

## Variable Binding and Scrambling out of Control Clauses

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This paper aims to show that the contrast of variable binding in (1) which Takano (2010) adduces in favour of the movement theory of control (e.g., Hornstein 1999) actually stems from a different factor than movement of the controller.

- (1) a. ? Mittu-izyoo-no daigaku<sub>i</sub>-ni Ken-ga soko<sub>i</sub>-no sotugyoosei-ni  
 Three-or.more-GEN university-DAT Ken-NOM it-GEN graduate-DAT  
 [PRO  $t_i$  syutugansuru yoo(ni)] susumeta.  
 PRO apply C recommended (his 10a)  
 ‘To three or more universities<sub>i</sub> Ken recommended their<sub>i</sub> graduates to apply.’
- b. ?\*Mittu-izyoo-no daigaku<sub>i</sub>-ni soko<sub>i</sub>-no sotugyoosei-ga Ken-ni  
 Three-or.more-GEN university-DAT it-GEN graduate-NOM Ken-DAT  
 [PRO  $t_i$  syutugansuru yoo(ni)] susumeta.  
 PRO apply C recommended (his 14a)  
 ‘To three or more universities<sub>i</sub>; their<sub>i</sub> graduates recommended Ken to apply.’

In both of the sentences above, the embedded object *mittu-izyoo-no daigaku* ‘three or more universities’ is preposed to the sentence initial position; but it is only in (1a) that the pronoun *soko* ‘it’ is interpreted as a variable bound by the scrambled quantifier phrase (henceforth QP). Since the only difference between (1a) and (1b) is that the pronoun is contained in the controller in the former but not in the latter, Takano suggests that the generalization in (2) holds.

- (2) Scrambling out of a control clause makes variable binding possible only if the pronominal is contained in the controller.

Takano further argues that (2) can be captured only if (i) scrambling out of a control clause patterns with scrambling out of a finite clause, and (ii) obligatory control is derived by movement of the controller. In this light, let us observe the derivation of (1a) in (3) whereby Y stands for the QP and X the controller (angled brackets show traces/copies).

- (3) Y-DAT Z-NOM X-DAT [ <Y> <X> <Y> V ] V

If scrambling out of a control clause is the same as scrambling out of a finite clause, long-distance scrambling of Y cannot create a binding relation with X in the matrix clause. Rather, he argues that it is <Y> on the edge of the embedded clause that creates a binding relation with the pronoun contained in the controller <X> which is assumed to originate within the embedded clause in line with the movement theory of control.

In opposition to Takano’s analysis, I suggest that the contrast in (1) stems from the interactions of the claims in (4).

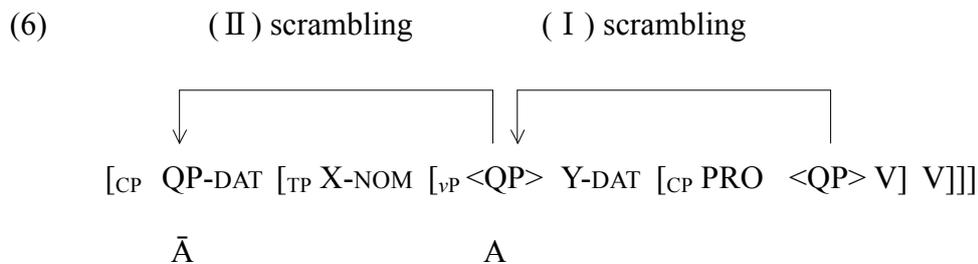
- (4) a. Clause-internal scrambling of the direct object over the indirect object is A-movement while that over the subject is  $\bar{A}$ -movement.  
 b. Long-distance scrambling out of a control clause patterns with clause-internal scrambling.  
 c. Scrambling cyclically targets phase edges.

(4a) is a proposal by Tada (1993) and (4b) by Nemoto (1993). (4c) is proposed by Hiraiwa (2010). Of particular importance is that, as a corollary of (4a), a contrast similar to (1) results in a simplex sentence. This is illustrated in (5).

- (5) a. Mittu-izyoo-no daigaku<sub>i</sub>-o Ken-ga soko<sub>i</sub>-no sotugyoosei-ni *t<sub>i</sub>*  
 Three-or.more-GEN university-ACC Ken-NOM it-GEN graduate-DAT  
 susumeta.  
 recommended  
 ‘Three or more universities<sub>i</sub> Ken recommended to their<sub>i</sub> graduates.’
- b.??Mittu-izyoo-no daigaku<sub>i</sub>-o soko<sub>i</sub>-no sotugyoosei-ga Ken-ni *t<sub>i</sub>*  
 Three-or.more-GEN university-ACC it-GEN graduate-NOM Ken-DAT  
 susumeta.  
 recommended  
 ‘Three or more universities<sub>i</sub> their<sub>i</sub> graduates recommended to Ken.’

Let us assume that the QP is scrambled to the edge of *v*P first by (4c), and that the edge of *v*P is an A-position in line with (4a). If so, the observed contrast is considered to arise from the fact that the pronoun is contained in the indirect object in the former whereby it can be bound by the intermediate step of scrambling of the QP, whereas it is not contained in the indirect object in the latter.

This analysis can be extended to long-distance scrambling out of a control clause, given (4b). Uchibori (2000) argues that control clauses do not constitute a phase. If so, long-distance scrambling of the embedded object QP directly targets the edge of the matrix *v*P (without transiting through the embedded Spec of CP). Considering that the edge of *v*P is an A-position, it follows that a pronoun can be bound by an intermediate step of scrambling of the QP only if it is contained in the indirect object. In this light, let us observe the derivation of (1) which is illustrated in the skeletal form in (6).



What (6) shows is that a pronoun is bound by the intermediate copy of the QP if it is contained in the indirect object Y but it cannot if it is contained in the subject X. In the case of object control configurations, Y happens to be the controller, but this does not necessarily suggest movement of the controller, because the contrast of variable binding in (1) can be considered to arise from the general nature of scrambling.

**References:** [1] Hiraiwa, K. 2010. Scrambling to the edge. *Syntax* 13: 133-164. [2] Hornstein, N. 1999. Movement and control. *Linguistic Inquiry* 30: 69-96. [3] Nemoto, N. 1993. Chains and Case positions: A study from scrambling in Japanese. Doctoral dissertation, University of Connecticut, Storrs. [4] Tada, H. 1993. A/A-bar partition in derivation. Doctoral dissertation, MIT, Cambridge, MA. [5] Takano, Y. 2010. Scrambling and control. *Linguistic Inquiry* 41: 83-110. [6] Uchibori, A. 2000. The syntax of subjunctive complements: Evidence from Japanese. Doctoral dissertation, University of Connecticut, Storrs.