Reconstruction Obeys Minimality: Toward a Representational Theory of Grammar

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This paper claims that reconstruction obeys a minimality condition just like upward movement such as Wh-movement, Quantifier Raising and A-movement. It will be shown that the minimality condition that regulates reconstruction is the mirror image of the minimality conditions on upward movement (e.g., Superiority). This suggests that there is a general principle that subsumes the minimality conditions on upward movement and reconstruction, and that there is no essential difference between the two operations. It will be shown that this state of affairs can be explained by the representational theory much easier than the derivational theory, thereby supporting the representational theory.

The first task is to clarify what it means that reconstruction obeys minimality. The condition is given in (1) as Minimality Condition on Reconstruction (MCR); X is a variable for the types of movement.

(1) **An X-moved phrase cannot undergo reconstruction across another X-moved phrase.**

The major support for the MCR comes from reconstruction of scrambled phrases in Japanese. (See Saito 1989, 1992 for evidence that Japanese scrambling allows both scope and binding reconstruction.) In double object constructions in Japanese, when IO precedes DO as in (2a), the IO must take wide scope (Hoji 1985). When the DO is scrambled to the left of the subject, scope relation becomes ambiguous as in (2b). However, when both IO and DO are scrambled in this order as in (2c), the IO unambiguously takes wide scope just as in non-scrambled structure (2a) (Yatsushiro 1996). This suggests that in (2c), the scrambled IO alone cannot undergo reconstruction across the scrambled DO so that (2c) will have the same LF structure as (2b). This lends initial support to MCR.

(2) a. John-ga [IO dareka-ni] [DO daremo-o] syookaisita  
   John-Nom someone-Dat everyone-Acc introduced  
   ‘John introduced everyone to someone.’

      (some>every, *every>some)

   c. [IO dareka-ni] [DO daremo-o] John-ga tIO tDO syookaisita  
      (some>every, *every>some)

   [---*********reconstruction*******---]

MCR yields a more intricate prediction: There will be an asymmetry in the availability of reconstruction between the outer scrambled phrase and the inner one. To put it schematically as in (3), the inner scrambled phrase YP can reconstruct alone, whereas the outer scrambled phrase XP can reconstruct only if YP does. The examples in (4) bear out this prediction.

(3) [XP [YP … tXP tYP …]] (XP and YP are scrambled)

(4) a. [Subj Sukunakutomo hito-tu-no gengo-gakka-r] [IO soko-no gakusei-ni]  
   at.least 1-Cl-Gen linguistics-department-Nom it-Gen student-Dat  
   [DO dono bumpoo riron-mo] osieteiru  
   every grammar theory-Prt teach  
   ‘At least one linguistics department teaches its students every theory of grammar.’

   b. [DO Dono bumpoo riron-mo] [Subj sukunakutomo hito-tu-no gengo-gakka-r]  
   [IO soko-no gakusei-ni] tDO osieteiru  
   at.least 1>every, *every>at least 1)

   c. [IO soko-no gakusei-ni] [DO dono bumpoo riron-mo] [Subj sukunakutomo hito-tu-no gengo-gakka-r]  
   tIO tDO osieteiru  
   at.least 1>every, ?*every>at least 1)

   d. [DO Dono bumpoo riron-mo] [IO soko-no gakusei-ni] [Subj sukunakutomo hito-tu-no gengo-gakka-r]  
   tDO osieteiru  
   at.least 1>every, *every>at least 1)

Suppose (4a) represents the base structure, where the quantified subject unambiguously scopes over the DO and binds the pronoun soko contained within the IO. (4b) shows that when the DO is scrambled to the left of the subject, it can take wide scope. However, when the IO is scrambled further to the left of the scrambled DO, as in (4c), suddenly it becomes very hard to get wide reading for universal, to which the MCR gives the following explanation: Since the IO contains a bound pronoun, it has to reconstruct under the assumption that pronominal/variable binding takes place at LF; for the IO to reconstruct, the DO also has to reconstruct to meet MCR; therefore, (4c) will eventually have the same structure as (4a) at LF, hence the absence of wide reading for universal. In (4d), on the other hand, where the IO is the inner scrambled phrase, it can reconstruct by itself, and the DO can remain in the scrambled position. Thus, the DO can take wide scope in (4d). These data lend much validity to MCR.
The asymmetrical pattern of reconstruction observed in (4) is the mirror image of the pattern seen in object shift in double object constructions in Icelandic (Collins and Thráinsson 1996): Either the higher object (IO) alone or both objects can be shifted as in (5b–c), but the lower object (DO) alone cannot be shifted across the IO as in (5d). This is a typical case of a violation of Superiority.

