Verb-Second as vP-First

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Abstract

In this article, I argue for a remnant movement approach to German V/2 constructions that does not employ head movement at any step of the derivation: The pre-V/2 (topic) position and the V/2 position collapse into a single fronted remnant vP. The central theoretical innovation is a constraint on the movement of phases: The Edge Domain Pied Piping Condition (EPC) permits vP movement only if vP is reduced to its edge domain. The analysis is supported by the observation that items which are obligatory vP edges always show up in the pre-V/2 position in V/2 clauses (*wh*-phrases, expletives), and that items which are impossible vP edges never show up in the pre-V/2 position (weak object pronouns, certain object CPs). Furthermore, the new approach is shown to account for other conspicuous properties of German V/2 constructions (concerning the internal islandhood and external distribution of V/2 clauses), and to be compatible with evidence involving constituency tests, mismatches between verb-final and V/2 clauses, and (apparently) complex prefields. The article concludes with remarks on how the analysis can be extended to other Germanic V/2 languages and V/1 and V/3 constructions, and how the EPC can be derived from a more general identification requirement for phases.

Key words

Edge, extraction, derivation, German, feature-driven movement, head movement, phases, remnant movement, scrambling, verb-second

1. Introduction

Based on pioneering work by den Besten (1977), Thiersch (1978), Chomsky (1986), and others, Germanic verb-second (henceforth: V/2) constructions are usually assumed to involve two movement operations: On the one hand, the finite verb is fronted to a functional head position by head movement ("V/2 movement"); on the other hand, an XP is fronted to the pre-V/2 specifier position by XP movement ("topicalization"). The two landing sites correspond to the descriptive notions of *linke Satzklammer* ('left sentence bracket') and *Vorfeld*

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('prefield'). At least for present purposes, we can identify them as C and SpecC, respectively; see (1).[1]

(1) [$_{CP}$ Das Buch$_2$ [$_{C'}$ hat$_3$-C [$_{TP}$ Fritz$_1$ [$_{vP}$ t$_1$ [$_{VP}$ t$_2$ gelesen] t$_3$] t$'_3$]]]
the book$_{acc}$ has Fritz$_{nom}$ read

The main goal of this article is to show that an alternative analysis in terms of remnant movement is worth exploring: Focussing on evidence from German, I propose that there is indeed no head movement in V/2 constructions. Rather, the pre-V/2 position and the V/2 position collapse into a single fronted remnant vP that is reduced to its edge domain. I argue that a remnant movement approach to V/2 is conceptually attractive, and I will show that, in addition to covering the basic distributional patterns of German V/2 constructions, it makes some interesting and correct empirical predictions that standard approaches do not make.

The background to the present study is provided by a problem that head movement raises for the theory of grammar: Head movement violates the c-command requirement on movement and the extension requirement on structure-building operations in general. These related problems are of course well known and have been addressed conservatively in various ways (e.g., Baker (1988) suggests a more liberal notion of c-command to capture head movement, and Chomsky (1993) and Collins (1997) explicitly exempt head movement from their respective versions of the extension condition). An alternative conclusion might be that the special assumptions needed for head movement as a syntactic operation in the theory of grammar indicate some deeper imperfection of the concept as such; and it is this conclusion that I adopt here. Then, various steps can be taken. First, one can assign head movement to a grammatical level where the c-command/extension requirements do not hold; thus, Chomsky (2001, 37) envisages relocating certain kinds of head movement, like V/2 movement, to PF (also see Nakajima (2001)). Second, one can assume that head movement targets a position outside of the present phrase marker, thereby respecting the c-command/extension requirements; this strategy of interarboreal (sideward) head movement is pursued by Bobaljik & Brown (1997) and Nunes (2001). Third, one can postulate that head movement does in fact not target a head position, but rather its own XP, and the moved item is (exceptionally) permitted to project further (a 'Münchhausen' effect); such an analysis, which is also in accordance with the c-command/extension requirements, has been sketched by Holmberg (1991), and has been

[1]These labels are not necessarily correct anymore in approaches that split up the left periphery into several functional projections; see Müller & Sternefeld (1993), Zwart (1993), and, in particular, Rizzi (1997) and much subsequent work building on the latter. However, the assumption that V/2 structures involve both head movement and XP movement is still widely adopted in this type of work. Note also that the subject NP is assumed to have raised to SpecT in (1) and throughout this introduction, and that T is assumed to be right-peripheral. These assumptions are not essential in the present context, though, and will in fact be revised later.

developed in more detail for V/2 structures by Fanselow (2002). All these approaches have their merits, and it is not my goal in what follows to investigate their overall viability.[2] Rather, I would like to develop a radical version of a fourth strategy that has been pursued in order to overcome the conceptual problems with head movement in syntax: remnant movement.

Remnant movement was originally proposed by Thiersch (1985) and den Besten & Webelhuth (1987; 1990) to handle topicalization of incomplete VPs in Germanic languages. Recently, it has been suggested (most notably by Kayne (1998)) that remnant movement can be extended to many other domains, where its involvement may not be completely obvious at first sight. A side effect of analyses that employ such generalized remnant movement is that the role of head movement is weakened (see Koopman & Szabolcsi (2000)). Indeed, Sportiche (1998) and, in particular, Mahajan (2001) argue that all instances of head movement should be reanalyzed as involving remnant movement; they reanalyze V-to-T movement as movement of a minimal remnant VP/vP (containing only V/v) to an inner SpecT position (the subject NP having moved to an outer SpecT position). Adapting this proposal to V/2 constructions, we obtain (2) as an alternative to (1).

(2) [$_{CP}$ Das Buch$_2$ [$_{C'}$ [$_{vP_5}$ t_1 t_4 hat$_3$] [$_{C'}$ C [$_{TP}$ Fritz$_1$ [$_{T'}$ [$_{VP_4}$ t_2 gelesen] [$_{T'}$ t_5 T]]]]]]
the book$_{acc}$ has Fritz$_{nom}$ read

Here, a minimal vP that contains only the head is fronted to an inner specifier of C (creating the effects of head movement), and some XP is moved to an outer specifier of C. Such a remnant movement approach to V/2 might be viable. On the one hand, it evades the problems raised by head movement; on the other hand, it is arguably a fairly straightforward extension of the standard approach in (1): The main problem is to ensure that vP_5 in (2) is reduced to its bare head, and does not contain other material that is base-generated within vP. Essentially, there are two ways to achieve this result. Ideally, there are independent reasons for evacuating a vP that is fronted to V/2 position; this would correspond to the stance taken by Mahajan and Sportiche for their remnant movement approaches to V-to-T movement. However, I take it to be far from clear that such an approach can be maintained for either V-to-T movement or V/2 constructions – NPs may have to move for reasons of Case checking, but what about categories that are not normally assumed to have to undergo some movement, like PPs, APs, CPs, or VPs? This leaves the second possibility: There is an independent constraint that forces movement of all material except the head out of a vP that is to move to V/2 position.

[2] I would like to note, though, that a PF approach might be difficult to reconcile with evidence that V/2 may have semantic effects (see, e.g., Höhle (1988), Benedicto (1997), Zwart (2001), and Grewendorf (2002)). Moreover, the remaining two approaches require a relaxation of some basic tenets of current syntactic theorizing (see, e.g., Epstein (2001)).

Then, once it is ensured that vP_5 in (2) is reduced to its bare head, everything works more or less as it does in a head movement approach. There are two movement operations in the remnant movement approach in (2) (applying to XP_2 and minimal vP_5) that mirror the two movement operations in the classic head movement approach in (1) (applying to XP_2 and $v+T_3$). At first sight, this similarity may be taken to be a welcome result. However, I would like to conclude from it that (2) does not yet fully exploit the potential offered by the tool of remnant movement, and that there is every reason to look for a more radical remnant movement approach as a replacement for head movement in V/2 constructions.[3]

Thus, I would like to suggest the more radical remnant movement approach to V/2 constructions in (3): V/2 constructions involve only one fronted category, viz., a remnant vP that is reduced to its edge domain.

(3) $[_{CP}\ [_{vP_5}$ Das Buch$_2$ t_1 t_4 hat$_3$ $]\ [_{C'}$ C $[_{TP}$ Fritz$_1$ $[_{T'}\ [_{VP_4}$ t_2 gelesen $]\ [_{T'}\ t_5$ T $]]]]]$
the book$_{acc}$ has Fritz$_{nom}$ read

In this approach, the pre-V/2 position is occupied by whatever category happens to be at the left edge of vP earlier in the derivation – this will typically be a subject NP or an adverb, but, after scrambling, it may also be an object NP, a PP, a CP, or a VP (complete or remnant, as in the "classic" cases of remnant movement in Thiersch (1985) and den Besten & Webelhuth (1987; 1990)).[4]

I will proceed as follows. Section 2 develops a radical remnant movement approach based on the Edge Domain Pied Piping Condition (EPC), and applies it to standard cases of V/2 in German. The approach presupposes a correlation between pre-V/2 items and vP edges. Accordingly, section 3 shows that obligatory pre-V/2 items (*wh*-phrases, expletives) are obligatory vP edges; and section 4 shows that impossible pre-V/2 items (weak object pronouns, certain argument CPs) are impossible vP edges. Section 5 focusses on certain properties of V/2 clauses in German (concerning their islandhood and their distribution) that follow straightforwardly under the new approach. Section 6 discusses further consequences of the analysis of V/2 in German, including some that may at first sight look problematic. Section 7 tackles three more general issues: I derive the EPC from an identification requirement for

[3]Note in passing that (generalized) remnant movement has already been employed by Hallman (2000) and, in particular, Nilsen (2000) in their analyses of V/2 constructions. Still, both approaches crucially retain both head movement *and* topicalization, essentially as in (1). Remnant movement plays a role in Nilsen's analysis only when movement takes place into higher layers of the split CP that he postulates; and remnant movement is relevant in Hallman's analysis only for the derivation of verb-final constructions in German (V/2 derivations turn out to be the simpler case in this analysis).

[4]This generalization was first suggested by Fanselow (2002) (whose account in terms of Münchhausen-style verb movement is otherwise radically different from the one given here, though).

phases, and I suggest ways to integrate V/2 constructions in other Germanic languages, as well as V/1 and V/3 constructions, into the analysis. A conclusion is drawn in section 8.

2. The Approach

2.1. Background Assumptions

In this section, I develop an account of V/2 constructions in terms of remnant vP movement. Throughout, I basically presuppose the derivational model of Chomsky (1995; 2000; 2001); deviations will be introduced when they become relevant.

I will begin by laying out some background assumptions. First, a crucial constraint in all derivational approaches to syntax is the Strict Cycle Condition (SCC). Many attempts have been made in recent years to derive the SCC from more basic assumptions (see, e.g., Chomsky (1995; 2001), Watanabe (1995), Collins (1997), Kitahara (1997), Bošković & Lasnik (1999), and Freidin (1999)); but for present purposes, a formulation may suffice that is close to classic versions of the constraint, as in Chomsky (1973) and Perlmutter & Soames (1979).

(4) *Strict Cycle Condition* (SCC):
Within the current XP α, a syntactic operation may not target a position that is included within another XP β that is dominated by α.

Adopting the terminology of Chomsky (2000; 2001), the SCC can be viewed as restricting the search space in which the derivation can look for a probe, by confining it to the current XP domain. The SCC is complemented by the Phase Impenetrability Condition (PIC), which restricts search space for the goal. Chomsky (2000; 2001) discusses two versions of this constraint; (5) is a minimal modification of the second, somewhat weaker version that he eventually adopts.

(5) *Phase Impenetrability Condition* (PIC):
Material that is dominated by a phase XP is not accessible to operations at ZP (the next phase) unless it is part of the edge domain of X.

It follows from the PIC that movement cannot take place from positions that are too deeply embedded; in particular, if the current XP is a phase (simplifying a bit, CP or vP), then movement cannot originate in a position within the previous phase that is not part of the edge domain of that phase. The notion of edge domain can be understood as in (6):

(6) *Edge domain*:
A category α is in the edge domain of a head X iff (a) or (b) holds:
a. α is the highest overt head reflexively c-commanded by X.

b. α is a specifier that is not c-commanded by any other specifier in XP, and that precedes the head of the edge domain of X.

Given this restrictive notion of edge domain (according to which there can only be one edge specifier per phrase), the PIC ensures that only one phrase YP can be moved from a phase XP to the specifier of the next phase ZP. Normally, YP is a specifier of X; YP can be included in a complement of X only if X has no (overt) specifier. Similarly, the highest overt head of XP is typically X; it can be the head of the complement of X if X is non-overt. In practise, edge-domains are often two-membered (this assumption will prove relevant below). Unless multiple dependencies operate by intermediate movement to a projection between ZP and XP, this imposes a "one hole" restriction on movement (see Gazdar (1981; 1982)).

Next, some clarifications about clause structure are in order. I assume that German clause structure looks as in (7).[5]

(7) $[_{\text{CP}}$ C $[_{\text{TP}}$ T $[_{\text{vP}}$ NP $[_{\text{v}'}$ $[_{\text{VP}}$ ... V] v]]]]

This base order can be changed by various movement operations. First, German has scrambling, which I assume to be movement of some XP to an outer specifier of v. Second, there is optional subject raising to a specifier of T (see Grewendorf (1989), Diesing (1992)). Third, unstressed pronouns are obligatorily fronted within TP. Fourth, there is *wh*-movement to the specifier of what I take to be a filled C: C_{dass} (*dass* is then often deleted – obligatorily in Standard German, and optionally in substandard and dialectal varieties of German). Finally, main verbs are base-generated in V and stay there throughout the derivation (head movement not being an option, by assumption); in contrast, auxiliaries and modals occupy v positions in German.

Given these background assumptions, the main new claim that I would like to put forward here is that edge domains play a central role not only in the theory of locality (via the PIC), but also in the theory of pied piping.[6] Thus, I would like to suggest that (head movement

[5] In contrast to (1)–(3), T is now left-peripheral. But, as before, the issue does not really matter (and a left-peripheral T is adopted here and in the remainder of this article mainly because it tends to make derivations more perspicuous): Finite T in German is phonologically empty, and there is no head movement, by assumption. Similarly, T is irrelevant for inflection if a (non-lexical) inferential-realizational approach to inflectional morphology is adopted (see Stump (2001) and references cited there); independent evidence for such an approach to German verbal morphology is provided by Wiese (1994). The sole remaining independent motivation for T then is that it bears semantic content.

[6] Another area of (at least) German syntax where edge domains are relevant is the system of Case marking. It seems that morphological Case markers are required for exactly those categories in German that occur in the edge domain of NP; see Müller (2002). Thus, one might speculate that edge domains are very basic units in syntax that are referred to by a variety of distinct constraints.

not being an option) an attracted head X may either pied pipe its XP that contains no other phonological material (this would correspond to (2)); or it may pied pipe the whole XP, with no restriction on the phonological material inside of it; or, and this is the most interesting possibility in the present context, it may pied pipe an XP that is reduced to its edge domain. More specifically, I propose that V/2 in German involves attraction of v by an empty C (this, essentially, is the V/2 parameter), and movement of a vP that cannot be complete but must be reduced to its edge domain, to the (unique) specifier of C. The constraint that forces such movement is the Edge Domain Pied Piping Condition (EPC) in (8).[7]

(8) *Edge Domain Pied Piping Condition* (EPC):
A moved vP contains only the edge domain of its head.

