Schütze, Carson T. 1999. Expletive constructions. Class handout, seminar on A-movement and licensing, UCLA, Los Angeles, Calif., October.

Schütze, Carson T. 2000. A restrictive theory of overt movement for Case in English. Paper presented at the Workshop on Case Theory, Annual Conference of the German Society for Linguistics (DGfS), Philipps-Universität, Marburg, March.

Tanaka, Hidekazu. 1999. Raised objects and superiority. *Linguistic Inquiry* 30:317–325.

Williams, Edwin. 1984. *There*-insertion. *Linguistic Inquiry* 15: 131–153.

Intermediate Adjunction with A-Movement

Uli Sauerland
Universität Tübingen and
University of Massachusetts

It is widely assumed—often tacitly—that A-movement does not move through intermediate positions where it does not check morphological features (e.g., Baltin 2001). At the same time, Chomsky (2001), Fox (1999), Nissenbaum (2000), and others argue that Ā-movement must adjoin at least to every vP and CP on its path and leave an interpreted trace in each of these positions. In this squib, I present an empirical argument that A-movement as well must move through an intermediate position adjoined to vP. I then show that my discovery bears on a difference between Chomsky's (2001) theory of phases and Nissenbaum's (2000) version of it, corroborating Nissenbaum's proposal.

A well-studied case of A-movement is raising in English. With Chomsky (1995) and others, I assume that raising is movement of the subject from a position in the infinitival complement to the matrix Spec,TP position to satisfy the Extended Projection Principle (EPP). This is illustrated in (1).

(1) Kai_1 [$_{\text{vP}}$ seems to his_1 father [$_{\text{TP}}$ t_1 to be t_1 smart]].

Next, consider the interpretation of (2), where the universal quantifier is in the scope of negation. This interpretation can be paraphrased as *Not every child is smart.* It requires a special intonation with a rise on *every* and a fall on *isn't,* and is most natural if the sentence is followed by a clarifying continuation like *In fact, half of them aren't smart* (e.g., Jackendoff 1972, Büring 1997).

(2) $[\text{Every child}]_1$ isn't t_1 smart.

I assume with McCloskey (1997) that this interpretation is derived by total reconstruction of the subject to a position lower than negation.

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One alternative to this assumption worth considering is that (2) allows covert raising of *not* to a position above the subject. However, two arguments speak against this analysis.

The first argument is that movement of negation actually would not alter the scope of negation on what seem to be the most straightforward assumptions about how movement is interpreted. This argument is based on the following consideration: Assume that movement of negation leaves behind an interpreted trace, as other movement processes have been argued to (e.g., Fox 1999, Sauerland 2000). Because negation is not quantificational, it could only leave behind a trace of the same semantic type as itself. But then, negation would actually be semantically reconstructed to its trace position in the interpretation process. Hence, movement of negation would not affect the scope of negation unless it was assumed not to leave behind any trace.

The second argument is based on the scope of negation relative to material occurring between the subject and negation. Both examples in (3) have only one interpretation, where negation takes scope below the quantificational adverb *usually* and the modal *must,* respectively. Unlike in (2), even with a special intonation and a clarifying continuation, the scope of negation is fixed, and in fact the clarifying continuations in (3) seem contradictory.

(3) a. Jan mustn't get an A. (#In fact, he could get an A or a B.)
b. Tom usually doesn't follow. (#In fact, half the time he doesn't follow.)

It seems that in general, all adverbs and several modals (*must, ought to, may*) in English must take scope above negation when they occur between the subject and negation.[1]

Now consider examples where the subject is again a universal quantifier. (4) is an example with a modal.

(4) Every student mustn't get an A. At most a third of them can get one.

Here, the subject is able to take scope below negation. This reading is brought out by the following scenario: A junior teacher gave every student in his class an A. However, the school has a rule that only a third of all students may get an A, to prevent grade inflation. A senior teacher could then use (4) to reprimand his junior colleague. As in (2), this interpretation is dependent on a particular intonation contour with a fall on *every,* a rise on the negation, and destressing of the

[1] Other English modals like *could* in (i) can take scope below negation. I assume with von Stechow (1995:43) that English modals can move from a position below T, which could be below negation, to their surface position and that they can reconstruct.

