Movement and alternatives don’t mix: A new look at wh-intervention effects
Hadas Kotek, Yale University

Summary: In this talk I argue that two ways of scope-taking provided by the grammar—movement and focus alternative computation—are fundamentally incompatible with one another. Based on data from intervention effects in English questions, I show that movement cannot target a region in the structure in which focus alternatives are being computed. Instead, movement must target a position above or below such regions, or another scope-taking mechanism must be used. This proposal provides an empirical argument against higher-typed and variable-free semantics which have been proposed to avoid such a theoretical incompatibility, and support for a simple-typed system with movement alongside alternative computation as scope-taking mechanisms. The proposal has far-reaching implications for a wide array of linguistic phenomena, including the nature of movement, focus, intensionality, and binding, as well as for the theory of intervention effects.

Background: Intervention effects constrain possible question LFs. An example is shown in (1–2) (Korean): an intervener (here, Minsu-man = ‘only Minsu’) cannot c-command an in-situ wh-word. Intervention is avoided by scrambling the wh above the intervener. The general intervention configuration is given in (3).

(1) ?* Minsu-man nwukwa-lul manna-ss-ni? Minsu-only who-acc meet-past-Q
(2) *nwukwa-lul, Minsu-man t i manna-ss-ni? who-acc Minsu-only meet-past-Q
(3) a. LF: *[CP C ... intervener ... wh]
   b. LF: *[CP C ... wh, intervener ... t i]

In English, intervention—diagnosed by the loss of the pair-list reading—affects superiority-violating questions (4), but not superiority-obeying ones (4 a). This is argued to show that the surface in-situ wh-phrase in superiority-obeying questions covertly moves above the intervener, yielding an LF as in (4 b), but in superiority-violating questions wh must remain LF-in-situ to allow the base-generated lower wh to move over it, leading to an LF as in (4 a) (Pesetsky 2000; Beck 2006; Cable 2007, 2010; Kotek 2014a).

(4) (a) *Which linguist did only Mary introduce t to which philosopher? superiority-obeying
    b. *Which philosopher did only Mary introduce which linguist to t? superiority-violating

Four new generalizations and a proposal: I propose that interveners are λ-abstractors (at the target positions of scope-taking movement, Heim and Kratzer 1998) in the path of focus alternative computation. Intervention results from the grammar’s inability to compute λ-abstraction over regions of alternative computation, a fact that has been shown in Rooth (1985) and Shan (2004), among others. This differs from all previous descriptions of intervention, and predicts that it is a more general problem than previously thought.

(5) LF: *[CP C ... λ ... wh]

This proposal is supported by new data motivating the following four generalizations, corroborating the prediction above: (a) intervention correlates with covert movement possibilities but not with superiority (contra Pesetsky 2000; Cable 2007, 2010), (b) definite descriptions, bare plurals, and existential quantifiers can act as interveners (contra Beck 1996, 2006; Haida 2007; Tomioka 2007; Mayr 2010; Li and Law 2014, a.o.), (c) not only operator-driven A-movement, but also A-movement, causes intervention effects, (d) although quantification over individuals causes intervention effects, quantification over worlds does not. Sample data supporting these generalizations is shown below (supporting contexts omitted).

a. Intervention correlates with movement possibilities, not superiority: Superiority-obeying questions are said to be immune from intervention effects because the surface in-situ wh-phrase can covertly move above any interveners in the structure at LF. However, intervention effects are observed if covert wh-movement is restricted in some way. Example (6 a) uses Association with Focus to block covert movement: an F-marked item cannot move out of the scope of its associating operator (Tancredi 1990, a.o.). In (6 b), which philosopher must be interpreted below the intervener only, leading to an intervention effect—the loss of the pair-list reading (example based on data in Erlewine 2014); see also data in Kotek 2014b for a similar example restricting movement using syntactic islands and reporting a similar result).
Intervention can be avoided in superiority-violating questions if one of two conditions are met: (a) the intervener can move above C (see examples in Beck 1996; Pesetsky 2000) or reconstruct below wh, or (b) wh can be given wide scope above the intervener through non-interrogative movement, e.g. extraposition or Right Node Raising (cf. Bachrach and Katzir 2009):

(7) a. *Which book did only Mary allow which student to read t?
   b. Which book did [only Mary allow], and [only John prohibit], which student to read t?

b. ‘Non-interveners’ act as interveners: A signature property of intervention effects is that definite descriptions, bare plurals, and existential quantifiers are not interveners. However, non-interveners can be turned into interveners, if they are forced to move: e.g. if they host Argument Contained Ellipsis. Intervention is avoided if no ACE is present. (Data omitted for space reasons, but see (8) for another example.)

c. Intervention with A-movement chains: A-movement chains cause intervention effects whenever reconstruction is blocked. For example, individual-level predicates require their subject to vacate vP (Diesing 1992), and hence cannot involve reconstruction of the subject to its base position. In such cases, we observe intervention. Here, intervention is caused by a bare plural, traditionally believed not to be an intervener:

(8) a. *Which person are counselors available to discuss which issue with t?
   b. Which person are counselors careful to discuss which issue with t?

d. Modals are not interveners: All known interveners quantify over individuals. However, quantitative over worlds does not lead to intervention. One example of this, with should, is shown here:

(9) a. *Which abstract should Mary assign t to which reviewer?
   b. Which reviewer should Mary assign which abstract to t?

Some implications: The above data lead to the conclusion that intervention effects happen in a structural configuration in which a moved element occurs between an LF-in-situ wh-phrase and C. I adopt from Kim (2002); Beck (2006) and others the idea that wh-in-situ are interpreted using Rooth-Hamblin alternatives, and from Rooth (1985); Shan (2004) the idea that a λ-binder cannot occur inside a region of focus-alternative computation, because in such a configuration, the alternatives cannot be correctly identified. Thus, intervention happens whenever focus-alternatives and λ-binding are intertwined in a structure, and avoided when intervening material can be interpreted without λ-binding, as I will argue is the case for existentials, bare plurals, and indefinites, for reconstruction, and for modals.

Rooth (1985); Poesio (1996); Shan (2004); Novel and Romero (2009) propose a repair for the problem Rooth (1985) identifies, involving higher-order basic types and a different semantics for wh-words, or a variable-free semantics. The characterization of intervention and new evidence presented here provide an empirical argument against these kinds of repair. These results support a syntax that allows for overt and covert movement (as in the Heim and Kratzer (1998) system) alongside focus-alternative computation (as in the Roothian system), and a semantics with simple basic types. The data illustrated here furthermore constitute a significant contribution to the discussion surrounding the correct characterization of intervention effects, as they pose a problem for all current theories of intervention, cited above.