'Island Constraints' and Pro-Deletion Phenomena in Korean

Dong-Whee Yang

(Ewha Womans University)

1. Introduction

It has been observed that Korean can disobey the 'island constraints' (cf. Ross 1967) in certain cases. For example, if we assume that the underlying or remote structure of (1) is something like (2) and that there is a rule for relative clause formation in Korean, then we see that in the derivation of (1), the Complex NP Constraint, which is one of the island constraints, is apparently violated.

(1) ip - əss - nin   yangpok-i   tələw-nin   salam-i   i hakkyo-iy   kyocang-i-ta
   wear-PAST-COMP suit-NM   dirty-COMP man-NM this school-'s   principal-is-DEC[1]

'*The man who the suit that (he) wore is dirty is the principal of this school.'

(2)
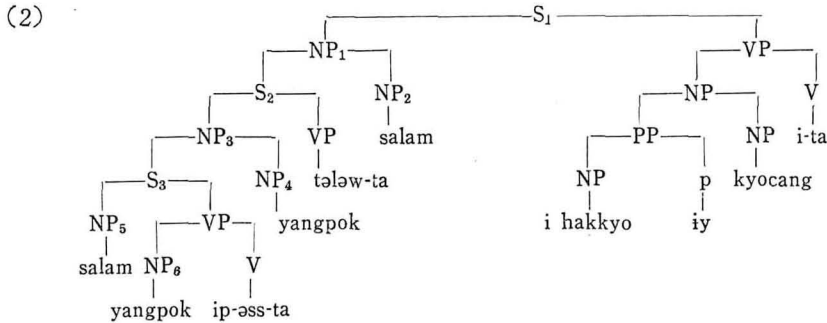
Note that (2) contains two relative clauses, S_2 and S_3, one being stacked over the other. In order to derive (1) from (2), NP_5 *salam* has to be moved away or deleted[2] under

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[1] NM=Nominative Marker; ACC=Accusative Marker; TOP=Topic Marker; PL=Plural Marker; PRES=Present Tense Marker; PAST=Past Tense Marker; FUT=Future Tense Marker; DEC= Declarative Marker; QUES=Interrogative Marker; IMP=Imperative Marker; COMP=Complementizer
[2] It has been argued that Korean relative clause formation is essentially a deletion process rather than a movement process.

coreference with NP$_2$ *salam*. But such a movement or deletion of NP$_5$ *salam* is prohibited by Ross' Complex NP Constraint since NP$_3$ is a complex NP in the sense of Ross (1967). In other words, NP$_5$ should not be moved out of NP$_3$ nor deleted under coreference with an NP outside of NP$_3$. Thus, it seems that such sentences as (1) in Korean are exceptions to Ross' island constraints.[3]

The purpose of this paper is to show that sentences like (1) are not entirely *ad hoc* exceptions to the island constraints, by presenting a partial syntactic explanation for why Korean can disobey the island constraints in such sentences as (1) and (i). The hypothesis of this paper is that Korean relativization or relative clause formation is not a movement process, nor a straight deletion process, but a conjunction of two independently motivated syntactic processes, Pro-Formation (Pronominalization or Reflexivization) and Pro-Deletion,[4] and that Pro-Deletion can be either a coreferential or a noncoreferential deletion process. Further, I claim that the non-coreferential Pro-Deletion is involved in the derivations of sentences like (1) and (i), the apparent exceptions to the island constraints. In other words, sentences like (1) and (i), I claim, do not involve violation of the island constraints since they are not derived through any of the rules that cannot cross the boundary of the 'island'. That is, while the types of rules that cannot cross the boundary

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[3] Another example like (1) is (i) below.

(i) ssi-əss-nɨn   chæk-i   cal   phalli-nɨn   sosəlka
    write-PAST-COMP   book-NM   well   sell-COMP   novelist
    "*The novelist who the book (he) wrote sells well."

However, if the constituent verbs in (1) and (i) are replaced by some other verbs, the Complex NP Constraint can no longer be disobeyed as we see in (ii) and (iii) below.

(ii) *ccic-əss-nɨn   yangpok-i   tələw-nɨn   salam
     tear-PAST-COMP   suit -NM   dirty-COMP   man
     "*The man who the suit that (he) tore is dirty."

(iii) *ilk-əss-nɨn   chæk-i   cal   phalli-nɨn   sosəlka
      read-PAST-COM   book-NM well   sell-COMP   novelist
      "*The novelist who the book that (he) read sells well."

What is apparently involved in the ungrammaticality of (ii) and the grammaticality of (1) seems to be a semantic constraint to the effect that if a relative clause describes a characteristic of its head NP the relative clause structure is well-formed even if the downstairs coreferential NP was in a complex NP and the head NP was out of it. Put differently, wearing a certain suit can be a characteristic of a man, hence the grammaticality of (1); tearing a certain suit is not likely to be a characteristic of a man, hence the ungrammaticality of (ii). However, this semantic constraint by itself does not explain the ungrammaticality of (ii) and the grammaticality of (1). The search for the real explanation is beyond the scope of this paper, which is to deal only with the question why (and how) Korean *can* disobey the island constraints in such cases as (1) and (i) at all.

[4] In fact, I claim that not only relativization but also all the apparent NP deletion processes in Korean should be reanalyzed as a conjunction of Pro-Formation and Pro-Deletion, which seems to strongly support Postal's Universal NP Deletion Constraint (cf. Postal 1970:489).

of the 'island' are chopping, feature-changing and unidirectional deletion rules (according to Ross 1967), the critical rule that I believe involved in the derivation of (1) is non-coreferential Pro-Deletion, which is by definition not a unidirectional deletion rule.

2. Coreferential Pro-Deletion

Consider the following pairs of sentences. (ϕ indicates the position of a deleted NP, and the subscripts indicate coreferentiality.)

