssen
         since he her had (1) help   (3) must-IPP (2)

    b. %weil   er ihr helfen   **hätte**   müssen
         since he her help (3) had   (1) must-IPP (2)

    c. %weil   er ihr helfen   müssen   **hätte**
         since he her help (3) must-IPP (2) had   (1)

In this paper, we will not go into detail about the question of why certain categories move or do not move in different languages. We only want to point out that all considerations seem to point to the claim that verb (projection) raising is not a syntactic operation. Rather, this form of re-ordering of verbal elements shows all signs of an operation that does not affect the syntax/semantic computation. As is demonstrated in Wurmbrand (1999), the different word orders found in different languages do not correlate with any difference in meaning; the inversion rules are language specific, construction specific, and category specific; and finally, the movement operations one has to invoke to derive the different word orders are not connected to other syntactic or semantic properties (neither in general nor within a particular language) but are best statable in terms of arbitrary rules. We thus simply assume (though nothing hinges on it) that verb (projection) raising is a post-syntactic (PF) operation as for instance in Haegeman & van Riemsdijk (1986) that is defined by arbitrary rules that are specified for language, category and construction.
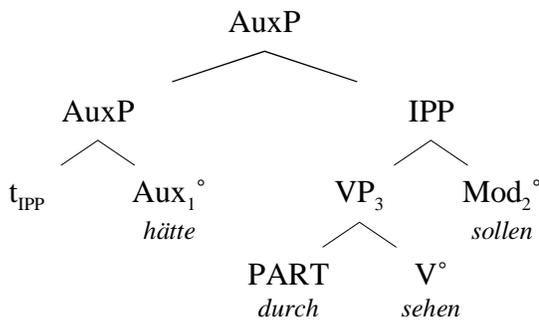
      Returning to the licensing of particles in IPP-constructions, the relevant context for our purposes here is the 1-3-2 order in (39)a since this is the only construction in German where the lowest verb clearly appears in a dislocated position. Following den Besten & Broekhuis (1992), we assume that the 1-3-2 order is simply the result of (remnant) movement of the IPP-complement to the right of the auxiliary (assuming a head-final base). As we have seen in the previous section, particles can only occur to the immediate left of the hierarchically lowest verb (cf. (40)a repeated from (34)) and cannot be stranded as in (40)b.
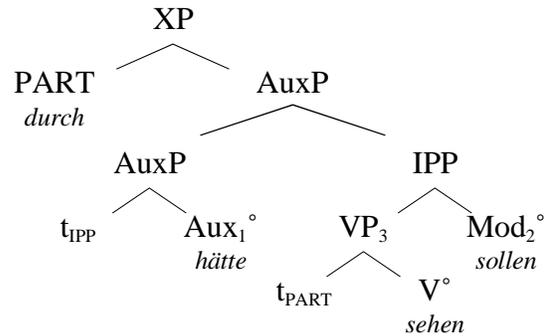
(40) *Particle stranding*

    a.   daß   er   das Buch hätte   [**durch**   sehen]   sollen   =(34)
          that   he   the book had   [through   look]   shall
          'that he should have looked through the book'

    b. *daß   er   das Buch [**durch**] hätte   sehen   sollen   =(34)
          that   he   the book [through] had   look   shall
          'that he should have looked through the book'

The structures for these examples are depicted in (41) (for ease of exposition I represent the structures as involving movement, however, it should be kept in mind that this form of reordering is considered as PF-movement). (41)a is the case where the whole IPP complement has been moved to the right. Since the particle and the verb are in their base-positions within the extraposed constituent, the licensing condition for idiomatic particles is met. In order to get the surface order in (40)b, the particle must have undergone movement prior to IPP-movement. This movement, however, is not triggered, therefore it is blocked. Possible trigger for this kind of scrambling would again involve some kind of focus feature which by definition idiomatic particles do not have.[15] Thus, there is no possible derivation in which the particle ends up to the left of the highest verb as in (40)b.

(41) a.   *Particle pied piping*   b.   **Particle stranding*

The prediction this analysis makes is that stranding as in (40)b should be possible if the particle is a transparent particle. This is indeed the case as is illustrated in (42).

(42) *Particle stranding*

    a.   ?daß er   die Tür   **auf**   **nicht** **zu**   hätte   machen sollen
          that he   the door open   not   closed had   make   shall
          'that he should have opened not closed the door'

---

[15] The particle would also end up in a position where it cannot be licensed idiomatically. However, this point could only be maintained if it can be shown that particles are not allowed to reconstruct.

b. ?daß er den Brief **weg nicht zurück** hätte schicken sollen
     that he the letter away not back had send shall
     'that he should have sent the letter off not back'

Since transparent particles can bear focus they can also undergo movement that is driven by some form of focus (or the whole small clause can be moved as we have seen in section 3.1.2). The IPP-complement in (42) then does not involve the particle anymore resulting in the stranding effect after IPP-movement.

