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## VP-preposing and relative scope

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## 1 Introduction

There are two ways to distinguish movement of a constituent from movement of a subconstituent that is followed by remnant movement: word order and interpretation. Assuming that a quantified DP takes scope by movement, the scopal capabilities of an object DP in a sentence with VP-fronting can provide evidence for one or the other derivation, in cases when word order does not distinguish them.

We observe that so-called VP-preposed sentences in English exhibit the same scopal ambiguities between quantified subject and object DPs as their non-preposed counterparts. This we analyze by distinguishing VP-fronting of a constituent containing the object DP from remnant VP-fronting of the same constituent following movement of the object to a position commanding the subject. The latter derivation gives rise to O>S scope.

The two derivations result in identical surface strings in English. We show that in Swiss German, which has V2 in matrix clauses, essentially the same movement options and correlative scopal interpretations obtain. But the surface strings are distinguished due to the V2 auxiliary. This we take as strong evidence in favor of our proposal.

Additional support for our analysis is provided by scope possibilities in VP-preposed sentences that contain a low VP-adverbial and by pseudo-gapping.

## 2 The Problem

It is well known that sentences containing quantified DPs in subject and object position may be ambiguous, since either quantifier may take wide scope over the other. It is less well known that this ambiguity is duplicated in VP-preposed sentences. The non-preposed sentence (1a) and its preposed counterpart (1b) both have the same two readings, given in (2).

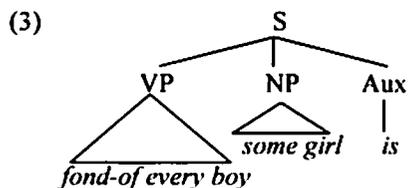
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- (1) a. Some girl is fond of every boy.  
 b. Fond of every boy some girl is.<sup>1</sup>
- (2) a. For some girl, it is the case that she is fond of every boy. (S>O)  
 $\exists y[\text{girl}'(y) \ \& \ \forall x[\text{boy}'(x) \ \rightarrow \ \text{fond-of}'(x)(y)]]$   
 b. For every boy, it is the case that some possibly different girl is fond of him. (O>S)  
 $\forall x[\text{boy}'(x) \ \rightarrow \ \exists y[\text{girl}'(y) \ \& \ \text{fond-of}'(x)(y)]]$

We assume that scope-taking is the result of overt movement of a DP to a scope-bearing position (cf. Kayne 1998). According to previous accounts, however (some of which assume LF-movement), the object wide-scope reading is unexplained, since the object cannot extract from a fronted VP to a position where it takes wide scope.

Reinhart's (1978) analysis of (1b) is shown schematically in (3).<sup>2</sup>



For Reinhart (1978), scope is determined by c-command. In (3), the subject NP *some girl* asymmetrically c-commands the object NP *every boy*. Because the object is embedded within the VP, it is scopally “trapped” and cannot take scope over the subject. This analysis predicts that only the subject wide-scope reading should be available for sentences like (1b); in fact these are the judgments given in Reinhart (1978).

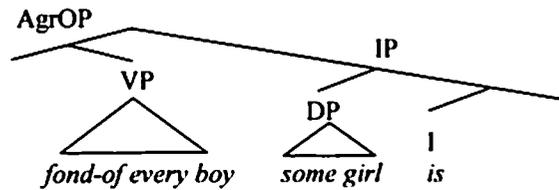
An analysis in somewhat the same spirit is given in Huang (1993). Huang assumes, in line with May (1985), that an object NP may in general adjoin to either VP or IP at LF. If it adjoins to VP, it will scope below the subject in [Spec,IP]. If it adjoins to IP, it will scope above the subject. But since the fronted portion of the sentence is smaller than IP, the object can

<sup>1</sup>Note that VP-preposed sentences in general are not judged to be very natural by native speakers of either English or Swiss German. Of course, we rely on the scope judgments of speakers who find the sentences acceptable.

<sup>2</sup>In Reinhart (1978), the preposed VP is base-generated in its fronted position. We assume preposing is a result of movement, but this updating of the theory does not affect the arguments in this paper.

only adjoin to VP, since adjoining to IP would be a lowering movement. Huang's analysis is represented in (4).<sup>3</sup>

(4)



Again, the object cannot scope over the subject and is scopally trapped within the preposed VP.

We believe that these analyses are basically correct for the S>O reading of VP-preposed sentences. However, as we observed above, there is also an object wide-scope reading. This reading has been verified by a number of native speaker informants.

The availability of the object wide-scope reading in VP-preposed sentences is particularly clear when the pragmatic context of the sentence is such that the subject wide-scope reading is dispreferred, as in (5).

