Topic, Focus, and Quantifier Scope in English  I

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There are several proposals in the literature concerning the treatment of quantifier scope in a framework incorporating the essential assumptions of Chomsky 1995 (see e.g. Reinhart 1994, Beghelli 1993, 1995, Pica and Snyder 1995, and Hornstein 1995). The primary problem to be dealt with is the motivation for quantifier movement, which must be postulated in some form at least in those cases where inverse scope readings — readings that run counter to S-structure c-command relationships — are available. A widely-held view concerning this problem is that there are no non-arbitrary features the need for checking of which could motivate movement of quantifiers to A-bar-positions (Reinhart 1994:20-21, Hornstein 1995:153-154); a natural consequence of this view is an account of inverse scope that appeals only to A-movement (Hornstein 1995, Pica and Snyder 1995). In contrast to this view, Beghelli (1993, 1995) has proposed a series of functional projections to the specifier positions of which quantifier phrases move in accordance with their semantic value in particular readings — ReP for specific (existentials and) (in)definites and DistP for distributive universals, for example.

Neither of these approaches would appear to be without problems. Hornstein’s (1995) A-movement approach deals only with the inverse scope of universals (as in Somebody’s sympathy on everybody), claiming that the inverse scope of existentials (as in Everybody’s sympathy on somebody) has no structural account. Beghelli’s proposals, on the other hand, would seem to raise precisely the problem of motivation for features that is envisioned by Reinhart and Hornstein. Specifically, ‘specific’ and ‘wide scope’ are arguably equivalent notions for existentials, as are ‘distributional’ and ‘wide scope’ for universals. It follows that if a configurational interpretation of inverse scope is adopted, features like [Specific] and [Distributional] will be superfluous.

It is the claim of the present paper that inverse scope readings for both universals and existentials are the result of (covert) movement of quantified NPs (QNPs) to the specifier position of Topic and Focus projections (or, in the system of Chomsky 1995, ch.4, adjunction of Topic and Focus features to the heads of such projections). We may note that postulating quantifier movement triggered by Topic and Focus features has a degree of prima facie plausibility: English arguably displays overt movement to Topic and Focus positions (see e.g. Rizzi 1995), and the configurational treatment of Topic and Focus is well established for other languages, among them Hungarian (Kiss 1991) and Russian (King 1995).

The paper is organized in the following way. Section 1 introduces and justifies a scope principle that will constitute one of the two crucial components of our analysis, the other being the postulated topical and focal LF scope positions and their mutual c-command relations. Section 2 presents background assumptions concerning topic and focus in English and their intonational realization. Section 3
examines what we take to be the core data on the topic/focus-determined scope interaction of subject and object QNPs of the form everyone and someone and deduces from this data the required topical and focal LF scope positions; it then extends the account to QNPs of the form every/some NP. Section 4 considers the interaction of QNPs with interrogative phrases, again first concentrating on QPs of the form everyone/everything and someone/anything. Section 5 gives a brief account of the problems raised for our account, and accounts of quantifier scope in general, by dative and double object constructions. Section 6 examines the A-chain-based approach of Hornstein (1995), concluding that it fails in several areas to account for the full range of relevant data. Section 7, finally, offers concluding remarks.

1. A Scope Principle

It is uncontroversial that, if QNP₁ asymmetrically c-commands QNP₂ at S-structure, QNP₁ may take scope over QNP₂. In frameworks that recognize only interface levels, the correlate of the concept 'S-structure position' and thus the form taken by this generalization will in principle vary with that framework's account of covert movement relationships in general and of quantifier raising (QR) in particular. In practice, however, the minimalist correlate of a (non-expletive) lexical item's S-structure position is arguably the highest LF position of that item's 'substantive' or 'contentive' features. This is true, first of all, in a framework where covert movement is limited to feature adjunction (Chomsky 1995, ch.4): an item's non-formal features, those that are not 'carried along' by the operation 'move F', will remain in the highest position to which the item has moved overtly. Similarly, in a framework that assimilates covert movement relations to expletive-associate chains (Brody 1995), the equivalent of a lexical item's S-structure position will be the highest contentive (i.e. non-expletive) position of that item's chain.

Let us call the highest LF position of the substantive features of a lexical item the 'substantive head' of the chain corresponding to that lexical item. We may then take (1) as the minimalist correlate of the principle that S-structure c-command translates into (the possibility of) wide scope:

(1) QNP₁ may take scope over QNP₂ if the substantive head of QNP₁'s chain asymmetrically c-commands the substantive head of QNP₂'s chain.

We will refer to a scope relation that follows from (1) as an example of 'direct scope'; one that does not is, as indicated above, an example of 'inverse scope'.

The fact that (1) is stated in terms of c-command implies that the principle(s) governing inverse scope will also have to be formulated in terms of c-command if a unified account of scope is to be obtained. More specifically, the natural inference concerning inverse scope is that it follows from c-command relations that result from covert raising — that is, from QR. One approach to the question of the relation of QR to inverse scope would be to imagine that QR applies just in case inverse scope is observed; this would be an application of the principle that QR is allowed "when it leads to a distinct interpretation" (Chomsky 1995:377). Below, however, QR will be interpreted as a response to features of topic and focus, with the result that we will be unable to restrict it to cases in which a distinct — that is, inverse — reading results (but see the end of section 3).

Another approach to the relationship between QR and inverse scope would be to imagine that inverse scope is observed just when the c-command relationship between two QNPs is reversed by QR — in other words, when the c-command relation between the highest categories of the two chains is the opposite of what it was before QR. This would imply a scope principle that could look, in determining the relative scope of two QPs, both at the heads of the two chains in question (the landing sites of QR) and at what we have called the 'substantive heads' of those chains, the categories that occupy what correspond to S-structure positions. If the c-command relationships were the same at both levels, the relative scope of the two QNPs would be unambiguous; inverse scope would not be observed. If the respective c-command relationships of the two heads and the two substantive heads were distinct, inverse scope would be observed, with resultant ambiguity. In such a case, the inverse scope reading would correspond to the c-command relationship of the heads of the two chains, while the direct scope reading would correspond to the c-command relationship of the substantive heads.

It is this latter type of scope principle that we will assume below. Abstracting away from the question of whether the relationship between a QNP and its scope position actually displays the criterial properties of chains/move a (Brody 1995:114-116), we may state that scope principle as a generalization of (1):

(2) QNP₁ may take scope over QNP₂ if the substantive head of QNP₁'s chain asymmetrically c-commands the substantive head of QNP₂'s chain.

Under the scope principle (2), there will be no one-to-one correspondence between scopal readings and LF representations; rather, the direct and inverse readings of a scopally ambiguous QNP pair will be read off a single representation. This may be seen as appropriate in that we will be attributing direct and inverse readings to distinct factors, the former to the c-command relationships of the substantive categories involved, the latter to the abstract c-command relationships induced by the topical or focal status of those categories.