3.3.3 X˚ vs. XP-movement

In this section, we will discuss some of the language variation encountered with respect to particle placement in verb (projection) raising constructions.

3.3.3.1 Dutch

In Dutch, inverted orders are generally possible. As is illustrated in (43), in modal-auxiliary-participle constructions, the possible word orders are 1-2-3 and 3-1-2. Some speakers also allow 1-3-2; but the 3-2-1 (the German order) is generally considered quite marked (cf. Rutten 1991, Zwart 1996, Robbers 1997 among many others).

(43) *Dutch modal-auxiliary-participle construction*

    a.   dat Jan Marie **kan** hebben gezien
          that John Mary can (1) have (2) seen (3)

    b.   dat Jan Marie gezien **kan** hebben
          that John Mary seen (3) can (1) have (2)

    c. %dat Jan Marie **kan** gezien hebben
          that John Mary can (1) seen (3) have (2)

    d. ??dat Jan Marie gezien hebben **kan**
   that John Mary seen (3) have (2) can (1)

The relevant context for our purposes is (43)a since here again the lowest verb is clearly dislocated and furthermore all speakers accept this structure. The distribution of particles in this construction is summarized in (44). Modulo some speaker variation, the particle can occur in three different positions: to the left of the highest verb (cf. (44)a), between the highest and the second highest verb (cf. (44)b) and between the middle verb and the lowest verb (cf. (44)c). More abstractly, the particle can occur anywhere as long as it precedes the lowest verb and follows the object. What is important here is that there are *no* differences between transparent and idiomatic particles.

(44) *Dutch—position of particles: 1-2-3* [Zwart 1996:252]

a.	dat	Jan	het boek	**uit**	moet	hebben	gelezen
	that	John	the book	out	must	have	read

'that John must have finished the book'

b.	?dat	Jan	het boek	moet	**uit**	hebben	gelezen
	that	John	the book	must	out	have	read

c.	dat	Jan	het boek	moet	hebben	**uit**	gelezen
	that	John	the book	must	have	out	read

Our analysis is as follows. We assume that in Dutch all verbal elements (can) invert and that inversion is free to apply to either heads or to phrases.[16] If both inversions in a three-verb cluster are instantiated as head-movement (i.e., as inversion of the verbal heads), we get the order in (44)a illustrated in (45)b; i.e., the particle is stranded. If both movements are XP-movements we get the order in (44)c depicted in (45)c with the particle carried along. And finally, if we have head-movement followed by XP-movement we get the order in (44)b which is given in (45)d and where the particle ends up between the highest verb and the second highest one.[17]
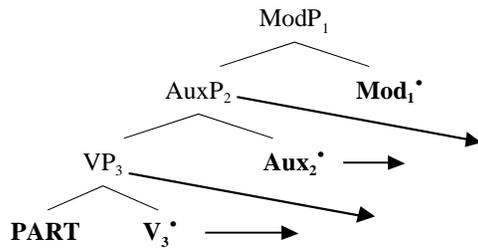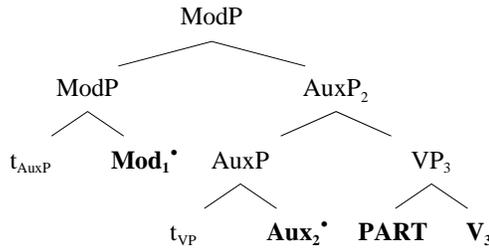
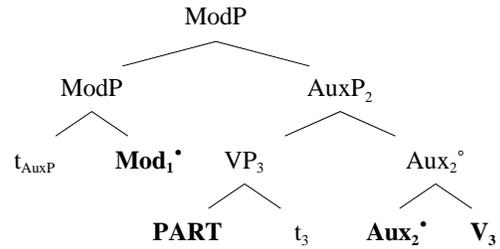(45) a. *Base structure*   b. *X°-movements*

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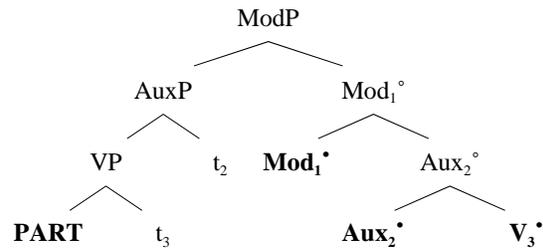
[16] To be exact, we assume that the (PF-)inversion rules apply obligatorily to infinitives and optionally to participles in Dutch (see Wurmbrand 1999 for further elaboration).

