

English VP-preposing and relative scope

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VP-preposed sentences in English are, contrary to earlier claims in the literature, found to be scopally ambiguous between a subject wide-scope and an object wide-scope reading. A syntactic and semantic analysis is proposed in which the subject wide-scope reading results from preposing the VP containing the object in one chunk. The object wide-scope reading, on the other hand, results from object preposing prior to preposing of the remnant VP. Additional support for this analysis comes from analogous sentences in Swiss German where the resulting surface strings are distinct for the two structures.

1. Introduction

This paper explores the relative scope capabilities of English VP-preposed sentences. Consider the sentence in (1) and its preposed counterpart in (2).

- (1) Every girl is fond of some boy.
- (2) Fond of some boy every girl is.

Since Reinhart (1978), these sentences have been analyzed as unambiguous with respect to scope. We claim, contra Reinhart (1978), that the preposed sentence in (2) has exactly the same relative scope capabilities as its non-preposed counterpart in (1). We will propose derivations to account for each interpretation of (2) and show that these derivations are supported by evidence from Swiss German VP-preposing. We will also show that a semantic analysis of each interpretation in terms of Combinatory Categorical Grammar is consistent with the proposed syntactic derivations.

2. *Scope capabilities*2.1. *Scope capabilities of non-preposed sentences*

It has been widely observed that sentences like (1) have two readings, given in (3), where (3a) is the direct, or subject wide-scope, reading and (3b) is the inverse, or object wide-scope, reading.

(3) a. For every girl, it is the case that she is fond of some possibly different boy.

$\forall x[\text{girl}'(x) \rightarrow \exists y[\text{boy}'(y) \ \& \ \text{fond-of}'(y)(x)]]$

b. For some particular boy, it is the case that every girl is fond of that boy.

$\exists y[\text{boy}'(y) \ \& \ \forall x[\text{girl}'(x) \rightarrow \text{fond-of}'(y)(x)]]$

For Reinhart (1978), relative scope is determined by c-command, a framework that we retain. Under the Reinhart (1978) view that scope relations are evaluated at surface structure, only reading (3a) falls out of the syntax, since *every girl* c-commands *some boy*. For Reinhart (1978), inverse readings such as (3b) arise when they happen to entail the direct reading: in this case, every girl just happens to be fond of the same boy. In other words, (3b) is a special case of (3a).

However, we can see immediately that by slightly judicious selection of quantifiers, we obtain inverse scope readings in English that are not such special cases. Consider (4).

(4) Some girl is fond of every boy.

Sentence (4) has two readings, given in (5), where (5a) is the direct, or subject wide-scope, reading and (5b) is the inverse, or object wide-scope reading.

(5) a. For some particular girl, it is the case that she is fond of every boy.

b. For every boy, there is some possibly different girl that is fond of him.

Here, (5b) does not entail (5a), and yet the inverse reading is available. This shows that normal, non-preposed sentences do have legitimate inverse readings.

We assume that the quantified DPs in (1) and (4) move to scope positions (Beghelli & Stowell 1997, Szabolcsi 1997, Kayne 1998), and that relative scope is assessed from these positions. Scopal ambiguity results from the option for certain quantifiers to move to different scopal positions. This explains why there are legitimate object wide-scope readings that are not a matter of accidental entailment: both (1) and (4) have the same configurational options for the quantified DPs at the point where scope relations are read from the syntax.

2.2. Scope capabilities of VP-preposed sentences

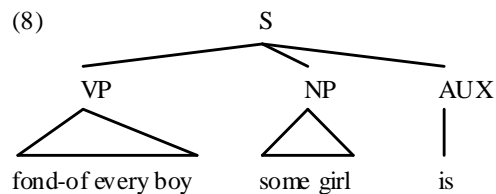
We now turn to sentences like (6), in which the VP is preposed to clause-initial position.

(6) Fond of every boy some girl is.

We claim that (6) has exactly the same relative scope capabilities as its non-preposed counterpart (4), namely the two possible readings given in (7a) and (7b), where (7a) is the subject wide-scope reading and (7b) is the object wide-scope reading.