2. Topic, Focus, and Intonation: Background Assumptions

'Topic' and 'focus' are concepts relating to the discourse status of syntactic constituents, equivalent, as a first approximation, to 'old information' and 'new information' at a given point in a discourse. As is customary, we will take the distinction between topic and focus to be defined, again as a first approximation, by the distribution of information in well-formed question-answer pairs. Specifically, given such a pair, the focus of the answer is the set of constituents of the answer whose members do not appear in the question (cf. Rochemont and Calicover 1990:19,(11)); the topic of the answer is the residue. Thus, the focus of (3b) is the entire sentence, while the focus of (4b) is Jim:

(3) a. What's going on?
   b. Sue's threatening Jim.

(4) a. Who's Sue threatening?
   b. Sue's threatening Jim.

In English, focus is phonetically manifested by an intonation peak or 'nuclear accent' on the stressed syllable of the rightmost lexical category of the focus. Thus, the syllable Jim is the focus of such an accent in both (3b) and (4b). Specifically, that syllable is the focus of the falling nuclear accent associated with declarative mood, which accent we will take to be constituted of the sequence of pitches 'high, low' (HL).
There is a second intonational phenomenon that will concern us, namely the high 'boundary tone' (Liberman 1975, Pierrehumbert 1980) that produces the phrase-final rise observed in, for example, appositive relatives and preposed topics (the latter will be illustrated below). Some occurrences of the boundary tone in question are merely optional, if unmarked, indications of tentativeness on the part of the speaker. Other occurrences are fully grammaticized, as in the well-known cases of the type He doesn't drink because he's unhappy, where final H signals wide scope negation. We will indicate boundary high tone by a subscript 'H' on the last word of the intonational phrase and falling nuclear accent by a subscript 'IL' on the word that bears the accent (while the device of capitalization to indicate nuclear accent, traditional since Chomsky 1970, would be sufficient for most purposes, the present system provides a unified representation of accent and boundary tone and allows for parenthesisization to indicate optional accents).

We will encounter boundary H in sentences with focused existential quantifiers, as in (5):

(5) a. Surely

b. Surely...

c. Surely...

When focused someone is final in the intonational phrase, as in (5c), the combination of falling nuclear accent and boundary high tone results in a falling-rising contour on that word. As (5a) and (5b) make clear, however, the nuclear accent and the boundary tone are separate phenomena. Examples (5) also illustrate the basic principles that effect the association between tones and syllables: (1) the first tone of the nuclear accent is associated with the stressed syllable of the word bearing that accent; (2) the second tone of the nuclear accent is associated with any following syllables, either (a) up to (but not including) the syllable bearing the first tone of the next nuclear accent within the intonational phrase, if any, or (b) up to and including the last syllable of the intonational phrase, if there is no following phrase-internal accent; (3) the boundary tone is associated with the final syllable of the intonational phrase.

There are several well-known classes of cases in which the status of new information does not seem to be a necessary condition for focus. This is illustrated in (6) and (7), the latter an example due to G. Lakoff:

(6) a. Who's Jim's wife in love with?
   b. Jim's wife is in love with Jim.

(7) John called Mary a Republican, and then she insulted him.

While there is general agreement that sentence-final Jim/ him in (6b) and she and him in (7) are focal, it is clear that none of these represent new information in the given contexts. Such examples might suggest taking the criterion for focus in a clause that is not discourse-initial (including, but not limited to, answers to questions) to be not simply failure to appear in an earlier clause, but failure to appear in an earlier clause in the same syntactic environment. That this move is inadequate, however, is shown by examples like the dialogue in (8):

(8) a. Did Jim finish his paper by the deadline?
   b. Yeah, he handed it in on Friday.
   c. Well, at least Jim/ him finished on time.

While Jim/ he is presumably focal in (8c), it appears in that sentence in the same syntactic environment as in (8a) and would thus fail to be identified as focal even under the revised characterization of focus just proposed.

Faced with cases like (6) and (7), Rochemont (1986) and Rochemont and Culicover (1990) conclude that there are (at least) two types of focus, 'new information' or presential focus, on the one hand, and contrastive focus, on the other. It is cases like (8c) (which escape Rochemont's (1986:52) definition of contrastive focus as they do our revised characterization of focus above) that would seem to establish beyond a reasonable doubt the existence of a phenomenon of contrastive focus unrelated to information flow, and we will assume such a phenomenon below without attempting to provide a precise characterization of it. (We will further, unlike Rochemont and Culicover, restrict the application of 'contrastive focus' to cases that are not also presential.) As is well known, the notion of contrast is relevant to topical as well as focal material, as illustrated by the two responses (9) to the question Who likes Sue?

(9) a. Jim likes Sue.
    b. Someone likes Sue.

Sue is clearly topical in both (9a) and (9b); it is contrastive in (9b) but not in (9a).

Above, we have introduced the notions 'topic' and 'focus,' explored their intonational realization, and distinguished a subset of cases each that are contrastive. Let us now consider the application of the notion 'focus' to quantifiers. Beginning with existentials, consider (10) as an alternative to (8c) in the dialogue (8):

(10) Well, at least someone finished on time.

Someone is apparently focal in (10), like Jim/ he in (8c), but it is even more clearly devoid of new information content than the latter items. Like those, it is thus an example of contrastive focus; the same is arguably true of the someone of examples (5). More generally, it seems clear that any focused existential quantifier is contrastive — that is, that existentials with presential focus do not exist. This is shown by the fact that someone/ something cannot function as the answer to interrogative who/ what, as illustrated in (11) and (12):

(11) a. Who likes Sue?
    b. Someone likes Sue.
(12) a. What does Sue like?
    b. Sue likes something.

The indefiniteness of (11b) and (12b) can of course be seen as the natural result of the fact that someone/ something provide no information that is not already present in who/ what.

Universal quantifiers, in contrast with existentials, can occur with presential focus, as illustrated by (13) and (14):

(13) a. Who likes Sue?
    b. Everybody likes Sue.
(14) a. What does Sue like?
    b. Sue likes everything.
There is another type of context in which universal and existential quantifiers pattern together intonationally, in contrast with referring expressions. Such a pattern is observed when VP or IP as a whole is new information (and thus focal):

09 a. What's going on? What's Sue doing?
   b. Sue's threatening everyone/someone / Jim.
   2. Sue's threatening 'everyone/someone'/JimH.

The pattern shown by everyone/someone in (15b), however, rather than being a characteristic of quantifiers as such, can be observed with any DP whose NP is semantically empty or essentially so. For example, while a DP like these peasants or these students patterns with referring expressions in (15), a DP like these people or these guys patterns with the quantifiers.

