Syntax

Backward object control in Korean

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ABSTRACT

In this paper, I claim that Korean licenses backward control – a configuration in which the null controllee is structurally superior to the overt controller. The object control predicate *persuade* in Korean licenses an accusative/nominative case alternation on the *persuadee* DP. It is argued that when the 'persuadee' DP shows nominative case, it is a constituent of the embedded clause, creating a backward object control configuration. First, it is argued that Korean *persuade* is not an ECM predicate, which also license an accusative/nominative case alternation. Next, it is shown that the accusative *persuadee* and nominative *persuadee* occupy different structural positions with evidence from the monoclausal structure, temporal adverb scope, NPI licensing and scrambling. Then, evidence from quantifier case agreement and reflexive binding support the existence of the null/empty element. Finally, a formal analysis is offered. A *pro*-based approach (Cormack and Smith 2002) is rejected on empirical grounds with evidence from distributive quantifier variable binding and passivization. Conversely, it is shown that a control-is-movement analysis (Hornstein 1999; Polinsky and Potsdam 2002) adequately accounts for the construction.

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1. Introduction

I present novel evidence arguing that Korean, an SOV head-final language, licenses backward object control.[1] Polinsky and Potsdam (2002, 2003) argue for backward subject control in Tsez and Malagasy, respectively. By empirically documenting that Korean licenses backward object control, the fourth logical possibility in control configurations is realized. Furthermore, I illustrate that a *pro*-based alternative (Cormack and Smith 2002) to Polinsky and Potsdam (2002) is unsatisfactory both empirically and theoretically in accounting for the Korean facts. Consequently, I show that a control-is-movement analysis (Hornstein 1999), coupled with the ability to pronounce a tail of a chain (Pesetsky 1998; Bošković 2002), is adequate.

In a forward control structure, the overt element, the controller, c-commands the null or empty element, the controllee (atheoretically represented as Δ). When there is a control reading, the two are coindexed, and Δ is interpreted as its overt counterpart. Therefore, in (1a), it is *him* who is to purchase the *present*, and in (1b), it is *Cindy* who is to purchase the *present*.

(1) a. Cindy persuaded him$_i$ [Δ_i to buy the present]
b. Cindy$_i$ wants [Δ_i to buy the present]

English does not, however, permit an inverse, or 'backward', relationship between the controller and controllee. If it did, it would look something like the hypothetical examples in (2).

(2) a. Cindy persuaded Δ_i [he$_i$ to buy the present] (hypothetical)
b. Δ_i wants [Cindy$_i$ to buy the present] (hypothetical)

The matrix object controllee Δ, in (2), is bound by the embedded subject controller DP. This configuration is termed backward control. The goal of this paper is to show that Korean licenses a structure similar to (2a).

In Korean, the predicate *persuade* licenses either nominative[2] or accusative case on the matrix object/embedded subject.[3] This alternation is presented in (3).

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1. Backward control has also been argued for in Brazilian Portuguese causatives (Farrell 1995), Japanese causatives and *tokoro* clauses (Kuroda 1965, 1978, 1999; Harada 1973), Tsez (Polinsky and Potsdam 2002), and Malagasy (Polinsky and Potsdam 2003). See Hale and Kitagawa (1976-1977) for arguments against Harada (1973).

2. The interpretation where *Yenghi* is the one being persuaded in the nominative example is the primary interpretation for my consultants. However, it has been brought to my attention that there is an additional reading on (3) where the individual being persuaded is not *Yenghi* but someone else. This would read (the judgement is for the Korean):

(i) Chelswu persuaded someone that Yenghi go to the store.

I abstract away from this additional interpretation and instead focus on the control interpretation. It should be clear as the analysis is worked out in Section 6 that *pro* is a possible solution for the structure of this nonreferential interpretation, whereas *pro* is inadequate in the control interpretation.