(i) John couldn't come to the meeting.

material between the two. Furthermore, the clarifying continuations given in (3) help in accessing this interpretation. In (4), even when the subject takes scope below negation, the modal *must* must take scope above negation.

The example in (5) makes the same point, but with an adverb instead of a modal. Again, the subject can take scope below negation with the appropriate intonation and the continuation given here. Importantly, the reading brought out here is again one where the adverb *usually* still takes scope above negation.

(5) Every student usually doesn't follow. In fact, half of them usually don't follow.

The presence of the interpretations observed for (4) and (5) would be unexpected if movement of negation above the subject were the only mechanism to achieve wide scope of negation, because movement of negation would also assign negation scope over *must* and *usually,* respectively. In fact, though, the readings that movement of negation would predict seem unavailable. Rather, the available interpretations are predicted by total reconstruction of the subject to a position below negation, which does not affect the relative scope of negation and modals and adverbs.

For total reconstruction, a number of syntactic mechanisms have been proposed (see Sauerland and Elbourne 2002 for discussion). However, the choice among these would not affect the results in this squib. For concreteness, I assume that the mechanism responsible for total reconstruction is LF deletion of the highest copy applying within the copy theory of movement, as suggested by Hornstein (1995). According to this view, the pronounced copy of the subject in (4) can be deleted, while a lower copy is interpreted.[2] This is sketched in (6).

(6) ~~[every child]~~ isn't [$_{AP}$[every child] smart]

The main point of this squib is made by examples like (7). This example also allows an interpretation where negation takes scope over the subject with the particular intonation noted also for (2). At the same time, the quantifier *every child* can bind the pronoun *his.* This interpretation can be paraphrased as 'It's not the case for every child that it seems to his father to be smart'.

(7) Every child$_1$ doesn't seem to his$_1$ father [t_1 to be smart].

Further examples of the same type are given in (8), and these also allow the subject to take scope below negation while it binds a pronoun in the experiencer argument of *seem.*

[2] Hornstein (1995) furthermore assumes that universals and other strong quantifiers must not be interpreted in vP-internal positions. I do not adopt this part of Hornstein's proposal.

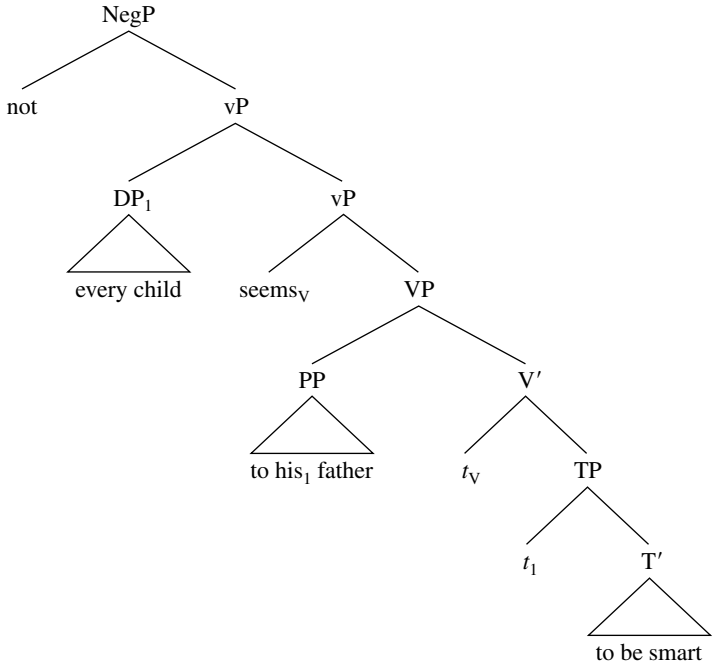
(8) a. Every participant$_1$ didn't seem to his$_1$ coach t_1 to be in bad shape.
b. All linguists$_1$ didn't seem to their$_1$ employer t_1 to work hard.