3. The Focus-Sensitivity of Inverse Scope in QNP-QNP Interactions

3.1. The Basic Paradigm

With the material of section 2 as background, let us proceed to the examination of how the scope interaction of someone and everyone in subject-object combinations is influenced by focus. We will consider cases in which the existential and the universal are both topical or both focal first, followed by cases in which one is topical and the other focal. To begin with, then, we want to look at the four cases illustrated in (16)-(17):

06 a. Everybody kissedH somebody.
   b. EverybodyH kissed somebodyH.
07 a. Somebody kissedH everybody.
   b. SomebodyH kissed everybodyH.

For the sake of completeness, we will verify the existence of direct as well as inverse readings for these initial examples. For each sentence of (16)-(17), then, there are two readings we want to test for, one in which the existential quantifier has wide scope, and one in which the universal quantifier has wide scope.

In order to characterize these two readings more precisely, let us temporarily confine our attention to sentences of the form (16), abstracting away both from intonation and from the choice of predicative to the formula (18), in which \( P \) represents an arbitrary two-place predicate:

08 everyone \( P \) someone

If we assume that the subjects and objects of the predicative \( P \) drawn from disjoint sets \( S \) and \( T \), respectively, the extension \( E(P) \) of the predicative \( P \) will be \( \{ (s,t) | s \in S \cap T \land P(s,t) \} \). In order for (18) to be true on the reading where the universal quantifier takes wide scope, \( E(P) \) must satisfy condition (19a) below, and in order for (18) to be true on the reading where the existential quantifier takes wide scope, \( E(P) \) must satisfy the condition (19b); in neither case does it follow that \( E(P) \) is exhaustively specified by these conditions:

09 a. \( \forall x(\exists yP(x,y)) \)
   b. \( \exists y(\forall xP(x,y)) \)

In view of the fact that (19b) implies (19a), we will make the standard (if typically implicit) assumption that the truth condition on the wide scope universal reading of (18) is in fact just that (19a) be satisfied but also that (19b) not be. Given that the identity of \( t \) thus varies with choice of \( s \) in the wide scope universal reading but is constant in the wide scope existential reading, those two readings may be called 'distributive' and 'specific', respectively.

There are any number of syntactic tests that could be devised to verify the existence of distributive and specific readings (standard practice in this area generally involves direct appeal to intuitions without syntactic verification). We will introduce the tests we propose to use by applying them to (16a):

Everybody kissedH somebody, which has both readings. In particular, where we assume the reference of everyone to be the set \( \{ \text{Don, Jon, Ron} \} \), we will take (20a) to show the existence of the distributive reading for (16a) and (20b) to show the existence of the specific reading:

23 a. Don kissed Alison, Jon kissed Cecily, and Ron kissed Tamara — so everybody kissedH somebody.
   b. Everybody kissedH somebody — and I know who it was.

By the tests of (20), (16b), the correlate of (16a) with focused quantifiers, has the distributive reading as expected, but not the specific reading:

24 a. Don kissed Alison, Jon kissed Cecily, and Ron kissed Tamara — so everybodyH kissed somebodyH.
   b. EverybodyH kissed somebodyH — and I know who it was.

Inverse scope, that is, is not observed in (16b).

Moving to the sentences of (17), we find first of all that the distributive reading is impossible for (17a):

25 a. 'Alison kissed Don, Cecily kissed Jon, and Tamara kissed Ron — so somebody kissedH everybody.
   b. Somebody kissedH everybody — and I know who it was.

For (17b), in contrast, both readings are unproblematical:

26 a. Alison kissed Don, Cecily kissed Jon, and Tamara kissed Ron — so somebodyH kissed everybodyH.
   b. SomebodyH kissed everybodyH — and I know who it was.

We may note that the availability of the distributive reading in the case of (17a) is confirmed by parallel examples for which the specific reading is pragmatically implausible or factually false. In such a case, the entire example becomes implausible or false, as illustrated by (24a) and (24b), respectively:

27 a. It now appears that somebodyH married everybodyH.
   b. It's an indisputable fact that somebodyH gave birth to everybodyH.

Were the distributive reading available for the sentences of (24), they would have the same status as the sentences of (25), which are, respectively, not implausible and true:

28 a. It now appears that somebodyH married everybodyH.
   b. It's an indisputable fact that somebodyH gave birth to everybodyH.

We have found that for the sentences of (16)-(17), where the two quantifiers are either both topical or both focal, inverse readings are available in two cases and unavailable in the two others. Let us now examine the cases in which one quantifier is topical and the other is focal, illustrated by (26)-(27):

29 a. EverybodyH kissed somebody.
b. (ClearlyH) everybody kissed somebodyH.

(32) a. (ClearlyH) somebody kissed everybodyH.
   b. SomebodyH kissed everybodyH.

For (26b)(27), we will assume the existence of direct readings, taking up only the question of whether inverse readings are available as well.

It is immediately clear that the inverse reading is available for (26a), which is a natural response to a statement like Sue says Tom kissedH somebody:

(28) EverybodyH kissed somebody — and I know who it was.

The availability of that reading for (26b) is less immediately clear, but seems to be confirmed by (29), which would be natural spoken in an attempt to get one’s interlocutor to see that the available evidence points to the stated conclusion:

(29) ClearlyH everybody kissed somebodyH — can’t you figure out who it was?

Another instance of the inverse reading for the pattern (26b) is (30), where everybody refers, say, to a set of drama critics, someone ranges over the set of actors/actresses in a particular production, and the intended meaning is ‘Surely there’s somebody whom everybody liked’:

(30) SurelyH everybody liked somebodyH.

Moving now to (27), let us consider first the (b) sentence. It is apparent that the inverse reading is not available in this case:

(31) *Alison kissed Don, Cecily kissed Jon, and Tamara kissed Ron — so somebodyH kissed everybodyH.

The facts are less clear for (27a). Our standard test suggests that the distributive reading is degraded in this case, but only slightly so:

(33) *Alison kissed Don, Cecily kissed Jon, and Tamara kissed Ron — so somebodyH kissed everybodyH.

Examples for which pragmatic or factual considerations require a distributive reading (cf. (24)-(25) above) suggest a slightly more extreme degree of degradation for inverse scope in the focus/intonation pattern (27a). In illustration, consider sentences (33), the first in response, say, to Sue says somebody’s going to marry Tom:

(34) a. (7)It’s nowH appears that somebody’s going to marry everybodyH.
   b. (7)It’s obviousH that somebody gave birth to everybodyH.

Inverse scope is thus neither sharply excluded nor unequivocally available in the pattern (27a). The distinction between that pattern and the pattern (17b), in which both quantifiers are focal and inverse scope is unproblematical, is further brought out by examples (34) (as in (33), stigmata refer to the inverse scope reading):

(35) a. (7)SomebodyH has now promised to marry everybodyH.
   b. *It nowH seems that somebody has promised to marry everybodyH.

While inverse scope is quite clearly available in (34a) (unexpectedly, since this a control construction; see section 6), it is extremely marginal in (34b). We will provisionally take the evidence of (32)-(34) to imply that for our purposes inverse scope is unavailable for the pattern (27a), but we will consider below the question of how the opposite conclusion could be accommodated in the system we will propose.