- (5) Stationed in front of every tent a soldier is.
- a. % There is some soldier such that he is stationed in front of every tent. (S>O)
  - b. For every tent, some possibly different soldier is stationed in front of it. (O>S)

A situation in which a single soldier is simultaneously stationed in front of several tents (i.e. the S>O reading) is rather unnatural. Therefore (5b) is pragmatically preferred.

Our empirical observation is that in general, when the object wide-scope reading is unavailable in a VP-preposed sentence, it is also unavailable in its non-preposed counterpart. Consider (6).

- (6) a. Every man has seen at most three animals. (S>O only)  
 b. Seen at most three animals every man has. (S>O only)

<sup>3</sup>Huang (1993) argues that the preposed portion of the sentence is actually AgrOP, rather than VP. This distinction is not relevant for us. We will continue to refer to these sentences as VP-preposed, regardless of the actual constituent involved.

The mechanisms that cause certain quantifiers to take obligatory narrow scope are not fully understood. It is possible that some quantifiers can only take scope from particular projections (cf. Beghelli & Stowell, 1997). Whatever prevents object wide-scope in sentences like (6a) can be considered a mechanism that independently blocks it in sentences like (6b).<sup>4</sup>

We therefore propose the following generalization about scope in VP-preposed sentences.

- (7) VP-preposing of the English type does not affect the scopal capabilities of subject and object relative to each other.

### 3 Analysis

This section presents a syntactic analysis that accounts for scopal ambiguity in VP-preposed sentences. We propose two separate derivations for the S>O and O>S readings. For the subject wide-scope reading, we maintain the basic shape of previous analyses where the VP preposes as a unit and the object cannot extract further. For the object wide-scope reading, however, we propose a derivation where the object first raises to a scope-taking position, followed by preposing of the remnant VP. We first discuss English and then provide evidence from analogous structures in Swiss German, where the V2 constraint transparently distinguishes the two derivations.

#### 3.1 English

Consider (1b), repeated below as (8).

- (8) Fond of every boy some girl is.

We are concerned first of all with the subject wide-scope reading. We may analyze this reading of (8) by assuming that the VP *fond of every boy* has moved as a unit to some position in the left periphery (9).

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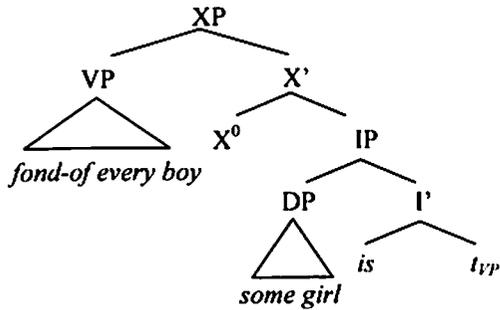
<sup>4</sup>One of the two examples cited by Huang (1993) as evidence that VP-preposed sentences do not have O>S readings in fact has no O>S reading in its non-preposed counterpart either:

- (i) No one will teach every student.
- (ii) Teach every student no one will.

*No person x is such that x will teach every student (i.e. some teaching may take place).*

*\* Every student y is such that y will be taught by no one (i.e. no teaching takes place).*

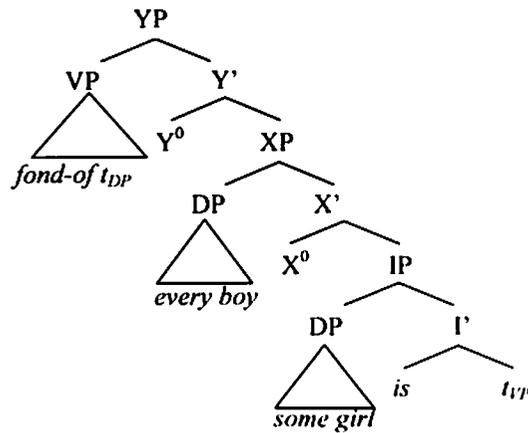
(9) There is some girl such that she is fond of every boy.



As in Reinhart's (1978) and Huang's (1993) analyses, the object does not c-command the subject. It is scopally trapped within the preposed VP.

To obtain the object wide-scope reading, the quantified object *every boy* must have a landing site outside the VP, from which it c-commands the subject. We therefore propose that the object first extracts on its own to a position c-commanding the subject, followed by movement of the remnant VP (10) (cf. den Besten and Webelhuth, 1990).

(10) For every boy, it is the case that some possibly different girl is fond of him.



Note that this proposal is consistent with Kayne (1998) in which all scope-taking occurs via overt movement.

## 3.2 Swiss German

Evidence for distinct structures corresponding to the distinct interpretations of VP-preposed sentences can be seen in analogous constructions in Swiss German. Here, the V2 constraint makes it possible to identify constituency in the left periphery. The sentence-initial constituent is the string that precedes the V2 finite verb/AUX.

