

Scrambling across Contrastive Phrase

Jai-Hyoung Cho
(Ajou University)

Cho, Jai-Hyoung. 2000. Scrambling across Contrastive Phrase. *Linguistics* 8-1, 317-332. This paper deals with scrambling across a contrastive phrase with regard to WCO and anaphor binding. I show that based on the observation of reconstruction and subjacency effects, the contrastive phrase behaves more like a scrambled phrase than like a topic phrase (cf. Hoji (1985)). I claim that while scrambling across the topic phrase, as operator movement, leaves behind a variable and yields WCO effects, scrambling across the contrastive phrase, as non-operator A'-movement, creates a null epithet and thus does not yield WCO effects. I also propose that the phrase which was scrambled across the contrastive phrase can be in the IP-adjoined position, i.e. a non-operator A'-position, and thus can serve as an antecedent of the anaphor which it moved over. (Ajou University)

1. Introduction

Kuno (1973) observes that a phrase with the topic marker *wa* in Japanese (*nun/un* in Korean) has either "thematic" (= "topic" in our term) reading or "contrastive" reading. The semantic difference between the topic phrase and the contrastive phrase is that the former means "as for ... " or "speaking of ... ", whereas the latter means " ... but not others ... " or "at least ...":

- (1) a. Sue-nun sakwa-nun coahanta.
Top apple Top likes
'As for Sue, she likes an apple (as opposed to other things).'
- b. Sue-nun cip -eyse-nun manhi meknunta.
Top house in Top a lot eats

'As for Sue, she eats a lot in her house (as oppose to other places).'

As discussed in Kuno (1973), the topic phrase is restricted to at most one occurrence and must appear in the sentence-initial position. In (1), *Mary-nun* 'Mary-Top' which occurs in the sentence-initial position receives the topic reading, while *sakwa-nun* 'apple-Top' in (1a) or *cip-eyse-nun* 'house-in-Top' in (1b) receives the contrastive reading.

We observed that a topic in Korean is base-generated in the sentence-initial position and that NP-Top has the topic reading as well as the contrastive reading. Then, note the following examples, where an accusative NP is scrambled across a topic:

- (2) a. *koyangi-nun sayngsen-ul coahanta.*
 cat Top fish Acc like
 'As for cats, they like fish.'
- b. *sayngsen_i-ul koyangi-nun t_i coahanta.*
 fish Acc cat Top like
 'As for cats, fish_i, they like t_i.'
- (3) a. *yemso-nun conggi -lul meknunta.*
 goat Top paper Acc eat
 'As for goats, they eat papers.'
- b. *conggi_i -lul yemso-nun t_i meknunta.*
 paper Acc goat Top eat
 'As for goats, papers_i, they eat t_i.'

In (2a) and (3a), *koyangi-nun* 'cat-Top' and *yemso-nun* 'goat-Top' receive the topic interpretation. Furthermore, as indicated by the translation in (2b) and (3b), the topic reading on NP-Top is preserved even after scrambling moves an accusative NP across NP-Top.

However, as discussed in Hoji (1985), if we place heavy stress on the topic marker *nun/un*, NP-*nun/un* receives the contrastive interpretation:

- (4) a. *koyangi-nun* sayngsen-ul coahanta.
 cat Con fish Acc like
 'At least cats like fish.'
- b. sayngsen_i-ul koyangi-*nun* t_i coahanta.
 fish Acc cat Con like
 'Fish_i, at least cats like t_i.'
- (5) a. *yemso-nun* cong_i -lul meknunta.
 goat Con paper Acc eat
 'Goats, as opposed to other animals, eat papers.'
- b. cong_i -lul yemso-*nun*_i meknunta.
 paper Acc goat Con eat
 'Papers_i, cats, as opposed to other animals, eat t_i.'

The sentences (4a) and (5a), with heavy stress on *nun*, yield the contrastive reading on *koyangi-nun* 'cat-Con' and *yemso-nun* 'goat-Con'. We see that the contrastive reading on NP-*nun/un* is also preserved after scrambling takes place.