- (7) a. For some particular girl, it is the case that she is fond of every boy.
 $\exists x[\text{girl}'(x) \ \& \ \forall y[\text{boy}'(y) \ ? \ \text{fond-of}'(y)(x)]]$
 b. For every boy, there is some possibly different girl that is fond of him.
 $\forall y[\text{boy}'(y) \ ? \ \exists x[\text{girl}'(x) \ \& \ \text{fond-of}'(y)(x)]]$

The classical analysis of VP-preposed sentences is Reinhart (1978), in which (6) is unambiguously interpreted as (7a), the subject wide-scope reading. Reinhart (1978) argues that this view falls out of the syntax when the preposed VP is sister-adjoined to S, as in (8).



In (8), the NP *some girl* asymmetrically c-commands the object *every boy*. Because the object is embedded within the VP, it cannot scope over the subject.

In Reinhart's (1978) view, sentences like (6) are not ambiguous. Under this view, any apparent ambiguity would have to be attributable to the object wide-scope reading entailing the subject wide-scope reading, as it would for non-preposed sentences. However, as can be seen in sentences like (4) and (6), not all object wide-scope readings entail the corresponding subject wide-scope reading. Therefore, the object wide-scope readings in preposed sentences must be accounted for independently of the subject wide-scope readings.

The availability of object wide-scope readings in VP-preposed sentences is particularly obvious when considering sentences in which the subject wide-scope reading is pragmatically dispreferred, as in (9).

- (9) Stationed in front of each tent a soldier is.
- a. % There is some soldier such that he is stationed in front of each tent.
 - b. For each tent, some possibly different soldier is stationed in front of it.

In (9), it seems pragmatically unlikely that the sentence describes a situation in which there is a single soldier who is stationed in front of every tent. Rather, the object wide-scope reading, whereby tents and soldiers co-vary, is preferred. We argue that the ambiguity of the word order in (2) and (6) is the result of two distinct syntactic derivations, which we explicitly formulate below.

To assess the scopal capabilities of various quantifiers in English VP-preposed sentences, we relied upon the native speaker judgments of two of the authors of this paper, as well as the judgments of thirty-five native speaker undergraduate students at New York University. Though there did exist a great deal of variation amongst these thirty-seven native speakers, the grammaticality judgments reported here correlate with the significant majority of the speakers. It is important to note that these sentences are uncommon in colloquial American English, and when used, elevate speech to a formal and somewhat stilted register.

The generalization is strongly borne out that the scope capabilities of a non-preposed sentence are maintained in the preposed counterpart. Of the 287 sentence pairs given to native speakers, 216, or 75%, of them were judged to preserve the relative scope capabilities of the non-preposed sentence in the preposed counterpart.¹

The syntax of scope in English VP-preposing will be returned to below. The crucial generalization we maintain is that VP-preposing does not affect the scopal capabilities of a sentence in English.

3. English VP-preposing: The facts

English allows for a wide array of VP-preposed sentences, though they are neither colloquial nor common. The most straightforward preposed construction is the fronting of a predicate adjective, as in (10).

¹ Though it goes beyond the scope of this paper to discuss the non-uniform behavior of various quantifiers with respect to scopal capabilities, the observation that quantifiers can be roughly divided into two groups, those that readily take inverse scope, such as *two men* and *every man*, and those that do not, such as *no men* and *fewer than two men* (Liu 1990, Beghelli & Stowell 1997, Szabolcsi 1997), was also borne out in our sample. For the most part, non-increasing quantifiers, i.e., downward-entailing and non-monotonic quantifiers, do not readily take wide scope from object position in either non-preposed or preposed sentences in English, while increasing quantifiers, i.e., upward-entailing quantifiers, do. This observation can be correlated with a theory of the syntax of scope as described in Beghelli & Stowell (1997), where certain quantifiers move to dedicated positions from which they can take scope.

- (10) a. John is fond of Mary.
 b. Fond of Mary John is.²
 c. *Is fond of Mary John.

Similarly, it is possible to prepose a participle, leaving the auxiliary verb behind, as in (11).

- (11) a. Katherine has seen six films this year.
 b. Seen six films this year Katherine has.
 c. *Has seen six films this year Katherine.

Modal constructions may also be fronted, where again the VP preposes, leaving the modal behind.

- (12) a. Timothy should buy all of the books.
 b. Buy all of the books Timothy should.
 c. *Should buy all of the books Timothy.