A different type of example supporting the same point is (9). (9) allows an interpretation that can be paraphrased as 'No boy seems to his father to be a loser'. This interpretation also requires the subject to take scope below negation, but to be high enough to bind the pronoun *his.*

(9) [A boy]$_1$ doesn't seem to his$_1$ father t_1 to be a loser.

The ability of the subject to take narrow scope in (7), (8), and (9) argues that these examples allow LF structures where the subject quantifier is lower than negation, but high enough to bind into the experiencer object of the matrix verb. Since I argued above that negation cannot raise above the subject, this implies that the subject must totally reconstruct to a position below negation. I shall assume that it occupies a vP-adjoined position as sketched in (10) (for (7)).

(10)



How could structure (10) have been derived? In the standard derivation of raising in (1), the subject moves from Spec,TP of the embedded clause directly to Spec,TP of the matrix clause, since these are the only positions where it needs to check features. But there is no copy of the subject in a position that c-commands the experiencer

object and is below negation, and therefore interpretation of any of these copies would not explain the interpretation under consideration.

Could the lower copy of *every child* in the embedded Spec,TP move to a position taking scope above *seems* by Quantifer Raising (QR)? There are at least two problems with such a derivation of (10).[3] First, weak crossover should block binding of the pronoun *his* in such a derivation since QR would create an Ā-position. Second, Lebeaux (1995) argues that QR is impossible out of a raising infinitival. As he shows, this assumption explains why (11) does not allow an interpretation where the embedded object takes scope over the matrix subject with the binding relation indicated.

(11) [Two women]$_1$ seemed to each other$_1$ to t_1 be dancing with every senator.

Therefore, I conclude that the standard derivation for raising in (1) cannot explain the fact we are concerned with. Instead, I propose that the subject must pass through a vP-adjoined position. (12) shows such a derivation for example (7).

(12) every child doesn't [$_{vP}$ t_1 seem to his father [$_{TP}$ t_1 to be t_1 smart]]

Because of the chain uniformity principle, the intermediate vP-adjoined position would have to be an A-position. Therefore, this position has the right scopal and binding properties: if the copy in the vP-adjoined position is interpreted, while the others are deleted or converted into traces, the representation in (10) is the result. Hence, (7) provides an empirical argument that A-movement across vP can proceed through an intermediate vP-adjoined A-position where apparently no feature checking takes place.

The above result finds a more general explanation in the phase model of syntax (e.g., Chomsky 2001, Nissenbaum 2000) and has a theoretical implication within this model. In the phase model, the internal structure of the complement of the head of a phase becomes inaccessible for syntactic operations at a later point in the derivation. Therefore, any item with unchecked features in the complement must be moved out of the complement to a specifier or adjunct position before the complement becomes inaccessible. Consider for example Chomsky's (2001) analysis of object *wh*-movement, specifically looking at example (13).

(13) Who did Kim see?

[3] Kyle Johnson (personal communication) points out a further potential problem: namely, Lasnik (1998) points out that the universal subject is blocked from reconstruction to a position below *likely* in the raising construction in (i). Hence, the derivation under discussion in the text is possibly blocked by the same constraint that blocks reconstruction in (i).

(i) Every coin is 3% likely to land heads.

Chomsky argues that at least CP and transitive vP are phases, while TP and VP are not. Furthermore, Chomsky (2001:14) proposes a condition, the Phase Impenetrability Condition, stating that the complement of one phase becomes inaccessible when the head of another phase is merged to a position c-commanding the lower phase. For (13), the condition makes the complement of v inaccessible when C is merged into the structure. Therefore, this condition blocks a derivation of (13) as in (14a), where *who* moves directly from a position inside the complement of v to Spec,CP. It follows then that object *wh*-movement must proceed through a vP-adjoined position as shown in (14b).