(3) Chelswu-nun Yenghi-lul/ka kakey-ey ka-tolok seltukha-ess-ta
Chelswu-Top Yenghi-Acc/Nom store-Loc go-Comp persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

Other predicates that show this case alternation, and presumably this structure, include *sikhita* and *kangyohata* 'force', *chungkohata* 'advise' and *jeanhata* 'suggest'. According to Hong (1992, 1994), these predicates are Equi-Control verbs. Choi (1988) and Hong (1992, 1994) did not, however, discuss the case alternation in (3). Heycock and Lee (1990) recognized this alternation but left the issue unresolved, as it was not central to their argument of determining how nominative case is licensed in non-tensed clauses in Korean and Japanese. Here, I argue that the difference in case in (3) equates to a difference in syntactic position. This is presented in (4), with the constituency I argue for bracketed.[4]

(4) a. Chelswu-nun Δ_i [Yenghi-ka$_i$ kakey-ey ka-tolok]
Chelswu-Top Yenghi-Nom store-Loc go-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

b. Chelswu-nun Yenghi-lul$_i$ [Δ_i kakey-ey ka-tolok]
Chelswu-Top Yenghi-Acc store-Loc go-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

NK Kim (1978, 1984) argued that *-tolok* is a sentential complementizer. The example in (4b) exhibits a forward control structure comparable to the English examples in (1). The controller is in the matrix clause binding Δ in the embedded clause. The primary focus of this paper is, however, to argue that the nominative DP in (3) is located in the embedded clause, while Δ is located in the matrix clause, as in (4a).

The paper is organized as follows: Sections 2, 3, 4 and 5 serve only to motivate the constructions presented in (4). Section 2 argues that Korean *persuade* requires three semantic arguments while ECM/Raising predicates select for only two. This is a traditional difference between these types of predicates. Section 3 argues for the constituency structures in (4). In

3. The abbreviations used in this paper are as follows: Acc-accusative, Comp-complementizer, Dat-dative, Decl-declarative, Fut-future, Gen-genitive, Loc-locative, Nom-nominative, Pass-passive, Pl-plural, Pres-present, Q-question marker and Top-topic. I also use the Yale system of romanization in transcribing the Korean examples.

4. Note that the dative case marker *–eykey* is possible in many of the accusative Case marked structures. Dative is not a structural case in Korean (Yoon 1996; Cho 2000). The only structural Case markers in Korean are nominative, accusative and genitive (see Section 1.2 for further discussion). Furthermore, nominative Case on the matrix subject, which surfaces with the topic marker, is also possible in most all, if not all, of the examples. These facts do not, however, have consequences for the analysis at hand.

particular, when the *persuadee* DP shows nominative case, (4a), it is a constituent of the embedded clause. Conversely, when it shows accusative case, (4b), it is a constituent of the matrix clause. Evidence supporting this claim arises from case distribution in monoclausal constructions, temporal adverb distribution, scrambling, and NPI licensing. Section 4 summarizes the arguments. Section 5 argues for the existence of Δ in the structures in (4) based on evidence from honorific licensing (forward control), case agreement on post-nominal quantifiers and reflexive binding (backward control). Finally, Section 6 presents a formal account of the control configurations in (4), investigating the identity of Δ. There, it is shown that an analysis in which Δ is *pro* (Cormack and Smith 2002) is unable to account for the backward control structure in (4a). Consequently, I argue that a movement-is-control approach adequately accounts for (4). I want to make it explicit that as I motivate the constructions presented in (4) in Sections 2, 3, 4 and 5 that I make no claims regarding the content of Δ. Specifically, I do not commit myself as to whether Δ is actually a null element (i.e. PRO or *pro*), an empty element (i.e. an empty DP), or an unpronounced head of a chain until Section 6. Nothing hinges on this simplification in the earlier sections.

2. Semantic Requirements of Korean *persuade*

The primary difference between ECM/Raising predicates and control predicates in languages is the fact that control predicates select for a direct object, while ECM/Raising predicates do not (Soames and Perlmutter 1979). Korean ECM/Raising predicates also license a nominative/accusative case alternation (O'Grady 1991ab; JS Lee 1992; Yoon 1996; Baek 1997; K Lee 1998; Kang 1998; among others). The difference in Korean, like English, is that *persuade* selects for three arguments while *believe* selects for only two. Evidence for this is not difficult to find. Here, I only present data concerning selectional restrictions, but note that evidence from non-control structures and passive/active synonymy also support this claim. The pair of examples in (5) indicate that Korean *persuade* is selecting for the *persuadee* DP, while Korean *believe* is not.