The EPC implies that all non-edge domain material must leave a vP attracted by C prior to vP movement.[8] Given the clause structure assumed above, the only potential landing site for such vP-internal non-edge material is SpecT, which therefore cannot be unique in German. Furthermore, it seems that the evacuation operations forced by EPC-driven vP movement cannot be assumed to be triggered by the requirement to check an appropriate feature. Features that drive movement are always [EPP] features in Chomsky's recent work. However, throughout this article, I will make the more conservative assumption that different kinds of [F] can trigger displacement; [F] can then be referred to as "strong" or, in the terminology of Stechow & Sternefeld (1981), Sternefeld (2000), as a starred feature: [*F*]. It is this latter terminology that I will adopt from now on; thus, a feature [*F*] must be checked with some matching feature [F] by movement. This requirement is expressed by the Feature Condition (FC):

(9) *Feature Condition* (FC):
A feature [*F*] must be checked by movement.

EPC-driven evacuation from vP does not seem to be triggered by FC; consequently, it violates the Last Resort (LR) condition according to which all movement must result in feature

[7] For the time being, I take the EPC to be a primitive constraint of grammar; but see section 8, where it is derived from a more general constraint on phases.

[8] This, of course, presupposes that traces do not count for the purposes of the EPC. A more precise formulation would thus read as follows: A moved vP contains phonological material only in the edge domain of its head. If we abandon the copy theory of movement (or postulate that copy traces can never be phonologically realized), the notion of "phonological material" can be replaced by the notion of "non-trace material." Furthermore, if we were to abandon traces in toto, the EPC could be left exactly as in (8) in the main text, without qualification.

checking; see (10).[9]

(10) *Last Resort* (LR):
Movement must result in checking of [*F*].

Thus, the present suggestion presupposes that LR in (10) is violable if this is the only way to satisfy a constraint like the EPC. This minimal violability of LR can be captured by postulating an optimization procedure, including an appropriate constraint ranking (as in Heck & Müller (2000ab), where several other cases are addressed that point to the same conclusion, viz., minimal violability of LR so as to fulfill certain other, higher-ranked constraints). Alternatively, it can be addressed by revising LR in such a way that it requires movement to be either driven by the need to check a [*F*]-feature (see the FC) or by the need to respect a certain type of constraint (e.g., the EPC). A further possibility would be that EPC-driven movement to SpecT is feature-driven after all, in accordance with Last Resort in (10). One would then have to ensure that the appropriate [*F*] features can only be inserted on T if there is subsequent vP movement to SpecC, i.e., only if this operation has an indirect effect on outcome. Such an approach would in fact assimilate EPC-driven movement to SpecT to Chomsky's (2000; 2001) analysis of successive-cyclic *wh*-movement (see section 3.1 below). In all three approaches, EPC-driven movement is different from regular, feature-driven movement since it does not involve the need to check features with independent motivation. Accordingly, we can distinguish between feature-driven movement on the one hand, and repair- or constraint-driven movement on the other, EPC-driven movement being an instance of the latter. For the sake of concreteness, I will presuppose the approach in terms of LR violability in what follows.

With these assumptions as background, let me now turn to some run-of-the-mill V/2 constructions in German, and show how they can be derived as involving a combination of EPC-driven XP movement to SpecT and FC-driven vP-fronting to the specifier of an empty C – or $C_{[*v*]}$, as I will write from now on, given that an empty C attracts v.

2.2. Sample Analyses

2.2.1. Subject-Initial V/2

Subject-initial V/2 constructions are often given a priviledged position. Empirically, this is reflected in the fact that they appear to be less marked (and more frequent) than object-initial V/2 constructions; and theoretically, this is often accounted for by assigning them a slightly

[9]The question arises of whether [*F*] is deleted after checking. Although this seems plausible, I will generally leave checked [*F*] in derivations, for ease of exposition.

different (and, often, simpler) derivation. The present account is not different in this respect: $C_{[*v*]}$ attracts v, which pied pipes a vP that is reduced to its edge domain. Since object NPs are merged in VP, and subject NPs are merged in vP, a subject NP may show up in the edge domain of vP without any further movement taking place. Hence, in the simplest case, it is the subject that undergoes fronting together with the finite verb as part of a vP. To see this, consider the subject-initial V/2 sentence in (11-a), which is assigned the structure in (11-b) under present assumptions.

(11) a. Die Maria$_1$ hat den Fritz$_2$ geküsst
the Maria$_{nom}$ has the Fritz$_{acc}$ kissed
b. [$_{CP}$ [$_{vP_4}$ Die Maria$_1$ [$_{v'}$ t$_3$ hat]] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ den Fritz$_2$ geküsst] [$_{T'}$ T t$_4$]]]]

The derivation of (11-b) proceeds as shown in (12). First, suppose that the vP cycle has been completed, and movement to Specv has not taken place. The edge domain of vP now contains NP_1 (the subject NP) and v (the auxiliary); see (12-a). Next, T is merged with vP, and the EPC forces constraint-driven movement of VP to SpecT on the TP cycle; see (12-b). This movement violates LR, but is permitted by the PIC and other inviolable constraints. Third and finally, C is merged with TP, and vP undergoes feature-driven movement to Spec$C_{[*v*]}$ on the CP cycle; see (12-c).

(12) a. [$_{vP}$ NP_1 [$_{v'}$ [$_{VP}$ NP_2 V] v]] → Merge(T,vP), Move(VP,SpecT)
b. [$_{TP}$ [$_{VP_3}$ NP_2 V] [$_{T'}$ T [$_{vP}$ NP_1 [$_{v'}$ t$_3$ v]]]] → Merge($C_{[*v*]}$,TP), Move(vP,SpecC)
c. [$_{CP}$ [$_{vP_4}$ NP_1 [$_{v'}$ t$_3$ v]] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ NP_2 V] [$_{T'}$ T t$_4$]]]]

So far, so good. However, the derivation in (12) raises a timing problem: VP movement must apply on the TP cycle; but at this stage of the derivation, the EPC is not yet an issue (since there is nothing that would force vP to move on the TP cycle), and a violation of LR incurred by non-feature-driven VP movement is therefore not permitted. The EPC does become relevant on the subsequent CP cycle, but at this stage, it is too late to go back to the TP cycle and apply VP movement to SpecT, because of the SCC. There are various ways to solve this problem. What is perhaps the most straightforward solution is based on an independent reasoning in Chomsky (2001). Chomsky suggests that constraint evaluation takes place at the next phase level; for instance, the Minimal Link Condition (MLC) can be violated by a derivational step if the violation is later undone before the phase is completed (this is why raising of a subject NP in an inner specifier of v across, say, a *wh*-object in an outer specifier of v is possible). Suppose now that the same holds for Last Resort: LR is not checked after every derivational step, but only once a phase is completed. Under this assumption, the problem with (12) disappears: VP movement in (12-b) violates LR, but it does not do so fatally because the violation is justified by a satisfaction of the EPC (and the FC, which

forces movement to Spec$C_{[*v*]}$) by the end of the phase.[10]

Given that German has optional subject raising to SpecT (triggered by an optional [*D*] feature on T), a question arises concerning the status of the edge domain of a completed vP: Suppose that the derivation has reached a stage where a $T_{[*D*]}$ is merged with a vP in which the subject NP is part of the edge domain of v. Can [*D*]-driven subject raising to SpecT change the edge domain of vP after vP has been completed? Closer inspection reveals that it does not really matter (see below). However, for conceptual reasons it might be preferable to avoid the consequence that edge domains of an XP can change after XP has been completed. Thus, we can assume that once the vP has been completed, its edge domain is invariantly fixed. If T has been generated with an optional [*D*] feature and attracts a subject NP in the edge domain of vP on the TP cycle, subsequent attraction of vP by $C_{[*v*]}$ must violate the EPC: The moved vP cannot possibly contain its edge domain anymore if edge domains are fixed once and for all in the dervation, and a part of vP's edge domain is somewhere else (in SpecT).

2.2.2. Adverb-Initial V/2

Consider next instances of adverb-initial V/2 constructions in German, which share with subject-initial V/2 constructions the property of being relatively unmarked. Indeed, I would like to contend that these constructions involve a comparable degree of derivational effort. Thus, suppose (contra Alexiadou (1997) and Cinque (1999), but in line with, e.g., Bobaljik (2002)) that (at least certain types of) adverbs do not head functional projections that intervene between clausal projections like TP and vP, but are merged in specifiers of v. Suppose further that (subject) arguments and adverbs can be merged in either order in Specv. If the

[10]There are alternative solutions to the timing problem, among them the following two. First, it could be assumed that the derivation has access to subarrays (sub-parts of the numeration that constitute phases), as proposed in Chomsky (2000). At the TP stage where the question of non-feature-driven VP raising has to be decided, a look into the remaining subarray makes it clear that vP will later have to move. A minimally modified EPC could thus trigger constraint-driven VP movement at this stage already; the EPC might then read: "A vP *that is marked for movement* contains only the edge domain of its head", where an XP is marked for movement if there is a feature [*F*] in the subarray that can only be checked by a feature on XP. An alternative solution that is similar in its mechanics (but not in the conceptual underpinning) would be to locate the feature [*F*] that triggers movement in V/2 constructions on v rather than on C, i.e., to adopt a greed-based rather than an attraction-based theory of movement. The EPC would have to be modified in such a way that it triggers evacuation from a vP that bears the relevant [*F*] feature that triggers vP displacement. These alternative solutions do not strike me as unreasonable, and I would like to conclude from the fact that they are readily available that the timing problem in (12) is not severe. However, here and in what follows, I will stick to the original solution in terms of a phase evaluation of LR.

subject is merged last in vP (and no movement operation to Specv takes place), vP-attraction by $C_{[*v*]}$ will lead to a subject-initial V/2 clause, as shown in the previous section. However, if an adverb is merged last, vP-attraction by $C_{[*v*]}$ will create an adverb-initial V/2 clause, other things being equal. Thus, adverb-initial V/2 clauses behave like subject-initial V/2 clauses in that they involve edge-domain placement without movement, purely by merging an item in the highest specifier of v. A typical example for adverb-initial V/2 in German is (13-a); the structure is (13-b).

(13) a. Gestern hat die Maria$_1$ den Fritz$_2$ geküsst
yesterday has the Maria$_{nom}$ the Fritz$_{acc}$ kissed
b. [$_{CP}$ [$_{vP}$ Gestern [$_{v'}$ t_1 [$_{v'}$ t_3 hat]]] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{T'}$ [$_{VP_3}$ den Fritz$_2$ geküsst] [$_{T'}$ T t_4]]]]]

(14) illustrates the derivation of adverb-initial V/2:

(14) a. [$_{vP}$ Adv [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ NP_2 V] v]]]
→ Merge(T,vP), Move(VP,SpecT), Move(NP_1,SpecT)
b. [$_{TP}$ NP_1 [$_{T'}$ [$_{VP_3}$ NP_2 V] [$_{T'}$ T [$_{vP}$ Adv [$_{v'}$ t_1 [$_{v'}$ t_3 v]]]]]]
→ Merge($C_{[*v*]}$,TP), Move(vP,SpecC)
c. [$_{CP}$ [$_{vP_4}$ Adv [$_{v'}$ t_1 [$_{v'}$ t_3 v]]] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ NP_1 [$_{T'}$ [$_{VP_3}$ NP_2 V] [$_{T'}$ T t_4]]]]]

Multiple specifier movement on the TP cycle in (14-b) reassembles NP_1 and VP_3 in their pre-movement, vP-internal order; indeed, the reverse order (with VP_3 in an outer, and NP_1 in an inner SpecT position) is highly marked (see below). The question arises of why this should have to be so. As a key to a solution of this problem, recall that movement of NP_1 and VP_3 is not feature-driven (but EPC-driven); and, as has been sometimes been noted, it seems to be a general property of movement that is not feature-driven that it obeys a strict order-preservation requirement (see Müller (2000) on order preservation effects with instances of overt raising of negative phrases and quantified phrases that are postulated by Kayne (1998) and Johnson (1998), respectively, and Koopman & Szabolcsi (2000) on movement to stacking positions).

2.2.3. Object-Initial V/2

Abstracting away from expletives for the moment, subject NPs and adverbs are the only types of categories that can be merged at the edge of vP; hence, all other pre-V/2 items must involve movement to Specv, which one may want to correlate with an increased markedness. The canonical way (but, as we will see in section 3.1, not the only way) for a category to get to the edge domain of vP is scrambling. For present purposes, I will assume (following,

among others, Grewendorf & Sabel (1999) and Sauerland (1999)) that scrambling is triggered by an appropriate feature (or a feature bundle) that we may refer to as [*Σ*], and that can be instantiated only on v in German (i.e., TP and CP are not scrambling domains).[11] NPs can bear a [Σ] feature in German, i.e., they can undergo scrambling from a VP-internal position to a specifier of v. As a result, object NPs can end up in the edge domain of vP via scrambling, and can thus participate in vP fronting to Spec$C_{[*v*]}$. A typical example involving object-initial V/2 is given in (15-a), with the structure allotted to it under the present approach in (15-b).

(15) *Object-initial V/2*:

a. Den Fritz$_2$ hat die Maria$_1$ geküsst
the Fritz$_{acc}$ has the Maria$_{nom}$ kissed

b. [$_{CP}$ [$_{vP_4}$ Den Fritz$_2$ [$_{v'}$ t_1 [$_{v'}$ t_3 hat$_{[*\Sigma*]}$]]] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{T'}$ [$_{VP_3}$ t_2 geküsst] [$_{T'}$ T t_4]]]]]

The derivation of object-initial V/2 is shown in (16). The crucial step is the one from VP to vP: NP_2 has a feature [Σ] and moves to the specifier of v, which bears the corresponding feature [*Σ*], as a regular instance of object scrambling. Since NP_2 is now the highest phonologically overt XP in the edge domain of $v_{[*\Sigma*]}$, the edge domain of vP contains NP_1 and $v_{[*\Sigma*]}$. Consequently, the vP that later undergoes fronting to Spec$C_{[*v*]}$ contains only the object NP *den Fritz* and the auxiliary *hat*.