Finally, simple perfect forms of verbs can also be preposed. This preposing requires the intervention of do-support, as in (13).

- (13) a. Susan called her mother twice.
 b. Called her mother twice Susan did.³

Adverbs can also interact with English VP-preposing, in a not altogether straightforward fashion. Consider the paradigm in (14-16).

- (14) a. Critically examined every folio a scholar has.
 b. Examined every folio a scholar (*critically) has (*critically).
 (15) a. Willingly examined every folio a scholar has.
 b. Examined every folio a scholar willingly has.
 (16) a. *Usually examined every folio a scholar has.
 b. Examined every folio a scholar usually has.⁴

² Note that for what we are calling VP-preposed sentences, the subject must precede material in the IP-layer. The sentence *Fond of Mary is John*, though similar, is a distinct construction, which we will not consider here.

³ Notice in (13) that both the preposed verb *called* and the epenthetic *did* carry past-tense morphology. English VP-preposed sentences manifest a tense-doubling effect, whereby both the auxiliary and the lexical verb are able to carry past tense morphology in the preposed order. This is not the case when the sentence is not preposed, as shown by the ungrammaticality of (i):

(i) *Susan did called her mother twice.

Though VP-preposed sentences are able to manifest this tense-doubling effect, it is not mandatory, and the sentence in (ii) is as good as the sentence in (i), if somewhat more stylistic:

(ii) Call her mother twice Susan did.

⁴ It is our judgment that (16a) is ungrammatical for all readings of the sentence, i.e., whether *usually* scopes above both QP's, between the two, or below them.

In (14), we show that certain adverbs must be preposed with the VP, whereas in (16), we show that certain adverbs may never be preposed. The example in (15) indicates that certain types of adverbs can optionally be preposed along with the VP, or remain below. Interestingly, for those adverbs that can optionally surface in either initial position or following the subject, e.g., *willingly*, they must appear before an auxiliary in the IP layer, while in the non-inverted counterpart, they must follow it.

- (17) a. Every scholar (*willingly) has (willingly) examined the portfolio.
 b. Examined the portfolio every scholar (willingly) has (*willingly).

Though we offer no analysis of the role played by adverbs in English VP-preposing, it is interesting to mention that the opposing behaviors of certain types of adverbs with respect to their ability to prepose is amenable to the traditional analysis of S-adverbs and VP-adverbs. VP-adverbs, such as *critically*, must be preposed along with the VP, which intuitively makes sense given the analysis of VP-adverbs as being contained within the outer projection of the VP, while S-adverbs, like *willingly*, can be adjoined either above the left-periphery (as in 15a), or below (as in 15b).^{5,6}

4. Syntactic analysis

We have shown that, contra the classical analysis of VP-preposing, both subject wide-scope and object wide-scope readings are available in VP-preposed sentences. We now turn to the syntactic derivations of the two readings.

4.1. Subject wide-scope reading in VP-preposed sentences

Consider the preposed sentence (6), repeated below. We are concerned first of all with the subject wide-scope reading.

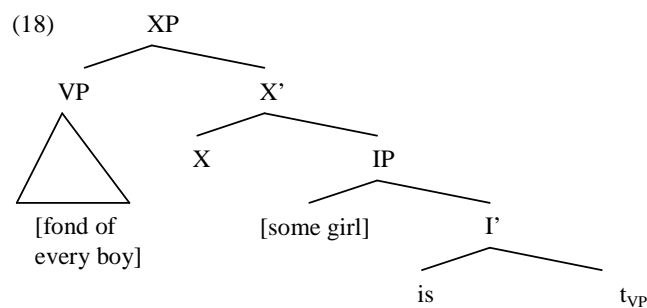
- (6) Fond of every boy some girl is.

We may analyze (6) by assuming that the VP *fond of every boy* has moved, as one chunk, as shown in (18) below, to a position in the left periphery, presumably a TOPIC position.

⁵ Thanks to A. Szabolcsi for pointing this out to us.