(3) a. John$_i$-i   [caki$_i$-i   səngkyəng-lil   ilk-ki]-lil   wənha-nin-ta
       John-NM   self-NM   Bible -ACC   read-COMP-ACC   want-PRES-DEC[1]

    'John wants himself to read the Bible.'

   b. John$_i$-i [ϕ_i səngkyəng-lil ilk-ki] -lil wənha-nin-ta

    'John wants to read the Bible.'

(4) a. John$_i$-i   [caki$_i$-i   o-kess-ta-ko]   malha-əss-ta
       John-NM   self-NM   come-will-DEC-COMP   say-PAST-DEC

    'John said that he himself will come.'

   b. John$_i$-i [ϕ_i o-kess-ta-ko] malha-əss-ta

    'John said that he will come.'

(5) a. John$_i$-i   [caki$_i$-i   Mary-lil   manna-lyəko]   ha-nin-ta
       John-NM   self-NM   Mary-ACC   meet-COMP   try-PRES-DEC

    'John tries for himself to see Mary.'

   b. John$_i$-i [ϕ_i Mary-lil manna-lyəko] ha-nin-ta

    'John tries to see Mary.'

(6) a. John$_i$-i   [caki$_i$-i   əndək-e olla-əss-ilttæ]   on   mail-lil   pol-su-iss-əss-ta
       John-NM self-NM hill-on climb-PAST-when whole village-ACC see-can-PAST-DEC

    'John could see the whole village when he himself climbed up the hill.'

   b. John$_i$-i [ϕ_i əndək-e olla-əss-ilttæ] on mail-lil pol-su-iss-əss-ta

    'John could see the whole village when he'climbed up the hill.'

Even though each pair of sentences in (3)-(6) are not identical in meaning, it is clear that the relationshhip in each pair of the sentences should be captured in one way or another in our grammar. We can conceive of three possible hypotheses to account for the relationship in each pair of the sentences (3)-(6) in the framework the of transformational grammatical theory. The first hypothesis is that a-sentences are derived by the rule of Reflexivization whereas b-sentences are derived by the rule of Equi NP Deletion. The second

hypothesis is that *a*-sentences are derived by the rule of Emphatic Reflexive Pronoun Insertion that inserts the reflexive pronoun *caki* in the position of the deleted NP's in *b*-sentences. The third hypothesis is that *a*-sentences are derived by Reflexivization whereas *b*-sentences are derived by the rule of Pro-Deletion that optionally deletes the reflexive pronouns in *a*-sentences.

The difficulty with the first hypothesis is that Reflexivization and Equi NP Deletion are in a bleeding relationship[5] to each other while both of them are normally considered as obligatory rules. That is, assuming that both Reflexivization and Equi NP Deletion are obligatory rules, we would derive only *a*-sentences or only *b*-sentences, but never both *a*- and *b*-sentences, since the two rules are in a bleeding relationship to each other. One way to get around this difficulty would be to make Equi NP Deletion an optional rule and to order it before Reflexivization so that *a*-sentences are derived when we choose not to apply Equi NP Deletion, and *b*-sentences are derived when we choose to apply Equi NP Deletion. However, positing Equi NP Deletion as an optional rule in Korean is a very unnatural and suspicious step in the light of the fact that if a language has the Equi NP Deletion rule it always turns out to be an obligatory rule as far as the current linguistic research has found out. Furthermore, positing the usual Equi NP Deletion rule itself, obligatory or optional, in Korean is questionable since even if the *b*-sentences in (3)-(6) can be considered as derived by the Equi NP Deletion, the *b*-sentences in (7)-(9) below cannot, under the usual assumption[6] that Equi NP Deletion deletes only the constituent subject NP. On the other hand, it is most natural to assume that both the *b*-sentences in (3)-(6) and those in (7)-(9) below are derived through essentially one and the same process with respect to the deletion of NP's.

(7) a. John$_i$-i   [Mary-i   caki$_i$-lil   chac-ə-o-ki]-lil   kitæha-ko-iss-ta
       John-NM   Mary-NM   self-ACC   find-to-come-COMP-ACC   expect-ing-is-DEC

   'John is expecting that Mary will come to see (John) himself.'

   b. John$_i$-i [Mary-i ϕ_i chac-ə-o-ki]-lil kitæha-ko-iss-ta
   'John is expecting that Mary will come to see him.'

(8)a. John$_i$-i   [Mary-i   caki$_i$-lil   towacu-li-la-ko]   mit-ko-iss-ta
       John-NM   Mary-NM   self-ACC   help-FUT-DEC-COMP   believe-ing-is-DEC

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[5] Rule A bleeds rule B if application of rule A removes structures to which rule B would otherwise apply (cf. Kiparsky 1968).

[6] This assumption seems quite solid, for there has been found no language in which the Equi NP Deletion rule deletes NP's other than the constituent subject NP's.

'John believes that Mary will help (John) himself.'

b. John$_i$-i [Mary-i ϕ_i towacu-li-la-ko] mit-ko-iss-ta

'John believes that Mary will help him.'

(9) a. John$_i$-i   [Mary-i   caki$_i$-lil   pull-əss-ilttæ]   tætapha-əss-ta

   John-NM   Mary-NM   self-ACC   call-PAST-when   answer-PAST-DEC

'John answered when Mary called (John) himself.'

b. John$_i$-i [Mary-i ϕ_i pull-əss-ilttæ] tætapha-əss-ta

'John answered when Mary called him.'

If we posit the Equi NP Deletion rule for the *b*-sentences in (3)-(6) and another NP Deletion rule for those in (7)-(9), we are clearly losing a significant generalization. Thus, the first hypothesis is less than optimal to account for the above data.