(16) a. [$_{VP}$ NP_2 V] → Merge($v_{[*\Sigma*]}$,VP), Merge($v_{[*\Sigma*]}$,NP_1), Move(NP_2,Spec$v_{[*\Sigma*]}$)

b. [$_{vP}$ NP_2 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ t_2 V] $v_{[*\Sigma*]}$]]]
→ Merge(T,vP), Move (VP,SpecT), Move(NP_1,SpecT)

c. [$_{TP}$ NP_1 [$_{T'}$ [$_{VP_3}$ t_2 V] [$_{T'}$ T [$_{vP}$ NP_2 [$_{v'}$ t_1 [$_{v'}$ t_3 $v_{[*\Sigma*]}$]]]]]]
→ Merge($C_{[*v*]}$,TP), Move(vP,SpecC)

d. [$_{CP}$ [$_{vP_4}$ NP_2 [$_{v'}$ t_1 [$_{v'}$ t_3 $v_{[*\Sigma*]}$]]] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ NP_1 [$_{T'}$ [$_{VP_3}$ t_2 V] [$_{T'}$ T t_4]]]]]

2.2.4. Extractee-Initial V/2

The approach generalizes to other instances of object-initial V/2, e.g., those involving indirect (dative) objects, genitive objects, and prepositional objects. Furthermore, the items that can

[11] Multiple scrambling then requires multiple [*Σ*] features on v, and corresponding [Σ] features on the attracted items. – That said, it should be kept in mind that everything that follows is compatible with alternative approaches to scrambling, including, ultimately, a base-generation analysis, as in Haider (1988), Fanselow (2001). The only thing that might be lost in a base-generation approach is the correlation between the relative markedness of, say, subject- vs. object-initial V/2 clauses and the derivation via base-generation vs. movement to Specv.

show up in pre-V/2 positions do not necessarily have to originate in the domain of VP in (16-a) to participate in vP fronting as in (16-bcd). They can also come from a more deeply embedded position, as long as locality conditions on scrambling in German do not preclude movement to the specifier of a $v_{[*\Sigma*]}$ that is attraced by $C_{[*v*]}$. Thus, sentences like (17-a) can be derived in essentially the same way, given that R-pronouns can be extracted from PPs by scrambling; see (17-b).[12]

(17) a. [$_{CP}$ [$_{vP_4}$ Da$_2$ t$_1$ t$_3$ hat$_{[*\Sigma*]}$] C$_{[*v*]}$ [$_{TP}$ Fritz$_1$ [$_{T'}$ [$_{VP_3}$ [$_{PP}$ t$_2$ für]
there has Fritz for
gestimmt] [$_{T'}$ T t$_4$]]]]
voted

b. [$_{CP}$ dass [$_{TP}$ T [$_{vP}$ da$_2$ [$_{v'}$ Fritz [$_{VP}$ [$_{PP}$ t$_2$ für] gestimmt] hat$_{[*\Sigma*]}$]]]]
that there Fritz for voted has

Similarly, a PP that is base-generated in an object NP can show up in the pre-V/2 position, as in (18-a), because PPs can be extracted from (certain kinds of) direct object NPs by scrambling; see (18-b).

(18) a. [$_{CP}$ [$_{vP_4}$ [$_{PP_2}$ Über Hip Hop] t$_1$ t$_3$ hat$_{[*\Sigma*]}$] C$_{[*v*]}$ [$_{TP}$ Fritz$_1$ [$_{T'}$ [$_{VP_3}$ [$_{NP}$ ein Buch
about hip hop has Fritz a book
t$_2$] geschrieben] [$_{T'}$ T t$_4$]]]]
written

b. [$_{CP}$ dass [$_{TP}$ T [$_{vP}$ [$_{PP_2}$ über Hip Hop] [$_{v'}$ Fritz [$_{VP}$ [$_{PP}$ ein Buch t$_2$] geschrieben]
that about hip hop Fritz a book written
hat$_{[*\Sigma*]}$]]]]
has

Finally, an NP that is merged in an infinitive embedded by a certain type of matrix verb (i.e., in a coherent, or restructuring, infinitive) can show up in the pre-V/2 position, as in (19-a), because NPs can be extracted from coherent infinitives by scrambling; compare (19-b).[13]

(19) a. [$_{CP}$ [$_{vP_4}$ [$_{NP_2}$ Das Buch] t$_1$ t$_3$ hat$_{[*\Sigma*]}$] C$_{[*v*]}$ [$_{TP}$ Fritz$_1$ [$_{T'}$ [$_{VP_3}$ [$_{VP}$ t$_2$ zu lesen]
the book has Fritz to read
versucht] [$_{T'}$ T t$_4$]]]]
tried

b. [$_{CP}$ dass [$_{TP}$ T [$_{vP}$ [$_{NP_2}$ das Buch] [$_{v'}$ Fritz [$_{VP}$ [$_{VP}$ t$_2$ zu lesen] versucht]
that the book Fritz to read tried
hat$_{[*\Sigma*]}$]]]]
has

[12]Of course, scrambling in front of the subject is by no means the only possibility here; scrambling to a position that follows the subject NP is also very well possible (and often stylistically preferred).

[13]I assume here that coherent infinitives are VPs; see, e.g., Wurmbrand (1998).

2.2.5. VP-Initial V/2

VP is another type of category that regularly occurs in the pre-V/2 position in German. (20-a) is a typical example, and (20-b) is the structure assigned to this example under present assumptions.

(20) a. Den Fritz$_2$ geküsst hat die Maria$_1$ gestern
the Fritz$_{acc}$ kissed has the Maria$_{nom}$ yesterday
b. [$_{CP}$ [$_{vP_4}$ [$_{VP_3}$ Den Fritz$_2$ geküsst] [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ hat]]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{T'}$ gestern [$_{T'}$ T t$_4$]]]]]

The derivation proceeds as in (21).

(21) a. [$_{VP}$ NP$_2$ V] → Merge(v$_{[*\Sigma*]}$,VP), Merge(v$_{[*\Sigma*]}$,Adv), Merge(v$_{[*\Sigma*]}$,NP$_1$), Move(VP$_3$,Specv$_{[*\Sigma*]}$)
b. [$_{vP}$ [$_{VP_3}$ NP$_2$ V] [$_{v'}$ NP$_1$ [$_{v'}$ Adv [$_{v'}$ t$_3$ v$_{[*\Sigma*]}$]]]]
→ Merge(T,vP), Move(Adv,SpecT), Move(NP$_1$,SpecT)
c. [$_{TP}$ NP$_1$ [$_{T'}$ Adv$_5$ [$_{T'}$ T [$_{vP}$ [$_{VP_3}$ NP$_2$ V] [$_{v'}$ t$_1$ [$_{v'}$ t$_5$ [$_{v'}$ t$_3$ v$_{[*\Sigma*]}$]]]]]]]
→ Merge(C$_{[*v*]}$,TP), Move(vP,SpecC)
d. [$_{CP}$ [$_{vP_4}$ [$_{VP_3}$ NP$_2$ V] [$_{v'}$ t$_1$ [$_{v'}$ t$_5$ [$_{v'}$ t$_3$ v$_{[*\Sigma*]}$]]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ NP$_1$ [$_{T'}$ Adv$_5$ [$_{T'}$ T t$_4$]]]]]]

Thus, the analysis presupposes that participial VPs can be scrambled. VP scrambling is indeed possible in German, but it is somewhat marginal and usually requires an "I-topicalization" intonation pattern (a rise followed by a fall). This intonation pattern preferably originates in clause-initial position, and is much more difficult to establish clause-internally; this may account for the contrast between (21) and (22), where the same VP has undergone scrambling, and subsequent vP fronting to SpecC$_{[*v*]}$ does not take place.

(22) ?dass [$_{TP}$ T [$_{vP}$ [$_{VP_3}$ den Fritz geküsst] [$_{v'}$ die Maria gestern sicher nicht t$_3$
that the Fritz$_{acc}$ kissed the Maria$_{nom}$ yesterday surely not
hat$_{[*\Sigma*]}$]]]
has

The VP in (20) and (22) is complete, in the sense that no extraction from VP has taken place prior to VP movement. However, as noted by Thiersch (1985), den Besten & Webelhuth (1987; 1990), and many others, German also exhibits the phenomenon of incomplete, or remnant, VP fronting to a pre-V/2 position, as in (23-a). Here, scrambling from VP has taken place before VP itself undergoes movement. In the present approach, such cases cannot simply involve remnant VP topicalization to SpecC, as originally envisaged by Thiersch and den Besten & Webelhuth. Rather, they must be analyzed as in (23-b), as involving fronting to SpecC$_{[*v*]}$ of a remnant vP that contains a remnant VP in its edge domain.

(23) a. Geküsst hat den Fritz$_2$ die Maria$_1$
kissed has the Fritz$_{acc}$ the Maria$_{nom}$
b. [$_{CP}$ [$_{vP}$ [$_{VP_3}$ t$_2$ Geküsst] [$_{v'}$ t$'_2$ [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ hat$_{[*\Sigma*]}$]]]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ den Fritz$_2$ [$_{T'}$ die Maria$_1$ [$_{T'}$ T t$_4$]]]]]

The derivation is sketched in (24). ([*F*]^n signals that [*F*] is present *n* times.)

(24) a. [$_{VP}$ NP$_2$ V] → Merge(v$_{[*\Sigma*]^2}$,VP), Merge(v$_{[*\Sigma*]^2}$,NP$_1$), Move(NP$_2$,Specv$_{[*\Sigma*]^2}$), Move(VP$_3$,Specv$_{[*\Sigma*]^2}$)
b. [$_{vP}$ [$_{VP_3}$ t$_2$ V] [$_{v'}$ NP$_2$ [$_{v'}$ NP$_1$ [$_{v'}$ t$_3$ v$_{[*\Sigma*]^2}$]]]]
→ Merge(T,vP), Move(NP$_1$,SpecT), Move(NP$_2$,SpecT)
c. [$_{TP}$ NP$_2$ [$_{T'}$ NP$_1$ [$_{T'}$ T [$_{vP}$ [$_{VP_3}$ t$_2$ V] [$_{v'}$ t$'_2$ [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ v$_{[*\Sigma*]^2}$]]]]]]]
→ Merge(C$_{[*v*]}$,TP), Move(vP,SpecC)
d. [$_{CP}$ [$_{vP_4}$ [$_{VP_3}$ t$_2$ V] [$_{v'}$ t$'_2$ [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ v$_{[*\Sigma*]^2}$]]]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ NP$_2$ [$_{T'}$ NP$_1$ [$_{T'}$ T t$_4$]]]]]

Again, the analysis presupposes that VP can be scrambled. However, whereas VP is complete in (21), it is a remnant category in (24). At least at first sight, this looks problematic because remnant VP scrambling is known to be generally impossible in German; see (25).[14]

(25) *dass [$_{TP}$ T [$_{vP}$ [$_{VP_3}$ t$_2$ geküsst] [$_{v'}$ den Fritz$_2$ [$_{v'}$ die Maria$_1$ gestern sicher nicht
that kissed the Fritz$_{acc}$ the Maria$_{nom}$ yesterday surely not
t$_3$ hat$_{[*\Sigma*]^2}$]]]]
has

Thus, we have a dilemma: The wellformedness of (23-a) presupposes that remnant VPs can undergo scrambling, and the illformedness of (25) seems to presuppose that remnant VPs cannot undergo scrambling. At this point, it becomes relevant how exactly the ban on scrambling of remnant VPs (or, more generally, remnant XPs) is derived. Basically, there are two possibilities. First, the constraint that rules out (25) might be one that is checked at every derivational step. Second, the constraint might not be strictly derivational, in the sense that it is evaluated only with respect to certain derivational units (like phases), or, indeed, with respect to the full sentence. In Müller (1998), it is argued that the constraint in question is a requirement of Unambiguous Domination (UD), which is given in a slightly simplified form in (26).

(26) *Unambiguous Domination* (UD):
An α-trace must not be α-dominated.

[14] At least, this holds if the antecedent of the unbound trace has also been scrambled, as is the case in the present example. There are certain exceptions to the ban on remnant VP scrambling that involve unstressed pronouns, and that play no role in the present context.

The variable α ranges over feature-driven movement types (or the features that trigger movement themselves): A *wh*-trace with an antecedent in a Spec$C_{[*wh*]}$ position must not be dominated by a category that itself has undergone *wh*-movement and occupies a Spec$C_{[*wh*]}$ position; a trace with an antecedent in a scrambling position must not be dominated by a category that also occupies a scrambling position; and so on. (25) fatally violates UD because t_2 is a trace with an antecedent in a scrambling posititon (NP_2) that is dominated by a category in a scrambling position (VP_3). In contrast, (23-b), as it stands, does not violate UD: t_2 is dominated by VP_3, which occupies a scrambling position, but its antecedent NP_2 has left its original vP-internal scrambling position, and has undergone constraint-driven movement to SpecT, which is not a scrambling position (T cannot bear the feature [*Σ*]). However, it is clear that a derivational step that is necessary to ultimately create (23-b) would violate UD, viz., scrambling of VP_3 in (24-b). From this we can conclude that UD cannot be a strictly derivational constraint that is evaluated at every derivational step; I would like to suggest that UD is evaluated for a given phase at the next phase level, as proposed more generally in Chomsky (2001). Thus, a derivational UD violation is undone by subsequent constraint-driven movement to SpecT in (23-b), but not in (25).[15]

Finally, a remark is in order concerning the order of scrambling operations in the derivation in (24): NP_2 scrambling out of VP_3 precedes VP_3 scrambling, and VP_3 thus eventually ends up in a clause-initial position. The question arises of whether a reverse application of scrambling operations could result in an object-initial V/2 construction with a VP that precedes the subject, as a result of feature-driven VP scrambling to Spec$v_{[*\Sigma*]}$ followed by EPC-driven VP movement to SpecT. As shown in (27), this is not an option.

(27) a. *Den Fritz$_2$ hat geküsst die Maria$_1$
the Fritz$_{acc}$ has kissed the Maria$_{nom}$
b. [$_{CP}$ [$_{vP_4}$ Den Fritz$_2$ [$_{v'}$ t'_3 [$_{v'}$ t_1 [$_{v'}$ t_3 hat]]]] [$_{C'}$ $C_{[*v*]^2}$ [$_{TP}$ [$_{VP_3}$ t_2 geküsst] [$_{T'}$ die Maria$_1$ [$_{T'}$ T t_4]]]]]

There is a straightforward reason why (27-b) is impossible: Assuming (contra Richards (2001)) that movement to an inner specifier is not available, VP_3 scrambling must take place before NP_2 scrambling in (27-b). Hence, VP_3 turns into an island before extraction takes place, and subsequent movement of NP_2 from VP_3 violates the Condition on Extraction Domain (a moved VP does not occupy a complement position).

[15]This view of UD may raise problems for attempts to derive the requirement from the MLC (see Takano (1993; 2000), Kitahara (1994; 1997), Koizumi (1995), and Müller (1998)), which all rely on a strictly derivational interpretation, and which also seem incompatible with Chomsky's (2001) assumption that the MLC is evaluated at the phase level.

(28) *Condition on Extraction Domain* (CED):
There is no movement from an XP in a non-complement position.

2.2.6. Subject+Participle-Initial V/2

The present analysis predicts that a canonical subject and a participle cannot precede the finite verb in V/2 constructions: A canonical subject NP_1 is merged in Specv; hence, it is not part of VP_3 at any step of the derivation, and NP_1 and VP_3 cannot possibly be both at the left edge of the edge domain of vP. Thus, (29-ab) both fatally violate the EPC.