(5) a. Ég lána ekki [IO Mariu] [DO bækur] b. *Ég lána [IO Mariu] ekki tO [DO bækur]
    I lend not Maria books
    c. ?Ég lána [IO Mariu] [DO bækur] ekki tO tDO
      I lend Maria books not
    d. *Ég lána [DO bækur] ekki [IO Mariu] tDO
      I lend books not Maria

We can interpret the mirror-image relation between MCR and Superiority as evidence that reconstruction and upward movement are two sides of the same coin.

MCR has another advantage: It can derive the so-called Müller’s generalization given in (6).

(6) A configuration “[YP…tXP…]…XP…tYP” is allowed only if XP and YP are moved by a different movement rule. (Müller 1996, 1998)

This is true of many kinds of movement, and Japanese scrambling is no exception, as shown in (7b).

                John-Nom Mary-Dat Taro-Nom Hanako-Acc hit Comp said
    ‘John said to Mary that Taro hit Hanako.’
    b. *[CP Taro-ga tO obj Hanako-o] John-ga Mary-ni tCP itta

(7b) is derived from non-scrambled structure (7a), first by scrambling of the embedded object Hanako-o, which makes the embedded CP a remnant, and then by scrambling of that remnant, in violation of Müller’s generalization. Now a deeper question should be addressed: Why does (6) hold? A simplest way to rule out (7b) is to resort to Proper Binding Condition (PBC). However, given mounting evidence that scrambled phrases may freely reconstruct in Japanese, it has been a puzzle even in a pre-Minimalist theory why PBC cannot be met by LF reconstruction of the remnant. In light of a Minimalist tenet that there is no S-Structure condition, the S-Structure character of PBC is not merely a puzzle, but a real problem. Once MCR is in place, this is no longer a puzzle or a problem. Assuming in conformity to Minimalism that PBC is an LF condition, (7b) is ruled out by combination of MCR and PBC, as in (8)

|-----*Reconstruction-----|
(8) [CP Taro-Nom tO obj Hanako-Acc] [TP John-Nom Mary-Dat tCP said]
|-----*Reconstruction-----|

The requirement of PBC conflicts with that of MCR. PBC forces the remnant CP to reconstruct while MCR dictates that in order for the remnant to reconstruct, the inner phrase, Hanako-Acc reconstruct first. However, the inner phrase has no place to reconstruct to because its launching site is inside the outer phrase. Reconstruction of the inner phrase will involve illicit sideward movement. Reconstruction of the remnant across the inner phrase violates MCR. If no reconstruction takes place, PBC fails to be satisfied. Hence, there is no way out and (7b) is ruled out. As a consequence, Müller’s generalization is derived. The remnant (YP) and the binder of the unbound trace (XP) have to be moved by a different type of movement; otherwise, the resulting structure would involve a sideward movement, violates MCR, or fails to meet PBC. To the extent (6) is true, it can be taken as substantial support for MCR.

I have argued for the validity of MCR. Let us now consider what implications MCR has on the theory of grammar. The similarity between MCR and Superiority suggests that the minimalism conditions on reconstruction and upward movement should be derived from some general principle (call it P). Moreover, if it turns out that both upward movement and reconstruction obey P, it follows that the theory of grammar had better be symmetrical in the sense that it treats the two operations in the same fashion. Symmetrical grammar is preferable because we do not have to stipulate differences between upward movement and reconstruction. Accordingly, any theory that is not symmetric should be modified. However, there is no straightforward way to modify the standard derivational theory, which involves the derivational component to handle upward movement and the LF component to accommodate reconstruction. As long as upward movement and reconstruction take place in two different components, P has to be stated redundantly in both of them because there is no reason why two different components should obey the same principle (i.e., modularity). Therefore, I propose a representational model in which the distinction between derivation component and LF is eliminated, hence no distinction between upward movement and reconstruction either. In this model, all the syntactic relations borne by upward movement and reconstruction are expressed by means of chains in
the interface representation (cf. Brody (1995)), and P is taken as representational constraints that determine possible PF-LF pairings. I will demonstrate that the representational theory achieves the symmetrical grammar and exceeds the derivational theory in explanatory adequacy.