

Control as Movement and Cyclic Linearization

The Issue: There has been no paucity of heated debate in the literature recently concerning the analysis of control structures (Boeckx and Hornstein, 2003, 2004; Culicover and Jackendoff, 2001, 2003; Hornstein, 2001; Landau, 2003). Hornstein has recently argued for a movement-based analysis of control, in opposition to the traditional analysis, which assumes that the controller is merged in the matrix clause and controls a PRO in the embedded clause. These two analyses are represented schematically in example (1). Multiple sluicing provides strong evidence for a movement approach to obligatory control (OC) under Fox and Pesetsky's (2005) theory of Cyclic Linearization, while non-obligatory control (NOC) is shown not to be derived by movement.

Discussion: The proposal that linearization happens on a phase-by-phase basis makes certain predictions regarding multiple sluicing (Fox and Pesetsky, 2005). Observe that multiply sluiced elements must be clausemates (ex (2) and (3)). Following Fox and Pesetsky, the XPs *what boy* and *to what girl* will not be ordered with respect to each other when the remnant constituent in example (3) is deleted. This is because the ordering statements that would have provided the crucial information to order these two XPs with respect to each other have been deleted. Thus, example (3) crashes at PF while (2) survives. Multiple sluicing, then, can be used as a diagnostic for co-phasehood between two elements.

With this in mind, consider the following data in (4) and (5). In the raising/ECM sentences in (4) the higher *wh*-XP was a clausemate of the lower *wh*-XP at some stage during the derivation. The grammaticality of the sentences in (4) is, thus, correctly predicted. The XP, *which boy*, is ordered with respect to the XP, *to which girl*, in the lower phase. The sentences in (5) are fully grammatical for many speakers of English, although some speakers report a slight degradation. The relative grammaticality of this example would be difficult to explain under the traditional analysis of OC; however, under a movement-based analysis, the result is straightforward. The DP *which boy* is merged in the lower clause and satisfies co-phasehood with the PP *to which girl*.

Turning to NOC, observe that (6) is ungrammatical, even under the reading where the XP, *which boy*, is the controller of the deleted infinitive. (See Landau (1999) for arguments that this example is NOC.) Under any sort of movement approach, we would expect this example to be grammatical, since the trace of movement would serve to create the necessary ordering statements. There is a potential counter-argument to this analysis concerning eligible antecedents for multiply sluiced *wh*-phrases. Example (7) shows that two XPs that are not clause-mates can participate in a multiple sluicing structure due to the presence of the co-referenced pronoun in the embedded clause. Thus, one could argue that if there is a co-referenced PRO in (6), it should be able to allow multiple sluicing, thereby demanding an alternative explanation for the ungrammaticality of (7). Not all co-referential elements are able to salvage multiply sluiced structures. (8) shows that anaphors are not able to license multiple sluicing of two XPs that are not clausemates. Under the assumption that PRO is a nominative anaphor (Kobayashi, 2003), one would expect that PRO does not permit multiple sluicing in this environment, either. The ungrammaticality of (7) is thus expected, given the parallel behaviour between PRO and anaphors.

At this point, the story looks complete. Raising/ECM predicates allow multiple sluicing of the surface matrix subject and embedded object as expected. OC predicates also allow multiple sluicing in the same environment, thus providing support for the movement-based account of OC. But, consider the following data in (9). Although not fully grammatical, it is not completely ungrammatical, and is better than some close minimal pairs (ex (10) and (11)). Comparing examples (10) and (11) with example (9), we see that the determining factor is whether the controllee is coreferent to the indefinite antecedent. If the controllee is coreferent to the indefinite antecedent, multiple sluicing is degraded, but not fully ungrammatical. If the controllee is not coreferent to the indefinite XP, then multiple sluicing is ungrammatical. I attribute the degraded status of (9) and the subject control reading of (11) to an intervening non-coreferential DP. Note that (12), a raising predicate, contains an intervening DP and is less than fully grammatical, also.

Conclusion: We have looked at cases of OC and NOC and have seen that multiple sluicing and Cyclic Linearization provides support for a movement approach to OC, but not to NOC. Furthermore, ditransitive subject control verbs were shown not to be problematic, as their degraded status can be attributed to independent factors.

- (1) a. DP_i promised t_i to wash the dishes [movement analysis]
 b. DP_i promised PRO_i to wash the dishes [traditional analysis]
- (2) Al said that a certain boy talked to a certain girl, but I don't remember which boy to which girl.
- (3) * A certain boy said that Al talked to a certain girl, but I don't remember which boy to which girl.
- (4) a. A certain boy seems to have talked to a certain girl, but I don't remember which boy to which girl.
 b. Al expects a certain boy to talk to a certain girl, but I don't remember which boy to which girl.
- (5) a. ⁹⁶A certain boy promised to talk to a certain girl, but I don't remember which boy to which girl.
 b. Al told a certain boy to talk to a certain girl, but I don't remember which boy to which girl.
- (6) * A certain boy thought it would be fun to talk to a certain girl, but I don't remember which boy to which girl.
- (7) A certain boy_i said that he_i would talk to a certain girl, but I don't know which boy to which girl.
- (8) * A certain boy told himself to talk to a certain girl, but I don't know which boy to which girl.
- (9) ? A certain boy promised Al to talk to a certain girl, but I forget which boy to which girl.
- (10) * A certain boy persuaded Al to talk to a certain girl, but I forget which boy to which girl.
- (11) A certain boy asked Al to talk to a certain girl...
 ? I wish I knew which boy to which girl (subject-control reading)
 * I wish I knew which boy to which girl (object-control reading)
- (12) ? A certain boy seems to Al to have talked to a certain girl, but I forget which boy to which girl.

Boeckx, C., and N. Hornstein. 2003. "Reply to "Control Is Not Movement"" *LI* 34:269-280.

Boeckx, C., and N. Hornstein. 2004. "Movement under Control" *LI* 35:431-452.

Culicover, P., and R. Jackendoff. 2001. "Control is not Movement" *LI* 32:493-512.

Culicover, P., and R. Jackendoff. 2003. "The Semantic Basis of Control in English" *Lang* 79:517-556.

Fox, D., and D. Pesetsky. 2005. "Cyclic Linearization of Syntactic Structure" *Theoretical Linguistics* 31:1-46.

Hornstein, N. 2001. *Move! A minimalist theory of construal*. Oxford: Blackwell Publishing.

Kobayashi, A. 2003. "PRO as Nominative Anaphor" *English Linguistics* 20:143-168.

Landau, I. 1999. Elements of Control, Department of Linguistics and Philosophy, MIT: Ph.D. Dissertation.

Landau, I. 2003. "Movement out of Control" *LI* 34:471-498.