

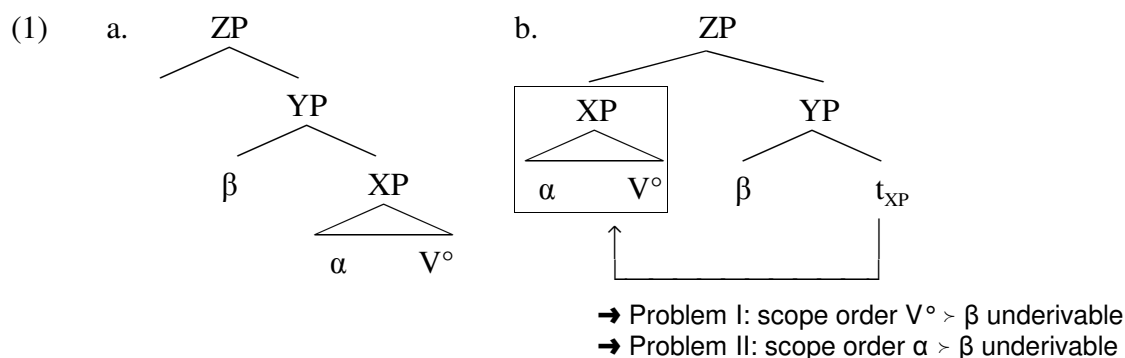
# A PUZZLE FOR REMNANT MOVEMENT ANALYSES OF V2

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In this squib, I address some implications of an unspectacular, yet critical consequence of remnant movement approaches towards verb movement (in particular V2) indicating that these analyses are unable to express elementary generalizations about the relation between word order and interpretation.

## 1. V2 AND REMNANT MOVEMENT

Remnant movement theories of head movement<sup>2</sup> (HM) share the assumption - translated into a graphical representation in (1) - that dislocated verbs have not been fronted by a designated process targeting heads, but reach their surface position inside a larger phrase XP:



Such analyses generate two predictions as to the c-command relations between categories inside XP and nodes the verb has crossed over (such as  $\beta$  in (1)b) which set them apart from standard accounts of HM. First, one is led to expect that the c-command domain of the verb  $V^o$  in (1)b cannot be extended beyond XP. In Lechner (2005a/b, 2006), it is demonstrated that this claim is falsified by the observation that certain cases of head movement apparently feed new scope orders. This finding, which indicates that  $V^o$  may obtain scope over a node  $\beta$  that  $V^o$  has passed on its way, cannot be expressed by the parse in (1)b, as embedding  $V^o$  under XP prevents  $V^o$  from c-commanding  $\beta$ .

Second, remnant movement analyses entail that in V2 configurations - contexts in which ZP in (1) takes the value CP, and in which XP only contains a single phrase  $\alpha$  preceding  $V^o$  - the initial constituent  $\alpha$  cannot take scope higher than XP (see Lechner 2005a). In this squib, I briefly explicate why this second corollary is also contradicted by the data, adding a second challenge for remnant movement accounts of HM. (For further arguments against remnant movement analyses of V2 see Biberauer and Roberts, in progress.)

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<sup>1</sup>I am indebted to Elena Anagnostopoulou, Susi Wurmbrand and in particular Ian Roberts for comments.

<sup>2</sup>See Hinterhölzl (1997); Müller (2004); Nilsen (2003: 109 and 138), a.o.; see also Fanselow (1987, 2002); Koopman and Szabolcsi (2000) for discussion of this and related issues.

## 2. SCOPE MATCHES C-COMMAND

Simple V2 clauses such as (2) can be assigned a distributive interpretation, in which the surface word order matches scope order (whether there is also an inverted scope order is immaterial for present purposes):

- (2) Jeder verlor einmal  $\forall x \succ \exists$   
 ‘Everybody lost once’

The remnant movement account, which postulates the derivational steps sketched in (3), fails to provide the means for producing this reading, because the subject does not c-command the adjunct at any point of the derivation. More precisely, in the overt syntactic output representation (3)c, *everybody* does not c-command *once*. As a result, the representation does not yield the desired scope order  $\forall \succ \exists$ .