(29) a. *[$_{CP}$ [$_{vP_4}$ Die Maria$_1$ [$_{v'}$ [$_{VP_3}$ t$_2$ geküsst] [$_{v'}$ t$'_2$ [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ hat]]]]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$
the Maria$_{nom}$ kissed has
den Fritz$_2$ gestern nicht T t$_4$]]]
the Fritz$_{acc}$ yesterday not

b. *[$_{CP}$ [$_{vP_4}$ Die Maria$_1$ [$_{VP}$ den Fritz$_2$ geküsst] hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ gestern
the Maria$_{nom}$ the Fritz$_{acc}$ kissed has yesterday
nicht T t$_4$]]]
not

I take this consequence to be desirable and empirically well established.[16]

2.2.7. Empty v, Empty Specv

In all the examples discussed so far, v is filled by an auxiliary. However, not all V/2 clauses involve an auxiliary in German; the main verb may also be finite and participate in V/2 movement. Still, given that head movement is systematically unavailable in syntax, we cannot simply assume that a main V in VP moves to an empty v so as to end up in the edge domain of vP, and thus participate in vP fronting in V/2 constructions – V must stay in situ throughout the derivation.[17] However, the problem does not arise, given the notion of edge domains in (6): If v is empty, V is the highest overt head c-commanded by v, and thus in the edge domain of v. Consequently, V participates in vP fronting to Spec$C_{[*v*]}$, as shown in (30-ab)

[16] See Fanselow (1987) and Grewendorf (1989) for the original observation; Haider (1993a) and Frey & Tappe (1991) for some problematic data; and Hoberg (1997, 1631) for a reanalysis of these examples. Grewendorf (1989) notes that subject NPs in unaccusative constructions can show up together with a participle in a pre-V/2 position in German. Given that these NPs are merged within VP, their behaviour is expected under present assumptions.

[17] Does this raise problems for semantic interpretation, given that an external argument and its predicate do not enter a local relation at any step of the derivation? The answer is no: Predicate/argument interpretation is standardly assumed to be brought about by the mechanism of functional application. However, functional application is type-driven and does not care about syntactic labels; see Heim & Kratzer (1998), among others.

for subject- and object-initial V/2 in the absence of an auxiliary.

(30) a. [$_{CP}$ [$_{vP_4}$ Maria$_1$ [$_{VP}$ schläft] v] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ T t$_4$]]]
Maria$_{nom}$ sleeps

b. [$_{CP}$ [$_{vP_4}$ Den Fritz$_2$ [$_{v'}$ t$_1$ [$_{VP}$ t$_2$ küsst] v]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{T'}$ T t$_4$]]]]
the Fritz$_{acc}$ kisses the Maria$_{nom}$

Suppose now that a VP headed by a finite main verb moves to the specifier of an empty v, by scrambling. In (31), the edge domain of vP would only contain VP.

(31) *[$_{CP}$ [$_{vP_4}$ [$_{VP_3}$ Schläft] [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ v]]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ Maria$_1$ T t$_4$]]]
sleeps Maria$_{nom}$

The ill-formedness of (31) shows that vP fronting to SpecC$_{[*v*]}$ cannot operate this way; otherwise, V/1 structures could systematically be derived in auxiliary-less constructions, which surely cannot be adequate as a general result (but see section 8 on V/1 structures that do exist in German). Indeed, there is an independent reason for the illformedness of (31). Note that a *finite* VP must undergo [*Σ*]-driven scrambling in (31), prior to vP fronting to SpecC$_{[*v*]}$. However, as shown in (32), finite VPs can never undergo scrambling in German.

(32) *dass [$_{vP}$ [$_{VP_3}$ schläft] [$_{v'}$ Maria$_1$ [$_{v'}$ t$_3$ v]]]
that sleeps Maria$_{nom}$

Thus, VP scrambling to Specv in (31) is not legitimate in the first place (because finite V cannot bear a [Σ] feature, in the approach adopted here).

A related question may arise in contexts where the specifier of v is empty, e.g., in unaccusative constructions. Again, it must be ensured that vP fronting to SpecC$_{[*v*]}$ gives rise to a V/2 configuration, with the argument that is merged VP-internally in the edge domain of v (see (33-a)), and does not produce a V/1 configuration, where only the auxiliary is in the edge domain of v (see (33-b)).

(33) a. [$_{CP}$ [$_{vP_4}$ Fritz$_2$ [$_{v'}$ t$_3$ ist]] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ t$_2$ gewachsen] [$_{T'}$ T t$_4$]]]]
Fritz$_{nom}$ is grown

b. *[$_{CP}$ [$_{vP_4}$ t$_3$ Ist] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ Fritz$_2$ gewachsen] [$_{T'}$ T t$_4$]]]]
Is Fritz$_{nom}$ grown

As before, this follows from the EPC: Given that NP$_2$ in (33) is in the edge domain of v (NP$_2$ in situ qualifies as a specifier of V, whereas VP in situ does not qualify as a specifier of v), vP$_4$ can only move if it contains NP$_2$ and v, which implies that NP$_2$ must move to Specv after all (because this is the only way that VP containing V can escape the vP domain, as required by the EPC).[18]

[18]As noted by a reviewer, this analysis predicts that subject-initial V/2 clauses with unaccusative verbs differ from subject-initial V/2 clauses in being more marked (due to the greater derivational effort). Indeed, whereas

I take it that the core instances of V/2 in German are thus accounted for. Note that the approach makes two interesting predictions. First, if there are items that, for independent reasons, are obligatory vP edges, we expect them to obligatorily show up in the pre-V/2 position in V/2 clauses. And second, if there are items that, again for independent reasons, are impossible vP edges, we expect that they can never show up in the pre-V/2 position in V/2 clauses. The next two sections show that these predictions are borne out.

3. Obligatory vP Edges

There are some categories that obligatorily show up in the pre-V/2 position in German. In particular, this holds for *wh*-phrases and expletive *es*. In this section, I will argue that this is due to the fact that these categories are obligatory vP edges. I begin with *wh*-phrases, and turn to expletive *es* after that.

3.1. Wh-Phrases

Exactly one *wh*-phrase shows up in the pre-V/2 position in German if $C_{[*v*]}$ also bears a *wh*-feature ([*wh*]). This is shown for simple questions in (34-a), and for multiple questions in (35-a).

(34) a. [$_{CP}$ [$_{vP_4}$ Wen$_2$ [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ hat]]] [$_{C'}$ $C_{[*v*],[*wh*]}$ [$_{TP}$ die Maria$_1$ [$_{VP_3}$ t$_2$
whom$_{acc}$ has the Maria$_{nom}$
geküsst] T t$_4$]]] ?
kissed

b. *[$_{CP}$ [$_{vP_4}$ Die Maria$_1$ [$_{v'}$ t$_3$ hat]] [$_{C'}$ $C_{[*v*],[*wh*]}$ [$_{TP}$ [$_{VP_3}$ wen$_2$
the Maria$_{nom}$ has whom$_{acc}$
geküsst] T t$_4$]]] ?
kissed

(35) a. [$_{CP}$ [$_{vP_4}$ Wem$_5$ [$_{v'}$ t$_1$ [$_{v'}$ t$_3$ hat]]] [$_{C'}$ $C_{[*v*],[*wh*]}$ [$_{TP}$ der Fritz$_1$ [$_{VP_3}$ t$_5$ was$_2$
whom$_{dat}$ has the Fritz$_{nom}$ what$_{acc}$
gegeben] T t$_4$]]] ?
given

there may be no obvious such effect in examples like (33-a), closer inspection reveals that there are information-structural differences which can be taken to indicate a different structural treatment. For one thing, subject-initial V/2 constructions with unaccusative verbs differ from those with unergative intransitive verbs with respect to focus projection (see Stechow & Uhmann (1984)); for another, with unaccusative verbs that also take dative objects, subject-initial V/2 is not less marked than object-initial V/2 (see, e.g., Grewendorf (1989)).

b. *[$_{CP}$ [$_{vP_4}$ Wem$_5$ [$_{v'}$ was$_2$ [$_{v'}$ t_1 [$_{v'}$ t_3 hat]]]] [$_{C'}$ $C_{[*v*],[*wh*]}$ [$_{TP}$ der Fritz$_1$ [$_{VP}$
whom$_{dat}$ what$_{acc}$ has the Fritz$_{nom}$
t_5 t_2 gegeben] T t_4]]] ?
given

The structures in (34-a) and (35-a) raise two questions, one concerning [*v*] and [*wh*] feature checking in SpecC, and one concerning obligatory *wh*-movement to Specv. I address the former question first. (34-a) and (35-a) have a *wh*-phrase and a finite auxiliary as the edges of a fronted vP, as required by FC and EPC, given that C has a [*v*] feature and a [*wh*] feature. Assuming that C's specifier is unique, and that extraction from a moved XP in a specifier is impossible because of the CED anyway, this implies that the *wh*-phrase in Specv can check C's [*wh*] feature. This is in accordance with Chomsky's (1993) assumption that the specifier of a specifier of X can check a feature of X. Turning next to the second question, Chomsky (2000; 2001) suggests that successive-cyclic *wh*-movement must proceed via the edge domain of v; and this, in a nutshell, is the reason why *wh*-phrases undergo fronting in V/2 clauses. To be a bit more specific, Chomsky argues that *wh*-movement from a phase is possible only if the *wh*-phrase is in the edge domain of the head of that phase; this follows from the PIC. If so, there must be a trigger for intermediate *wh*-movement to Specv, as required by the PIC. Chomsky (2000; 2001) assumes what one can might call the Phase Edge Feature Convention (PEFC): The head X of phase XP may be assigned a feature triggering movement of some YP to SpecX (after the phase XP is otherwise complete), but only if that has an effect on outcome; I will call this feature [*PE*] (for "phase edge"). Thus, intermediate steps of successive-cyclic movement have exactly the same status attributed above to evacuation from vP to SpecT: Both operations qualify as repair- or constraint-driven movement (forced by the PIC and the EPC, respectively).[19]

Thus, let us consider the derivation of the multiple *wh*-question (35-a); see (36).

(36) a. [$_{VP_3}$ wh_5 wh_2 V] → Merge(v,VP), Merge(v,NP_1), Move(wh_5,Specv)

b. [$_{vP_4}$ wh_5 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP_3}$ t_5 wh_2 V] v]]]
→ Merge(T,vP), Move(VP_3,SpecT), Move(NP_1,SpecT)

c. [$_{TP}$ NP_1 [$_{T'}$ [$_{VP_3}$ t_5 wh_2 V] [$_{T'}$ T [$_{vP_4}$ wh_5 [$_{v'}$ t_1 [$_{v'}$ t_3 v]]]
→ Merge($C_{[*v*],[*wh*]}$,TP), Move(vP,SpecC)

d. [$_{CP}$ [$_{vP_4}$ wh_5 [$_{v'}$ t_1 [$_{v'}$ t_3 hat]]] [$_{C'}$ $C_{[*v*],[*wh*]}$ [$_{TP}$ NP_1 [$_{VP_3}$ t_5 wh_2 V] T t_4]]]

[19] As in the case of EPC-driven movement, there is a straightforward alternative to postulating [*PE*] features, viz., to assume that intermediate *wh*-movement is in fact not driven by any feature, and may violate Last Resort; see Heck & Müller (2000ab). The two approaches make identical predictions in the present context.

The crucial step is (36-b): Given that successive-cyclic *wh*-movement must proceed via the edge domain of phases, *wh*-movement must apply to Specv. It does not matter which of the two *wh*-phrases moves; there are no superiority effects with clause-bound *wh*-movement in German. However, only one *wh*-phrase can undergo movement to an intermediate position, given that German is a language without multiple overt *wh*-movement, where only one optional [*PE*]-feature can be assigned at phase edges.[20] After vP is completed, everything proceeds exactly as in other instances of V/2 as they were discussed above: NP_1 and VP_3 move to SpecT because of the EPC (see (36-c)), and vP then raises to SpecC (see (36-d)), where [*wh*] and [*v*] on C are both checked.[21]

This approach to *wh*-initial V/2 generalizes to long-distance dependencies. (37-a) is an instance of successive-cyclic long-distance *wh*-movement into a V/2 clause, and (37-b) is the structure assigned to this sentence under present assumptions.

(37) a. Wen_2 hast du gedacht dass die Maria t_2 geküsst hat ?
whom$_{acc}$ have you thought that the Maria$_{nom}$ kissed has

b. [$_{CP}$ [$_{vP_9}$ Wen_2 [$_{v'}$ t_0 [$_{v'}$ t_4 hast]]] $C_{[*v*],[*wh*]}$ [$_{TP}$ du_0 [$_{VP_4}$ gedacht [$_{CP}$ t''_2 dass [$_{TP}$ T [$_{vP}$ t'_2 [$_{v'}$ die $Maria_1$ [$_{v'}$ [$_{VP}$ t_2 geküsst] hat]]]]]] [$_{T'}$ T t_9]]]

The derivation proceeds as in (38). In (38-a), the *wh*-phrase moves to the edge domain of the lowest vP. Next, T and C are merged, and the *wh*-phrase moves on to SpecC, as required under PEFC and PIC; see (38-b). (38-c) shows the results of merging matrix V, matrix v, and the matrix subject, and applying movement of the *wh*-phrase to Specv. The final two steps, then, are essentially as in (36); see (38-d) and (38-e): There is EPC-driven movement to SpecT; and there is FC-driven movement of vP to Spec$C_{[*v*],[*wh*]}$.

(38) a. [$_{vP}$ wh_2 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ t_2 V] v]]
→ Merge(T,vP), Merge(C,TP), Move(wh_2,SpecC)

b. [$_{CP}$ wh_2 C [$_{TP}$ T [$_{vP}$ t'_2 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ t_2 V] v]]]]
→ Merge(V,CP), Merge(v,VP), Merge(v,NP_0), Move(wh_2,Specv)

c. [$_{vP}$ wh_2 [$_{v'}$ NP_0 [$_{v'}$ [$_{VP}$ V [$_{CP}$ t''_2 C [$_{TP}$ T [$_{vP}$ t'_2 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ t_2 V] v]]]]] v]]]

[20] There is some controversy about the issue of whether *wh*-phrases can undergo scrambling in German. But even if they can do so, this would not suffice as a general means to derive obligatory *wh*-movement to Specv in questions, for the simple reason that scrambling (insertion of [*Σ*], [Σ] in the numeration) is optional. In addition, scrambling can apply multiply, and it could thus not be ensured that a scrambled *wh*-phrase is actually the highest specifier of v.

[21] Bare *wh*-movement as in (i) will result in checking of [*wh*], but will leave [*v*] unchecked, and is thus excluded.