3.2. LF Scope Positions

Let us summarize our results to this point. Below, we repeat (16)-(17) and (26)-(27). To the right of each example we represent the S-structure c-command relationships of the two quantifiers involved, using the abbreviations ‘Topical’ (Existential), ‘Topical (Universal)’, ‘Focal (Existential)’, and ‘Focal (Universal)’; to the right of that we indicate the availability (+) or unavailability (−) of the inverse scope reading. Finally, in the four cases in which inverse scope is observed, we indicate the LF c-command relationship (the reverse of the S-structure relationship) that must be postulated to account for it:

(36) a. EverybodyH kissed everybodyH.
   b. SomebodyH kissed somebodyH.
   c. SomebodyH kissed everybodyH.
   d. EverybodyH kissed somebodyH.

(37) a. EverybodyH kissed everybodyH.
   b. SomebodyH kissed somebodyH.
   c. SomebodyH kissed everybodyH.
   d. EverybodyH kissed somebodyH.

(38) a. (ClearlyH) everybody kissed somebodyH.
   b. (ClearlyH) somebody kissed everybodyH.
   c. (ClearlyH) somebody kissed everybodyH.
   d. (ClearlyH) somebody kissed everybodyH.

The question we must now ask is whether the observed inverse scope relationships can be captured by a sequence of scope positions to which (in traditional terms) quantifiers move covertly. The oppositions topical/focal and existential/universal, to begin with, suggest two features (say [±focal] and [±universal]) in terms of which four such scope positions can be defined and in terms of the need for checking of which covert quantifier movement could be motivated. The remaining question is whether the four scope positions in question can be arranged in a linearly ordered sequence, with the ordering relationship being interpreted, in accordance with our scope principle (2), as c-command. That question, in turn, can be divided into two parts, the question of whether every pair of scope positions is unambiguously ordered and, if so, the question of whether the pairwise orderings in question are consistent with a single linear ordering.

With respect to the first of these questions, we may observe that the pairs of sentences (16a), (17a), (16b), (17b), (26a), (27a), and (26b), (27b) each involve a particular pair of quantifiers, differing only in which of those quantifiers is subject and which is object (the pairs of quantifiers involved are [TU,TE], [PU,PE], and [TU,TE], respectively). For a given pair of quantifiers, the two corresponding scope positions will be linearly ordered just in case inverse scope is observed in one of the subject-object combinations but not the other; the reason is that inverse scope to be observed in both combinations, each of the quantifiers would have to be in a position to take scope over the other at LF, while if inverse scope were to be observed in neither combination, neither quantifier could be in a position to take scope over the other at LF. What this would mean in practice is that the two quantifiers would in both cases have to be at the same level in an appropriate sense at LF, with this situation interpreted in the first case as implying mutual scope and in the second case as implying the failure of any scope relationship. In neither of these situations could the pair of quantifiers in question be said to be linearly ordered.

Looking now at the pairs of sentences that share a pair of quantifiers, we find that inverse scope is
observed in (16a) but not (17a), implying that the LF scope position of TE asymmetrically c-commands that of TU; that inverse scope is observed in (17b) but not (16b), implying that the LF scope position of FU asymmetrically c-commands that of FE; that inverse scope is observed in (26a) but not (27a), implying that the LF scope position of TE asymmetrically c-commands that of FU; and that inverse scope is observed in (26b) but not (27b), implying that the LF scope position of FE asymmetrically c-commands that of TU. Thus every pair of scope positions for which we have evidence does in fact display an unambiguous ordering. These pairwise ordering relationships are summarized in (35):

09 a. TE > TU  b. FU > FE  c. TE > FU  d. FE > TU

As to the question of whether or not these four pairwise ordering relationships determine a single linear order of the four elements in question, a glance at (35c), (35b), and (35d) reveals that this order must be as in (36):

06 TE > FU > FE > TU

The pairwise relationship of (35a) is of course consistent with this order. We are led, then, to the conclusion that, against considerable odds, the inverse scope relationships displayed by (16)-(17) and (26)-(27) can in fact be captured by a sequence of LF scope positions that are linearly ordered in terms of c-command. These scope positions must be assumed to lie above IP (or AgrSP); their placement with respect to CP will be considered in section 4.4.

There are several ways in which such a sequence of scope positions might be formally realized. Any of them will presumably require a sequence of four heads defined, respectively, by the feature specifications [−foc −unif], [−foc + unif], [−foc −unif], and [−foc + unif]. We could imagine that features of quantifiers adjoin to these heads, roughly as in Chomsky 1989, ch.4, or alternatively that the corresponding specifier positions host either phonologically null scope markers (Brody 1995) or the quantified DPs themselves (Rizzi 1995, forthcoming). It seems clear that our results are neutral between these formal realizations, and we will not attempt at this point to choose between them.

We must now consider the question of whether the system of scope positions that we have derived from the behavior of someone and everyone extends to quantified phrases of the form some NP and every NP. Examination of our eight examples above reveals that for all but (16a) and (17a), the two examples in which nuclear accent occurs on the verb, it is straightforward to establish corresponding examples having [Q NP] in place of Qam and verify that the scope facts in those examples are the same as in the cases with Qam. We give such examples below as (16’)-(17’) and (26’)-(27’), indicating the availability or nonavailability of inverse scope and omitting (16’a) and (17’a) for the moment:

16 b. Every girl kissed some boy.

17 b. Some girl kissed every boy.

26 a. Every girl kissed some boy.

26 b. Clearly every girl kissed some boy.

27 a. Clearly some girl kissed every boy.

For (16a) and (17a), we need to recall that on their unmarked interpretation, these represent sentential focus — that is, answers to a question like ‘What happened?’. In this situation, as we noted at the end of section 2, Qam forms pattern with DPs (the head N of) whose NP complement is semantically

vacuous (e.g. these people) in rejecting nuclear accent; DPs whose complement is not vacuous (e.g. these peasants), in contrast, take nuclear accent. This consideration suggests that the correlates of (16a) and (17a) will be as given below:

16 a. Everybody kissed somebody.

16 a’. Every girl kissed some boy.

17 a. Somebody kissed everybody.

17 a’. Some girl kissed everybody.

It is clear that (16’a) is like (16a) in allowing inverse scope. In the context we have imagined for it, that is, as an answer to What happened?, (17’a) is like (17a) as well; that is, it disallows inverse scope. This is confirmed by the oddity of the exchange (37), which shows that the distributive (wide scope universal) reading is not available for (37b):

50 a. What happened?

b. It appears that some woman married every man.

Inverse scope is unproblematic in (38b), however:

58 a. Who married who?

b. It appears at least that some woman married every man.