- (3) Derivation of scope order *everybody* > *once* (1<sup>st</sup> attempt)
- a. OS: [XP **everybody** lost]
- b. OS: [Y<sub>P</sub> **once** [X<sub>P</sub> everybody lost]] *Merge once*
- c. OS: [C<sub>P</sub> [X<sub>P</sub> **everybody** lost]<sub>1</sub>] [Y<sub>P</sub> **once** t<sub>1</sub>]] *Remnant movement of XP*
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Moreover, given that the temporal-aspectual modifier *once* needs to combine with a predicate denoting expression, the category XP which has been fronted in (3)c needs to reconstruct. This can be achieved in one of two ways: either the trace is assigned the same semantic type as XP, say a property of events (type  $\langle s, t \rangle$ , where  $s$  is the type of eventualities). Then, the content of XP will be automatically converted into the trace position in semantics by Semantic Reconstruction, as sketched in (4):

- (4) a. LF:  $[_{CP} [_{XP} \textbf{everybody lost}]_{\langle s, t \rangle} [_{\langle \langle s, t \rangle, t \rangle} \lambda 1 [_{YP} \textbf{once } t_{1, \langle s, t \rangle}]]]$   $\rightarrow$   
 b. Semantics:  $[_{CP} [_{YP} \textbf{once } [_{XP} \textbf{everybody lost}]_{\langle s, t \rangle}]]$  *Semantic Reconstruction of XP*

If this analytic option is chosen, the strict sequential ordering of the derivation from LF to semantics dictates that the universal may undergo scope shifting only prior to reconstruction. As a result, the upper bound of the scope domain for *everybody* is set by the highest node the universal can reach by covert movement at LF. Since independent constraints effectively limit the scope of the universal to XP (see discussion of (6)a below), the derivation in (4) cannot generate the scope order  $\forall > \exists$ .

Alternatively, interpretability can be ensured by reconstruction of XP at LF, resulting in the LF representation (5).

- (5) LF:  $[_{CP} [_{YP} \text{once } [_{XP} \text{everybody lost}]]]$  *Reconstruction of XP at LF*

But it is equally unlikely that the distributive reading  $\forall \succ \exists$  can be obtained from (5). On the one hand, German is scope rigid, so the universal should not be allowed to undergo covert movement

across the adjunct in (5). In addition, the derivation in (3)a - (3)c is for all means and purposes isomorph to the respective steps in the derivation of predicate fronting, a construction which is known to induce Scope Freezing effects (Barss 1986; Huang 1993). To illustrate, (6) lacks the inverted scope reading, indicating that - for some poorly understood reason - QR can extend the scope of *every student* beyond *noone* neither prior (see (6)a) nor subsequent (see (6)b) to reconstruction of the fronted XP:

- (6) ...and teach every student, noone will  $\neg \exists > \forall / * \forall > \neg \exists$
- a. and  $[_{CP} [_{XP} \text{teach every student}]_1 [_{YP} \text{noone will } t_1]]$
- b. and  $[_{CP} [_{YP} \text{noone will } [_{XP} \text{teach every student}]]]$  *Reconstruction of XP*

If these two properties of the derivation translate into corresponding properties of the remnant movement analysis of V2, one is led to expect that scope reordering should be equally impossible in (3). To be precise, QR of *everybody* out of XP in (3)c should be blocked for the same reason that *every student* cannot scope out of XP in (6)a. And whatever principle prohibits *every student* from covertly crossing *noone* in (6)b should also veto movement of *everybody* across *once* in (5).

Naturally, proponents of remnant movement might adopt an analysis for predicate fronting that renders the construction sufficiently different from V2 in order to subject only the former to the principles responsible for Scope Freezing. It is far from obvious which shape such an alternative analysis for predicate fronting should take, though. In absence of such a proposal, the observation that precedence and c-command systematically match in even the most elementary contexts which permit measuring the c-command relations by scope diagnostics poses a serious challenge for remnant movement accounts of V2.