If Korean *persuade* is selecting for an internal complement DP, then an inanimate *persuadee* DP should create a semantically anomalous reading, as illustrated below in (5).

(5) a. #Chelswu-nun tol-i/ul tteleci-tolok seltukha-ess-ta
Chelswu-Top rock-Nom/Acc fall-Comp persuade-Past-Decl
'#Chelswu persuaded the rocks to fall.'

b. Chelswu-nun tol-i tteleci-n-tako mit-ess-ta
Chelswu-Top rock-Nom fall-Pres-Comp-Decl believe-Past-Decl
'Chelswu believes the rocks to be falling.'

The example in (5a) is semantically anomalous because *Chelswu* cannot *persuade* the rocks. Thus, Korean *persuade* must be imposing semantic restrictions on the *persuadee* and therefore, is lexically selecting for its *persuadee* DP. Conversely, if Korean ECM does not select for the embedded subject, we should expect sentences parallel to that in (5a) to receive non-anomalous readings. This is supported by (5b). According to the non-anomalous interpretations of (5b), it appears that Korean ECM predicates do not place semantic restrictions on the embedded subject.

The argument above points toward a lexical entry for Korean *persuade* that selects for an internal DP complement. This contrasts with Korean ECM predicates, which do not select for a complement DP (Yoon 1996). Thus, it seems that an ECM treatment of Korean *persuade* is inadequate. This suggests a control analysis of Korean *persuade*, which is further addressed in Sections 3 and 5.

3. Constituent Analysis of *persuade* Constructions

3.1 Proposed Constituency Structure

In this Section, I develop and argue for the proposed constituent structures presented in (4), repeated in (6) for convenience. Specifically, I argue that when the DP is assigned nominative case it is a constituent of the embedded clause, as in (6a). Conversely, when the DP is assigned accusative case, as in (6b), it is a constituent of the matrix clause. I refer to this proposal as the Subject/Object Analysis (SOA).

(6) a. Chelswu-nun Δ_i [Yenghi-ka$_i$ kakey-ey ka-tolok]
Chelswu-Top Yenghi-Nom store-Loc go-Comp
seltukha-ess-ta
persuade-past-decl
'Chelswu persuaded Yenghi to go to the store.'

b. Chelswu-nun Yenghi-lul$_i$ [Δ_i kakey-ey ka-tolok]
Chelswu-Top Yenghi-Acc store-Loc go-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

In (6a), the *persuadee* DP is assigned nominative case by the embedded T°. In (6b), the *persuadee* DP is assigned accusative case by the matrix verb. An alternative to the SOA considered here is that despite case, the *persuadee* DP is always a constituent of the matrix clause. The constituency structure of this analysis is presented in (7). I refer to this analysis as the Object Analysis (OA).

(7) Chelswu-nun Yenghi-lul/ka$_i$ [Δ_i kakey-ey ka-tolok] seltukha-ess-ta
Chelswu-Top Yenghi-Acc/Nom store-Loc go-Comp persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

In (7), the *persuadee* DP is a complement to the matrix predicate despite the contrast in case. If this is correct, Korean *persuade* must now have the ability to optionally assign nominative case to its object.

In the following subsections, I argue for the SOA and against the OA. The proposed constituency structure is based on monoclausal case licensing possibilities, temporal adverb scope, scrambling, and NPI licensing.

3.2 Evidence

3.2.1 Case in Monoclausal Constructions

According to the OA, the matrix predicate is able to assign either nominative or accusative case to its complement. If this is correct, then we expect this same optionality in case assignment by Korean *persuade* in monoclausal structures. The contrast in (8), however, illustrates that at least in monoclausal constructions, Korean *persuade* is unable to assign nominative case to the *persuadee* DP.