(i) *[$_{CP}$ Wen_2 $C_{[*v*],[*wh*]}$ [$_{TP}$ T [$_{vP}$ t'_2 [$_{v'}$ die $Maria_1$ [$_{v'}$ [$_{VP}$ t_2 geküsst] hat]]]]] ?
whom$_{acc}$ the Maria$_{nom}$ kissed has

→ Merge(T,vP), Move(VP_4,SpecT), Move(NP_0,SpecT)

d. [$_{TP}$ NP_0 [$_{VP_4}$ V [$_{CP}$ t''_2 C [$_{TP}$ T [$_{vP}$ t'_2 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ t_2 V] v]]]]]] [$_{T'}$ T [$_{vP}$ wh_2 [$_{v'}$ t_0 [$_{v'}$ t_4 v]]]]] → Merge($C_{[*v*],[*wh*]}$,TP), Move(vP,SpecC)

e. [$_{CP}$ [$_{vP_9}$ wh_2 [$_{v'}$ t_0 [$_{v'}$ t_4 v]]] $C_{[*v*],[*wh*]}$ [$_{TP}$ NP_0 [$_{VP_4}$ V [$_{CP}$ t''_2 C [$_{TP}$ T [$_{vP}$ t'_2 [$_{v'}$ NP_1 [$_{v'}$ [$_{VP}$ t_2 V] v]]]]]] [$_{T'}$ T t_9]]]

Similar derivations are available for long-distance movement of other, non-*wh* items into V/2 clauses if we assume that matrix $C_{[*v*]}$ has a feature (like [*op*]) that can only be checked by the embedded items in question. Interestingly, these long-distance constructions are marginal in Standard German (they seem to be more common only in Southern varieties); they require a specific intonation throughout; and unlike the V/2 constructions discussed so far, they strongly suggest a focus interpretation of the material in pre-V/2 position.

(39) a.??Den $Fritz_2$ habe ich gedacht dass die Maria t_2 geküsst hat
the $Fritz_{acc}$ have I thought that the $Maria_{nom}$ kissed has

b.?*[$_{VP_4}$ Den Fritz geküsst] denke ich dass die Maria gestern t_4 hat
the $Fritz_{acc}$ kissed think I that the $Maria_{nom}$ yesterday has

To conclude the discussion of *wh*-movement and V/2, it remains to account for the well-known generalization that *wh*-initial V/2 is impossible in embedded contexts (see Haider (1984), Reis (1985), Grewendorf (1988), Rizzi (1996), and Grimshaw (1997), among others). (40-a) shows that embedded *wh*-movement and V/2 cannot co-occur in contexts where both operations are permitted as such (compare (40-bc)).

(40) a. *Er sagte [$_{CP}$ [$_{vP_4}$ wer_1 t_3 hat] $C_{[*v*],[*wh*]}$ [$_{TP}$ [$_{VP_3}$ den $Fritz_2$ geküsst] T t_4]]
he said who_{nom} has the $Fritz_{acc}$ kissed

b. Er sagte [$_{CP}$ [$_{vP_4}$ die $Maria_1$ t_3 hat] $C_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ den $Fritz_2$ geküsst] T t_4]]
he said the $Maria_{nom}$ has the $Fritz_{acc}$ kissed

c. Er sagte [$_{CP}$ wer_1 $C_{[*wh*]}$ [$_{TP}$ [$_{vP}$ t_1 [$_{VP}$ den $Fritz_2$ geküsst] hat]]]
he said who_{nom} the $Fritz_{acc}$ kissed has

(40-a) can be excluded by assuming a feature co-occurrence restriction that blocks the simultaneous presence of the [*v*] and [*wh*] on a C that is selected. Assuming that the property of being selected is also encoded by a designated feature on C, one might speculate that the feature co-occurrence restriction in question ultimately reduces to economy considerations, to the effect that the number of checking operations that a functional category can participate in is minimized.[22]

[22]Note in passing that this analysis may have consequences for the approach to partial *wh*-movement constructions, which also exhibit this effect (see Müller & Sternefeld (1993)). If no more is said, it would seem to support an approach to partial *wh*-movement according to which a CP that minimally dominates a partially

3.2. Expletives

An expletive pronoun *es* may show up in clause-initial position in V/2 clauses. This pronoun can never show up clause-internally; it looks like a placeholder for a specifier position that needs to be filled, and is accordingly often referred to in the literature as "Vorfeld"-*es*.[23] At first sight, this sems to support the standard analysis of V/2. Given that the specifier of $C_{[*v*]}$ is unique, and that vP can only move if it is reduced to its complete edge domain, it must be assumed in the present approach that expletive *es* originates in a vP-internal position, and cannot possibly be merged on the CP cycle; this assumption is argued for by Cardinaletti (1990) and Vikner (1995). How, then, can it be ensured that expletive *es* always participates in vP fronting (see (41-a) vs. (41-b))?

(41) a. [$_{CP}$ [$_{vP_4}$ Es t_1 t_3 hat] $C_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{VP_3}$ den Fritz geküsst] T t_4]]
it has the Maria$_{nom}$ the Fritz$_{acc}$ kissed

b. *[$_{CP}$ [$_{vP_4}$ Die Maria$_1$ t_5 t_3 hat] $C_{[*v*]}$ [$_{TP}$ es$_5$ [$_{VP_3}$ den Fritz geküsst] T t_4]]
the Maria$_{nom}$ has it the Fritz$_{acc}$ kissed

A simple first assumption might be that if expletive (i.e., semantically empty) *es* is part of the numeration, it is always merged last in vP, following arguments and adverbs. This may well be the case, but it does not yet quite suffice to derive the fact that expletive *es* is always clause-initial: Even if expletive *es* is merged last in vP, there could be [*Σ*]-driven scrambling of some other XP to a position in front of it, so that *es* would have to be left behind (in SpecT) by vP fronting. Furthermore, it is difficult to see how we could prevent expletive *es* from showing up in vP clause-internally in non-V/2 sentences this way. Therefore, I will make the more specific assumption that German $C_{[*v*]}$ may optionally have a feature [*expl*], which can only be matched by the expletive *es* and thereby ensures that the latter cannot be preceded by another item in its minimal CP. Furthermore, an expletive *es* must be accompanied by a $C_{[*v*],[*expl*]}$ head in the numeration in the same way that a *wh*-phrase must be accompanied by a $C_{[*wh*]}$ head in the numeration. Thus, expletive *es* is merged in vP, but must end up in SpecC. This analysis rules out (41-b). It also accounts for the illformedness of the examples in (42): (42-a) is analogous to an ungrammatical declarative clause with a *wh*-phrase in situ, and (42-b) to an ungrammatical declarative clause that has *wh*-movement.

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moved *wh*-phrase has a $C_{[*wh*]}$ head; see Dayal (1994) and Fanselow & Mahajan (2000).

[23] There are other types of German *es* that have been dubbed "expletive," e.g., the *es* that shows up with weather verbs, and the *es* that may occur with clausal extraposition. These kinds of *es* can show up clause-internally and can indeed both argued to be argumental upon closer inspection; see Chomsky (1981) and Vikner (1995), among others.

(42) a. *Ich glaube [$_{CP}$ dass [$_{vP}$ es die Maria den Fritz geküsst hat]]
I believe that it the Maria$_{nom}$ the Fritz$_{acc}$ kissed has

b. *Ich glaube [$_{CP}$ es$_5$ dass [$_{vP}$ t$_5$ die Maria den Fritz geküsst hat]]
I believe it that the Maria$_{nom}$ the Fritz$_{acc}$ kissed has

4. Impossible vP Edges

So far, we have seen that some categories must occur in the pre-V/2 position in V/2 clauses, and this was derived by showing that these categories are obligatorily vP edges. In this section, I turn to the reverse situation: Some categories can never show up in the pre-V/2 position in V/2 clauses, and this restriction will be reduced to a ban on their occurring in the edge domain of vP. The restriction holds for weak object pronouns and certain complement CPs, and I will address these items in turn.

4.1. Weak Object Pronouns

Weak object pronouns (i.e., by and large, inanimate personal pronouns) cannot show up in a pre-V/2 position in German; see Travis (1991) and Cardinaletti & Starke (1996).[24] This is shown by the data in (43): In (43-a), the pronoun is animate and can show up in the pre-V/2 position, whereas the pronoun is inanimate in (43-bc), and is banned in this position.

(43) a. [$_{CP}$ [$_{vP_4}$ Ihn$_2$ t$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ Maria$_1$ [$_{VP}$ t$_2$ geküsst] T t$_4$]]]
him (Fritz) has Maria kissed

b. *[$_{CP}$ [$_{vP_4}$ Ihn$_2$ t$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ Maria$_1$ [$_{VP}$ t$_2$ repariert] T t$_4$]]]
him (the car) has Maria fixed

c. *[$_{CP}$ [$_{vP_4}$ Es$_2$ t$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ Maria$_1$ [$_{VP}$ t$_2$ gelesen] T t$_4$]]]
it (the book) has Maria read

This restriction on weak pronouns is explained if we correlate it with a second property of weak pronouns, one that is widely assumed in the literature (see Thiersch (1978), Cardinaletti & Roberts (1991), Schmidt (1995), Zwart (1993), and Cardinaletti & Starke (1996)): Weak pronouns in German cannot scramble, i.e., they cannot undergo [*Σ*]-driven movement to Specv. If this is correct, weak object pronouns in German can never become edge elements of vP. Hence, they can never be fronted to Spec$C_{[*v*]}$ as part of the edge domain of vP, and the pattern in (43) is accounted for.

This approach makes a clear prediction for weak subject pronouns: These cannot undergo [*Σ*]-driven movement to Specv either, but, being subjects, they are already merged

[24] Now and then, this generalization is called into question; see Gärtner & Steinbach (2000) for a recent attempt. Still, notwithstanding a few putative exceptions, the generalization strikes me as fairly robust.

in Specv.[25] Consequently, we expect weak subject pronouns to be able to participate in V/2 and be fronted together with the finite verb. As noted by Travis (1991), this is the case; compare the uniform behaviour of the animate and inanimate subject pronous in (44).

(44) a. [$_{CP}$ [$_{vP_4}$ Sie$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ den Fritz$_2$ geküsst] T t$_4$]]]
she (Maria) has the Fritz$_{acc}$ kissed

b. [$_{CP}$ [$_{vP_4}$ Sie$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ den Fritz$_2$ beeindruckt] T t$_4$]]]
she (the news) has the Fritz$_{acc}$ impressed

c. [$_{CP}$ [$_{vP_4}$ Es$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ den Fritz$_2$ beeindruckt] T t$_4$]]]
it (the book) has the Fritz$_{acc}$ impressed

This concludes the argument for V/2 as remnant vP fronting based on weak pronouns. However, before moving on to the issue of complement clauses, a brief remark is in order on a further property of pronouns that affects what has been said so far: All unstressed NP pronouns – be they weak (inanimate) or strong (animate) – must undergo pronoun fronting in German to a TP-internal position where they can only be preceded by a subject, and where they precede vP-internal arguments and adverbs. In the present approach, the most straightforward analysis is that unstressed pronouns must raise to a SpecT position; since TP is not a scrambling domain, and subjects can optionally raise to SpecT as well, the order restrictions for unstressed pronouns follow; see (45), where unstressed *sie* may be weak or strong.

(45) a. *dass [$_{TP}$ [$_{vP}$ gestern der Fritz$_1$ der Maria$_2$ sie$_3$ empfohlen hat]]
that yesterday the Fritz$_{nom}$ the Maria$_{dat}$ she$_{acc}$ recommended has

b. *dass [$_{TP}$ [$_{vP}$ gestern der Fritz$_1$ sie$_3$ der Maria$_2$ empfohlen hat]]
that yesterday the Fritz$_{nom}$ she$_{acc}$ the Maria$_{dat}$ recommended has

c. dass [$_{TP}$ sie$_3$ [$_{vP}$ gestern der Fritz$_1$ der Maria$_2$ t$_3$ empfohlen hat]]
that she$_{acc}$ yesterday the Fritz$_{nom}$ the Maria$_{dat}$ recommended has

d. dass [$_{TP}$ der Fritz$_1$ sie$_3$ [$_{vP}$ gestern t$_1$ der Maria$_2$ t$_3$ empfohlen hat]]
that the Fritz$_{nom}$ she$_{acc}$ yesterday the Maria$_{dat}$ recommended has

It remains to be shown that an analysis can be given for the obligatory movement of unstressed pronouns to SpecT that is compatible with the approach developed above. To this end, note first that pronoun fronting, by assumption, cannot proceed via Specv in the case of weak pronouns; however, weak pronoun fronting from a VP-internal position to SpecT is compatible with the PIC (only direct movement to SpecC would be a problem). Next, I would like to suggest that pronoun fronting is not feature-driven: It is unlikely that pronoun fronting to SpecT proceeds by attraction, in order to satisfy a feature of T; the reason is that *all* unstressed pronouns have to move to SpecT (unless they can be in a pre-V/2 position).

[25] Non-canonical subjects that are merged in vP move to Specv for reasons discussed in section 2.2.7.

Thus, I will assume that pronoun fronting to SpecT is constraint-driven: The operation is triggered by the constraint that unstressed pronouns must be outside the c-command domain of (the minimal) T. This requirement can be satisfied either by vP topicalization (if the unstressed pronoun is strong, i.e., permits scrambling to vP), or by pronoun fronting to SpecT. As before, evaluation of this constraint takes place at the next phase level (i.e., on the CP cycle).

4.2. Object CPs

4.2.1. Verb-Final Clauses

Certain types of verb-final object CPs cannot show up in a pre-V/2 position in German. Interestingly, these CPs cannot undergo scrambling to Specv either; they must show up postverbally (see Höhle (1986), Webelhuth (1992), Büring (1995), Zifonun (1997)). This generalization straightforwardly lends itself to an explanation in terms of a vP-movement approach to V/2. For the sake of concreteness, suppose that object CPs are merged to the right of V in German (see Bayer (1996) and Haider (1996; 1997)). Depending on the nature of the bridge predicate, an object CP may or may not undergo scrambling to Specv.[26] However, if an object CP cannot be scrambled to Specv, it can never be part of an edge domain of vP. Hence, it can never show up in a pre-V/2 position. Let me illustrate this with some examples.

(46-a) shows that a verb-final object CP embedded under the verb *wissen* ('know') can show up in situ (see section 6.3.1 for cases where v is lexical). (46-bc) illustrate that CP can also undergo scrambling, and can occur in the pre-V/2 position in this context.

(46) a. weil [$_{vP}$ Maria nicht [$_{v'}$ [$_{VP}$ weiß [$_{CP_2}$ dass Fritz schläft]] v]]
because Maria not knows that Fritz sleeps

b. weil [$_{vP}$ [$_{CP_2}$ dass Fritz schläft] Maria nicht [$_{v'}$ [$_{VP}$ weiß t_2] v]]
because that Fritz sleeps Maria not knows

c. [$_{CP}$ [$_{vP_4}$ [$_{CP_2}$ Dass Fritz schläft] t_1 t_6 weiß t_2 v] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ $Maria_1$ $nicht_6$ T t_4]]]
that Fritz sleeps knows Maria not

In contrast, the same verb-final object CP embedded under the predicate *sich ärgern* ('to feel angry') in (47-a) cannot undergo scrambling (see (47-b)), and it cannot show up in the pre-V/2 position either (see (47-c)).

