

Issue. This paper investigates consequences of Fox's (2000) Output Economy (1) for the syntax-semantics of rightward A-movement. Some verb-final languages including Korean allow existence of arguments at post-verbal position (e.g. (8)). The recurrent question has been (i) whether the post-verbal argument has undergone rightward movement [RM], as in (2a) (cf. Choe 1987, Kural 1997, Takano 2005), or (ii) whether the post-verbal argument involves bi-clausal structure with ellipsis, as schematized in (2b): the object undergoes leftward movement [LM] in the second clause, and the rest of the second clause is elided under identity (cf. Kuno 1978, Whitman 2000, Tanaka 2001, Abe 2004). We provide experimental evidence from Korean for the RM analysis (2a). We argue that RM has special scope/binding properties, distinct from those of LM, due to the interactions of Output Economy and Shortest Move.

Proposal. Recent work on leftward scrambling argues that object undergoes ν P-internal scrambling to the outer ν P-edge, instead of inner ν P-edge, as in (3a) (Miyagawa 2001, Kitahara 2002, Ko 2007, among others). We argue that (3a) is expected under Output Economy. If the object moves to the inner edge of ν P, as in (3b), the movement is both semantically and phonologically vacuous. If economy is evaluated at each phase (ν P and CP), (3b) is ruled out by (1). Unlike other previous proposals on (3a) based on locality or cyclicity, however, Economy leads us to make an opposite prediction for RM. Since object movement to post-verbal position is *not* phonologically vacuous, as in (4a), the object may in principle move to the inner (right) edge of ν P. Moreover, if shorter step (4a) is preferred over longer step (4b) (cf. Richards's (1997) Shortest Move), we predict that the object must "tuck-in" below the subject, occupying the inner (right) ν P-edge. We argue that this is indeed the case.

Experiment. We predict that the hierarchical properties of RM will be distinct from those of LM. Since the object with RM does not c-command the subject or trace of the subject, we expect that the object in (4a) would not scope over the subject, unlike the object with LM in (3a). To test our prediction, we designed eight context sets compatible only with inverse scope, where the object scopes over the subject, but not the other way around (e.g. (5)). Each context accompanies three types of sentences: canonical order (6), LM (7), and RM (8). Four of the 8 context sets tested the effects of short distance movement (6-8), and the other four context sets tested long distance movement (9-12). We asked twenty Korean speakers to judge the relative acceptability (0-4 scores) of three sentences in each given context (cf. methods adapted from Bard, Robertson, and Sorace 1996).

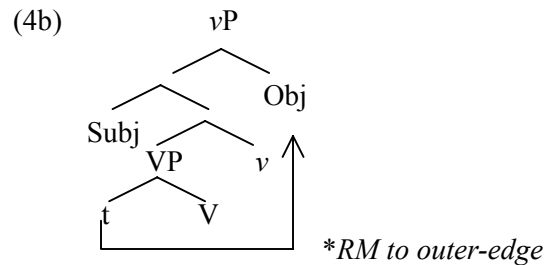
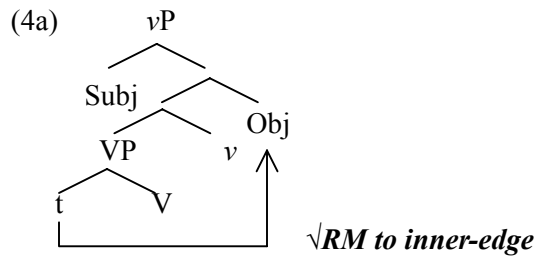
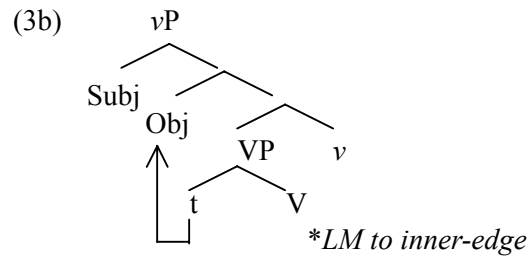
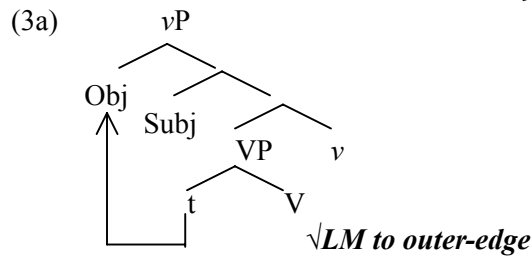
Predictions. For short distance movement contexts, we predict that RM (8) would be unacceptable with inverse scope, just like (6), whereas LM (7) would be acceptable with inverse scope (cf. Hoji 1985, Suh 1990, Sohn 1995, i.a.). As for long distance movement, inverse scope would be unacceptable, either with leftward or rightward movement (given Saito's (1989) claim that long-distance-moved elements reconstruct back to its original position at LF). **Results.** As shown in (13), the results support our predictions: (6) and RM (8) were judged unacceptable with inverse scope, in contrast to LM (7). The sentences in (10-12) were judged all unacceptable under (9). Paired sample t-tests show that the difference between (6) and (7), and the difference between (7) and (8) were statistically significant ($p < .0001$). No other pairs showed statistically significant differences, as expected.