(8) Chelswu-nun Yenghi-lul/*ka seltukha-ess-ta
Chelswu-Top Yenghi-Acc/*Nom persuade-past-decl
'Chelswu persuaded Yenghi.'

Thus, the only way nominative case is licensed on the *persuadee* DP is with the presence of a complement clause (i.e. a biclausal construction). If we adopt the OA, we are required to stipulate that only when Korean *persuade* selects for a clausal complement, can it assign nominative case to its DP complement.

The SOA, however, correctly predicts the contrast in (8) without the stipulation of new case assigning abilities with new subcategorizations. The reason the *persuadee* DP is unable to show nominative case is simply because Korean *persuade* assigns only structural accusative case on its (overt) internal arguments.

In the following subsections, I present further arguments that support the SOA and illustrate where the OA is inadequate. In essence, the nominative and accusative *persuadee* DPs do not occupy the same structural position. These arguments are from temporal adverb distribution (Section 3.2.2), scrambling (Section 3.2.3), and NPI licensing (Section 3.2.4).

3.2.2 Temporal Adverb Distribution

Temporal adverbs must reside in the clause they take scope over in Korean (Yoon 1996; Baek 1997). For example, a temporal adverb with matrix scope cannot appear in the embedded clause and vice versa. They are not, however, otherwise positionally restricted.

In (9), I am concerned with the position of the adverb *nayil* 'tomorrow', which is intended to have matrix scope. The temporal adverb *mayil* 'everyday' is in the embedded clause to eliminate ambiguity.

(9) Chelswu-nun Yenghi-lul/*ka nayil kakey-ey mayil
Chelswu-Top Yenghi-Acc/*nom tomorrow store-loc everyday
ka-tolok seltukha-l ke-ya
go-Comp persuade-Fut-Decl

'Tomorrow Chelswu will persuade Yenghi to go to the store everyday.'

The example in (9) is unacceptable when the temporal adverb follows the nominative *persuadee* DP, whereas it is acceptable when *nayil* 'tomorrow' follows the accusative *persuadee*. The example in (9) is shown with the constituency the OA would assign to it in (10) and (11).

(10) Chelswu-nun Yenghi-lul nayil [kakey-ey mayil
Chelswu-Top Yenghi-Acc tomorrow store-Loc everyday
ka-tolok] seltukha-l keo-ya
go-Comp persuade-Fut-Decl
'Tomorrow Chelswu will persuade Yenghi to go to the store everyday.'

(11) *Chelswu-nun Yenghi-ka nayil [kakey-ey mayil
Chelswu-Top Yenghi-Nom tomorrow store-Loc everyday
ka-tolok] seltukha-l keo-ya
go-Comp persuade-Fut-Decl
'Tomorrow Chelswu will persuade Yenghi to go to the store everyday.'

According to the OA, the nominative *persuadee* DP is a constituent of the matrix clause. The OA, then, incorrectly predicts the unacceptability of the post-*persuadee* adverb in (11). Since the nominative *persuadee* DP is a constituent of the matrix clause, a temporal adverb with matrix scope should be able to follow it. This is only possible with the accusative DP. The SOA correctly predicts this contrast, as evident in (12) and (13). Notice that the constituency structure of (12) assigned by the SOA is identical to the structure assigned by the OA to (10).

(12) Chelswu-nun Yenghi-lul nayil [kakey-ey mayil
Chelswu-Top Yenghi-Acc tomorrow store-Loc everyday
ka-tolok] seltukha-l ke-ya
go-Comp persuade-Fut-Decl
'Tomorrow Chelswu will persuade Yenghi to go to the store everyday.'

(13) *Chelswu-nun [Yenghi-ka nayil kakey-ey mayil
Chelswu-Top Yenghi-Nom tomorrow store-loc everyday
ka-tolok] seltukha-l ke-ya
go-comp persuade-fut-decl
'Tomorrow Chelswu will persuade Yenghi to go to the store everyday.'

In (13), the post-nominative *persuadee* position must be interpreted with embedded scope, and the adverb is, therefore, unable to take matrix scope. The SOA, then, correctly predicts the unacceptability of (13). Both the SOA and OA make identical predictions with regard to the accusative *persuadee* DP.