An explanation for this apparently paradoxical state of affairs is suggested by the fact that in the context of (38), Qam forms take nuclear accent:

58 a. Who married who?

b. It appears at least that somebody married everybody.

We may thus speculate that the distributive reading of the pattern (17’a) (as illustrated in (38b)) involves, contrary to appearances, focal quantifiers. The lack of nuclear accent on these quantifiers may be explained as the result of suppression of that accent in the environment of nuclear accent on the following complement NP. With this qualification, we may conclude that the possibilities for inverse scope remain unaltered under substitution of [Q NP] for Qam.

Let us now return briefly to the problem posed by the mildness of the unacceptability of the inverse reading in (27a), repeated below:

27 a. Clearly everybody some girl kissed everybody.

In particular, let us examine the consequences of judging inverse scope to be fundamentally available in (27a). Given that inverse scope is uncontroversially available when the subject-object relationship of that sentence is reversed, this would mean that the two quantifiers TE and FU would take inverse scope with respect to each other. This, in turn, would mean that the LF scope positions of these quantifiers could not be in an asymmetric c-command relationship, but would have to be, in a well-defined sense, at `the same level’. If, with Chomsky (1995, ch.4), we assume the unavailability of XP-adjunction, the means of producing such a `mutual c-command’ relationship are limited. One option would be to appeal to multiple specifiers of a single head, but this seems unsatisfactory given that we are assuming the heads to whose domains QNs (or features thereof) move to be defined in terms of the features [± local] and [± universal] and that TE and FU differ in their specifications for both of these features.

It would thus appear that a structural account of the inverse scope possibilities of (16)-(17) and
(26)-(27) requires us, at least on current assumptions, to divide the continuum of degrees of acceptability into ‘grammatical’ and ‘ungrammatical’ at a point very close to the fully acceptable end of that continuum. When this is done, we obtain the sequence of LF scope positions (36).

In closing this section, let us step back from the issue of LF scope positions and review the empirical conclusions we have reached. The clearest generalization to emerge from the above discussion is perhaps that when quantifiers are uniformly topical, inverse scope is strongly encouraged for existentials and strongly discouraged for universals, whereas when quantifiers are uniformly focal, inverse scope is strongly encouraged for universals and strongly discouraged for existentials. The inverse proportional relationship that obtains between the availability of existential wide scope and the availability of universal wide scope in these two cases suggests a picture in which semantically there is only one variable in existential-universal scope interactions, namely whether the existential is specific and the universal non-distributive (above, the ‘specific’ reading) or the existential non-specific and the universal distributive (above, the ‘distributive’ reading). Topicalization produces the specific reading, which is an inverse reading just in case the existential is in object position; focalization produces the distributive reading, which is an inverse reading just in case the universal is in object position.

When one quantifier is topical and the other focal (‘mixed focus’), two partially conflicting tendencies are apparent. We concluded above that, in effect, mixed focus is associated with the specific reading: inverse scope is available for existentials and unavailable for universals. At the same time, however, it is clear that in cases of mixed scope, the focal status of the object is more important than that of the subject. When the object is focal, inverse scope is ‘almost’ available for a universal and ‘almost’ unavailable for an existential, whereas when the object is topical, inverse scope is quite clearly unavailable for a universal and quite clearly available for an existential. If we were to reverse judgements on the two borderline cases, we would obtain a system in which the availability of inverse scope could be said to depend entirely on the focal status of the object: inverse scope would be available when the object was either a topical existential or a focal universal.

A system in which only the focal status of the object mattered would in turn suggest an analysis in which only objects move — at a minimum, only objects that are either topical existentials or focal universals. This last possibility would realize the suggestion of Reinhart (1994:21) and Chomsky (1995:377) that quantifiers move only in order to produce inverse scope. While we will conclude below on the basis of quantifier-interrogative interactions that topical universals must also move, and move regardless of whether they are subjects or objects, the minimal system just suggested would seem to remain a possibility for quantifier-quantifier interactions.

References


Topic, Focus, and Quantifier Scope in English II

Brent de Chene
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4. The Availability of Inverse Scope in QNP-why Interactions

4.1. The Subject/Object and Topic/Focus Factors

The question of when a universal quantifier may take wide scope with respect to an interrogative expression has received a good deal of attention in the literature, much of it concentrated on the subject-object asymmetry apparent in pairs like (40) (assuming for concreteness that the subject of like, whether who or everyone, refers to a set of drama critics and the object to a set of actors in a particular production):

(40) a. I need to know who everyone liked in.
   b. I need to know who liked everyone.

(40a) may clearly receive a ‘pair-list’ answer, exemplified in (41) and indicating inverse scope—that is, wide scope of the quantifier with respect to the interrogative:

(41) The critic from the Times liked Tom, the critic from the Post liked Joe.

For (40b), the availability of inverse scope, as indicated by the appropriateness of the answer (41), is less clear than for (40a).

In this subsection, we will consider this subject-object asymmetry, claiming that it affects the strength, but not the absolute availability, of wide-scope readings of universal quantifiers with respect to interrogatives. At the same time, we will see that, at least in matrix clauses, the focal status of the quantifier is a more decisive factor in determining availability of such readings.

Within the influential research tradition that runs from May 1985 through works like Aoun and Li 1993, it is taken for granted that an object universal quantifier, as in (40b) above, cannot take scope over a subject interrogative—more generally, that a quantifier cannot take scope over an interrogative in all positions of whose chain c-command it. Thus, to use May’s (1985:38–39) well-known examples, while everyone can take scope over what in (42a), everything is assumed to be unable to take scope over who in (42b):

(42a) a. What did everyone buy t for Max?
   b. Who t bought everything for Max?

It can be argued that everyone and everything are themselves distinct in their ability to take inverse scope, implying that the difference between them should be controlled for when possible. Thus, at least in the absence of special assumptions, inverse scope seems less clearly available in (43) than in (40b) above, which differs from it only having everyone in place of everything.

(43) I need to know who liked everyone.

In the case at hand, however, this is of relatively little import; inverse scope is in fact clearly available
in (42b) in any case, as long as the quantifier is topical. Because this assertion goes so directly against received wisdom, it is worth verifying in some detail.

Consider first (44), which differs from (42b) in lacking the final PP:

(44) Who bought everything?

(45) a. You are having a garage sale and, while you are out on an errand, your spouse succeeds in selling every item that you had wanted to get rid of. You return to an unexpectedly empty garage and ask (44).

b. You visit the completely unfurnished apartment of a friend who has just spent his last cent to move in. The next day you return and find the apartment full of new furniture still bearing department store price tags. You ask (44).

In either of these situations, (44) can be given a pair-list answer—for example, (46):

(46) Well, the neighbors bought the lamp, my sister bought the sofa, ...

The above discussion has assumed a topical quantifier. If the quantifier of (44) is made focal, as in (47), it ceases to be able to take inverse scope:

(47) Who bought everything? (→)

(48) in other words, is not scopally ambiguous, and cannot receive the answer (46).