[17] There are a few reasons why we assume a head-final analysis for Dutch. Although a head-initial analysis seems quite appealing for the examples in (44) it requires a number of additional assumptions that can be avoided under a head-final structure. To derive the orders in (44), it has to be assumed that the particle can (in fact has to) move up and that there are three possible landing positions. If, however, the particle is moved as well—i.e., as in the 3-1-2 order in (43)b—the particle loses the lower licensing positions and it has to precede "3" (cf. Zwart 1996). To account for this "hidden" directionality effect, so far all analyses seem to employ a stipulation to the effect that particles can go anywhere as long as they precede the licensing verb at the surface. Furthermore, the fact that all particles have to move in these kind of approaches does not seem to provide a natural way to account for the non-movability observed with respect to topicalization or scrambling of idiomatic particles. Since idiomatic particles as well as transparent ones can appear separated from the verb as in (44)a it is not obvious how further movement could be prohibited. Any kind of idiomatic licensing should either allow both topicalization and (44)a or it should block both. There are of course, ways to build restrictions in the system, however, we consider it an advantage that particle placement in our theory follows from the specification "X° or XP-inversion".

c.   *XP-movements*   d.   *X˚-movement/XP-movement*

```
            ModP                                              ModP
          /      \                                          /      \
      ModP        AuxP₂                                 ModP        AuxP₂
      /   \       /    \                                /   \       /    \
 t_AuxP  Mod₁˙  AuxP    VP₃                        t_AuxP  Mod₁˙  VP₃    Aux₂°
               /   \    /  \                                    /  \     /   \
            t_VP  Aux₂˙ PART  V₃                            PART  t₃  Aux₂˙  V₃
```

Assuming that 'mixed' movement is marked or impossible, the variation among speakers can be accounted for. As for particle licensing, we simply have to assume that like in V2 movement, verb (projection) raising is invisible at LF (that is, it is either PF-movement or reconstructed). Since in none of the constructions, the particle moves on its own the issue of non-triggered particle movement does not arise.

3.3.3.2 Swiss, Afrikaans

An interesting difference is found in Swiss. While Swiss also allows full inversion of the verbal elements in certain constructions, particle stranding is impossible in all idiomatic contexts. Let us start with the some facts about verb (projection) raising again. In Swiss, most variation is found in modal-modal-verb constructions. As is shown in (46), all speakers accept the 1-2-3 and 3-2-1 orders. Some speakers also accept 1-3-2 and 3-1-2.

(46) *Swiss*: Schönenberger (1995:382), van Riemsdijk (p.c.)

a.	das	er …	**wil**	chöne		vorsinge	
	that	he …	wants (1)	can	(2)	PART-sing	(3)
b.	%das	er …	**wil**	vorsinge		chöne	
	that	he …	wants (1)	PART-sing (3)		can	(2)
c.	%das	er …	vorsinge	**wil**		chöne	
	that	he …	PART-sing (3)	wants (1)		can	(2)
d.	das	er …	vorsinge	chöne		**wil**	
	that	he …	PART-sing (3)	can	(2)	wants	(1)

Like in German, however, particles cannot be stranded but can only occur to the immediate left of the verb they are associated with. Thus, in (46)a, the particle cannot show up to the left of *can* or *wants* (cf. the same point was illustrated in the IPP-construction in (35)).

Thus, although Swiss verb raising looks more like Dutch (in the sense that inversion can be complete), the distribution of particles is identical to that in German. The account we are suggesting is that in Swiss, only XP-movement is available.[18] Since particles can only be

_____

[18] Note that we consider verbal re-ordering in West Germanic as an arbitrary language and construction specific phenomenon. Hence, it is not surprising that languages not only differ with respect to the categories involved but

stranded when either the verb moves away (as in (45)a) or the particle itself is movable we predict that in Swiss (like in German) only transparent particles can be stranded. This is again confirmed as shown in (47).

(47) *Swiss*: Schönenberger (p.c.)

dass er	Toere	**uf**	**noet**	**zue**	het	soele	mache
that he	the-door	open	not	closed	had	shall	make

'that he should have opened not closed the door'

Although the verb (projection) raising properties are different in Swiss and Afrikaans (see Wurmbrand 1999 for the relevant summaries), the behavior of particles is the same and we can give the same analysis without going into the details of the various verbal re-orderings. In Afrikaans only transparent particles can be stranded; idiomatic particles have to be pied-piped. The examples in (48) which make this point are from Robbers (1997) citing Le Roux (1989).