In short, the distribution of temporal adverbs supports the SOA and argues against the OA. Next, I consider conditions on scrambling in order to support the constituency structures proposed in (6) by the SOA and against the constituency structure in (7) by the OA.

3.2.3 Scrambling

Korean exhibits a relatively free word order. The arguments of the verb can appear in any order, so long as the verb remains in final position (Cho 1992, 1993; Choi 1999; Y Lee 1994). In this section, we use evidence from scrambling to argue for the SOA and against the OA.

First, we turn to word order in the construction under investigation. A crucial contrast in the behavior between the nominative and accusative *persuadee* is in the examples presented below in (14) and (15).[5]

(14) Chelswu-nun kakey-ey ka-tolok Yenghi-lul seltukha-ess-ta
Chelswu-Top store-Loc go-Comp Yenghi-Acc persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

(15) *Chelswu-nun kakey-ey ka-tolok Yenghi-ka seltukha-ess-ta
Chelswu-Top store-Loc go-Comp Yenghi-Nom persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

In (14), the embedded CP is scrambled to the left of the accusative *persuadee* DP.[6] In (15), however, the embedded verb and its complement are not permitted to scramble. Here, the *persuadee* is assigned nominative case. Thus, this contrast appears to show that surface case is critical in licensing word-order possibilities. The structures the OA would assign to (14) and (15) are presented below in (16) and (17). We would expect both to be acceptable were the OA correct.

(16) Chelswu-nun [kakey-ey ka-tolok]$_i$ Yenghi-lul t_i
Chelswu-Top store-Loc go-Comp Yenghi-Acc
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

5. Wurmbrand (2001) argued that German allows scrambling out of infinitivals only in cases of restructuring. It is possible then that the embedded clause is restructured in (28) and there is no embedded subject position. There exist two pieces of evidence that seem to contradict this possibility. First, the embedded clause cannot be restructured with the presence of the overt complementizer. Second, Aoshima (2001) claimed that in Japanese object control constructions, the embedded predicate is restructured as a MoodP and not as a VP, as in German. This suggests the embedded clauses in the cases under investigation here are not VPs.

6. There are two other possible explanations for (15) that we can dispense with. Perhaps, nominative *Yenghi* is still in the embedded clause, having scrambled to the right of the verb. This would violate the requirement that the verb be clause final. This explanation does not pose a problem for the goal at hand. If this is correct, then the accusative DP in (14), which would not be a constituent of the embedded clause is able to appear after the embedded verb, because the embedded verb, is still clause final. The other possible explanation is that perhaps there is some constraint on nominative arguments appearing adjacent to an accusative case-assigning predicate. This is ruled out by the acceptability of accusative marked arguments appearing in preverbal position.

(17) *Chelswu-nun [kakey-ey ka-tolok]$_i$ Yenghi-ka t_i
Chelswu-Top store-Loc go-Comp Yenghi-Nom
seltukha-ess-ta
persuade-past-decl
'Chelswu persuaded Yenghi to go to the store.'

The DP resides in the matrix clause despite case, according to the OA. Thus, we do not expect a contrast based on case in the examples above. The verb and its internal complement should form a constituent and be able to scramble leftward without the *persuadee* DP, which is a constituent of the matrix clause. This is not so, however.

The SOA assigns different structures. It predicts that the nominative assigned *persuadee* forms a constituent with the embedded clause, whereas the accusative DP does not. This contrast straightforwardly accounts for the unacceptability of (18). The structures assigned by the SOA to (14) and (15) are presented in (18) and (19), respectively.