2. Scrambling across Contrastive Phrase and Weak Crossover (WCO)

Observing that scrambling takes place across a topic phrase and a contrastive phrase, in this section we deal with the different behavior of scrambling across the topic phrase on the one hand and scrambling across the contrastive phrase on the other, with regard to WCO effects. I claimed in Cho (1994) that scrambling across a subject, as non-operator A'-movement to the IP-adjoined position, creates a null epithet, which is immune to the WCO Constraint, whereas scrambling across a topic, as operator movement to the TopP-adjoined position, leaves behind a variable, which is subject to the WCO Constraint.¹⁾

1. The following WCO Constraint is assumed in this paper:

Consider the following examples, where scrambling across a subject does not exhibit the WCO effect whereas scrambling across a topic does,²⁾ as shown below:³⁾

- (6) a. [IP nwukwu_i-lul [IP ku_i-uy anay-ka t_{ei} kosohayss]]-ni?
 who Acc he Gen wife Nom sued-Q
 'Who_i, his_i wife sued t_i?'

(i) WCO Constraint

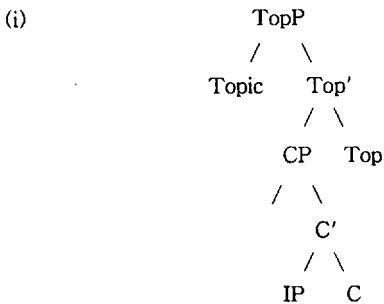
When a pronoun and a variable V are both A'-bound by the same Quantifier Q, V must c-command P at LF.

The constraint (i) can be schematized as in (ii):

- (ii) * [Op_i [... [... pronoun_i ...] ... t_i ...]]

where neither the pronoun nor the variable c-commands the other.

2. On the basis of the scope relation between a topic and a wh-phrase, I argued in Cho (1996) that a topic in Korean is base-generated in the Spec position of TopP, which is located higher than CP. The following phrase structure for Korean topic constructions is adopted:



See Cho (1996) for more detailed discussion.

3. A variable is represented as t_v and a null epithet as t_e .

b. ?*_{[TopP nwukwu_i-lul [TopP ku_i-uy anay-nun t_{vi} kosohayss-ni?]]}

who Acc he Gen wife Top sued -Q

'As for [his_i wife]_j, who_i, she_j sued t_i?'

(7) a. [_{IP} nwukwu_i-lul [_{IP} ku_i-uy haksayng -i t_{ei} conkyengha]]-ni?

who Acc he Gen student Nom respects-Q

'Who_i, his_i student respects t_i?'

b. ?* [_{TopP} nwukwu_i-lul [_{TopP} ku_i-uy haksayng-un t_{vi} conkyengha
who Acc he Gen student Top respects
-ni?]]

'As for [his_i student]_j, who_i, he_j respects t_i?'

The *wh*-phrase *nwukwu-lul* 'who-Acc' in (6a) and (7a) is scrambled across a subject to the IP-adjoined position, i.e., non-operator A'-position, and leaves behind a null epithet *t_e*, which is immune to the WCO Constraint. Thus, WCO effects do not show up in (6a) and (7a). On the other hand, in (6b) and (7b) the *wh*-phrase *nwukwu-lul* 'who-Acc' is scrambled across a topic to the TopP-adjoined position, i.e., operator position, and a variable *t_v* is created. The trace *t_v* in (6b) and (7b), which is a variable, does not c-command the coindexed pronoun *ku-uy* 'he-Gen' and hence (6b) and (7b) are ruled out as WCO violations.

We have noted that a topic marker *nun/un* has either topic reading or contrastive reading and that if we place heavy stress on *nun/un*, NP-*nun/un* receives the contrastive interpretation. Notice that unlike scrambling across a topic, scrambling across a contrastive *nun/un* phrase does not yield WCO effects, as shown below:

(8) a. ? nwukwu_i-lul ku_i-uy anay-nun t_i kosohayss-ni?

who Acc he Gen wife Con sued-Q

'Contrastive Reading: Who_i, his_i wife (as opposed to other people) sued t_i?'

b. ? nwukwu_i-lul ku_i-uy haksayng-un t_i conkyengha-ni?

who Acc he Gen student Con respects-Q
 'Contrastive Reading: Who_i, his_i student (as opposed to other people) respects t_i?'