⁶ An analysis could be constructed that employs more updated theories of adverbs, e.g., Cinque (1999), whereby adverbs reside in a fixed hierarchy in the functional layer. It seems plausible to assume that work of this sort would illuminate descriptive facts regarding exactly how much of the lexical/functional layer is involved in what we call VP-preposing. For our present purpose, however, we remain uncommitted to the exact identity of the preposed chunk, and call it simply VP, understanding that this is an over-simplification.

Following movement of the VP, the object DP *every boy* is unable to extract from its embedded position within the moved VP. This prohibition may be assumed to fall under some form of the *Left Branch Condition*. Therefore, the object cannot c-command the subject *some girl*, i.e. it is scopally trapped in the preposed VP. Thus this derivation generates the subject wide-scope reading but not the object wide-scope reading.⁷

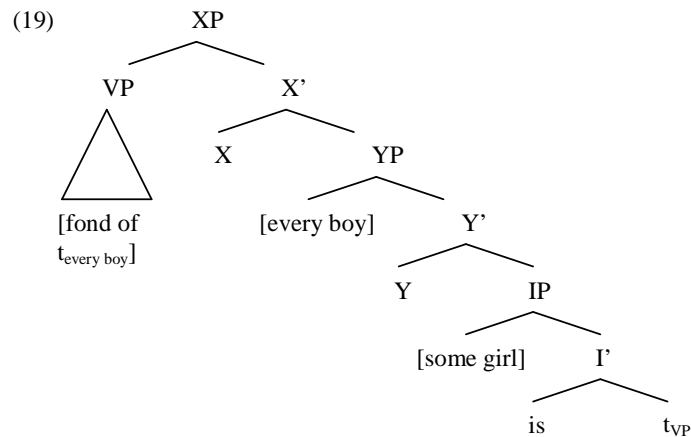


Note that this analysis is in essence similar to the classical analysis of the subject wide-scope reading: the claim is that the object DP is trapped within the fronted VP and is unable to c-command the subject.

4.2. Object wide-scope reading in VP-preposed sentences

In order to derive the object wide-scope reading, the quantified object *every boy* must have a landing site outside the VP, so that it can c-command the subject. We therefore propose that the object first extracts on its own to a left-peripheral position. Here the object scopes over the subject. The movement of the object is followed by the preposing of the remnant VP *fond-of*, generating the surface word order in (6), which is identical to the surface word order for subject wide-scope. The structure is shown in (19).

⁷ There is no mechanism that allows the object DP to scope over the subject without extracting from the VP. Although May (1985) proposed a process of quantifier adjunction, whereby a quantified DP could adjoin to its maximal projection and extend its scope over the containing clause without violating the prohibition on extraction from a specifier, there is no independent motivation for such a movement.



In this derivation, the object *every boy* scopes over the subject *some girl*. Note that this scope-relation still holds even if we assume the VP to reconstruct.

The structures proposed in (18) and (19) are overtly distinguished in other Germanic languages as discussed in the next section drawing on Swiss-German.

4.3. Scope and constituent order in Swiss German

Evidence for distinct structures corresponding to the distinct interpretations of VP-preposed sentences can be gleaned from analogous constructions in Swiss German, where the active V2-constraint straightforwardly indicates the constituent status of the string preceding the V2 auxiliary.

Swiss German allows a multitude of surface orders with transitive verbs, some of which are ambiguous with respect to the scopal interaction of the two arguments. In the terms adopted here, differences in interpretation are the expression of different positions the scope bearing elements are in. Consider for instance example (20a), in which the object, but no verbal element, is preposed, and whose surface structure is ambiguous. With a flat intonation the O>S reading is preferred. Stressing the quantificational determiner in the preposed object however inhibits such a construal and the only surviving reading is S>O, as illustrated in (20b).⁸

⁸ In (20b) the intonation falls drastically on the head nominal *Tubä*, indicating a break between the determiner and the nominal. A pronunciation in which on the other hand there is an intonational peak on the first syllable of the head nominal is indicative of a different structure and maps onto an O>S reading.

- (20) a. [Uf jedi Tubä] het mindeschtens äi Soldat gschossä. O>S, (S>O)
At every dove has at leas one soldier shot
 b. [Uf JEDI Tubä] het mindeschtens äi Soldat gschossä. S>O
At EVERY dove has at least one soldier shot

Both these readings are also available in non-preposed structures, similarly exhibiting preferences in either direction depending on intonation.