Precisely the same is true of the full sentence (42b) with the final PP. Consider first the case of a topical quantifier, as in either of sentences (48):

(49) a. Who bought everything for Max?

b. Who bought everything for the Maxes?

(We assume that the final nuclear accent in (48b) represents unmarked, sentential focus.) That the quantifier of (48) can take inverse scope is illustrated by the scenario (49) (50):

(50) It is known that, although Max needs a number of items in order to go on a camping trip, he has no money. You visit his room for the first time in several days and find that he has recently acquired a complete set of camping equipment. Since you have no reason to believe the equipment is stolen, you ask Max’s mother (48). She answers (50).

(51) His grandmother bought him the backpack, his father bought him the sleeping bag, ...

In the case of a focal quantifier, inverse scope is again unavailable:

(52) Who bought everything for Max? (→)

So far, we have seen that in cases where the quantifier is c-commanded by the entire chain of the interrogative and inverse scope is thus predicted by analyses such as those of May (1985) and Aoun and Li (1993) to be unavailable, it is in fact available, but only when the quantifier is topical. It is straightforward to verify that the same is true in cases where the quantifier c-commands some position of the chain of the interrogative—specifically, in the case of a subject quantifier and object interrogative:

(53) a. What did everyone buy Max? (→)

b. What did everyone buy for Max? (→)

(54) (52a) may receive a pair-list answer (Jim bought a flute, Sue bought a computer, ...), but (52b) can be interpreted only as asking for the identity of the item or items that everyone (individually or collectively) bought. It is thus clear that the topic/focus distinction is a more decisive factor than the subject/object distinction in determining whether or not a universal quantifier can take inverse scope with respect to an interrogative.

4.2. The who/which NP and Matrix/Embedded Factors

Among the numerous references in the literature to the claimed unavailability of inverse scope in sentences like Who bought everything for Max, there are a small number that concede that the readings in question are in fact sometimes unproblematical; for an example, see Chierchia 1993:183-184. Chierchia claims that apparent inverse scope in such cases is the result of the fact that who is unmarked for plurality. Correspondingly, he claims that inverse scope disappears in the object quantifier cases, while remaining in the subject quantifier cases, if the interrogative is who NP rather than who. It is arguable, however, that while there is a subject-object asymmetry with which NP as there is with who and what, it is relatively subtle, and inverse scope readings in object quantifier cases are by no means unavailable. To see this, let us look first at embedded questions, where acceptability of inverse scope is, other things being equal, consistently higher.

Imagine as a scenario a party at which it is the job of ambassadors to greet heads of state, with each head of state to be greeted by precisely one ambassador. After the party, speaking either to or about the set of heads of state, a reporter says:

(55) I need to know which ambassador greeted everyone.

There is no problem about interpreting everyone as taking inverse scope in (55); everyone in that sentence may thus be paraphrased by each of you or each of them, where it is uncontroversial that each may always take wide scope.

For comparison, consider a similar party at which each ambassador greets precisely one head of state. After the party, speaking either to or about the set of ambassadors, a reporter says:

(56) I need to know which head of state everyone greeted.

Inverse scope is even more clearly available in (56) than in (55); this does not mean, however, that there is any question about its availability in the latter case.

That pragmatic factors are likely to influence judgements in this area can be inferred by a comparison of (53)-(54), for which we have imagined a specific scenario, with the pair (55), taking the latter out of context:

(57) a. I need to know which patient everyone examined.

b. I need to know which doctor examined everyone.

The weakness of the inverse scope reading in (57b) is such that one might be tempted to imagine on first exposure that it is not available at all. But if we set up a scenario with different doctors examining different patients—a scenario, that is, in which the direct reading’s presupposition that one doctor examined each and every patient is not satisfied—it becomes clear that the inverse reading is available after all. Under these circumstances, (57b) is parallel to (53).

If we now turn to matrix questions with which NP, it becomes clear that the availability of inverse readings is sharply reduced by comparison with embedded questions for both subject quantifier and object quantifier cases. Below, we give judgements for inverse readings of the matrix question counterparts of (53)-(54) and (55):
Inverse scope is unavailable for such QNPs regardless of whether the Q is topical or focal:

63. a. Who did every teacher criticize? (–)
   b. Who criticized every teacher? (–)
64. a. Who did every teacher criticize? (–)
   b. Who criticized every teacher? (–)

In embedded questions, on the other hand, inverse scope is available in both cases:

64. a. I need to know who every teacher criticized. (+)
   b. I need to know who criticized every teacher. (+)
65. a. I need to know who every teacher criticized. (+)
   b. I need to know who criticized every teacher. (+)

It is thus clear that the focus-determined contrast in the availability of inverse scope that we have observed in matrix questions for everyone and everything are limited to these forms.

We have referred above (section 4.1) to the difference between everyone and everything as a factor in the availability of inverse scope in questions. A final factor that has been discussed in the literature is that of psych-predicates, which have been claimed to reverse the subject/object asymmetry that we have seen above (Kim and Larson 1989). This claim must be interpreted as concerning, in particular, Object Experiencer predicates (Penteky 1995:19)—i.e. those of the type light. In order to verify it it is necessary both to control for the everyone/everything distinction and to guard against an agnitive interpretation of the subject of the Object Experiencer predicate. When this is done, the reversal of asymmetry is quite clear. (66) illustrates a Subject Experiencer predicate, which shows the standard asymmetry with inverse scope less clearly available for an object quantifier; (67) illustrates a near synonym Object Experiencer predicate, for which inverse scope is less clearly available for the subject quantifier:

66. a. I need to know who everybody’s worried about.
   b. I need to know who’s worried about everybody.
67. a. I need to know who everybody’s worrying about.
   b. I need to know who’s worrying everybody.

We will not comment here on the issue of the proper account of the subject/object asymmetry and its apparent reversal with Object Experiencer psych-predicates, but will confine our attention to the focus-sensitivity of inverse scope.

4.4 Discussion

The data of sections 4.1-4.3 raise a number of issues for the sequence of LF scope positions (36) proposed in section 3.2 and repeated below, which we have assumed to lie above IP:

66. TE > FU > FE > TU

The most obvious problem concerns topical universals. These occupy the lowest scope position in (36), but are the only quantifiers capable of taking inverse scope in matrix questions. On the face of it, this looks like an unsolvable paradox. On the other hand, it is clear that topical universals occupy their position at the bottom of the hierarchy in (36) for relatively peripheral reasons. The central observations of section 3.1 were that, given a subject-object quantifier pair, one member existential and
the other universal, topicalization produces the specific (wide-scope existential) reading and focalization produces the distributive (wide-scope universal) reading. The correlates of these two observations in terms of the postulated LF scope positions are, respectively, the two pairwise ordering statements in (68): 

66 a. TE > TU b. FU > FE.