(47) a. weil [$_{vP}$ Maria [$_{v'}$ [$_{VP}$ sich ärgert [$_{CP_2}$ dass Fritz schläft]] v]]
because Maria herself angry feels that Fritz sleeps

[26] Technically, this can be implemented in the present approach by imposing appropriate restrictions on [*Σ*] instantiation and checking; the issue is not completely trivial, though, because one and the same predicate may permit NP scrambling and block CP scrambling.

b. *weil [$_{vP}$ [$_{CP_2}$ dass Fritz schläft] Maria [$_{v'}$ [$_{VP}$ sich ärgert t_2] v]]
because that Fritz sleeps Maria herself angry feels

c. *[$_{CP}$ [$_{vP_4}$ [$_{CP_2}$ Dass Fritz schläft] t_1 t_5 ärgert t_2 v] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ Maria$_1$
that Fritz sleeps feels angry Maria
sich$_5$ T t_4]]]
herself

4.2.2. V/2 Clauses

V/2 object clauses are another case in point. As noted by Stechow & Sternefeld (1988), embedded V/2 clauses can never be scrambled in German. This time, the restriction cannot possibly be related to the nature of the matrix predicate, because one and the same predicate that permits scrambling of a verb-final object clause will prohibit scrambling of a V/2 object clause. Thus, we are led to the conclusion that the inability of an embedded V/2 clause to scramble is due to its inherent properties. For present purposes, it may suffice to stipulate that $C_{[*v*]}$ cannot bear the feature [Σ]. Note that this is again reminiscent of economy conditions that strive to minimize features on functional heads (recall the speculations at the end of section 3.1). Interestingly, now, it has been argued by Webelhuth (1992) that embedded V/2 clauses cannot show up in the pre-V/2 position either. This is exactly what one would expect under the present approach to V/2.

The ban on V/2 clause scrambling and, hence, V/2 clause participation in vP fronting is illustrated in (48) (note that an embedded verb-final CP could do both in the same context).

(48) a. dass Maria behauptet t_2 hat [$_{CP_2}$ [$_{vP_4}$ Fritz t_3 habe] [$_{VP_3}$ geschlafen] t_4]
that Maria claimed has Fritz has$_{subj}$ slept

b. *dass [$_{CP_2}$ [$_{vP_4}$ Fritz t_3 habe] [$_{VP_3}$ geschlafen] t_4] Maria behauptet t_2 hat
that Fritz has$_{subj}$ slept t_4 Maria claimed has

c.?*[$_{CP}$ [$_{vP_9}$ [$_{CP_2}$ [$_{vP_4}$ Fritz t_3 habe] [$_{VP_3}$ geschlafen] t_4] t_1 t_8 hat] Maria$_1$ [$_{VP_8}$
Fritz has$_{subj}$ slept has Maria
behauptet t_2] t_9]
claimed

The pattern is further exemplified by the examples in (49).

(49) a. dass ich wirklich wünschte [$_{CP}$ es ginge etwas schneller]
that I really wished it went a bit faster

b. *dass ich [$_{CP}$ es ginge etwas schneller] wirklich wünschte
that I it went a bit faster really wished

c. *[$_{vP}$ [$_{CP}$ Es ginge etwas schneller] wünschte] ich wirklich
it went a bit faster wished I really

At this point, it should be noted that Webelhuth's (1992) claim that V/2 clauses cannot show

up in the pre-V/2 position is not entirely uncontroversial. Examples such as (50-a) seem to suggest that, at least marginally, a pre-V/2 position of V/2 clauses is possible. However, Webelhuth argues that these cases do not involve genuine subordination. This hypothesis would seem to be supported by the fact that the construction becomes completely impossible if it is further embedded, as in (50-b). Accordingly, # in (50) indicates that whereas the string is acceptable as such, the example is ill formed with the structure given here.[27]

(50) a. #[$_{CP_1}$ [$_{vP}$ [$_{CP_2}$ [$_{vP}$ Er ... habe] das nicht gewusst] ... sagte] er]
he has$_{subj}$ that not known said he

b. *dass Maria glaubte [$_{CP_1}$ [$_{vP}$ [$_{CP_2}$ [$_{vP}$ er ... habe] das nicht gewusst] ... sagte] er]
that Maria believed he has$_{subj}$ that not known said he

5. Properties of Embedded V/2 Clauses

In this section I address two further properties of V/2 clauses in German (concerning their internal islandhood and their external distribution), and show how they can be derived in the present approach.

5.1. V/2 Clauses as Islands

A relatively uncontroversial generalization about V/2 clauses in the Germanic languages is that they are islands for extraction of XPs that follow the V/2 position (see, e.g., Platzack (1986) on Swedish, Zaenen (1980) on Icelandic, and den Besten (1989) vs. Diesing (1990) on Icelandic). Examples that show this island effect in German are given in (51-ab).

(51) a. *Wen$_2$ denkst du [$_{CP}$ [$_{vP_4}$ die Maria$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ t$_2$
whom$_{acc}$ think you the Maria$_{nom}$ has
geküsst] T t$_4$]]] ?
kissed

[27] Object *wh*-clauses are a further interesting case. According to Zifonun (1997, 2267), there is an asymmetry: *Wh*-clauses can show up in the pre-V/2 position, but they cannot be scrambled. In contrast, in Müller (1998, 314f), such asymmetrical behaviour is denied. Consider the examples in (i).

(i) a. ?dass [$_{CP_2}$ wie$_1$ du das Auto t$_1$ repariert hast] der Fritz überhaupt nicht t$_2$ wissen konnte
that how you the car fixed have the Fritz absolutely not know could

b. [$_{vP}$ [$_{CP_2}$ Wie$_1$ du das Auto t$_1$ repariert hast] konnte] der Fritz überhaupt nicht wissen
how you the car fixed have could the Fritz absolutely not know

Given that (i-a) seems to be at least halfway acceptable, and given that it is possible to identify additional factors that contribute to the deviance of the examples in Zifonun (1997), I would like to conclude that [*Σ*]-driven *wh*-clause scrambling (and hence, a participation in vP fronting, as in (i-b)) is in principle possible in German.

b. *Ich weiß nicht [$_{CP}$ wen$_2$ (dass) du denkst [$_{CP}$ [$_{vP_4}$ die Maria$_1$ t$_3$ hat] [$_{C'}$
I know not whom$_{acc}$ that you think the Maria$_{nom}$ has
C$_{[*v*]}$ [$_{TP}$ [$_{VP_3}$ t$_2$ geküsst] T t$_4$]]]]
kissed

The standard analysis of this phenomenon identifies the restriction as a topic island effect, in analogy to *wh*-island effects (see (52)): If the pre-V/2 item occupies SpecC, it blocks an escape hatch and turns the V/2 clause into an island for TP-internal material that follows the C position. The analysis suggested by the new approach to V/2 is not radically different: vP in SpecC$_{[*v*]}$ turns CP into an island in the same way that a *wh*-phrase in SpecC$_{dass}$ does. More specifically, both (51-ab) and (52) are excluded by the PIC: The PIC requires movement from CP to the Specv position in the matrix clause to take place from the edge domain of C$_{[*v*]}$. C$_{[*v*]}$ can only have one specifier, and vP occupies this position. Hence, *wh*-movement to the matrix Specv position fatally violates the PIC. Given that the matrix VP does not qualify as a possible landing site, the illformedness of (51-ab) is accounted for (as is that of (52)).

(52) *Wen$_2$ fragst du dich [$_{CP}$ wie$_6$ [$_{C'}$ (dass) [$_{TP}$ T [$_{vP}$ die Maria$_1$ [$_{VP}$ t$_2$ geküsst]
whom$_{acc}$ ask you yourself how that the Maria$_{nom}$ kissed
hat]]]]?
has

A second, more controversial generalization about V/2 clauses and islandhood is that V/2 clauses are also islands for the extraction of XPs that precede the V/2 position. This island effect is exemplified for German by the sentences in (53).

(53) a. #Wen$_2$ denkst du [$_{CP}$ [$_{vP_4}$ t$'_2$ t$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{VP_3}$ t$_2$
whom$_{acc}$ think you has the Maria$_{nom}$
geküsst] T t$_4$]]] ?
kissed

b. *Ich weiß nicht [$_{CP}$ wen$_2$ (dass) du denkst [$_{CP}$ [$_{vP_4}$ t$'_2$ t$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$
I know not whom$_{acc}$ that you think has
die Maria$_1$ [$_{VP_3}$ t$_2$ geküsst] T t$_4$]]]
the Maria$_{nom}$ kissed

c. *Wen$_2$ glaubt sie [$_{CP}$ t$''_2$ dass du denkst [$_{CP}$ [$_{vP_4}$ t$'_2$ t$_1$ t$_3$ hat] [$_{C'}$ C$_{[*v*]}$ [$_{TP}$ die
whom$_{acc}$ believes she that you think has the
Maria$_1$ [$_{VP_3}$ t$_2$ geküsst] T t$_4$]]] ?
Maria$_{nom}$ kissed

The illformedness of (53-bc) is a notorious unresolved problem of German syntax; the phenomenon is known as the "prohibition against extraction from V/2 clauses into verb-final clauses" (see Tappe (1981), Haider (1984; 1993b), Reis (1985, 1996), Sternefeld (1989), Staudacher (1990), Müller (1993, ch.8), Müller & Sternefeld (1993)). Reis (1996) argues

that V/2 clauses (at least those of the type currently under consideration) are islands, and that apparent cases of well-formed extraction (as in (53-a)) should be reanalyzed as involving a parenthetical construction – an option that does not exist in (53-bc).[28] Suppose this is correct. Then, we need to account for the islandhood of V/2 clauses as in (53-abc) for material preceding V/2.[29] Attempts have been made to devise theories of locality according to which CPs with an internal V/2 structure can be barriers for the pre-V/2 position (see in particular Staudacher (1990) and Sternefeld (1989)); but these approaches face the problem of imposing opacity on a position that a priori looks like *the* canonical escape hatch, viz., SpecC. In the present approach, the islandhood follows straightforwardly from both the CED and the PIC: According to the CED, a fronted vP blocks XP movement out of vP; and according to the PIC, XP movement from CP to the matrix Specv position requires XP to be in the edge domain of C, which it cannot be because the vP that dominates XP already occupies the edge domain.[30]

5.2. The Distribution of V/2 Clauses

Embedded V/2 in German is typically confined to bridge environments that also permit long-distance *wh*-movement (see Haider (1984) and Grewendorf (1989), among others).[31] Similar restrictions hold for embedded V/2 in most Germanic languages (except for varieties of Yiddish and Icelandic). Thus, a (non-negated) bridge verb like *glauben* ('believe') permits embedded V/2 in (54-a). A non-bridge verb like *bedauern* ('regret') precludes embedded

[28] Accordingly, # in (53-a) signals wellformedness of the string, accompanied by illformedness under the structure given here.

[29] I presuppose here that V/2 clauses that act as internal arguments of predicates must have complement status (i.e., be merged VP-internally), and cannot be assigned root-like status themselves (which would straightforwardly account for the general island effect); but see Reis (1997) and de Haan (2001) for a different view.

[30] It is worth emphasizing that V/2 clauses are strict islands for XPs following or preceding V/2 in other Germanic languages, like Danish (Vikner (1995)); see (i-ab). (I address the viability of the vP movement approach for other Germanic languages in section 7.)

(i) a. *Hvordan$_5$ sagde hun [$_{CP}$ (t$'_5$) at [$_{vP}$ børnene ... havde] C$_{[*v*]}$ t$_5$ altid lært historie] ?
how said she that children the have always learned history

b. *Hvordan$_5$ sagde hun [$_{CP}$ (t$''_5$) at [$_{vP}$ t$'_5$ ... havde] C$_{[*v*]}$ børnene t$_5$ altid lært historie] ?
how said she that have children the always learned history

Thus, German would be unique among the Germanic languages if it permitted movement from the pre-V/2 position in cases like (53-a). (Note in passing that if only the higher embedded CP headed by *at* qualifies as a phase, (i-b) is still excluded by the CED, but not by the PIC.)

[31] As has sometimes been noted, the correspondence is not quite one-to-one, with exceptions occurring in either direction. Still, the generalization strikes me as sufficiently solid, especially in view of the fact that exceptions show much idiolectal and dialectal variability.

V/2; see (54-b). Finally, finite subject clauses block internal V/2; see (54-c).

(54) a. Ich glaube [$_{CP}$ [$_{vP_4}$ den Fritz$_2$ t_1 t_3 hat] [$_{C'}$ $C_{[*v*]}$ die Maria$_1$ [$_{VP_3}$ geküsst] T t_4]]
I believe the Fritz$_{acc}$ has the Maria kissed

b. *Ich bedaure [$_{CP}$ [$_{vP_4}$ den Fritz$_2$ t_1 t_3 hat] [$_{C'}$ $C_{[*v*]}$ die Maria$_1$ [$_{VP_3}$
I regret the Fritz$_{acc}$ has the Maria
geküsst] T t_4]]
kissed

c. *Mich hat überrascht [$_{CP}$ [$_{vP_4}$ den Fritz$_2$ t_1 t_3 hat] [$_{C'}$ $C_{[*v*]}$ die Maria$_1$ [$_{VP_3}$
me$_{acc}$ has surprised the Fritz$_{acc}$ has the Maria
geküsst] T t_4]]
kissed

This distribution is very similar to that of complementizer drop in English (see Erteschik-Shir (1973) and Stowell (1981)). Thus, complementizer drop is possible in an object clause embedded by a bridge verb (see (55-a)), and impossible in an object clause embedded by a non-bridge verb (see (55-b)) and in subject clauses (see (55-c)).

(55) a. He said [$_{CP}$ C [$_{TP}$ John did it]]

b. *He resented [$_{CP}$ C [$_{TP}$ John did it]]

c. *[$_{CP}$ C [$_{TP}$ John did it]] impressed everyone

The distribution is also strongly reminiscent of that of embedded topicalization in English (see Hooper & Thompson (1973)). (56-a) illustrates that embedded topicalization is possible under bridge verbs, and (56-bc) show that this operation is impossible under non-bridge verbs and in subject clauses.

(56) a. I think [$_{CP}$ that [$_{CP}$ to John$_5$ [$_{C'}$ C [$_{TP}$ Mary gave a book t_5]]]]

b. *I resent [$_{CP}$ that [$_{CP}$ to John$_5$ [$_{C'}$ C [$_{TP}$ Mary gave a book t_5]]]]

c. [$_{CP}$ That [$_{CP}$ to John$_5$ [$_{C'}$ C [$_{TP}$ Mary gave a book t_5]]]] really surprised me

This suggests a unified approach. Assuming that embedded topicalization in English is not to be analyzed as movement to a position in the TP domain, but as movement to a unique specifier outside of TP (see Müller & Sternefeld (1993)), i.e., in the present approach, to SpecC, the three constructions can receive a uniform treatment: They all exhibit an empty C, which must be embedded under a bridge predicate (or occur at the root).

6. Some Further Issues

In this section, I discuss some further predictions made by the analysis of German V/2 as remnant vP fronting, and I address some (apparent and real) problems.