Now consider examples (21) which parallel the English VP-preposed structures discussed above. Swiss German, being a robust V2 language in main clauses gives us a tool to identify constituency of a fronted element. The string preceding the auxiliary is one constituent.

In (21a) the VP containing the lexical verb and the object is fronted.⁹ The result unambiguously maps onto an S>O reading, witnessing that the object is scopally trapped in the fronted VP.

- (21) a.? [Uf jedi Tubä gschossä] het mindeschtens äi Soldat. S>O
At every dove shot has at least one soldier
 b. [Gschossä] het uf jedi Tubä mindeschtens äi Soldat. O>S
Shot has at every dove at least one soldier

In (21b) on the other hand, the fronted VP only contains the verb. The object precedes the subject in the mittelfeld. We conclude that the object must have moved out of the VP prior to VP-fronting. This movement of the object to a position preceding the subject is scope-sensitive, leading to an O>S reading.

The two structures in (21) correspond to the structures of the (ambiguous) English surface string in (6), overtly distinguishing them.

The facts are paralleled with adjectival predicates as illustrated in (22).

- (22) a. [Schtolts uf jedä Buüb] isch sicher irgend es Mäitli. S>O
Proud of every boy is surely some girl
 b. [Schtolts] isch sicher uf jedä Buüb irgend es Mäitli. O>S
Proud is surely of every boy some girl

In (22a) the predicate containing the object is fronted and the object is scopally trapped, hence cannot scope over the subject. In (22b) on the other hand the object has moved out of the predicate to a scope-bearing position c-commanding the subject. Subsequently the AP containing only the adjective is fronted.

4.4. VP-Preposing and Gapping¹⁰

⁹ Whether the fronted constituent is VP or some bigger XP is orthogonal to the discussion. What is important is that the fronted constituent properly includes the object but not the subject.

¹⁰ We are grateful to Mark Baltin for pointing out to us the relevance of gapping for our proposal.

Additional support for the analysis of the object wide-scope reading as object extraction followed by VP remnant movement is obtained from the interaction of VP-preposing and gapping in English.

In order to predict the availability of object wide-scope, we have proposed a syntactic derivation in which the quantified object extracts to a position where it can scope over the subject. The remnant VP then extracts to the left of the object. At the end of this derivation, the remnant VP and the quantified object are not one constituent, but are only linearly adjacent.

This constituency allows gapping of the VP without affecting the object as in example (23). In (23), the object wide-scope reading is available, and gapping is acceptable.

- (23) Thoroughly examine every country in Europe some CIA agent did, and
 <thoroughly examine> every state in the US some FBI agent did.

The object wide-scope reading is given in (24).

- (24) For every country in Europe, some possibly different CIA agent
 thoroughly examined it,
 and for every state in the US, some possibly different FBI agent
 examined it.

$$\begin{aligned} & \forall y[\text{country-in-Europe}'(y) \ ? \ \exists x[\text{CIA-agent}'(x) \ \& \ \text{thoroughly-} \\ & \text{examined}'(y)(x)]] \\ & \& \ \forall y[\text{state-in-the-US}'(y) \ ? \ \exists x[\text{FBI-agent}'(x) \ \& \ \text{thoroughly-} \\ & \text{examined}'(y)(x)]] \end{aligned}$$

We note that while the object wide-scope reading is strongly available, the subject wide-scope reading is also available, a fact for which we do not have an explanation.¹¹

In (23), only the adverb+verb constituent *thoroughly examine* is gapped, indicating that the quantified object is a distinct constituent, and not a sub-constituent. This supports our proposal for a structure in which the (preposed) quantified object forms a separate constituent from the rest of the VP.

5. Semantics of English VP-preposing

¹¹ We note that evaluating the scopal possibilities in examples like (23) is extremely difficult. We therefore do not consider our inability to account for the possible availability of the subject wide-scope reading as a major problem, since this reading may be accounted for by some unrelated factor. The presence of the object wide-scope reading, however, which we use as evidence for constituency, is very clear, in the judgment of the two native speaker authors as well as two additional informants."