The data of section 4 would seem to imply a third pairwise ordering statement. Given that topical universals (specifically, everyone/everything) may take inverse scope in matrix questions while focal universals may not, the position TU must be above the landing site of interrogatives and the position FU must be below it. Combining the ordering relationship TU > FU with those of (68) gives the sequence (69):

68 TE > TU > FU > FE

If we assume Spec(CP) to be the landing site of interrogatives, we may insert CP and IP into the sequence (69) to obtain (70):

70 TE > TU > CP > FU > FE > IP.

What predictions of the sequence (36) are lost by replacing it with (69) or (70)? Ideally, we would like to lose just the two borderline judgements we discussed in closing section 3, namely those of (26b) and (27a), repeated here:

26 b. (ClearlyHL) everybody kissed somebodyHL (+)
25 a. (ClearlyHL) somebody kissed everybodyHL (−)

These, however, involve two distinct pairs of quantifiers, and so will not necessarily be lost or retained together. In fact, of the six pairwise ordering relationships implied by each of (36) and (69), four coincide and two differ. One of the differing relationships involves the relative order of the two universals. About this we have heretofore had no evidence; we now have reason to believe that the order is TU > FU. The second involves the pair [FE, TU]; the order TU > FE, as implied by (69), will reverse the prediction for (26b) and for (27b), repeated here:

25 b. SomebodyHL kissed everybodyHL (−)

While this is not ideal, it is apparently as close as we can come at the moment to reconciling the findings of section 3 with those of section 4.

There is one more aspect of (70) that invites scrutiny. This is the prediction that topical existentials, which occupy the highest scope position, should be able to take inverse scope in questions. It is fairly clear what we would expect if they did. Consider the question (71) below. (71) is interpreted roughly as in (72a) and, correspondingly, answerable as in (73a). If the quantifier could take scope over the interrogative in (71), we would expect that question to have in addition the interpretation (72b) and, correspondingly, to be answerable as in (73b):

71 Who ate the orange?
72 a. (∃x)[(∃y)[x ate y]]
   'For what x is it the case that for some y, x ate y'
   (++)
73 a. Sue did.

b. The orange, Sue ate.
Since the answers of (72b) are in fact inappropriate to the question (71), we may infer that that question does not have the interpretation (72b).

How then are we to interpret the ordering relationship TE > CP that is implied by (70)? Given that focal existentials apparently do not occur in questions, it might seem possible to claim that the existentials that do occur represent neutralization of the topic/focus contrast and are, correspondingly, unspecified for the feature [②focal]. They would then not be subject to LF movement and would take scope in situ. This suggestion, however, runs afield of examples like those of (74), in which the existential may take inverse scope with respect to the universal and the universal may take inverse scope with respect to the interrogative, but the existential may nevertheless not take inverse scope with respect to the interrogative:

74 a. Who introducedHL everybody to somebody?
   Who introducedHL everybody to somebody?
   (+)
52 a. He gave/sentHL something to everybody. (+)
   He gave/boughtHL something to everybody. (+)

It is thus clear that the balance between availability and unavailability of inverse scope that we have
seen to be characteristic of the subject-object relation is a delicate one that can be upset in either direction, resulting in the case in across-the-board availability, in the other in across-the-board unavailability of inverse scope for universals.

What about the availability of inverse scope for existential quantifiers in dative and double object constructions? Again taking up the latter first, consider the four examples (77), which we list in decreasing order of availability of inverse scope:

\[ \begin{align*}
\text{b) He showed everybody something.} & \quad (+) \\
\text{c) Surely he showed everybody something.} & \quad (+) \\
\text{d) He showed everybody something.} & \quad (\neg)
\end{align*} \]

The pattern we find is precisely that which we found with subject-object pairs in section 3: inverse scope for an existential is most clearly available when both quantifiers are topical, only slightly less clearly available when the universal is topical and the existential topical, just barely available when the universal is topical and the existential is focal, and unavailable when both quantifiers are focal. Given this coincidence of detail, it would seem that the double object construction has no effect on the availability of inverse scope for existentials.

This result further complicates the puzzle that the inverse scope possibilities of the double object construction pose for the account of section 3. One of the fundamental empirical generalizations that we observed there was that inverse scope for universals and existentials is closely related in that the environment that most strongly encourages the former most strongly discourages the latter and vice versa. This generalization clearly breaks down in the double object construction, where the inverse scope possibilities of existentials remain unchanged while those of universals disappear uniformly.

With respect to the inverse scope possibilities of existentials in the dative construction, finally, it is clear that even the topic/focus context that most strongly discourages existential inverse scope in subject-object combinations, in which both quantifiers are focal, allows it here:

\[ \text{He showed everybody to somebody.} \quad (+) \]

The dative construction, then, appears to allow inverse scope across the board for both universals and existentials.

The results of our overview of the relative scope of the two objects of the dative and double object constructions may be summarized in the following table:

\[ \begin{align*}
\text{Inverse Scope in Dative and Double Object Constructions} \\
\text{Existential} & \quad + & \text{as with S.O} \\
\text{Universal} & \quad + & \quad
\end{align*} \]

(79) makes it clear that for the most part, the two objects of these constructions constitute an environment in which the focus-determined contrasts in the availability of inverse scope that we saw in section 3 are neutralized. In this respect they are parallel to embedded questions, which we saw in section 4 to be an environment of neutralization for the focus-determined contrast in the availability of inverse scope observable in matrix questions.

Our consideration of the dative and double object constructions has so far dealt only with the relative scope of the two objects of those constructions, ignoring the question of relative scope in subject-object combinations. Let us now look briefly at this latter question, limiting ourselves to the case in which the two quantifiers are either uniformly topical or uniformly focal. We will construct a paradigm based on the following four variables: topical versus focal, existential subject and universal object versus universal subject and existential object, first object versus second object, and dative versus double object construction. We will group the examples into four groups of four, with the members of each group coinciding in their values for the first two variables and differing in their values for the second two. We begin with topical quantifiers and an existential subject:

\[ \begin{align*}
\text{a) Somebody showed everything to the police.} & \quad (\neg) \\
\text{b) Somebody showed the tape to everybody.} & \quad (\neg) \\
\text{c) Somebody showed everybody the tape.} & \quad (\neg) \\
\text{d) Somebody showed the police everything.} & \quad (\neg)
\end{align*} \]

\[ \begin{align*}
\text{a) Everybody showed something to the police.} & \quad (\neg) \\
\text{b) Everybody showed the tape to somebody.} & \quad (\neg) \\
\text{c) Everybody showed somebody the tape.} & \quad (\neg) \\
\text{d) Everybody showed the police something.} & \quad (\neg)
\end{align*} \]

\[ \begin{align*}
\text{a) Somebody showed everything to the police.} & \quad (+) \\
\text{b) Somebody showed the tape to everybody.} & \quad (+) \\
\text{c) Somebody showed everybody the tape.} & \quad (+) \\
\text{d) Somebody showed the police everything.} & \quad (+)
\end{align*} \]

\[ \begin{align*}
\text{a) Everybody showed something to the police.} & \quad (+) \\
\text{b) Everybody showed the tape to somebody.} & \quad (+) \\
\text{c) Everybody showed somebody the tape.} & \quad (+) \\
\text{d) Everybody showed the police something.} & \quad (+)
\end{align*} \]

While the judgements may be slightly less sharp in some instances, there appears to be no principled difference between (80)-(83) and the simple subject-object cases of section 3.