(18) Chelswu-nun [kakey-ey ka-tolok]$_i$ Yenghi-lul t_i
Chelswu-Top store-Loc go-Comp Yenghi-Acc
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

(19) *Chelswu-nun [kakey-ey ka-tolok]$_i$ [Yenghi-ka [t_i]]
Chelswu-Top store-Loc go-Comp Yenghi-Nom
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

According to the SOA, the embedded verb and its complement form a constituent without the accusative *persuadee* DP. Therefore, the embedded verb and its complement are permitted to scramble. Conversely, the SOA predicts the nominative *persuadee* is a constituent of the embedded clause. Therefore, the CP is unable to scramble without the nominative DP, as in (19). In the final subsection, I present evidence from NPI licensing that suggests that the SOA is the proper constituency analysis of the case alternation.

3.2.4 NPI Licensing

The distribution of Negative Polarity Items (NPI) provides additional evidence in support of the SOA and against the OA. NPIs in Korean must have a clause-mate negation and do not show structural case. Because they do not show structural case, verbal negation determines constituency. If the SOA is correct, the NPI should be licensed in either the matrix or the embedded clause depending on the location of negation, as illustrated in (20) and (21).

(20) Chelswu-nun amwuto kakey-ey ka-tolok seltukha-ci anh-ass-ta
'Chelswu-Top NPI store-Loc go-Comp persuade-ci Neg-Past-Decl
'Chelswu did not persuade anybody to go to the store.'

(21) Chelswu-nun amwuto kakey-ey ka-ci anh-tolok seltukha-ess-ta
'Chelswu-Top NPI store-Loc go-ci Neg-Comp persuade-Past-Decl
'Chelswu persuaded nobody to go to the store.'

The OA fails to predict the acceptability of (21).[7] According to the OA, the *persuadee* DP is always constituent of the matrix clause. Therefore, the OA predicts that the NPI can be licensed only by negation on the matrix predicate. Thus, the acceptability of (21) indicates that the OA is inadequate. The SOA predicts that both (20) and (21) are acceptable. According to the SOA, the *persuadee* DP may be either a constituent of the matrix clause or a constituent of the embedded clause.

This is confirmed by the facts from scrambling with NPIs. Recall from the previous section, that the embedded clause cannot scramble without the nominative *persuadee*. Thus, when the embedded clause is negated, the NPI is in embedded subject position, and we expect the NPI to be unable to scramble without the negated embedded clause. This is illustrated in (22). Conversely, when the matrix clause is negated, and the NPI is a constituent of the matrix clause, we expect the embedded clause to able to scramble without the NPI, as illustrated in (23).

(22) *Chelswu-nun kakey-ey ka-ci anh-tolok amwuto seltukha-ess-ta
Chelswu-Top store-Loc go Neg-Comp NPI persuade-Past-Decl
'Chelswu persuaded some people not to go to the store'

(23) Chelswu-nun kakey-ey ka-tolok amwuto seltukha-ci anh-ass-ta
Chelswu-Top store-Loc go-Comp NPI persuade Neg-Past-Decl
'Chelswu did not persuade anybody to go to the store'

Therefore, the facts from NPI licensing and NPI scrambling provide further support for the claim that the OA is inadequate, while the SOA is able to account for the facts. In short, the *persuadee* DP does not always occupy the same structural position. It is able to occupy either the embedded subject position or matrix object position.

Subsections 3.1, 3.2 and 3.3 have shown that a difference in case on the *persuadee* DP equates to a difference in structural position. This conclusion is in line with the SOA and contrary to the OA. Specifically, when the *persuadee* DP is assigned nominative Case, as in (6a), it is a constituent of the embedded clause, whereas when the *persuadee* DP is assigned accusative case, it is a complement of the matrix predicate. Section 4 summarizes these arguments.

4. Intermediate Conclusions

In Section 2, it was argued that Korean *persuade* behaves differently from Korean ECM configurations in the number of semantic arguments they select for. Korean *persuade* requires three semantic arguments, while Korean *believe* requires only two. The required third semantic

7. The English gloss for (21) is difficult to construct. The NPI is acting like an NPI and the embedded verb is negation. The interpretation is not one of double negation, and therefore, the gloss *Chelswu persuaded nobody not to go to the store* is inappropriate.

argument forces us into a control analysis of Korean *persuade*, in line with Choi (1988) and Hong (1992, 1994).