In the above examples, the *wh*-phrase *nwukwu-lul* 'who-Acc' is scrambled across a contrastive phrase, *ku-uy anay-nun* 'he-Gen wife-Con' in (8a) and *ku-uy haksayng-un* 'he Gen student-Con' in (8b), to the sentence-initial position, and the trace *t* does not c-command the coindexed pronoun *ku-uy* 'he-Gen'. If scrambling across a contrastive *nun-un* phrase were a TopP-adjunction operation like scrambling across a topic, it would, under our theory, create a variable. If so, (8a) and (8b) would be incorrectly predicted to be ruled out as WCO violations. The well-formedness of (8a) and (8b) thus indicates that scrambling across a contrastive *nun/un* phrase behaves more like scrambling across a subject.

Hoji's (1985) work on topic phrases and contrastive phrases sheds light on our differentiation of scrambling across a topic from scrambling across a contrastive *nun/un* phrase. Based on the observation of reconstruction and subjacency effects, he maintains that the topic phrase is base-generated under *S'* and the contrastive phrase is preposed to the sentence initial position under *S* as the scrambled phrase is.

Note that the anaphoric reconstruction does not obtain in topic constructions, as shown below:

- (9) a. * [caki_i-uy cha]_j -nun John_i -i e_j kochinta.
 self Gen car Top Nom fixes
 'As for self_i's car, John_i fixes it.'
- b. * [[caki_i-ka ssun] nonmwun]_j -un John_i -i e_j
 self Nom wrote thesis Top Nom
 kancikhanta.
 keeps
 'As for the thesis that self_i wrote, John_i keeps it.'

The ill-formedness of (9a) and (9b) follows from Binding Principle A since the reflexive *caki* 'self' is not bound. This indicates that topic phrases in (9) are not derived by movement but are base-generated in the sentence-initial position and thus reconstruction effects do not appear. On the other hand, if we place heavy stress on *nun/un*, the anaphor binding becomes possible, as indicated below:

- (10) a. [caki-uy cha]_j -nun John_i -i e_j kochinta.
 self Gen car Con Nom fixes
 'John_i fixes at least self_i's car.'
- b. [[caki-ka ssun] nonmwun]_j -un John_i -i e_j
 self Nom wrote thesis Con Nom
 kancikhanta.
 keeps
 'John_i keeps at least the thesis that self_i wrote.'

The sentences (10a) and (10b), with heavy stress on *nun/un*, yield the contrastive reading on NP-*nun/un* phrases. The fact that (10a) and (10b) exhibit anaphoric reconstruction effects tells us that in contrast to topic phrases, contrastive phrases are preposed to the sentence-initial position.

The following examples also show that the contrastive phrase behaves more like the scrambled phrase than like the topic phrase with regard to subjacency:

- (11) a. Harvard_j-nun John -i [[e_i e_j pinanhan] haksayng_i]-ul
 Top Nom criticized student Acc
 palkyenhayssta.
 found
 'As for Harvard_i, John found the student who criticized it.'
- b. ?* Harvard-nun John -i [[e_i e_j pinanhan] haksayng_i]-ul
 Con Nom criticized student Acc

palkyenhayssta.

found

'Harvard_j (as opposed to other universities), John found the student who criticized t_j.'

- c. * Harvard-lul John -i [[e_i e_j pinanhan] haksayng_i]-ul
 Acc Nom criticized student Acc

palkyenhayssta.

found

'Harvard_j, John found the student who criticized t_j.'

(11a) is well-formed since the NP-topic *Harvard-nun* 'Harvard-Top' is base-generated and thus subjacency is not violated. However, the ill-formedness of (11b) and (11c) shows that not only the scrambled phrase *Harvard-lul* 'Harvard-Acc' but also the contrastive phrase *Harvard-nun* 'Harvard-Con' with heavy stress on *nun* must have been moved out of the complex NP, yielding subjacency violations.

Therefore, if we hypothesize, following Hoji (1985), that the contrastive phrase is moved to the IP-adjoined position, the absence of WCO effects in (8), repeated below as (12), can be accounted for:

- (12) a. ? [_{IP} nwukwu_i-lul [_{IP} ku_i-uy anay-nun t_{ei} kosohayss]]-ni?
 who Acc he Gen wife Con sued-Q

'Contrastive Reading: Who_i, his_i wife (as opposed to other people) sued t_i?'

- b. ? [_{IP} nwukwu_i-lul [_{IP} ku_i-uy haksayng-un t_{ei} conkyengha]]
 who Acc he Gen student Con respects

-ni?

-Q

'Contrastive Reading: Who_i, his_i student (as opposed to other people) respects t_i?'