The examples in (11) parallel the English VP-preposed structures discussed above. Brackets indicate the constituent that precedes the finite V2 auxiliary.

- (11) a. [<sub>VP</sub> [<sub>OB</sub> uf jedi Tubä] gschossä] het  
           *at every dove shot has*  
                   mindeschtens äi Soldat.           S>O  
                   *at-least one soldier*

‘At least one soldier is such that s/he has shot at every dove.’

- b. [<sub>VP</sub> gschossä] het  
       *shot has*  
       [<sub>OB</sub> uf jedi Tubä] mindeschtens äi Soldat.   O>S  
           *at every dove at-least one soldier*

‘Every dove is such that at least one soldier has shot at it.’

In (11a), the VP, containing the lexical verb and the object, is fronted. The sentence receives an S>O reading. This corresponds to the object being scopally trapped within the VP.

In (11b), on the other hand, the fronted VP contains only the lexical verb. The object precedes the subject in the mittelfeld (following V2). The object must have moved out of the VP to a position where it c-commands and takes scope over the subject, prior to VP-preposing. This movement of the object results in an O>S reading.

The facts are parallel with adjectival predicates (12).

- (12) a. [<sub>AP</sub> schtolts [<sub>OB</sub> uf jedä Buäb]] isch  
           *proud of every boy is*  
                   genau äis Mäitli.           S>O  
                   *exactly one girl*

‘Exactly one girl is such that she is proud of every boy.’

- b. [<sub>AP</sub> schtolts] isch  
       *proud*       *is*  
           [<sub>OB</sub> uf jedä Buüb]       genau äis Mäitli.       O>S  
                   *of every boy*       *exactly one girl*  
 ‘Every boy is such that exactly one girl is proud of him.’

In (12a) the predicate containing the object is fronted and the object is scopally trapped, and hence cannot scope over the subject. In (12b), on the other hand, the object has moved out of the predicate to a scope-bearing position c-commanding the subject. Subsequently, the predicate phrase containing only the adjective is fronted.

Swiss German thus overtly distinguishes the two structures we have proposed for VP-preposing in English. The two derivations in English yield identical surface strings, but in Swiss German they result in two different surface strings with the expected scope interpretations. These facts strongly support our proposal. Further support will be provided in the next section.

## 4 Further Support

### 4.1 Modifiers

Further support for our analysis comes from the interaction of modifiers with scope in VP-preposed sentences. Consider (13), which is ambiguous with respect to scope.

- (13) Seen every Spanish movie some NYU student has.   S>O, O>S

When a low VP-adverbial occurs in the preposed VP, however, the object wide-scope reading is lost (14).

- (14) Seen every Spanish movie this year some NYU student has.  
   S>O, \*O>S

We can account for this contrast by noting that the VP in (14) must have preposed as a unit, in order for the adverbial to appear in VP-final position. For, if the object preposed on its own, followed by movement of the remnant VP, the illegal word order in (15) would result.<sup>5</sup>

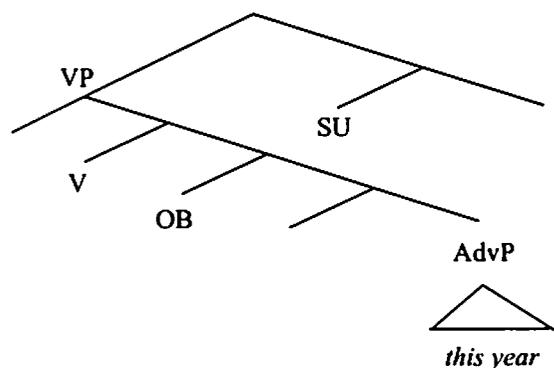
<sup>5</sup>We assume that a derivation where the adverbial preposes on its own, followed by the object and then the remnant VP, is independently ruled out. Low VP-adverbials tend to be licensed only in sentence-final or sentence-initial position (cf.

(15) \*Seen this year every Spanish movie some NYU student has.

The object is therefore scopally trapped within the preposed VP. The constituency for (14) is shown in (16a), and the position of the VP-adverbial within the preposed VP is given in (16b).

(16) a. [<sub>VP</sub> Seen [<sub>OB</sub> every Spanish movie] [this year]] some NYU student  
has. S>O

b.



Note that the adverbial in (16) modifies the verb *seen*. The string in (14) does have an object wide-scope reading, but only if the modifier *this year* is interpreted as modifying not the VP but the object *every Spanish movie*, giving rise to the reading 'every Spanish movie that came out this year'. Since the modifier is part of the object, there are two possible derivations for the string, which will yield two different readings (17a-b).