6.1. Fronted vPs as Constituents

Clearly, the standard approach to V/2 documented in (1) and the conservative remnant movement approach to V/2 embodied in (2) differ significantly from the more radical remnant movement approach to V/2 adopted here (see (3)) in their predictions concerning constituency. In the former two approaches, items in the pre-V/2 position and in the V/2 position do not form a constituent; in the latter approach, they do. If there were obvious cases that unambiguously showed a constituency of pre-V/2 and V/2 material, the present approach would of course have been suggested a long time ago. Thus, the task at hand must be a more modest one: to show that the postulated vP constituent in Spec$C_{[*v*]}$ is not called into question by evidence from typical constituent tests involving movement and coordination.

6.1.1. Movement

Let me begin with evidence from movement. If material in the pre-V/2 and V/2 positions forms a single vP constituent, one might expect further fronting of this vP to be possible. However, the contrast between (57-a) (with vP_4 in the embedded Spec$C_{[*v*]}$ position) and (57-bc) (where vP_4 has undergone further movement) shows that this is not the case. Note that vP_4 moves to the matrix Spec$C_{[*v]}$ via the edge domain of the intervening matrix vP_5 in (57-b), whereas vP_4 stops in the edge domain of vP_5, which then moves on to the matrix Spec$C_{[*v]}$ itself, in (57-c); both options seem to be excluded.[32]

(57) a. Karl hat gesagt [$_{CP}$ [$_{vP_4}$ den Fritz$_2$ t_1 t_3 hat] $C_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{VP}$ t_2 geküsst] T t_4]]
Karl$_{nom}$ has said the Fritz$_{acc}$ has the Maria$_{nom}$ kissed

b. *[$_{CP}$ [$_{vP_4}$ Den Fritz$_2$ t_1 t_3 hat] $C_{[*v*]}$ [$_{TP}$ [$_{vP_5}$ t''_4 Karl gesagt hat [$_{CP}$ t'_4 $C_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{VP}$ t_2 geküsst] T t_4]]]]]
the Fritz$_{acc}$ has Karl$_{nom}$ said has the Maria$_{nom}$ kissed

c. #[$_{CP}$ [$_{vP_5}$ [$_{vP_4}$ Den Fritz$_2$ t_1 t_3 hat] ... hat] $C_{[*v*]}$ [$_{TP}$ Karl gesagt t_5 [$_{CP}$ t'_4 $C_{[*v*]}$ [$_{TP}$ die Maria$_1$ [$_{VP}$ t_2 geküsst] T t_4]]]]]
the Fritz$_{acc}$ has hat Karl$_{nom}$ said the Maria$_{nom}$ kissed

The reason for the illformedness of (57-b) and (57-c) cannot be that V/2 clauses are islands for pre- and post-V/2 material, as discussed in section 5.1: Neither the CED nor the PIC

[32] In fact, the string of (57-c) as such is acceptable, but only with an analysis where *hat Karl gesagt* is a parenthetical expression, and vP_4 has undergone clause-bound movement. Again, the difference between well-formedness of the string and illformedness of the structure is indicated by #.

would be violated if the item moves that itself erects the island (in complete analogy to a *wh*-phrase in SpecC, which does not create an island for itself). However, I contend that (57-b) and (57-c) are ungrammatical for the same reason that, e.g., *wh*-movement cannot apply to a *wh*-phrase that has already been *wh*-moved to a Spec$C_{[*wh*]}$ position. In other words: In the same way that a fronted *wh*-phrase is frozen in Spec$C_{[*wh*]}$, a fronted vP is frozen in Spec$C_{[*v*]}$.[33]

6.1.2. Coordination

If material in the pre-V/2 and V/2 positions forms a single vP constituent, we might expect that it can be coordinated with another such vP. At first sight, examples like (58-a) seem to confirm this. However, evidence from coordination is inconclusive since the pertinent examples can be reanalyzed as involving right node raising, as it must be assumed anyway for examples like (58-b), where no resort to vP constituency is possible. Still, it seems that nothing would rule out an analysis of (58-a) in terms of vP coordination, and we may conclude that whereas we cannot gain a strong argument for vP fronting in V/2 constructions based on coordination tests, these tests provide no argument against this approach either.

(58) a. [Das Buch kann] und [den Aufsatz muss] [Maria lesen]
the book$_{acc}$ can and the article$_{acc}$ must Maria$_{nom}$ read

b. [Das Buch kann Fritz] und [den Aufsatz muss Maria] [lesen]
the book$_{acc}$ can Fritz$_{nom}$ and the article$_{acc}$ must Maria$_{nom}$ read

6.2. Complex Prefields

Does an approach in which V/2 is reanalyzed as vP-movement have anything new to say about cases where it looks as though the prefield is complex? Perhaps yes, in principle; but by now it should be clear that, because of the EPC, the specific vP-movement approach developed here makes more or less the same predictions about complex prefields as the standard approach to V/2: The material in the pre-V/2 position is confined to one constituent. Consequently, more complex prefields are predicted not to exist, and pertinent sentences are expected to be acceptable only if the pre-V/2 items can be analyzed as a single (e.g., small clause-like)

[33] More technically, there is no feature that might trigger vP movement to the matrix vP or CP in (57-b) and (57-c). The PIC does not require such movement (there is another v, merged later, that can check the remaining $C_{[*v*]}$). Hence, vP movement out of CP involves a fatal LR violation. In addition, depending on its exact interpretation as a derivational or representational constraint, (57-c) might violate the MLC because vP_1 is closer to $C_{[*v*]}$ than vP_2 in ... $C_{[*v*]}$ ... [$_{vP_1}$ vP_2 ...]...]... This approach also explains the illformedness of vP fronting from verb-final clauses.

constituent. Thus, if, e.g., NP-NP sequences can show up in the pre-V/2 position, as is sometimes argued on the basis of examples like (59-a) (see Frey & Tappe (1991)), this implies that the two objects can be analyzed as a single small clause-like constituent that scrambles prior to vP fronting. That said, the construction seems possible only under extremely favourable conditions, which include plural and indefinite marking, minimal length, and unmarked word order; thus, reversing the order of the two object NPs significantly reduces grammaticality, as does making the NPs slightly more complex, adding definite marking, or replacing plural with singular marking; see (59-b).

(59) a.??[$_{vP_4}$ Kindern Bonbons sollte] $C_{[*v*]}$ man nicht geben T t_4
children$_{dat}$ sweets$_{acc}$ should one not give

b. *[$_{vP_4}$ Dieses billige Geschenk der Frau sollte] $C_{[*v*]}$ man nicht geben T t_4
this cheap present$_{acc}$ the woman$_{dat}$ should one not give

Another kind of (apparently) complex prefield shows up in what might be called "Escartin" sentences (in honour of the famous Spanish rider who, for whatever reason, seems to figure in this type of sentence unusually often in the German media – more generally, the construction is conspicous in German sports reports of all kinds); see (60):

(60) a. [$_{CP}$ [$_{vP_4}$ [Fast alles] [im Sitzen] ... bewältigt] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ Fernando
almost everything in sitting manages Fernando
Escartin auf dem Weg zum Gipfel T t_4]]]
Escartin on the way to the peak (ARD tv, Tour de France, 19.7.2000)

b. [$_{CP}$ [$_{vP_4}$ [Mit dem Hauptfeld] [ins Ziel] ... kamen] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ auch
with the peloton into the finish came also
Fernando Escartin und Aitor Garmendia T t_4]]]
Fernando Escartin and Aitor Garmendia (www.ardtour.de, 8.8., 2001)

c. [$_{CP}$ [$_{vP_4}$ [Hilflos] [auf dem Platz] ... irrte] [$_{C'}$ $C_{[*v*]}$ [$_{TP}$ Möller
helplessly on the field wandered Möller
umher T t_4]]]
about

Here it is not entirely obvious that the pre-V/2 material can be viewed as a single small clause-like constituent; and if not, the present approach to V/2 faces the same problem that the standard approach to V/2 has. Similar conclusions apply in the case of other constructions involving complex prefields; see, e.g., Fanselow (1993) and Haider (1993) on an apparent V/3 effect with NP-particle fronting, Lutz (1997) on what looks like a V/3 effect in South German parasitic gap constructions, Büring & Hartmann (2000) vs. Bayer (1996) on what looks like a V/3 effect in focus particle constructions in German, or Nilsen (2000) on a (different type of) focus particle construction in Mainland Scandinavian.

6.3. Mismatches

6.3.1. V-v Adjacency

An interesting potential problem for the present approach is posed by the following observation: The sequence V-CP-v (with V and v both lexically filled) is impossible in German if v is verb-final (see (61-a)), but possible if v is in V/2 position (see (61-b)); the sequence V-v-CP is possible in both cases (see (61-cd)). I assume that V-v-CP order is derived by extraposition, i.e., a rightward movement rule that applies optionally. Thus, there is an adjacency requirement on lexically filled verbal heads in situ that is relaxed in V/2 contexts (see Kohrt (1974), Haider (1990), Truckenbrodt (1994), Büring & Hartmann (1997)). In the present approach, this mismatch between verb-final and V/2 clauses may initially look problematic because neither V nor v can have moved in V/2 constructions, and both heads are part of the same vP in verb-final and V/2 contexts.

(61) a. *dass [$_{vP_4}$ der Fritz [$_{VP_3}$ gesagt [$_{CP_2}$ dass Maria schläft] hat]]
that the Fritz said that Maria sleeps has

b. [$_{vP_4}$ [$_{VP_3}$ Gesagt [$_{CP_2}$ dass Maria schläft]] t_1 t_3 hat] [$_{TP}$ der Fritz$_1$ T t_4]
said that Maria sleeps has the Fritz

c. dass [$_{vP_4}$ der Fritz [$_{VP_3}$ gesagt t_2 hat]] [$_{CP_2}$ dass Maria schläft]
that the Fritz said has that Maria sleeps

d. [$_{vP_4}$ [$_{VP_3}$ Gesagt t_2] t_1 t_3 hat] [$_{TP}$ der Fritz$_1$ T t_4] [$_{CP_2}$ dass Maria schläft]
said has the Fritz that Maria sleeps

Under present assumptions, the underlying generalization is as follows: Lexically filled V and v heads must be adjacent if vP is in situ; they do not have to be adjacent if vP is fronted to Spec$C_{[*v*]}$. The question then is how what looks like one and the same vP can be internally well formed in situ, and internally ill formed after movement. Various answers can be given, and they all rely on the conclusion that it is in fact *not quite* the same vP in verb-final and V/2 contexts. Note that CP_2 is c-commanded by v in (61-a), but not in (61-c) (after extraposition) or in (61-bd) (where VP_3, which contains CP_2, has to move to Specv in order to be part of the edge domain of v and thereby participate in vP fronting to Spec$C_{[*v*]}$). For the sake of concreteness, I will adopt a version of the proposal in Büring & Hartmann (1997): Suppose that finite CPs must not be c-commanded by a lexically filled v. Under this assumption, (61-a) is excluded, whereas (61-bcd) are not; in particular, VP_3 fronting to Specv$_{[*\Sigma*]}$ in (61-cd) removes CP_3 from the c-command domain of v, as a side product.[34] As noted, alternative

[34]Given that modals qualify as v items in German, it is correctly predicted that vP_4 fronting in (i-b) is as impossible as vP_4 in situ in (i-a) – in both cases, CP is c-commanded by a lexically filled v, and fronting of vP_4 does not help (whereas fronting of VP_3 does).

solutions would be readily available. Note in particular that intonation patterns for the finite verb and material preceding it are radically different in V/2 clauses and verb-final clauses. In line with this, Truckenbrodt (1994) argues that (61-a) is excluded by prosodic constraints that require CP_2 extraposition in this context. This analysis could be reconciled with the present approach without much ado.

6.3.2. Verbs that Fail to Undergo V/2

Similar mismatches between verb-final and V/2 clauses arise with morphologically complex verbs that can occur in finite form in a verb-final position, but fail to participate in V/2 fronting (see Haider (1992) and Koopman (1995), among others); compare, e.g., (62-a) with the ill-formed examples in (62-bcd).[35]

(62) a. dass sie die Oper hier ur-auf-führen
that they the opera here perform first
b. *Sie führen die Oper hier ur-auf
c. *Sie auf-führen die Oper hier ur
d. *Sie ur-auf-führen die Oper hier

A similar phenomenon shows up with verbal prefixes that are not P elements (as in (62)), but incorporated nouns (see Eschenlohr (1999) and literature cited there). Thus, in addition to complex verbs like *rad-fahren* ('bicycle-ride') where the N element (*rad*) is separable under V/2, and complex verbs like *schluss-folgern* ('conclude') where the N element (*schluss*) is inseparable under V/2, there are also complex verbs like *not-landen* ('emergency-land') which cannot participate in V/2 fronting at all; see (63).

(63) a. dass Fritz hier not-landete
that Fritz here emergency-landed
b. *Fritz landete hier not
c. *Fritz not-landete hier

Data like these are often accounted for by postulating restrictions on head movement, such that movement of V to C must neither carry along nor strand certain prefixes. Such an analysis is not available under present assumptions. The vP fronting approach to V/2 leads us to

(i) a. *dass [$_{vP_5}$ der Fritz [$_{vP_4}$ [$_{VP_3}$ sagen [$_{CP_2}$ dass Maria schläft]] können] muss]
that the Fritz say that Maria sleeps can must
b. *[$_{vP_5}$ [$_{vP_4}$ [$_{VP_3}$ Sagen [$_{CP_2}$ dass Maria schläft]] können] t_1 t_4 muss] [$_{TP}$ der Fritz$_1$ T t_5]
say that Maria sleeps can must the Fritz

[35] Here and in what follows, the relevant morphemes are separated by hyphens; these do not reflect standard spelling.

the following distinction between separable and inseparable P/N verbal prefixes: Separable P/N prefixes head intransitive PPs/NPs that are merged with V (and complex word formation takes place at PF); inseparable P/N prefixes are P/N heads that are part of V. Accordingly, verbal XP prefixes are stranded under V/2, i.e., moved to SpecT; in contrast, verbal X prefixes participate in V/2 fronting. Thus, given that stranding of a prefix implies EPC-driven movement of the prefix to SpecT, ungrammatical examples like those in (62) and (63) can all be analyzed as involving illegitimate movement of separable prefixes to SpecT.[36] Ultimately, an analysis along these lines would have to be complemented by semantic and/or phonological assumptions that can predict under which circumstances a prefix (-like item) is defective in the sense assumed here, i.e., unable to undergo EPC-driven movement to SpecT. For now, we can conclude that even though the present approach does not employ verb movement, and the finite verb as such occupies the same position in verb-final and V/2 sentences, it can still derive mismatches between the two types of construction.

7. Beyond V/2 in German

In this section, I address three more general issues raised by the remnant movement analysis of V/2 in German: first, the status of the EPC; second, V/2 constructions in other Germanic languages; and third, V/1 and V/3 constructions.