Given our analysis, while scrambling across a topic is a TopP-adjunction operation, scrambling across a contrastive phrase can be an IP-adjunction operation like scrambling across a subject.⁴⁾ Then, the absence of WCO effects in (12) directly follows from our analysis. The *wh*-phrase *nwukwu-lul* 'who-Acc' is scrambled across the contrastive phrase to the IP-adjoined position, i.e., non-operator A'-position, and leaves behind a null epithet t_e , which is not subject to the WCO Constraint. Therefore, scrambling across a contrastive phrase does not yield WCO effects.

3. Scrambling across Contrastive Phrase and Anaphor Binding

As discussed in Mahajan (1990), Nemoto (1993), and Cho (1994), etc., in the case of scrambling across a subject, a scrambled element creates a new binding possibility for an anaphor it has scrambled over. Consider the following examples:

- (13) a. * *caki*_i-uy *sachon* -i *John*_i-ul *kosoahayssta*.
 self Gen cousin Nom Acc sued
 'Self_i's cousin sued John_i.'
- b. [_{IP} *John*_i-ul [_{IP} *caki*_i-uy *sachon* -i *t*_i *kosohayssta*.]]
 Acc self Gen cousin Nom sued
 'John_i, self_i's cousin sued *t*_i.'
- (14) a. * *selo*_i -uy *chinkwu-ka* *kutul*_i-ul *chingchanhayssta*.
 each other Gen friends Nom they Acc praised

4. In fact, the contrastive phrase (12) can occur in the subject position, just as the contrastive phrase stays in the object position, as indicated below:

- (i) *John* -i *sakwa-nun* *coahanta*.
 Nom apple Con likes
 'John likes an apple as opposed to other fruits.'

'Each other_i's friends praised them_i.'

- b. [_{IP} kutul_i-ul [_{IP} selo_i -uy chinkwu-ka t_i
 they Acc each other Gen friends Nom
 chingchanhayssta.
 prasied

'Them_i, each other_i's friends praised t_i.'

Binding Principle A is responsible for the ill-formedness of (13a) and (14a) since the reflexive *caki* 'self' in (13a) and the reciprocal *selo* 'each other' in (14a) are not bound. On the other hand, (13b) and (14b) are well-formed because scrambled phrases can serve as antecedents of anaphors, satisfying Binding Principle A.

Contrary to scrambling across a subject, according to Cho (1994), scrambling across a topic does not provide an antecedent for an anaphor, as shown below:

- (15) a. * caki_i-uy sachon -un John_i-ul kosohayssta.
 self Gen cousin Top Acc sued

'As for self_i's cousin, he sued John_i.'

- b. ?* [_{TOPP} John_i-ul [_{TOPP} cak_i-uy sachon -un t_i
 Acc self Gen cousin Top
 kosohayssta.
 sued

'As for [self_i's cousin]_j, John_i, he_j sued t_i.'

- (16) a. * selo_i -uy chinkwu-nun kutul_i-ul chingchanhayssta.
 each other Gen friends Top they Acc praised

'As for [each other_i's friends]_j, they_j praised them_i.'

- b. ?* [_{TOPP} kutul_i-ul [_{TOPP} selo_i -uy chinkwu-nun t_i
 they Acc each other Gen friends Top
 chingchanhayssta.
 prasied

'As for [each other_i's friends]_j, them_i, they_j praised t_i.'

The reflexive *caki* 'self' in (15a) and the reciprocal *selo* 'each other' in (16a) are not bound and thus (15a) and (16a) are bad because of Condition A violations. However, the ill-formedness of (15b) and (16b) indicates that *John-ul* 'John-Acc' in (15b) and *kutul-ul* 'they-Acc' in (16b) which have scrambled across a topic cannot be antecedents of anaphors, yielding Binding Principle A violations. If we hypothesize that scrambling across a topic is a TopP-adjunction operation and a TopP-adjoined position is an operator position, as argued in Cho (1994), then the ungrammaticality of (15b) and (16b) directly follows if we adopt the following Binding Principle A, where D is the relevant local domain:

(17) Binding Principle A

If α is an anaphor, interpret it as coreferential with a c-commanding phrase in non-operator position in D.