The second hypothesis is also problematic. First of all, in this hypothesis it would remain a mystery why the Emphatic Reflexive Pronoun Insertion rule applies only to sentences that have undergone Equi NP Deletion as far as the above data is concerned. We expect any rule may have some restriction, but this restriction is very strange since ordinarily emphatic elements are attached rather freely, just as stress is assigned rather freely. In addition, in this hypothesis it would be an accident that the emphatic reflexive pronouns and the non-emphatic reflexive pronouns are exactly in complementary distribution, for in (10) below the reflexive pronoun is non-emphatic.

(10) John-i   [Mary-i   caki-lil   kyəngmyəlha-nin-kəs]-lil   silphəha-nin-ta[7]

   John-NM   Mary-NM   self-ACC   despise -COMP-it-ACC   deplore-PRES-DEC

'John deplores that Mary despises self(=John/Mary).'

Furthermore, this hypothesis amounts to claiming that the emphatic reflexive pronoun *caki* and the non-emphatic reflexive pronoun *caki* are two different lexical items, and that they are accidental homonyms, which is very unlikely, since there is indeed another emphatic reflexive pronoun *casin* that happens to be not homophonous with the non-emphatic reflexive pronoun *caki*. Incidentally, it seems that it is this emphatic reflexive pronoun *casin* that should be introduced by the Emphatic Reflexive Pronoun Insertion rule, unless posited in the deep structure, as we see in (11).

(11) John-casin-i   Tom-casin-iy   cip-esə   George-casin-eke

   John-self-NM   Tom-self-'s   house-at   George-self-to

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[7] Sentence (10) is ambiguous since the reflexive pronoun can refer either to the matrix subject *John* or to the constituent subject *Mary*. The condition for reflexivazation in Korean is that the antecedent should be a subject NP and command the reflexive pronoun.

Mary-casin-lil   sokæha-əss-ta

Mary-self-ACC   introduce-PAST-DEC

'John himself introduced Mary herself to George himself at Tom's own house.'

Note that the emphatic reflexive pronoun *casin* and the non-emphatic reflexive pronoun *caki* can never be in complementary distribution. In fact, the emphatic reflexive pronoun *casin* is not an anaphoric pronoun at all in the sense that the non-emphatic pronoun *caki* is. Thus, in this second hypothesis, it would be another accident that the so-called emphatic reflexive pronoun *caki* satisfies all the conditions to be reflexivized, i.e. is commanded by a coreferential NP which is a subject in the P-marker, just as the non-emphatic reflexive pronoun *caki* does. Thus, the second hypothesis is also problematic.

The only plausible hypothesis left is the third one. This hypothesis claims that *a*-sentences in (3)—(9) above are derived by Reflexivization and that the *b*-sentences are derived from their corresponding *a*-sentences by Pro-Deletion, an optional rule. This hypothesis does not have the problems inherent in the first and second hypotheses discussed above. Furthermore, Reflexivization is an independently motivated rule and Pro-Deletion is a syntactically quite plausible rule. One might argue that the third hypothesis is unnatural since it derives non-focused sentences, i.e. *b*-sentences, from focused counterparts, i.e. *a*-sentences. However, it seems that the legend of deriving all 'marked' sentences from their 'unmarked' counterparts is only a remnant of the theory of Chomsky (1957), where all the 'related' sentences are supposed to be derived from their 'kernel sentence'. In the new theory of Chomsky (1965), nothing prevents us from deriving non-focused sentences from focused counterparts as long as such derivations are motivated. And indeed the practice of deriving non-focused sentences from their focused counterparts by a pronoun deletion rule is not without a precedence. It has been assumed that (12b) is derived from, or related to, (12a) by the pronoun *you* deletion rule.[8]

(12) a. You stand up!

    b. Stand up!

One might again argue that the third hypothesis is unnatural since it requires us to posit a surface structure semantic interpretive rule for the emphatic reflexive pronouns in the *a*-sentences in (3)—(9). I do not see, however, how the other two hypotheses are any better off on the semantics side than the third hypothesis, as long as we assume that both

[8] Note that I am using the term 'focus' loosely here and I assume that the subject *you* in (12a) is a focus in my sense of the word.

a-sentence and *b*-sentence in (3)—(9) are derived from the same deep structure. That is, the other two hypotheses also need some type of (surface structure) semantic interpretive rule for the *a*-sentences.

So far, we have discussed the motivation of the Pro-Deletion rule to delete reflexive pronouns. The same above arguments apply to the case of the Pro-Deletion rule to delete non-reflexive pronouns, as we see in the following pairs of sentences.[9]

(13) a. John-i   Tom$_i$-eke [ki$_i$-i   ki-kəs-lil ha-la-ko]   malha-əss-ta
     John-NM Tom-to   he-NM   it-ACC   do-IMP^1-COMP say-PAST-DEC

     'John told Tom$_i$ that he$_i$ should do it.'

    b. John-i Tom$_i$-eke [φ$_i$ ki-kəs-lil ha-la-ko] malha-əss-ta

     'John told Tom to do it.'

(14) a. John-i   Tom$_i$-eke [ki$_i$-i   ki-kəs-lil ha-il- kəs]-lil   myənglyəngha-əss-ta
     John-NM Tom-to   he-NM   it- ACC   do-COMP-it-ACC order -PAST-DEC

     'John ordered Tom$_i$ that he$_i$ should do it.'

    b. John-i Tom$_i$-eke [φ$_i$ ki-kəs-lil ha-il- kəs]-lil myənglyəngha-əss-ta

     'John ordered Tom to do it.'

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[9] Pronominalization and Reflexivization are in complementary distribution in Korean as in English. That is, whenever the conditions for Reflexivization are not met, Pronominalization applies and *vice versa*. But there are some exceptions. For example, both (iv) and (v) below are possible and grammatical.