- (17) a. [<sub>VP</sub> Seen [<sub>OB</sub> every Spanish movie [this year]]] some NYU student  
has. S>O
- b. [<sub>VP</sub> Seen] [<sub>OB</sub> every Spanish movie [this year]] some NYU student  
has. O>S

In (17a), the VP preposes as a unit and the S>O reading is obtained. In (17b), the object *every Spanish movie this year* is fronted, followed by preposing of the remnant VP, and the O>S reading is obtained.

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Cinque, 1999) in English, and there is no independent evidence that they can undergo movement of the sort that would be required.

We have seen three possible constituencies for the English string in (14). In Swiss German, some of these constituencies are again distinguished by the V2 constraint.

One surface configuration in Swiss German has the entire VP in first position, meaning that the VP has preposed as a single constituent. This string has two interpretations, one where the adverbial modifies the verb (18a) and the other where it modifies the object (18b). However, in both cases only an S>O reading is available.

- (18) a. [<sub>VP</sub> [<sub>OB</sub> Jedä spanisch Film] [das Jahr] gse] het  
*every Spanish movie this year seen has*  
 irgend en NYU Studänt.  
*some NYU student S>O (cf. (16a))*
- b. [<sub>VP</sub> [<sub>OB</sub> Jedä spanisch Film [das Jahr]] gse] het  
*every Spanish movie this year seen has*  
 irgend en NYU Studänt.  
*some NYU student O>S (cf. (17a))*

The verb may appear on its own in first position, in which case the adverbial modifies the object, and the entire object (containing the adverbial) has fronted prior to remnant VP movement (19a). An object wide-scope reading is obtained. This word order does not allow a reading in which the adverbial modifies the VP. If the adverbial and verb are in first position and the object follows the auxiliary, an object wide-scope reading is also obtained. However, the adverbial must be interpreted as modifying the verb *gse* (19b).

- (19) a. [<sub>VP</sub> gse] het  
*seen has*  
 [<sub>OB</sub> jedä spanisch Film [das Jahr]] irgend en NYU Studänt.  
*every Spanish movie this year some NYU student*  
 O>S (cf. (17b))
- b. [<sub>VP</sub> [Das Jahr] gse] het  
*this year seen has*  
 [<sub>OB</sub> jedä spanisch Film] irgend en NYU Studänt.  
*every Spanish movie some NYU student O>S*

Note that the configuration in (19b), where the adverbial modifies the verb and the object extracts on its own, is available in Swiss German but not in English. As mentioned above, this configuration is disallowed in English

due to independent reasons of word order, since it would yield the ungrammatical (15).

To sum up, our analysis is able to account for the ways in which the presence of a modifier can restrict the scopal interpretations available for VP-preposed sentences. Furthermore, depending on which constituent the adverbial modifies, its surface position in Swiss German is as expected according to our analysis.

#### 4.2 Pseudo-gapping

Another piece of evidence for the analysis we propose comes from pseudo-gapping.<sup>6</sup> Following Lasnik (1995) and Baltin (2003), we assume that pseudo-gapping is deletion of a remnant VP. Consider (20), where (20a) is a VP-preposed sentence that also exhibits pseudo-gapping, and (20b) is a bracketed representation of (20a), with the elided VP in italics.

- (20) a. Thoroughly examine every country in Europe some CIA agent did,  
and every state in the U.S. some FBI agent did.
- b. [<sub>VP</sub> Thoroughly examine] [<sub>OB</sub> every country in Europe]  
some CIA agent did, and  
<[<sub>VP</sub> *thoroughly examine*] > [<sub>OB</sub> every state in the US]  
some FBI agent did.

The two conjoined clauses in (20) are structurally parallel, with the VP in the second conjunct having been deleted. The VP-deletion targets the string *thoroughly examine*, but spares *every state in the U.S.* This suggests that the fronted object is not part of the preposed VP, but has moved to the left of the subject independently. We have proposed that this type of movement occurs in VP-preposed sentences with an object wide-scope reading. Such a reading, given in (21), is indeed available for (20), as we predict.

- (21) *Every country in Europe is such that a possibly different CIA agent examined that country, and every state in the U.S. is such that a possibly different FBI agent examined that state.*

The pseudo-gapping example in (20) thus provides further support for the availability of the derivation proposed in this paper.

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<sup>6</sup>We are grateful to Mark Baltin for pointing this out to us.

## 5 Conclusion

We have shown that the scopal ambiguities in VP-preposed sentences are to be explained by the existence of two derivations for such sentences. In one derivation, the VP preposes as a unit, resulting in S>O scope, since the object is trapped. In the second derivation, the object moves to a position where it c-commands the subject, followed by movement of the remnant VP, and O>S scope is obtained. Although the resulting surface strings are identical in English, the V2 constraint in Swiss German matrix clauses overtly distinguishes the analogous structures, which exhibit the scope interpretations that we predict. Interpretation and word order thus both point to the existence of subconstituent movement that is otherwise masked in English.

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