7.1. The Status of the EPC

The question arises of whether the EPC in (8) must be stated as such, or follows from more basic assumptions. The latter may well be the case; it seems that the EPC can be derived from a natural constraint on phases. The basic observation is that there is something special about movement of a phase (like vP) to the specifier of another phase (like CP), which forms a phase cluster, with one phase immediately dominating another one. Phase clusters create potential ambiguity because two phases now have an identical left edge. This problem of phase identification in clusters cannot be avoided completely (given that C may attract v and vice versa); but under an optimal-design perspective, we can expect that the phase identification problem is minimized in some grammar-internal way. One way to enhance phase identification is to ensure that there is a constituent at the left edge of the phase cluster that represents the most conspicuous domain of an XP, viz., an edge domain. This is expressed

[36]The same account can be given for the similar restrictions on V/2 in *mehr als* ('more than') constructions that are discussed in Haider (1997), Meinunger (2001), and Fanselow (2002).

by the identification requirement for phases in (64).[37]

(64) *Phase Identification* (PI):
If a phase α has a phase β in its specifier, the head of β is part of a constituent γ that contains only an edge domain.

Consider first vP fronting to SpecC$_{[*v*]}$. We have seen that the edge domain of vP is a constituent containing two items: Specv and v or V; thus, β equals γ. Hence, if a complete vP or a vP that is reduced to its head moves to SpecC, PI is violated because v is not part of a constituent that contains only an edge domain – the domain is either bigger or smaller than an edge domain. Consequently, PI can be satisfied only if a vP reduced to its edge domain moves to SpecC. Since PI is a general requirement, it also applies to instances of CP fronting, to either vP or CP. Abstracting away from the unclear status of infinitives with respect to phasehood, we can conclude that a finite CP headed by a complementizer will always respect PI after movement because, in this case, β (CP) is different from γ (C): There is no specifier preceding C; therefore, lexical C is a complete edge domain. Hence, CP movement to, e.g., Specv – as in CP scrambling constructions or intermediate steps of CP topicalization – is unproblematic from the point of view of PI.

7.2. V/1 (and V/3)

An important issue that has been left open so far concerns the status of sentences that have standardly been analyzed in terms of V-to-C movement but do not produce V/2 configurations, apparently in violation of the EPC (and of PI). This includes V/1 structures in yes/no questions, in imperatives, in conditional inversion constructions, in (stylistically marked) narrative inversion constructions, and in a few other (mostly marginal) declarative clause types. More generally, the question also arises of how V/1 constructions in VSO languages fit into the approach developed in this article. Similarly, V/3 constructions as they are documented in, e.g., Old High German and Old English (see Lenerz (1985), Roberts (1992), among others), seem to violate the EPC (and PI). I cannot possibly develop a full account of these constructions here; I will merely point out some of the strategies that might be pursued.

First, it might be that V/1 and V/3 constructions do in fact not target phase edges, i.e., the landing site of movement would not be the CP domain, but some higher or lower projection (since both V/1 and V/3 constructions tend to have a distribution that is quite different from that of V/2 constructions, such an assumption does not strike me as unreasonable). Given

[37] Incidentally, PI is arguably similar in spirit to some earlier approaches to V/2; compare, e.g., Safir's (1982) Head Uniqueness Principle.

the EPC, this assumption would not really help. However, an interesting consequence of replacing the EPC with the more general PI requirement would be that there is no special constraint on vP movement anymore; in particular, vP movement to other positions than SpecC would not have to result in edge domain pied piping, and other constraints could apply in V/1 and V/3 constructions, requiring minimal (V/1) or slightly extended (V/3) edge domains of vP to take part in the movement operation. A second strategy would be to argue that V/1 and V/3 constructions emerge as V/2 constructions upon closer inspection, derived in accordance with the EPC (and PI). There is a long research tradition according to which various types of V/1 constructions in the Germanic languages involve an abstract element – e.g., an empty operator in yes/no questions (see Vikner (1995), among many others); an empty operator (see Zwart (1993)), a deleted expletive pronoun (see Cardinaletti (1990)), or an empty category (see Platzack (1987)) in narrative inversion constructions. Given that these abstract elements are visible for the purposes of the EPC (unlike traces), this constraint is then fulfilled in V/1 sentences. Similarly, V/3 constructions in, e.g., Old High German often involve a clitic-like pronoun in second position; one might take this to indicate that pronoun and verb can be base-generated as a complex head. Still, several problems with abstract analyses of this type have been pointed out that do not arise if V/1 and V/3 structures exist as such (see in particular Platzack (1995; 1996) and Önnerfors (1997) on declarative V/1 structures). However, even if we assume that V/1 and V/3 structures exist, and that they involve movement to a phase edge domain, this does not imply that the EPC-based approach to V/2 must be called into question. Recall that on what is arguably the simplest approach to EPC-driven evacuation from vP, the constraint LR must be taken to be violable in favour of the EPC (PI). However, given that constraint violability plays a role in syntax, there is every reason to assume that it does so more generally. Thus, the EPC (PI) in turn could be violable in favour of (i.e., be ranked below) other constraints that are active in V/1 and V/3 constructions; such an approach would then also correctly predict that V/2 represents the unmarked case in German, and V/1 is confined to certain special environments (this would be a instance of the "emergence of the unmarked;" see McCarthy & Prince (1994)). For the time being, I will leave open which of the three approaches sketched here is the most promising one; but it seems safe to conclude that the existence of V/1 and V/3 structures is by no means an insurmountable problem for the EPC-based approach to V/2 structures.

7.3. The Comparative Germanic Perspective

The present vP-fronting approach to V/2 presupposes that an XP in a pre-V/2 position is in the edge domain of vP. An XP can be merged in this position only if it is a subject, an adverb,

or an expletive. Other kinds of XPs, e.g., object NPs, can reach the edge domain only by movement. I have focussed on two instances of movement in this context: [*wh*]-driven *wh*-movement, which proceeds via the edge domain of vP because of the PEFC and the PIC; and [*Σ*]-driven scrambling. All Germanic V/2 languages permit non-subject, non-adverb, non-expletive material in the pre-V/2 position; the obvious question for the present approach then is how this material is moved to the edge domain of vP. The null hypothesis might be that, e.g., an object NP can end up in the edge domain of v by [*Σ*]-driven scrambling, just as in German. The problem with such a direct extension is that languages like like Dutch, Icelandic, or, in particular, the Mainland Scandinavian languages do not employ German-type scrambling to Specv. In Dutch, e.g., there are only limited scrambling options; an NP can typically not be moved across another NP, only across an adverb. A similar restriction holds for Icelandic, which has object shift (which I assume to involve movement to Specv) of non-pronominal and pronominal NPs across adverbs but must preserve the pre-movement order of NPs; see Collins & Thráinsson (1996). The Mainland Scandinavian languages do not have non-pronominal object shift in the first place, and pronominal object shift must also be order-preserving (see Johnson (1991) and Vikner (1994)). In general, object shift is a severely restricted operation (further factors include the dependence on a preceding main verb; see Holmberg (1986; 2001), Vikner (1994), and Thráinsson (2000) for comprehensive accounts). Thus, the question arises of whether, say, a non-pronominal second object NP of a double object construction that shows up in the pre-V/2 position in (65-a) in Danish (see Vikner (1995)), or a non-pronominal second object PP that shows up in the pre-V/2 position in (65-b) in Swedish (see Platzack (1985)) can have reached the edge domain of vP by object shift, given that object shift is order-preserving, and given that non-pronominal objects otherwise do not participate in object shift in these languages in the first place.

(65) a. $[_{vP_4}\ [_{NP_2}$ Denne bog] ... v $[_{VP}$ viste ... t_2] $[_{TP}$ Peter ikke Marie T t_4]
this book showed Peter not Marie

b. $[_{vP_4}\ [_{PP_2}$ Till Eva] ... v $[_{VP}$ gav ... t_2] $[_{TP}$ han aldrig den boken T t_4]
to Eva gave he never that book

Even more unexpected might be the fact that VPs may show up in the pre-V/2 position in, e.g., Swedish (see Platzack (1995) and Holmberg (2001)); but in contrast to what we have seen to be the case with scrambling in German, VPs can never undergo object shift.

In view of this state of affairs, one might argue that Specv as such is systematically available as a target for movement in languages that have scrambling or object shift operations, and that there are language-particular restrictions that regulate what kind of category may eventually surface in a clause-internal Specv position (e.g., pronominal vs. non-pronominal NPs), whether or not the surface order of NPs must reflect the pre-movement order, and so on.

Such an approach would follow a pattern of reasoning that is given repeatedly in Chomsky (2001): V/2 movement of vP to Spec$C_{[*v*]}$ would emerge as a possibility to render legitimate those instances of scrambling/object shift to vP that would otherwise not be available in Dutch and the Scandinavian languages.

Such an analysis might ultimately prove viable. Still, I will conclude by sketching a second possibility that the present approach offers. On this view, V/2 constructions in other Germanic languages have a derivation that is more like that of *wh*-initial V/2 in German than that of other instances of V/2 in German. For concreteness, suppose that a [*v*] feature on C in, e.g., Danish or Swedish is always accompanied by an [*op*] feature, as suggested above for long-distance topicalizations in German (recall (39) from section 3.1; also compare the similar analysis of expletive *es* in (41) in section 3.2). The feature [*op*] stands for a topic or focus interpretation, and the corresponding feature [op] can be instantiated on any kind of XP in the numeration (modulo certain restrictions). Under these assumptions, the sentences in (65) have exactly the same derivation as *wh*-initial V/2 constructions in German (see section 3.1). Given that XP_2 in (65-ab) has an [op] feature, PEFC and PIC trigger movement of XP_2 to the edge domain of v on the vP cycle. Subsequently, the only way to satisfy FC on the CP cycle is to move vP (whose edge domain contains the features [op] and [v]) to Spec$C_{[*v*],[*op*]}$. If these considerations are on the right track, we expect that there are interpretational differences between V/2 clauses in German and V/2 clauses in other Germanic languages. This, indeed, seems to be the case: Pre-V/2 material does not have a specific discourse function in German; it can receive a topic or focus interpretation, but it does not have to (see Grewendorf (1989), Müller (1993), and literature cited there). Pre-V/2 material in other Germanic languages, however, is usually assumed to go hand in hand with an operator interpretation as either focus or topic; see, e.g., Holmberg (2000) and Vikner (2001); also see Fanselow (2002) for the distinction between two types of V/2 made here.[38] Of course, a lot more would have to be said in a full-fledged account of V/2 in other Germanic languages with restricted scrambling options. However, for reasons of space and coherence, I will leave it at that.[39]

[38] A reviewer notes that Dutch patterns more with German than with the Scandinavian languages in this respect. This might be taken to suggest that both options discussed in this section may prove necessary.

[39] A brief remark is due, though, on residual V/2 in English, as it shows up with *wh*-movement in root clauses, and with negative inversion. The current approach suggests an analysis according to which root $C_{[*wh*]}$ and $C_{[*neg*]}$ bear a [*v*] feature, thereby triggering edge domain movement of a *wh*-phrase or a negative phrase and subsequent remnant vP fronting, with auxiliaries and modals as v (not T) elements. Properties like the restriction to non-main verbs as vP edge domain items, and the obligatory insertion of *do* into an otherwise empty v position, seem to raise exactly the same kinds of questions that they raise in standard approaches, and

8. Concluding Remarks

I have argued in this article that an approach to German V/2 constructions in which the pre-V/2 position and the V/2 position collapse into a single fronted constituent, and which is based on remnant vP movement to a specifier of a functional head, is both conceptually attractive and empirically viable.[40] It is conceptually attractive because it allows us to dispense with head movement, an operation that raises severe problems for a general theory of movement. Needless to say, there are many more instances of alleged head movement that would have to be reanalyzed in terms of remnant movement (or other concepts) before it can be concluded that head movement can be dispensed with in the theory of grammar; but it seems fair to conclude that, of all the constructions that have been analyzed in terms of head movement and need to be reanalyzed if the concept is abandoned, V/2 constructions are a priori among the most recalcitrant phenomena.[41] Furthermore, I take the vP fronting approach to V/2 constructions in German to be empirically interesting because, in addition to accounting for the core instances of V/2, it also sheds new light on several long-standing questions: It gives a simple explanation for why some categories (*wh*-phrases, expletives) always show up in a pre-V/2 position, whereas other categories (weak object pronouns, certain object clauses) never show up in a pre-V/2 position; it derives the islandhood of V/2 clauses for pre-V/2 material as well as post-V/2 material; and it assimilates the distribution of V/2 clauses in German to that of complementizer drop clauses in English. In addition, the present approach could be shown not to make wrong predictions with respect to constituency, to be able to accomo-

can thus probably be addressed in a similar fashion.

[40] It should be pointed out that the idea that the pre-V/2 and V/2 positions in German form a unit has independently been pursued in Richter & Sailer (2001); however, their HPSG approach is otherwise radically different both in its theoretical assumptions and in its empirical coverage.

[41] Thus, analyses that do not employ head movement have long, and for independent reasons, been proposed for apparent verb raising constructions (in terms of verb projection raising), for apparent noun incoporation constructions (in terms of base-generation of N as part of V; see, e.g., Di Sciullo & Williams (1987) vs. Baker (1988)), and for apparent V-to-T movement constructions (in terms of constraints on merging of adverbs). As far as the latter are concerned, it has often been suggested that the relative position of adverbs and finite verbs in non-V/2 clauses in a given language can be tied to the richness of verbal inflectional morphology of that language, via the V-to-T movement parameter; see, e.g., Holmberg & Platzack (1995), Vikner (1995), Rohrbacher (1999), and references cited in these works. It is not immediately evident how an approach that dispenses with the V-to-T movement parameter in favour of an adverb placement parameter can be made sensitive to richness of inflection; but given the well-documented cases where the correlation breaks down, and given the notorious problems (both conceptual and empirical) with properly formulating the V-to-T movement parameter in a non-global way, I take it to be far from clear that this is a shortcoming (see Alexiadou & Fanselow (2001)). Also cf. footnote 5.

date mismatches between verb-final and V/2 clauses, and to behave more or less exactly like standard approaches with respect to (apparently) complex prefields. The account given here crucially relies on the Edge Domain Pied Piping Condition (EPC), which can be derived from a general identification condition on phases (PI); and it derives the variation in pre-V/2 placement in German from the scrambling options of the language. Finally, I have sketched ways to extend the approach to V/2 in other Germanic languages that do not exhibit vP-internal word order variation to the extent that German does, and to V/1 and V/3 constructions.

It goes without saying that the present approach raises many further questions.[42] Whether it can eventually be maintained in its strictest form remains to be seen; for now, I would like to conclude from the simple fact that a pure remnant movement approach to V/2 constructions seems viable that a fundamental assumption that has been part of the common ground of comparative Germanic syntax in the last decades (viz., that V/2 involves head movement) can and should be disputed.

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[42] For instance, it is not quite clear how a differentiation among head movement types, as in Roberts (1992) and van Riemsdijk (1998), could be expressed in a uniform remnant movement approach. Furthermore, the present approach necessitates a re-thinking of many assumptions about clause-internal structure that used to be taken for granted (particularly concerning the role of TP and the subject position SpecT); a more conservative version of the theory laid out above might rely on further functional projections intervening between TP and vP that take over the role currently attributed to TP (viz., to be a landing site for EPC-driven movment).

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