(48) *Two kinds of particles*: Robbers (1997:61, fn. 14)

a.
Hy	het	hom	laat	**weg**	gaan
He	has	him	let	away	go

'He let him leave'

b.
?Hy	het	hom	**weg**	laat	gaan
He	has	him	away	let	go

'He let him leave'

3.3.3.3 West Flemish

The final argument for our analysis comes from West Flemish. As we have seen in section 3.3, West Flemish is a stranding language like Dutch. The relevant example is repeated here (cf. (49)).

(49) *West Flemish:* Rutten (1991:60)   =(38)

dan	ze	hem	vu dienen cursus	**{in}**	moeten	**{in}**	schrijven
that	they	him	for that course	{in}	must	{in}	write

'that they must register him for that course'

Thus, we have to assume that, as in Dutch, examples such as the one in (49) involve either X°-inversion or XP-inversion which result in the stranding vs. the pied piping of the particle, respectively. Since particle stranding is a marked option (see fn. 14), we could conclude that XP-inversion is preferred. The same situation holds in the IPP-construction which can be realized in the 2-3-1 order. To derive this order, we simply assume that in West Flemish, only "2" and "3" invert. X°-inversion yields (the slightly marked) stranding of the particle (cf. (50)a), whereas XP-inversion yields the order in (50)b.

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also with respect to the size of the categories that invert.

(50) *West Flemish*: Haegeman (p.c.)

    a.   ?dan ze   hem   vu dienen cursus **in**   moeten schrijven een
         that they him   for that course   in   must   write   have
         'that they had to register him for that course'

    b.   dan ze   hem   vu dienen cursus moeten **in**   schrijven een
         that they him   for that course   must   in   write   have
         'that they had to register him for that course'

The interesting fact about West Flemish is that it also allows the 1-3-2 order, however, only in modal-auxiliary-verb constructions. Since we assume that the easiest way to derive 1-3-2 is by inverting "[3-2]" and "1", we would expect that in this case particles have to be carried along. As the data in (51) show, this prediction is borne out. While particles can be stranded in the 2-3-1 order in (50)a, they have to be carried along in the 1-3-2 order in (51) like in German.

(51) *West Flemish*: Haegeman (p.c.)

    a.   *dan ze   hem   vu dienen cursus **in**   moeten geschreven een
         that they him   for that course   in   must   written   have
         'that they must have registered him for that course'

    b.   dan ze   hem   vu dienen cursus moeten **in**   geschreven een
         that they him   for that course   must   in   written   have
         'that they must have registered him for that course'

       To summarize, we have shown in this section that the distribution of particles in verb clusters is accounted for under the assumption that V(P)R in contrast to V2 movement can be either head movement or phrasal movement. If V(P)R is phrasal movement particles are carried along in the verb cluster; if V(P)R is head movement stranding of the particle is possible. The availability of head vs. phrasal movement differs across the West Germanic languages and dialects. German, Swiss, and Afrikaans allow only phrasal movement, whereas Dutch and West Flemish also allow head movement (although head movement is a marked option in the latter). Besides the possibility of stranding of (both kinds of) particles in head movement verb clusters, stranding is also possible when the particle itself scrambles out of the VP prior to verb cluster reordering. As predicted by our analysis, movement of particles (which is attested in all of the West Germanic dialects) is restricted to transparent particle since it requires the ability to bear focus.

4. CONCLUSION

In this paper, we have argued that PVCs fall into two classes—transparent vs. idiomatic PVCs. Transparent PVCs are defined as PVCs that allow contrastive particles whereas idiomatic PVCs are defined as PVCs that receive a special (semi-)idiomatic meaning and can only occur with

fixed particles. We have shown that a number of syntactic and semantic properties that distinguish these two classes of PVCs (see the summary in the table below) receive a straightforward account if we assume that the two kinds of particles involve different licensing: transparent particles are thematically licensed in a predicate/argument relation, whereas idiomatic particles are semantically licensed in a local relation. The two licensing configurations are structurally represented as a small clause structure for transparent PVCs and a as complex V'-structure for idiomatic PVCs.

Properties of PVCs	*Transparent PVC*	*Idiomatic PVC*
separable from verb	+	+
fully transparent meaning	+	-
particle is predicated of object	+	-
contrastive particles	+	-
topicalization of particle + object	+	-
topicalization of particle	+	-
scrambling of particle	+	-

5. APPENDIX

[]   orders in [ ] are second hand citations; no data available at this point
%   marks dialect variation; (fully) grammatical for some speakers
??   very marginal; not quite *; not fully grammatical for any speaker (potential to become %)
     orders that are not noted are * (ungrammatical) for all speakers (so far…)

Data are given in the appendix!