(14) a. *[$_{CP}$ who C+did Kim T [$_{vP}$ v [see who]]]

b. [$_{CP}$ who C+did Kim T [$_{vP}$ who v [see who]]]

Now consider English raising as in (7). This movement crosses one phase, the vP headed by *seem,* but targets a position lower than the head of the next phase, CP. Since TP is not a strong phase, Chomsky's condition allows direct movement from a position in the complement of v to Spec,TP, as shown in (15). Hence, intermediate adjunction to vP is not required and Chomsky's system then actually does not allow it. As the discussion of (7) showed, this is actually the wrong result.

(15) [$_{TP}$ Subject . . . [$_{vP}$ . . . Subject . . .]]

However, Nissenbaum (2000:188) proposes for independent reasons a modification of Chomsky's theory of phases that predicts the right result for (7). He proposes that once a phase is complete, its complement is immediately spelled out and therefore becomes inaccessible for further syntactic operations. If Nissenbaum's proposal is adopted, the derivation in (15) is ruled out because the complement of vP is inaccessible once vP is completed. Therefore, Nissenbaum's proposal forces raising to proceed through a vP-adjoined position as shown in (12). Therefore, (7) provides further support for Nissenbaum's modification of Chomsky's (2001) theory of phases.

References

Baltin, Mark. 2001. A-movements. In *The handbook of contemporary syntactic theory,* ed. by Mark Baltin and Chris Collins, 226–254. Oxford: Blackwell.

Büring, Daniel. 1997. *The meaning of topic and focus: The 59th Street Bridge accent.* London: Routledge.

Chomsky, Noam. 1995. *The Minimalist Program.* Cambridge, Mass.: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language,* ed. by Michael Kenstowicz, 1–52. Cambridge, Mass.: MIT Press.

Fox, Danny. 1999. Reconstruction, variable binding, and the interpretation of chains. *Linguistic Inquiry* 30:157–196.
Hornstein, Norbert. 1995. *The grammar of Logical Form: From GB to minimalism.* Cambridge, Mass.: Blackwell.
Jackendoff, Ray. 1972. *Semantic interpretation in generative grammar.* Cambridge, Mass.: MIT Press.
Lasnik, Howard. 1998. Some reconstruction riddles. In *Proceedings of the 22nd Annual Penn Linguistics Colloquium,* ed. by Alexis Dimitriadis, Hikyoung Lee, Christine Moisset, and Alexander Williams, 83–98. Philadelphia: University of Pennsylvania, Penn Linguistics Club.
Lebeaux, David. 1995. Where does the binding theory apply? In *University of Maryland working papers in linguistics 3,* ed. by Ricardo Echepare and Viola Miglio, 63–88. College Park: University of Maryland, Department of Linguistics.
McCloskey, James. 1997. Subjecthood and subject positions. In *Elements of grammar: Handbook in generative syntax,* ed. by Liliane Haegeman, 197–236. Dordrecht: Kluwer.
Nissenbaum, Jon. 2000. Investigations of covert phrase movement. Doctoral dissertation, MIT, Cambridge, Mass.
Sauerland, Uli. 2000. Obligatory reconstruction and the meaning of traces. Technical report 160, Sonderforschungsbereich 340, Universität Tübingen, Tübingen. (To appear in *Natural Language Semantics.*)
Sauerland, Uli, and Paul Elbourne. 2002. Total reconstruction, PF movement, and derivational order. *Linguistic Inquiry* 33: 283–319.
Stechow, Arnim von. 1995. Tense in intensional contexts: Two semantic accounts of Abusch's theory of tense. Ms., Universität Tübingen.

Remarks on Beck's Effects: Linearity in Syntax

Hidekazu Tanaka
University of Minnesota

Investigating similar sets of data, exemplified in (1) and (2), Beck and Kim (1997; hereafter B&K) and Tanaka (1997; hereafter T) arrive at different conclusions.[1] (1a), which has a subject negative polarity item (NPI) and an object *wh*-phrase in situ, is ungrammatical, but its scrambled counterpart (1b) is grammatical. The same contrast exists in Korean, as shown in (2). The judgments on the Korean examples in (2) are B&K's.

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[1] T's analysis is based on a construction different from the one in (1). The examples in (1) are cited here to show the parallel between Japanese and Korean.