### 3. AN ALTERNATIVE REMNANT MOVEMENT ACCOUNT: FURTHER PROBLEMS

Ian Roberts (personal communication) pointed out that proponents of remnant movement might entertain an alternative analytical option for generating (2) (example repeated below) which might be better suited for deriving the problematic surface scope order:

- (2) Jeder verlor einmal  $\forall > \exists$   
 'Everybody lost once'

This alternative derivation of (2), sketched in (7), differs from (3) in the position the adjunct *einmal* 'once' occupies relative to the subject in the pre-movement configuration, and some imminent consequences this change entails for the derivation.

- (7) Derivation of scope order *everybody* > *once* (2<sup>nd</sup> attempt)
- a.  $[_{vP} \text{everybody } [_{\text{once lost}}]]$  *Merge once & subject*
- b.  $[_{\text{once}_1} [_{vP} \text{everybody } [t_1 \text{ lost}]]]$  *Evacuation of once*
- c.  $[[[_{vP} \text{everybody } [t_1 \text{ lost}]]]_2 [_{\text{once}_1} t_2]]$  *Remnant movement of vP*
- d.  $[_{\text{once}_1} [_{vP} \text{everybody } [t_1 \text{ lost}]]]$  *Reconstruction of vP*
- e.  $[_{vP} \text{everybody } [_{\text{once lost}}]]$  *Reconstruction of once*

As depicted by (7)a, the adjunct *once* is merged with then VP first, and then the subject joins the derivation. Next, subsequent to evacuation of *once* in (7)b, remnant movement shifts the remaining vP into SpecCP, as illustrated by (7)c. Two reconstruction steps in (7)d and (7)e finally derive the surface scope order by restoring the initial constituency of (7)a.

But this alternative strategy also encounters serious complications, which make it unlikely to succeed. As far as I can see, there are at least three reasons for not adopting (7) as a procedure for generating the string in (2).

### 3.1. IMPERCEPTIBLE EVACUATION MOVEMENT STEPS

First, the analysis contradicts the general laws of (standard, old-fashioned, den Besten/Thiersch style) remnant movement (see Haider 1993; Müller 1998; a.o.). In general, VP-topicalization must not move a category that includes a non-left peripheral trace. To illustrate, in double object constructions with basic word order IO<sub>DAT</sub> - DO<sub>ACC</sub> - V, the IO and the verb cannot be fronted to the exclusion of the DO (see (8)). And if verb projects the base order IO<sub>ACC</sub> - DO<sub>DAT</sub>, as in (9), the verb must not front with the accusative, stranding the dative. Similar observations can be made for DO - IO - V frames and unaccusatives (Frey 1993; Haider 1993):

- (8) a. Sie hat einem Freund<sub>DAT</sub> einen Fehler nachgewiesen  
*she has a friend a mistake proven*  
 ‘She proved that a mistake made a mistake’  
 b. [<sub>DAT</sub> einen Fehler<sub>ACC</sub> nachgewiesen] hat sie einem Freund<sub>DAT</sub>  
*a mistake proven has she a friend*  
 c. ??[einem Freund<sub>DAT</sub> t<sub>ACC</sub> nachgewiesen] hat sie einen Fehler<sub>ACC</sub>  
*a friend proven has she a mistake*
- (9) a. Sie hat einen Freund<sub>ACC</sub> einer Gefahr<sub>DAT</sub> ausgesetzt  
*she has a friend (to) a danger exposed*  
 ‘She has exposed a friend to a danger’  
 b. [<sub>ACC</sub> einer Gefahr<sub>DAT</sub> ausgesetzt] hat sie einen Freund<sub>ACC</sub>  
*(to) a danger exposed has she a friend*  
 c. ??[einen Freund<sub>ACC</sub> t<sub>DAT</sub> ausgesetzt] hat sie einer Gefahr<sub>DAT</sub>  
*a friend exposed has she (to) a danger*

Judgements are relative, and can be improved by focus, but the contrasts are real. Crucially, the derivation in (7) assigns to (2) the same parse as to the c-examples above. But if adjuncts moved in the derivation of simple V2 clauses, the evacuation step in (7)b should be detectable in the same degraded acceptability that characterizes (8)c and (9)c. This is clearly not the case.<sup>3</sup>

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<sup>3</sup>Two additional, more general objections against adjunct movement are that (i) adjuncts are standardly assumed not to scramble (at least in German); and that (ii) permitting adjunct movement would force one to give up a useful heuristic strategy for testing the location of other categories that is based on the positional stability of adjuncts in the clause.