(iv) [caki$_i$-i   Chicago-e   o-əss-ilttæ]   John$_i$-i   Tom-lil   manna-əss-ta
     self-NM Chicago-to come-PAST-when john-NM Tom-ACC meet-PAST-DEC
     'When he$_i$ (himself) came to Chicago, John$_i$ met Tom.'

(v) [ki$_i$-i   Chicago-e   o-əss-ilttæ]   John$_i$-i   Tom-lil   manna-əss-ta
    he-NM Chicago-to come-PAST-when John-NM Tom-ACC meet-PAST-DEC
    'When he$_i$ came to Chicago, John$_i$ met Tom.'

In such exceptional cases of the two different pro-formations of one sentence, there comes up a semantic difference between the two different pro-formations. That is, (iv) necessarily implies that *John* was fully aware that he went or, was going, to Chicago (when he met Tom), whereas (v) does not necessarily do so. In a situation where *John* was a foreigner, did not know where Chicago is, and was just brought to Chicago by his American friend without knowing where he was going, we can say (v), but not (iv). Thus, (v) and (iv) are not cognitively exactly synonymous. If we assume (iv) and (v) are derived from somewhat different deep structures due to this semantic difference, as Kuno (1972) does, then we can maintain the complete complementary distribution of Pronominalization and Reflexivization without exceptions.

On the other hand, if we apply Pro-Deletion to (iv) and (v), we get only (vi) for both (iv) and (v).

(vi) [φ$_i$ Chicago-e   o-əss-ilttæ]   John$_i$-i   Tom-lil   manna-əss-ta
     Chicago-to come-PAST-when John-NM Tom-ACC meet-PAST-DEC

     'When (he$_i$) came to Chicago, John$_i$ met Tom.'

And indeed (vi) is ambiguous between the meanings of (iv) and (v). This is another piece of evidence for the claim that Pro-Deletion equally applies to reflexive pronouns and non-reflexive pronouns.

(15) a. John-i   Tom$_i$-eke [k$ɨ_i$-i   iysa-lɨl   manna-tolok] chungkoha-əss-ta
John-NM Tom$_i$-to   he-NM doctor-ACC meet-COMP   advise-PAST-DEC

'John advised Tom$_i$ that he$_i$ should see a doctor.'

b. John-i Tom$_i$-eke [ϕ_i iysa-lɨl manna-tolok] chungkoha-əss-ta

'John advised Tom to see a doctor.'

We can and should assume that both of the above pro-deletion processes (i.e. deletion of reflexive pronouns and deletion of non-reflexive pronouns) as special cases of one and the same Pro-Deletion, until we are contradicted. (For additional piece of evidence, see footnote 9.)

Another plausible assumption here about Pro-Deletion is that it is a coreferential deletion process in the sense that the pro-forms are deleted under coreference with their antecedent NP's.

Having established the existence of the Pro-Deletion rule in Korean, now I will demonstrate that this rule is involved in relativization or relative clause formation in Korean. One crucial piece of evidence that Korean relativization is indeed a conjunction of pro-formation and pro-deletion is the fact that for some relative clause structures the downstairs coreferential NP can be either pro-formed or deleted. For example, consider (16a, b) and (17a, b) below.[10]

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[10] In the footnote 7, it is stated that the antecedent of a reflexive pronoun has to be a subject NP, i.e. a NP immediately dominated by S. But the head NP of a relative clause can never be immediately dominated by S at any point in the derivation of a relative clause structure. Instead, the head NP of a relative clause has been motivated to be immediately dominated by another NP. Thus, in the light of (16a) and (17a), I propose a revision of the subject-antecedent condition of Reflexivization such that the antecedent in reflexivization should be a NP immediately dominated by either S or NP. One piece of evidence for treating S and NP as the same category here (for Reflexivization) is that there are other rules which treat S and NP as the same category in Korean. For example, Scrambling permutes any adjacent major constituents except the last one, i.e. the V plus Aux within a S, but it also permutes any adjacent major constituents except the last one, i.e. the head NP within a NP, as we see in (vii) below.

(vii) a.	John-iy John's	cæmi iss-nɨn interesting	pukkɨk North Pole	thamhəm-iy exploration's	iyaki story
	1	2		3	4
b.	1	3		2	4
c.	2	1		3	4
d.	2	3		1	4
e.	3	1		2	4
f.	3	2		1	4

'John's interesting story about the exploration of the North Pole.'
Recently Chomsky(1972) also argues that the domain of the transformational cycle in syntax is not only S but also NP, considering such pairs of expression as (viii).
(viii) a. John proved the theorem.
b. John's proof of the theorem.
Thus, the assumption that the head NP of a relative clause functions as a 'subject function' NP with respect to Reflexivization is not entirely *ad hoc*, which leads to a further support of our hypothesis on relativization.

(16) a. [caki$_i$-i   Mary-lil   towacu-əss-nin]   John$_i$
        self-NM Mary-ACC help -PAST-COMP   John

       'John, who himself helped Mary.'

    b. [ϕ_i Mary-lil towacu-əss-nin] John$_i$ 'John, who helped Mary.'

(17) a. [caki$_i$-iy   ttal-i   cuk-əss-nin]   John$_i$
        self-'s   daughter-NM die-PAST-COMP   John

       'John, whose own daughter died.'

    b. [ϕ_i ttal-i cuk-əss-nin] John$_i$ 'John, whose daughter died.'

(16b) and (17b) are the so-called 'unmarked' versions of (16a) and (17a) respectively, since the reflexive pronoun *caki* carries focus for its antecedent head NP in the latter, as the English glosses indicate. But I claim that (16b) and (17b) should be derived from (16a) and (17a) respectively by Pro-Deletion for the reasons given for the cases of (3)—(6) earler.