6. An A-movement-based Account of Quantifier Scope

Hornstein (1995), as noted above, gives an account of quantifier scope that appeals only to A-movement, but deals only with the inverse scope of universals, claiming that the inverse scope of existentials has no structural account. In two locations, he attempts to differentiate cases in which the universal c-commands the existential at S-structure from cases in which the reverse is true in such a way as to absolve him in the former case from the obligation of giving a structural account of inverse scope. In fn.1 to chapter 3 (p.206), first of all, he says, "it is consistent even without movement that a sentence [in which the universal c-commands the existential at S-structure] can be made true by either the value of the indefinite being the same for all values of the universal variable or changing value with that of the universal variable. Thus the appearance of ambiguity can obtain without any structural ambiguity being present."

Hornstein's claim would seem to be that the ambiguity in question can be represented in terms of some feature of the indefinite—i.e., the existential quantifier; let us call this feature [±-specific]. Para-
phrasing "the value of the indefinite being the same for all values of the universal variable" as "the existential being [+specific]" and "the indefinite ... changing value with that of the universal variable" as "the existential being [−specific]", the two readings of (84) (Hornstein's (i)), rendered in terms of relative scope in (85), can also be represented as in (86):

86 a. (x)∀y[love(x,y)]  b. (3y)(∀x)[love(x,y)]

86 a. existential [+specific]  b. existential [−specific]

But the applicability of the paraphrases in (86) is not limited to cases in which, as in (84), the universal c-commands the existential at S-structure. Thus, the ambiguity of (87), expressed in terms of relative scope in (88), can also be represented as in (89):

89 a. (x)∀y[love(x,y)]  b. (∀y)(∃x)[love(x,y)]

89 a. existential [+specific]  b. existential [−specific]

In (85) and (86), in other words, are completely symmetrical in terms of the possibility of representing ambiguity in terms of a feature of the existential quantifier rather than in terms of relative scope; a feature [+distributive] on the universal quantifier would work equally well. Our observation in section 3 that the topic/focus contexts that strongly encourage scope for existentials strongly discourage it for universals and vice versa regardless of which is subject and which is object lends support, as we have noted, to the idea that semantically, there is only a single variable involved.

Hornstein returns to this problem in his fn. 12 of chapter 8 (pp.237-238), claiming that the two interpretations of *everyone kissed someone* "can be traced to the fact that it is true in two distinct models; if everyone kissed someone different or if all kissed the same person. Thus the ambiguity [in question] ... is more correctly thought of as vagueness." But equally, the two interpretations of *someone kissed everyone* can be traced to the two possibilities (1) everyone was kissed by someone different (or at least not all by the same person) and (2) all were kissed by the same person. Thus Hornstein has again failed to show a distinction between cases in which the universal c-commands the existential at S-structure and cases in which the reverse is true. Whatever the advantages of his analysis, then, it would seem to be compromised in advance by the fact that it accounts for only half of the data.

Let us take a look at the analysis Hornstein proposes for the cases with existential subjects and universal objects. That analysis rests on the following assumptions: (1) a scope principle based directly on LF c-command; (2) the copy theory of movement; (3) movement of NPs from VP-internal theta-positions to Spec(AdvP) for case checking; (4) free deletion of all but one member of an A-chain; (5) the principle, due to Diesing (1992:29), that definites must be interpreted in positions external to the VP. The last two assumptions will mean that the single remaining chain position of an object universal quantifier will always be Spec(AgrOP). Relative scope with respect to a subject existential will then depend on which chain position of the latter deletes and which remains: if the copy in Spec(AdvP) deletes, direct scope is observed, and if the copy in Spec(AgrSP) deletes, inverse scope is observed.

One apparently attractive aspect of this analysis from an empirical point of view is that, by tying quantifier scope to A-movement, it predicts that the locality conditions on inverse scope are essentially those of A-chains. This prediction, however, is arguably too restrictive, as shown by the fact that inverse scope is generally possible in subject control constructions like those of (90):

90 a. Somebody has tried to help everybody. (+)
   b. Somebody wanted to meet everybody. (+)
   c. Somebody promised to marry everybody. (+)

There is of course no A-chain position of everybody that c-commands any A-chain position of somebody in the examples of (90), so an approach based on A-movement will make the wrong prediction.

In sum, with respect to cases of the type *everyone loves someone*, with respect to examples like (90), and with respect to the data on focus and scope we have considered above, it is arguable that, in pursuing a minimalist account of quantifier scope, Hornstein has reduced the relevant formal machinery to a point where it has difficulty meeting the demands of observational adequacy.

7. Conclusion

Above, we hope to have shown that, at least in subject-object combinations and in matrix questions, the availability of inverse scope for both existential and universal quantifiers is heavily dependent on focus. We have proposed a scope principle and (two alternative versions of) a sequence of LF scope positions in terms of which this dependence can be understood. There are several major tasks we have left for future research. One is a deeper understanding of how the QNP-QNP data of section 3 relate to the QNP-adv data of section 4. Another is an account of why neutralization of the observed focus-determined contrasts in the availability of inverse scope occurs in dative and double object constructions and in embedded questions. In addition, there are areas of unquestioned relevance to the present investigation upon which we have been unable to touch, notably the interaction of quantifier scope and the scope of negation.

Notes

1 The judgement that inverse scope is unavailable in questions for QNPs without *NP* coincides with that of Williams (1986:297) against that of May (1988: 125).

2 Hornstein (1995:178) claims that a universally quantified second object in the double object construction cannot take inverse scope with respect to a subject, but his single example, *someone gave Bill everything*, is arguably unrepresentative: *give NP everything* is pragmatically unfavorable to the distributive reading.

3 A less fundamental kind of problem is posed by examples such as (6), in which inverse scope is again possible:

6 a. Somebody wants everybody's autograph. (+)
   b. Somebody criticized everybody's proposal. (+)
   c. Somebody supervised everybody's dissertation. (+)

When the object DP of such examples moves to Spec(AgrOP), it will c-command the VP-internal base position of the subject, but the universal quantifier, presumably in Spec(DP) or Spec(AgrP), will c-command nothing outside that DP/AgrP. Some modification of the definition of c-command must evidently be appealed to in such cases. Hornstein (1995:168, 121) in fact proposes in different contexts two possibilities either of which will work here.

References