Implication. Note that the bi-clausal analysis (2b) cannot explain why RM shows different scope property from LM in short movement, but not in long distance cases (11-12). Moreover, we predict that the subject can bind post-verbal object in inner ν P-edge. As shown in (14-15), this is indeed the case. (14-15) also suggest that the remnant movement analysis on RM cannot be maintained (cf. Mahajan 1997). If RM (8) involves LM of the object and subsequent LM of the remnant clause, we would expect that the subject cannot bind the object, contrary to facts. Our data also poses challenges the claim that RM targets [Spec,CP] (Kural 1997). Our data, in fact, suggest that the object with RM stays in inner ν P-edge.

(1) **Output Economy (Fox 2000):** Optional operations can apply only if they have an effect on outcome

(2) a. [[Subj t_{obj} V] Obj]: Rightward Movement Analysis

b. [_{CP} Subj *pro*₁ V] [_{CP} Obj₁ [~~Subj~~ t_{obj} V]]: Bi-clausal Analysis



(5) [...] They showed only *Harry potter* and *Lord of the Rings* in theater T at the same time. No more than four children came to watch. [...] Toli and Swuni watched *Harry Potter* while Cheli and Mini watched the *Lord of the Rings*. [context for [6-8]; all contexts were given in Korean]

(6) **Twu elini-ka motun yenghwa-lul** poko issesseyo [SOV, Canonical Order]
Two child-Nom all movie-Acc watch was.prog

(7) **Motun yenghwa-lul twu elini-ka** poko issesseyo [OSV, Leftward Movement]
all movie-Acc two child-Nom watch was.prog

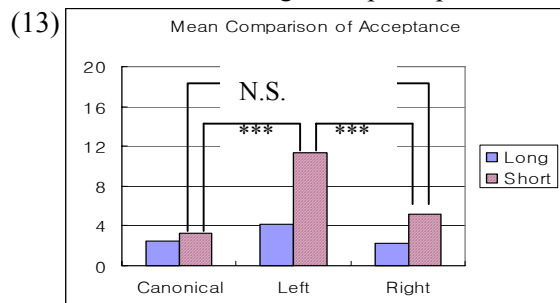
(8) **Twu elini-ka** poko issesseyo **motun yenghwa-lul** [SVO, Rightward Movement]
Two child-Nom watch was.prog all movie-Acc
'Two children were watching every movie' (intended reading, 'all>>two')

(9) [...] There are four male students in middle school A. They are Myengswu, Cinyeng, Chelswu, and Caykwun. This school runs school bus No.1 and school bus No.2. They say that one of the drivers was absent this morning, and so the school principal did the driving instead. Myeungswu and Cinyeng thought that the principal drove bus No.1 and the driver drove bus No. 2. On the other hand, Chelswu and Caykwun thought that the driver drove bus No.1 and the principal No. 2. [for (10-12)]

(10) **twu haksayng-i** kyocangsensayngnim-i **motun pesu-lul** wuncenhaysstako sayngkakhaysseyo
two student-Nom principal-Nom all bus-Acc drove thought

(11) **motun pesu-lul twu haksayng-i** kyocangsensayngnim-i wuncenhaysstako sayngkakhaysseyo
all bus-Acc two student-Nom principal-Nom drove thought

(12) **twu haksayng-i** kyocangsensayngnim-i wuncenhaysstako sayngkakhaysseyo **motun pesu-lul**
two student-Nom principal-Nom drove thought all bus-Acc
'Two students thought the principal was driving all the buses' (intended reading, 'all>>two')



(14) a. **Motun saram₁-i** kuuy₁ emeni-lul kuliwehay
all people-Nom his mother-Acc miss

b. **Motun saram₁-i** kuliwehay kuuy₁ emeni-lul
'Every person₁ misses his₁ mother'

(15) a. *kuuy₁ emeni-ka motun saram₁-ul kuliwehay
his mother-Nom all people-Acc miss

b. *kuuy₁ emeni-ka kuliwehay motun saram₁-ul
'His₁ mother misses every person₁'