### 3.2. UNATTESTED SCOPE ORDERS

Assume, for the sake of the argument, that the movement step (7)c implicated in the formation of V2 clauses is simply different from observable instances of remnant movement in that it ignores all known laws for predicate fronting (among them Scope Freezing and the trace peripherality condition encountered above). Still, the remnant movement analysis is doomed, due to another incorrect prediction it makes. If the evolution of the tree given in (7) were correct, then remnant movement should not only allow the derivation of the surface scope order, but should also produce the inverted order. In fact, the latter derivation should even be privileged - and therefore presumably more prominent - as it requires only the first reconstruction step (see (7)d).<sup>4</sup> But this is false. Unless rising falling is employed, which is well-known to suspend the effects of scope rigidity, the examples in (10) can only be interpreted with surface scope (as is, by the way, expected under the conservative V2 analysis):

- (10) a. Ein Kandidat wußte {immer} die Antwort {immer}       $\exists > \forall / * \forall > \exists$   
          *one candidate knew {always} the answer {always}*  
          ‘One candidate always knew the answer’  
      b. Einer starb in jeder Schlacht                               $\exists > \forall / * \forall > \exists$   
          *one died in every battle*  
          ‘Somebody died in every battle’

The remnant movement step is also not undone for NPI-licensing<sup>5</sup>, as shown by (11).

- (11) \*Auch nur einer verlor nie  
          *even a single one lost never*  
          ‘Even a single one has never lost’

This observation is not surprising by itself, as NPI licensing is surface oriented. What is surprising, though, is the fact - documented by (12) - that application of the second alleged reconstruction step all of a sudden restores a suitable context for NPIs:

- (12) Niemand verlor jemals  
          *nobody lost ever*  
          ‘Nobody has ever lost’

Thus, the remnant movement analysis must adopt a highly unnatural principle according to which NPI licensing can be undone under reconstruction only if reconstruction applies twice, to the licensing category as well as to the NPI.

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<sup>4</sup>One could of course stipulate that remnant movement derivations always involve reconstruction of all movements involved. This position not only considerably weakens the arguments for the existence of these two hypothesized derivational steps in the first place. It also fails to address the fact that the more promising of the two derivations (viz. (3), which does not face the problems presented in section 3) cannot establish the correct c-command relations even with the help of massive reconstruction.

<sup>5</sup>This argument is independently made by Biberauer and Roberts (in progress) for Swedish.

### 3.3. IMPLAUSIBLE BASE POSITION FOR THE ADVERB

Finally, it is far from obvious whether *einmal* 'once' can indeed be merged directly with VP, as required by the alternative remnant movement derivation (7). More specifically, the syntactic behavior of *einmal* presumably parallels that of other manner or aspectual adverbs such as *schon* 'already', *immer* 'always', *fast nie* 'almost never' or *selten* 'seldom'. But these modifiers are widely held to attach outside vP. *Schon* 'already', for one, is a perfect adverbial which partakes in the formation of the (existential) perfect. Assuming, as is general practice, that perfect semantics (and probably also perfect morphology) is contributed by a node above vP, *already* must originate in a vP-external position. It follows that the alternative algorithm (7) can at best not be extended to examples such as (13), a clause which is structurally isomorphic to (2):

- (13) Jeder ist schon da  
      *everybody is already here*  
      'Everybody has already arrived'

Moreover, if the syntax treats *once* and *already* alike, the remnant movement account can not even be used to generate (2).

In sum, the alternative remnant movement derivation for the surface scope order of (2) provided by (7) does not fare better than the original attempt in (3). Reversing the hierarchical positions between subject and adjunct adds, if anything, additional complications to the analysis.

### 4. CONCLUSION

The inability to provide a satisfactory account for basal correlations between precedence and c-command presents a potentially fatal problem for remnant movement accounts. At the same time, these generalizations constitute strong support for the conservative conception of head movement in terms of dislocation (or remerge) of terminals nodes.

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