5.1 Two-verb clusters

(52) a.   John   has   (1)   seen   (2)   AUX-PART
           John   was   (1)   seen   (2)   "
     b.   John   can   (1)   see   (2)   MOD-INF

Table 1: Verb clusters with two verbal elements

LANGUAGE	AUX-PART	MOD-INF	Adjustments:
German	2-1	2-1	❶: come + INF allows 2-1 order; Robbers (1997:89)
		??1-2	
Swiss₁	2-1	2-1	❷: 1-2 possible if 2 is followed by extraposed PP, CP (Haegeman 1995:53, 1998b:294)
		1-2	
Swiss₂	2-1	2-1	
	1-2	1-2	
Dutch (1=finite)	1-2	1-2	Bibliographical notes:
	2-1	2-1	
Dutch (1=non-finite)	1-2	1-2	Swiss₁ Schönenberger (1995), Haeberli, p.c.
	2-1		
West Flemish	2-1❷	1-2	Swiss₂ Bernese: Schönenberger p.c., Hsiao (1999, p.c.)
Afrikaans	2-1	1-2❶	
Frisian	[2-1]	[2-1]	[]: quoted from Zwart (1996)

5.2 Three-verb clusters

(53) a. John   must (1)   can   (2)   sing   (3)   Mod-Mod-Inf
    b. John   must (1)   have   (2)   sung   (3)   Mod-Aux-Part
         John   must (1)   be   (2)   elected (3)   "
    c. John   has   (1)   must-IPP (2)   sing   (3)   Aux-Mod(IPP)-Inf
    d. John   has   (1)   been   (2)   elected (3)   Aux-Part-Part

Table 2: Verb clusters with three verbal elements

LANGUAGE	MOD-MOD-V FIN-INF-INF	MOD-AUX-V FIN-INF-PART	AUX-MOD-V FIN-IPP-INF	AUX-AUX-V FIN-PART-PART
German₁ₐ	3-2-1	3-2-1	1-3-2	3-2-1
German₁ᵦ	3-2-1	3-2-1	1-3-2	3-2-1
			3-1-2	
German₂	3-2-1	3-2-1	1-3-2	3-2-1
			3-1-2	
			3-2-1	
German₃	3-2-1	3-2-1	?	3-2-1
	1-3-2	1-3-2		?1-3-2
Swiss₁	1-2-3	1-3-2	1-3-2	3-2-1
	1-3-2	%3-2-1	1-2-3	[%1-3-2]
	3-1-2	??3-1-2	%3-1-2	[%3-1-2]
	3-2-1			
Dutch	1-2-3	1-2-3	1-2-3	?3-1-2
		3-1-2		
		%1-3-2		
		??3-2-1		
West Flemish	1-2-3	1-3-2	1-2-3[3]	3-2-1
		3-1-2	2-3-1[3]	1-3-2
				?*2-3-1
Afrikaans	1-2-3	1-3-2	2-3-1	
		3-1-2[1]		
(West) Frisian	3-2-1	[3-2-1]	3-2-1[2]	
			(1-2-3)[2]	
Zaans	[3-2-1]	[3-2-1]	1-3-2	
			3-1-2	
			1-2-3	

Adjustments for Table 2

   [1]: only OK if 3 is passive participle; * with active participle
   [2]: modals—NO IPP in (West) Frisian; 2 shows up as PART; order 3-2-1; perception verbs and aspectual auxiliaries—IPP in West Frisian; order 1-2-3 (cf. Hoekstra and Taanman 1995; Ijbema 1997)
   [3]: 1-2-3 obligatory when AUX is PAST or has NEG-marker attached
          2-3-1 obligatory when AUX is non-finite

Bibliographical notes:

German:	1-3-2 OK for MOD-AUX-V:	Zwart (1996)
	1-3-2 OK for MOD-MOD-V:	den Besten & Edmondson (1983), Broekhuis (1992:189), Koopman (1999)
	Systematization of variation:	Hsiao (1999), Wurmbrand (in prep.)

Dutch:	1-3-2 OK	for MOD-AUX-V:	Zwart (1996), Robbers (1997) [mentions variation]
	1-3-2 *	for MOD-AUX-V:	two of my informants

[*Zaans*]: quoted from Ijbema (1997)
[Frisian]: quoted from Zwart (1996), de Haan (1993)

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