Furthermore, for some relative clause structures, especially when the downstairs coreferential NP is an embedded clause within a relative clause, the retained pro-formed coreferential NP does not necessarily imply focus for its antecedent head NP. For example, the pairs of relative clause structures (18a, b) and (19a, b) below are purely syntactic variants even without any focus difference unless the (reflexive) pronouns are particularly stressed.

(18) a. [[caki$_i$-i   salangha-əss-nin]   kæ-i   cuk-əss-nin]   John$_i$
        self-NM love-PAST-COMP dog-NM die-PAST-COMP   John

    b. [[ϕ_i salangha-əss-nin] kæ-i cuk-əss-nin] John$_i$

       '*John, who the dog (he) loved died.'

       '?? John, the dog loved by whom died.'

(19) a. [[ki$_i$-i   cuk-əss-ilttæ]   motin salam-til-i   silphəha-əss-nin]   John$_i$
        he-NM die-PAST-when all   man-PL-NM sad-PAST-COMP   John

    b. [[ϕ_i cuk-əss-ilttæ] motin salam-til-i silphəha-əss-nin] John$_i$

       '*John, who when (he) died everyone was saddened.'

       '?*John, about whom when he died everyone was saddend.'

(Note that in (19a) the downstairs coreferential NP is pronominalized instead of reflexivized, because one cannot be conscious of one's own death or recollect one's having died).

For another supporting piece of evidence for my claim on relativization in Korean, consider (20a, b, c) below.

(20) a. [caki$_i$-i   kalichi-əss-nin]   haksæng-til-i
        self-NM teach-PAST-COMP   student-PL-NM

motu   sihəm-e   hapkyəkha-əss-nɨn] John$_i$
all   exam-in   pass-PAST-COMP   John

'*John, who the students (he) himself taught all passed the exam.'

'*?John, for whom the students he himself taught all passed the exam.'

b. [kɨ$_i$-i kalichi-əss-nɨn] haksæng-tɨl-i motu sihəm-e hapkyəkha-əss-nɨn] John$_i$

'*John, who the students (he) taught all passed the exam.'

'?John, for whom the students he taught all passed the exam.'

c. [φ$_i$ kalichi-əss-nɨn] haksæng-tɨl-i motu sihəm-e hapkyəkha-əss-nɨn] John$_i$

'*John, who the students (he) taught all passed the exam.'

'?*John, for whom the students he taught all passed the exam.'

Note that the downstairs coreferential NP is reflexivized in (20a), pronominalized in (20b),.
and deleted in (20c). The semantic difference between (20a) and (20b) is that the former·
necessarily implies that the 'subject function' head NP *John* (cf. footnote 10) was aware·
that all the students he himself taught passed the exam, but the latter does not. Now·
according to my claim, (20c) will be derived from both (20a) and (20b) by Pro-Deletion;.
and indeed (20c) is ambiguous between the two meanings of (20a, b). Put differently, the·
ambiguity of (20c) is explained by deriving it from the two sources (20a, b) by Pro-
Deletion. If we assume that relativization is a straight coreferential NP deletion, then it.
would be an accident that (20c) is ambiguous between the two meanings of (20a, b).[11]

Having established that Korean relativization is indeed a conjunction of pro-formation.
and pro-deletion, now I will attempt to explain the grammaticality of (1) and ungram-
maticality of (ii), which are repeated below.

(1) [ip-əss-nɨn   yangpok-i tələw-nɨn] salam
    wear-PAST-COMP suit-NM   dirty-COMP man

'*The man who the suit that(he) wore is dirty.'

(ii) [*ccic-əss-nɨn   yangpok-i tələw-nɨn] salam
     tear-PAST-COMP suit-NM   dirty-COMP man

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[11] In some relative clause structures, especially the ones which are rather short and in which the·
relative clause does not involve any embedded clause, the downstairs coreferential NP can never
be pro-formed but simply deleted, as we see in (ix) below.

    (ix) a. [John-i   manna-əss-nɨn]   kɨ salam
        John-NM   meet-PAST-COMP   the man
        'The man whom John met.'

      b. *[John-i $\begin{Bmatrix} \text{kɨ}_i \\ \text{caki}_i \end{Bmatrix}$-lɨl manna-əss-nɨn] kɨ salam$_i$

In such cases above, Pro-Deletion is assumed to become idiosyncratically obligatory.

'*The man who the suit that (he) tore is dirty.'

Assuming that Pro-Deletion is a coreferential deletion rule, the explanation of the ungram-
maticality of (ii) is straightforward. That is, since the coreferential Pro-Deletion has to be
an unidirectional deletion process, i.e. the pronoun is deleted under coreference with the
head NP, but never is the head NP deleted under coreference with the pronoun, the
derivation of (ii) is correctly blocked by the Complex NP Constraint. For the explanation
of the grammaticality of (1), I claim that the Pro-Deletion process involved in the deriva-
tion of (1) is a non-coreferential pronoun deletion, not a coreferential deletion, therefore
not a unidirectional deletion. Thus, the derivation of (1) cannot be blocked by the
Complex NP Constraint, since the non-coreferential Pro-Deletion cannot be a unidirectional
deletion process. Why is then the Pro-Deletion process involved in the derivation of (1) a
non-coreferential deletion, while that involved in the derivation of (ii) is a coreferential
deletion? My answer to this question is as follows. When the relative clause describes a
characteristic of its head NP as suggested in the footnote 3 and thus the relationship
between the relative clause and its head NP is so close that there is no necessity to specify
their relationship explicitly by maintaining the coreferentiality between the head NP and
the pronominalized downstairs NP, their coreferentiality is regarded as essentially redundant
and thus the Pro-Deletion process becomes non-coreferential. That is, I claim that as
the coreferentiality becomes redundant due to the meaning of the structure or the context,
Pro-Deletion becomes a non-coreferential deletion. One motivation for this claim is that the
non-coreferential Pro-Deletion process is necessary in Korean independently of the cases
(i.e. relativization) under discussion here. Thus, in the following section I will motivate
the non-coreferential Pro-Deletion process in Korean, independently of the cases under
discussion here.