According to Binding Principle A given above, an element which appears in operator position cannot be an antecedent of an anaphor. In this regard, *John-ul* 'John-Acc' in (15b) and *kutul-ul* 'they-Acc' in (16b), which are in the TopP-adjoined position, are in operator position, and thus they cannot be antecedents of the reflexive *caki* 'self' in (15b) and the reciprocal *selo* 'each other' in (16b), respectively. Therefore, (15b) and (16b), which involve scrambling across a topic, are ruled out as violations of Binding Principle A.⁵⁾

5. Following Saito (1989), if we assume that English topicalization involves an IP-adjunction operation and the IP-adjunction position in English is an operator position, then the ungrammaticality of the following English sentence can be accounted for by Binding Principle A stated in (17):

(i) ?* [John and Mary]_i, each other_i's friends sued t_i.

We argued in section 2 that a contrastive *nun/un* phrase appears in an IP-adjoined position and that scrambling across a contrastive phrase is an IP-adjunction operation and thus does not yield WCO effects. Note then that scrambling across a contrastive phrase creates a new binding possibility for an anaphor it has taken place over, as illustrated below:

- (18) a. * *caki_i-uy sachon -un John_i-ul kosohayssta.*
 self Gen cousin Con Acc sued
 'Self_i's cousin (as opposed to other people) sued John_i.'
- b. ? [_{IP} John_i-ul [_{IP} *caki_i-uy sachon -un t_i*
 Acc self Gen cousin Con
 kosohayssta.
 sued
 'Contrastive Reading: John_i, self_i's cousin (as opposed to other people) sued t_i.'
- (19) a. * *selo_i -uy chinkwu-nun kutul_i-ul chingchanhayssta.*
 each other Gen friends Con they Acc praised
 'Each other_i's friends (as opposed to other people) praised them_i.'
- b. ? [_{IP} kutul_i-ul [_{IP} *selo_i -uy chinkwu-nun t_i*
 they Acc each other Gen friends Con
 chingchanhayssta.
 prased
 'Contrastive Reading: Them_i, each other_i's friends (as opposed to other people) praised t_i.'

The ill-formedness of (18a) and (19a) is due to Binding Principle A since the reflexive *caki* 'self' and the reciprocal *selo* 'each other' are

In (i), the NP *John and Mary*, which has been moved to an operator position by topicalization, cannot serve as an antecedent of the reciprocal *each other* and thus, (i) is bad because of a violation of Binding Principle A.

As shown in (21), what binds the reflexive is *pro* which is in the subject position and coreferential with the topic. The configuration (21) then satisfies our formulation of Binding Principle A, repeated below as (22):

(22) Binding Principle A

If α is an anaphor, interpret it as coreferential with a c-commanding phrase in non-operator position in D.

Notice then the following example where the reflexive contained in the subject is bound by the topic (cf. Kuno (1973) and Saito (1982)):

- (23) [_{TopP} John_i-un [_{CP} [_{IP} caki_i-uy apeci -ka chencay-ita]]]
 Top self Gen father Nom genius be
 'As for John_i, self_i's father is a genius.'

Our formulation of Binding Principle A is challenged by the sentence (23) where the reflexive *caki* 'self' takes as its antecedent the topic *John-un* 'John-Top' in an operator position. Recall then that in Korean multiple subject constructions, the outer nominative NP is base-generated in the IP-adjoined position which is taken to be a non-operator A'-position, as illustrated below:

- (24) [_{IP} John_i-i [_{IP} caki_i-uy apeci -ka chencay-ita]]
 Nom self Gen father Nom genius be
 'As for John_i, self_i's father is a genius.'

In (24) the outer nominative NP *John-i* 'John-Nom' which is base-generated in the IP-adjoined position binds the anaphor *caki* 'self' in the subject position, satisfying Binding Principle A in (22). Then, we suggest that *pro* can be base-generated in the IP-adjoined position. If so, the topic construction like (23) can contain the double subject construction within it with *pro* being base-generated in the IP-adjoined

effect, scrambling across the contrastive phrase, as non-operator A'-movement to the IP-adjoined position, creates a null epithet and thus does not yield the WCO effect. It was also demonstrated that the phrase which was scrambled across the contrastive phrase can be in the IP-adjoined position, i.e. a non-operator A'-position, and thus can serve as an antecedent of the anaphor which it moved over.

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Department of English Language and Literature

Ajou University

5 Wonchon-dong, Paldal-ku, Suwon-si,

Kyunggi, 442-749, Korea

E-mail: jhc@madang.ajou.ac.kr