In this section we provide a step-by-step compositional interpretation of the final stages of our two derivations using the machinery of Combinatory Categorical Grammar (CCG; Ades & Steedman 1982, Steedman 1987, Szabolcsi 1987a,b). In CCG, ‘elements [of language] like verbs are associated with a syntactic category that identifies them as FUNCTIONS and specifies the type and directionality of their argument(s) and the type of their result’ (Steedman 1991). The derivation of sentences proceeds, therefore, as processes of functional application, where a verb is associated with its arguments to create a sentence. The grammar also allows for the combination of elements that do not form constituents in the traditional sense, although coordination facts as well as the kind of data this paper is concerned with indicate that they are in fact constituents. These analyses are facilitated by the use of functional operations, such as type lifting and functional composition. In CCG, movement is not assumed, and the semantics of a sentence is derived from its surface structure. However, Jacobson (1990) has argued that traces can be represented as identity functions. We will follow Jacobson in this, in order to provide analyses that are closer to the structures argued for in preceding sections.¹²

Let us begin by deriving the subject wide-scope reading for sentence (6), repeated here.

(6) Fond of every boy some girl is.

In this derivation, the category of each lexical element appears directly below the word, and its semantic interpretation appears below the lexical category.

(25)	Fond-of (t(e)/e) (t(e))(t(e)) $\lambda y \lambda w [f\text{-of}'(y)(w)]$	every boy (t(e))((t(e)/e)) $\lambda R \lambda z \forall x [\text{boy}'(x) \rightarrow R(x)(z)]$	some girl (is) ¹³ ec t\t(t(e)) $\lambda P \exists y [\text{girl}'(y) \ \& \ P(y)] \ \lambda P [P]$
B			
	$(t(e))$ $\lambda z \forall x [\text{boy}'(x) \rightarrow [\text{fond-of}'(x)(z)]]$		$t \backslash (t(e))$ $\lambda P \exists y [\text{girl}'(y) \ \& \ P(y)]$
	t $\exists y [\text{girl}'(y) \ \& \ \forall x [\text{boy}'(x) \rightarrow \text{fond-of}'(x)(y)]]$		

In (25), *some girl* is analyzed as a generalized quantifier, and *every boy* has a type that is derived from that of a generalized quantifier. *Every boy* is

¹² Jacobson assumes that the categories of traces are non-directional, while we assign categories whose directionality does not change the category of what they combine with. This difference is of no concern here.

¹³ We assume the auxiliary is semantically vacuous, or an identity function, and ignore it.

an object quantifier, insofar as it seeks a two-place predicate to its left and returns a verb phrase. *Some girl* is a subject quantifier insofar as it seeks a verb phrase and returns a sentence, i.e., a truth-value. Note that it seeks a verb phrase to its left. In this way it corresponds to the surface structure of the sentence by expecting a left-extracted VP. The element *ec* is a phonetically empty element corresponding to the trace of the extracted VP. It is interpreted as an identity function from VPs to VPs; it combines with the subject by functional composition (notated as B).

In the last line of this derivation, the subject combines with the VP by functional application. Because *some girl* is the major functor and *fond of every boy* the minor functor, the subject takes wide scope.

Let us now derive the object wide-scope reading of the sentence in (6).

(26)

step 1:

every boy $t/(t/e)$ $((t/e)/e)((t/e)/e)$ $\lambda P \forall x [\text{boy}'(x) \rightarrow P(x)]$	some girl $(t/e)((t/e)/e)$ $\lambda R \lambda z \exists y [\text{girl}'(y) \ \& \ R(z)(y)]$	(is) $ec2$ $\lambda R[R]$
$\underline{\quad} B$		
$(t/e)((t/e)/e)$ $\lambda R \lambda z \exists y [\text{girl}'(y) \ \& \ R(z)(y)]$		
$\underline{\quad} B$		
$f(x)(y)]]$		

step 2:

Fond-of $(t/e)/e$ $\lambda w \lambda z [\text{fond-of}'(w)(z)]$	ec1 e/e $\lambda x[x]$	every boy some girl (is) ec2 $t((t/e)/e)$ $\lambda f \forall x [\text{boy}'(x) \rightarrow \exists y [\text{girl}'(y) \ \& \ f(x)(y)]]$
$(t/e)/e$ $\lambda w \lambda z [\text{fond-of}'(w)(z)]$		
$\underline{\quad}$ t $\forall x [\text{boy}'(x) \rightarrow \exists y [\text{girl}'(y) \ \& \ \text{fond-of}'(x)(y)]]$		