3. Non-Coreferential Pro-Deletion

Consider (21) and (22) below.

(21) hakkyo-e ka-əss-ta
     school-to go-PAST-DEC
     '*Went to school.'

(22) John-i   manna-əss-ta
     John-NM meet-PAST-DEC
     '*John met.'

'(21) and (22) are perfectly grammatical sentences in Korean. We can conceive of three possible hypotheses to account for the grammaticality of (21) and (22) in the transform-ational grammatical theory. The first possible hypothesis would be to posit a NP Deletion rule that deletes the subject NP in the cases like (21) and the object NP in the cases like (22). The NP Deletion rule should-be contextually conditioned, i.e. the rule applies only when the NP to be deleted is contextually identified and thus redundant. In fact, (21) means that some person or persons specifically identified in the context went to school. For example, (21) means 'John went to school' when it is uttered as an answer to (23).

(23) John-i   iss-ə-yo?

John-NM is -QUES[1]

'Is John here?'

The problems with this first hypothesis are as follows. Such a NP Deletion rule can never be motivated in our current theory simply because the current grammatical theory does not allow us to include the non-linguistic or discourse context in the structural desc-ription of a rule.[12] Furthermore, since such a NP Deletion would delete any NP as long as the NP is contextually redundant, we have to give up any hope of constraining the power of the deletion transformation in general in any systematic way. We must say that a deletion rule deleting any NP non-coreferentially is just outrageous as a grammatical rule.

The second possible hypothesis would be to derive such sentences as (21) directly from P-S rules, positing such an initial P-S rule as (24), hoping that some semantic interpret-ive rule will capture the fact that the missing subjects are to be contextually determined.

(24) S→(NP) VP Aux

The problem with this second hypothesis is that we have to introduce and motivate an entirely new type of deep structure semantic interpretive rules, which assign readings to null constituents.[13] And even if such deep structure semantic interpretive rules can be motivated, the second hypothesis is still inadequate on another ground. That is, it cannot capture the fact that sentences like (21) and (22) are always paraphrasable into corresponding sentences with appropriate pronouns inserted in place of the missing NP's. That is, (21) and (22) can be paraphrased as (25) and (26) respectively.

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[12] For that matter, the whole current theory of grammar suffers from the limitation that the domain of grammatical analysis is the sentence.

[13] Shopen(1972) tries to motivate exactly this type of deep structure semantic interpretive rules.

(25) na (nə, kɨ, kɨ-yəca, uli, nəhɨy, kɨ-tɨl)-nɨn hakkyo-e ka-əss-ta

    I you he she we you they-TOP[1] school-to go-PAST-DEC

    'I (you, he, she, we, you, they) went to the school.'

(26) John-i na (nə, kɨ, kɨ-yəca, uli, nəhɨy, kɨ-tɨl)-lɨl manna-əss-ta

    John-NM I you he she we you they-ACC meet-PAST-DEC

    'John met me (you, him, her, us, you, them).'

One might still defend the second hypothesis arguing that such paraphrase relations can be captured by semantic interpretive rules, i.e. by deriving the same readings from both (21) and (25) or from both (22) and (26). But such interpretive rules would capture only the semantic paraphrase relations between such a pair of expressions and never the syntactic relations between them, since the second hypothesis would derive them from two distinct deep structures.

However, if we decide to derive sentences like (21) and (22) from sentences like (25) and (26) respectively by an optional pronoun deletion (=Pro-Deletion) rule, then we can capture both semantic and syntactic relationship between such a pair of sentences. Furthermore, this third hypothesis would obviate the difficulties with the first and second hypotheses. That is, the structural description of the Pro-Deletion rule would not involve any non-linguistic or discourse condition and this hypothesis does not require us to posit any deep structure semantic interpretive rule assigning readings to null constituents. And the optional deletion of pronouns is a quite plausible syntactic process. On the other hand, this third hypothesis has to posit pronouns in the deep structures of sentences like (25) and (26), since if full NP's are posited for the pronouns then it will face the problem that the pronominalization of the full NP's in (25) and (26) cannot be motivated unless we introduce non-linguistic or discourse features. Now, one might argue that the third approach is also *ad hoc* in that it has to introduce pronouns in two ways, both by P-S rules and by T-rules. But the introduction of pronouns by P-S rules is not without motivation. That is, some pronouns have to be posited in the deep structure anyway; i.e. pronouns like *na* 'I' and *nə* 'you' cannot be introduced by T-rules and have to be generated in the deep structure by P-S rules. Furthermore, the first and second hypotheses also have to deal with the same difficulty in deriving sentences like (25) and (26). Overall, given the current theory of grammar, the third hypothesis is the best one, thus the correct one. Therefore, the non-coreferential Pro-Deletion rule is necessary anyway in the Korean grammar independently of the cases of relativization like (1).

It is obvious that this Pro-Deletion process deleting the base-generated pronouns cannot be a coreferential deletion, i.e. a deletion of a constituent under coreference with some other within a P-marker. But the antecedent of the pronoun to be deleted in the case of non-coreferential Pro-Deletion process is always assumed to be contextually redundant in this third hypothesis. Indeed, in the case of (1), in whose derivation the non-coreferential Pro-Deletion is assumed to be involved, the antecedent (i.e. the head NP) of the pronoun to be deleted is semantically so closely connected to the relative clause that it is semantically (or contextually) highly redundant.

4. Theoretical Implications

First, the above discussed claim that apparent NP deletion processes in Korean, including relativization, are in fact a conjunction of pro-formation and pro-deletion strongly supports Postal's (1970) universal NP Deletion Constraint, which reads as follows.

> If a transformation T deletes an NP_a subject to the existence of a coreferent NP, NP_b, in the same structure, then at the point where T applies, NP_a must be pronominal. (Postal 1970, p. 489)

Second, given the correctness of our hypothesis that Korean relativiziation is a conjunction of the two syntactic processes, pro-formation and pro-deletion, a universal syntactic theory of relativization should have at least three component rules, possibly pro-formation, pro-copying[14] and pro-deletion, in order to account for Korean and English relativizations. For a motivation of the three component rules for English relativization with a view to formulating the universal syntactic theory of relativization, consider the following phenomenon in English relativization.

In some dialects of English the downstairs NP in the relative clause is not simply deleted, but is rather pronominalized, as we see in (27).

(27) The man$_i$ who John sold the funny money to him$_i$ is following us.

Those so-called 'returning pronouns' (cf. Ross 1967) are not uncommon, especially in colloquial speech, even in standard dialects where their disappearance would violate an island constraint, as in (28).

(28) The man$_i$ who John denies the allegation that he sold funny money to him$_i$ is following us.

Ross (1967) considers this type of relative clause structures as derived by a slightly revised

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[14] Pro-copying process is necessary to account for the existence of relative pronouns in relative clause structures as in most Indo-European languages.

version of 'the more usual rule' of Relative Clause Formation. That is, under the usual movement hypothesis of English relativization there is no way to account for such relative clauses as in (28) in a natural way. Furthermore, accounting for such relative clauses as in (28) by revising the usual movement rule of Relative Clause Formation leaves unexplained the question of why relative clauses with 'returning pronouns' can disobey island constraints.

But our hypothesis on English relativization as a conjunction of the three component rules, por-formation, pro-copying and pro-deletion, provides not only a unified, natural account for both types of relativization in English but also a natural explanation for the above-mentioned question. That is, since the pro-deletion, the last of the three component rules, can be assumed to be optional in English, our hypothesis in fact predicts that English can have relative clause structures with 'returning pronouns', which are naturally assumed to be derived by pro-formation and pro-copying in our hypothesis. And the fact that English relativization with 'returning pronouns' can disobey island constraints naturally follows from our hypothesis, since in our hypothesis the relative clause structures with 'returning pronouns' are derived by pro-formation(i. e. Pronominalization) and pro-copying, both of which are neither chopping rules nor unidirectional deletion rules, and thus do not obey island constraints. But ordinary relativizatoin without 'returning pronouns' obeys island constraints because the coreferential Pro-Deletion[15] does, as we have discussed earlier.

Relativization in languages like modern Hebrew and Arabic (Colloquial Egyptian) is apparently a simple pronominalization process, since the head NP and the relative clause are separated only by the invariable complementizer, and the relativized downstairs NP remains pronominalized at its original position, as we see in (29a, b),

(29)a. Hebrew: Ani roaet ha-iš   še   hu ve-ovno   halxo le New York
              I   see   the-man that he and-his own went to New York
       '*I see the man who (he) and his son went to New York.'

   b. Arabic: Ra'ayt   alrajul   allathi hua wa ibnahu thahabu ille New York
              (I) saw the man that   he   and son-his went   to New York
       '*I saw the man who (he) and his son went to New York.'

Note that the relative clause structures in both (29a, b) disobey the coordinate structure constraint, which is just what we expect if we assume that the relativization in Hebrew and Arabic is a simple pronominalization process. Relativization in Hebrew and Arabic can be readily accommodated by our hypothesis if we assume that among the three

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[15] There is no evidence for the non-coreferential Pro-Deletion in English.

component rules for the universal theory of relativization only the first rule, pro-formation, is obligatory and the latter two are optional for relativization in all human languages. This assumption seems to be indeed motivated, since we find that all the possible combinations of the three component rules under this assumption seem to accommodate all the possible kinds of relativization in all human languages in a very natural way as we see in (30).

(30) a. Pro-Formation ....Hebrew; Arabic

b. Pro-Formation+Pro-Copying............................Luganda; the dialect of English
with 'returning pronoun'

c. Pro-Formation+Pro-Deletion............................Korean; Japanese

d. Pro-Formation+Pro-Copying+Pro-Deletion ....English; French

According to Keenan (1972), in a Luganda relative clause the relativized downstairs NP becomes a clitic pronoun and is attached to the verb while the relativization marker agrees with the head NP or the downstairs relativized NP in number, case and noun class, as we see in (31).

(31) Luganda: omukazi   e- ye- basse
the woman   who-she-is sleeping
'The woman who is sleeping.'

I assume that the relativization marker in Luganda is a relative pronoun simply because it agrees with the relativized NP, and that relativization in Luganda is a conjunction of pro-formation and pro-copying. We have discussed in the preceding section the idea that relativization with the 'retruning pronoun' in some dialects or styles of English should be analyzed as a conjunction of pro-formation and pro-copying. Perlmutter (1972) presents excellent arguments that French relativization has to be broken down into pro-copying and pro-deletion in our terminology.

Of course, the above hypothesis on the universal theory of relativization is rather sketchy and yet to be fully worked out with more data from more languages: nevertheless I believe it is a small step toward the universal grammar of human language.