In (26), *every boy* is analyzed as a generalized quantifier, and *some girl* has a type that is derived from that of a generalized quantifier. *Every boy* is

an object quantifier insofar as it seeks a sentence missing an object. Note that it seeks this sentence to its right, making it a left-extracting object quantifier. This corresponds precisely to our analysis of object wide-scope VP-preposed sentences. *Some girl* is a subject quantifier insofar as it seeks a transitive verb (two-place predicate) and an object to return a sentence. It seeks the verb and the object to its left, corresponding to the surface structure of the sentence after extraction of the object and remnant movement of the VP. The elements *ec1* and *ec2* are phonetically empty elements corresponding to the trace of the extracted object and the remnant-moved VP, respectively. *Ec1* is interpreted as an identity function from individuals to individuals and combines with the VP by functional composition. *Ec2* is interpreted as an identity function over two-place predicates. This corresponds to the analysis in which it is the trace of the remnant VP, which contains only the verb.

In (26), *some girl* first combines with *ec2*. Following this, the left-extracting object *every boy* and the subject *some girl* are concatenated via functional composition, where the directionality is disharmonic. The range of the minor functor matches the domain of the major functor, resulting in a category whose domain is that of the minor functor and whose range is that of the major functor. The directionality of the composed category is inherited from the directionality of the minor functor. The object *every boy* takes wide scope, as seen in the interpretation of (26), due to the fact that it is the major functor in the composition.

After *fond of* combines with *ec1*, the string *every boy some girl is ec2* combines with the string *fond of ec1* by functional application. At this point in the derivation the scope relations have already been determined.

(25) and (26) present semantic derivations for the two possible interpretations of English VP-preposed sentences. In (25), the subject combines with the VP by functional application, where the subject is the major functor and the object is the minor functor, so the subject takes wide scope. In (26), the object and the subject combine by functional composition, where the object is the major functor and the subject is the minor functor, so the object takes wide scope. The ability of the object category to combine directly with a category derived from the subject, prior to combining with the remnant VP, results from the use of categories that correspond to the proposed surface structure of the object wide-scope sentence. Note also that the two categories assigned to the subject *some girl* in the subject wide-scope interpretation (25) and the object wide-scope interpretation (26) differ only in that the subject in (25) seeks a VP, while the subject in (26) seeks an object and a transitive verb. In this way, the derivation given in (25) is strictly a VP-preposing structure, where the subject seeks to its left a full VP. In (26), the structure requires that the object first extract alone to the left-periphery, where it composes with the subject. The composed subject/object then composes with the fronted remnant to create a preposed sentence. These semantic derivations, therefore, show that a compositional semantics for the two interpretations can be derived from the syntactic analyses we propose.

6. Conclusion

We have shown that the attested ambiguity of VP-preposed sentences in English can be accounted for by two separate syntactic derivations. In the derivation of the subject wide-scope reading, the VP preposes in one chunk, following which the object is trapped within the preposed VP, incapable of scoping over the subject at any point in the derivation. In the derivation of the object wide-scope reading, the object first extracts to a scopal position in the left periphery, after which the VP remnant moves to its left. Evidence for this proposal is provided by Swiss German, where the V2 constraint makes constituent structure apparent. When the VP extracts as a single constituent, only the subject wide-scope reading is available. When the object can be shown to have extracted first, only the object wide-scope reading is available. Further evidence for this constituency is provided by gapping in English, where we have seen that the verbal part of the VP may be elided without affecting the object, indicating that they form separate constituents. Finally, we have shown that a semantic analysis of VP-preposed sentences in terms of Combinatory Categorical Grammar can derive both scope interpretations, and that the assignment of types within the semantic derivations requires the syntactic categories that we propose.

Acknowledgements

This paper has greatly profited from discussions with Anna Szabolcsi and the comments from the audiences at *ConSOLE XI* and at the NYU *Syntax/Semantics Lecture Series* in April 2003. We would also like to thank Mark Baltin, Paul Elbourne, and Marcel den Dikken for valuable comments and suggestions.

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