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討　論

朴雙咸 : 한국말에 Pro-deletion rule 이 있을 수 있고 NP-deletion 도 Pro-deletion 을 겪어서 이루어지는 현상으로 pronoun 과 indefinite NP 도 NP category 에 든다고 하셨는데 特히 우리말에 Pro-deletion 이 있다고 강조하신 점 또 Pro-form 을 phrase structure part 에 넣는 것이 좋다고 하셨는데 그점부터 말씀드리면 이것은 Universality 정의에도 反하는 것으로 보는데 Universal Grammar=Particular Grammar+Extra Grammar 냐 아니면 Universal Grammar+Extra Grammar=Particular Grammar 을 결과하느냐 이 두가지 Universality 에 對한 見解에 대해서 그것과 관련된다고 보는데 이에 대해 설명해 주시고, 제가 중요시 생각하는 것은 한국어의 Pro-deletion 을 강조하시기에 말씀드리는데 한국어에서는 오히려 대명사가 발전되지 못한 것으로 보는데 특히 三人稱대명사가 약하고 그중에서도 여성의 三人稱대명사가 더 약하고 二人稱도 '당신, 너'가 없고 "선생님, 학교에 가세요?" 할 때 영어로번역하면 "Are you going?" 이거든요. 그렇지만 三人稱의 명사 그러니까 보통의 NP 로 보고 대명사로 보는 것 같지 않은데요. 그리고 여기 선생님의 예문들은 대개가 우리말에서 시작되는 것이 아니고 번역체에서 출발한 것으로 보는데 그것이 무리가 아닌것이 Ross 라든가 여러 사람의 예를 바꿔놓으려는데 기인한 것 같습니다. 그렇기 때문에 Pro-deletion 을 강조하게 된 계기가 된 것 같은데, 우리말에서 "학교에 갔다"에서 대명사가 delete 됐다고 보시는 것같은데 영어는 "John 이 학교에 갔다"하면 다음 문장에 "그가 학교에서 공부한다"로 되지만, 우리말에서는 "영수가 학교에 갔다"하면 다음엔 '영수'도 '대명사'도 넣지 않고 그냥 "학교에서 공부한다"라고 되기 때문에, 우리 말이니까 Pro-deletion 이 더 중요한 것이 아니라 우리말이기 때문에 오히려 더 심각하게 생각해야 하지 않을까 봅니다.

Child Language Development 과정에서 보면 어린애들이 5~7세가 되기까지 '나'라든가 '너'라고 하지 않고, 자기의 이름이나 친구의 이름을 항상 부르고 있는데요, 그러한 현상도 유난히 우리말에만 있는 것인지. 영어에도 있긴 있읍니다만 우리의 경우에 더 많은 것 같은데 그런 식으로 보면 구태여 Pro-deletion을 특히 강조하시는 것은 좀 약한 것 같은데요? 또하나 이것을 base rule에 넣음으로서 아까 Universal Grammar 의 정의와 더불어 Base Grammar 가 복잡해지지 않을까 보는데요.

梁東暉: 첫째로, 일부 대명사를 Deep Structure에 넣으면 universality에 背馳된다고 하셨는데 universality 를 理想으로 하지만 data를 왜곡할 수는 없읍니다. "나는 학교에 갔다"에서 '나'는 Deep structure에 두어야 한다고 봅니다. 이와같이 '나' '너' 같은 대명사는 Deep Structure에 두면서 다른 대명사는 둘 수 없다는 것은 이유가 약합니다. Postal(1969)도 대명사를 Deep Structure에 두고 있읍니다. 그리고 근래 Intepretive Semantics 에서는 모든 대명사를 Deep Structure에 두어야 한다고 주장하고 있으니 대명사를 Deep Structure에 두는 것이 반듯이 universality에 背馳된다고 단정하기 어렵습니다.

둘째로, 우리 말에서 대명사가 잘 안쓰이는 것도 사실입니다. Kuroda 같은 이는 한국어(또는 일본어)의 Pronominalization 는 단순한 Deletion 이라고 했지만 이의 부당성은 이 논문에서 잠간 말씀드렸읍니다. 즉 만일 우리 말의 Pronominalization 이 단순한 Deletion 이라면, 잘 안 쓰이지만 분명히 존재하는 대명사에 대해서는 어떻게 설명 하겠읍니까? 이것을 어떻게 설명한다 해도 그 대명사와 그 단순한 Deletion 으로생긴 無形의 대명사와는 전연 관계가 없닸는 것으로 되겠읍니다. 따라서 우리 말에는 二개의 Pronominalization 현상이 있으며 영어에는 하나만 있다는 것도 이상합니다.

셋째로, 예문이 영어적이라고 하시는데 여기 계신 분의 90~100%가 저의 예문을 받아 들일 수 없다면 몰라도 별로문제시 되지 않읍니다.

넷째로, 영어에 대명사가 많이 쓰이고 있기 때문에 이의 영향을 받아서 한국어에서 대명사가 잘 안 쓰이는 점에 대해 pro-deletion rule 을 제안했다고 하셨는데 영어의 영향을 받았건 미국사람들의 구수한 coffee 냄새에 영향을 받았건 그게 무슨 상관입니까? 동기나 출발은 어떠했든 그 Pro-deletion rule 자체가 얼마나 motivate 되어있느냐가 우리의 논의의 초점이 되어야 겠지요.

다섯째로, 국어에서 대명사가 잘 안 쓰인다는 것은 통계적인 이야기인데 이런 것을 우리의 문법에 반영하려고 할 때 주의해야 될 것 같읍니다. 우리는 통계적으로 다수의 현상에 이끌려 소수의 현상을 무시 하거나 다수의 현상과 소수의 현상과의 상호 관련성을 잃기 쉽읍니다. 그리고 Psycholinguistic evidence가 Transformation Rule이나 Deep Structure에 분명히 기여한 것을 보지 못했고 Psycholinguistic evidence 에 Transformation Rule 이나 Deep Structure의 motivation 을 의존한다면 Psycholinguist 들이 연구를 이루어 놓을 때까지 우리는 기다려야 할 것입니다.

마지막으로, Pro-deletion rule 이 intuitive 하지 않아 이상하다는 것인데 Transformation rule 을 볼 때 intuition 을 써서는 안 됩니다. Data 에는 intuition 을 쓰지만 Rule 이나 Deep Structure, 또는 Theory 에는 intuition 이 직접적으로 쓰일수가 없다고 봅니다.