In Section 3, it was argued that a difference in case equates to a difference in structural position. Specifically, when the *persuadee* DP is assigned nominative case, it is a constituent of the embedded clause. Conversely, when the *persuadee* DP is assigned accusative case, it is a constituent of the matrix clause. Considering a control analysis, this would require that when the controller is assigned accusative case, it is a constituent of the matrix clause and is coindexed with Δ in the embedded clause. When the controller is assigned nominative case, however, it is a constituent of the embedded clause. Being a constituent of the embedded clause, it must be coindexed with Δ in the matrix clause that is satisfying the required third semantic argument of Korean *persuade*. The intermediate conclusions are summarized in (24).

(24) *Summary of Intermediary Conclusions*
- i) Korean *persuade* selects for three semantic arguments.
- ii) Korean *persuade* is an object control predicate.
- iii) A difference in case marking equates to a difference in structural position:
  - a. A nominative marked controller is the subject of the embedded clause creating a backward object control configuration.
  - b. An accusative marked controller is a complement to the matrix verb creating a forward object control configuration.

The primary interest of this paper is (24iiia). A nominative assigned controller is in the subject position of the embedded clause and is coindexed with a null element in the matrix clause. This requires a backward object control configuration. The full structures, including the null element, are presented again in (25) for convenience.

(25) a. Chelswu-nun Δ_i [Yenghi-ka$_i$ kakey-ey ka-tolok]
Chelswu-Top Yenghi-Nom store-loc go-comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

b. Chelswu-nun Yenghi-lul$_i$ [Δ_i kakey-ey ka-tolok]
Chelswu-Top Yenghi-Acc store-Loc go-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

Before moving on to provide an analysis of the structure in (25a), evidence in support of the existence of Δ is desired. The arguments are presented in Section 5.

5. Evidence for the Null Controllee

The aim of this section is to provide evidence for the existence of Δ in both forward (25b) and backward control (25a). The existence of Δ is based upon arguments from honorific licensing, post-nominal quantifier agreement and reflexive binding.

5.1 Honorific Licensing

Hong (1992) argues for two tests that select all and only subjects in Korean. These two tests are honorific licensing and Equi-control constructions. The distribution of honorifics provides support for the existence of a null element in the forward control configuration in (25b).

According to Hong (1992, 1994), only subjects can be honorific and only a subject can license honorific marking on its verb. This is illustrated in the acceptable (26) and the unacceptable (27).

(26) sensayng-nim-i swuhak-ul kaluchi-si-n-ta
teacher-Hon-Nom mathematics-Acc teacher-Hon-Pres-Decl
'The teacher teaches mathematics.' (Hong 1994: 100)

(27) *Minswu-ka sensayng-nim-ul manna-si-ess-ta
Minswu-Nom teacher-Hon-Acc meet-Hon-Past-Decl
'Minswu met the teacher.' (Hong 1994: 102)

In the acceptable (26), the subject is honorific and licenses the honorific marker on the verb. In the unacceptable (27), the subject is not honorific but instead the object is, and thus it is unacceptable.[8] Next, we examine honorific licensing in the construction under investigation, as analyzed in Cho (1988) and Hong (1992, 1994).[9]

(28) Chelswu-nun sensayng-nim-i kakey-ey ka-si-tolok
Chelswu-Top teacher-Hon-Nom store-Loc go-Hon-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded the teacher to go to the store.'

In (28), the nominative marked controller is honorific. From the discussion in Section 3, it was argued that the nominative DP is a constituent of the embedded clause. The honorific subject licenses the honorific marking on the embedded predicate in (29).

8. It is the argument that licenses the honorific morpheme on the verb, because the honorific marker is optional when the subject is honorific. However, the honorific morpheme cannot concatenate to the verb unless the subject is honorific.

9. Although it may be pragmatically awkward to persuade an honorific marked nominal, this construction is still control and not ECM. The interpretation is synonymous with the examples in (25). Additionally, a similar contrast with regard to embedded clause scrambling is observed. The embedded clause is permitted to scramble with the honorific DP. If it were ECM, we would not predict the embedded clause to scramble with the ECM subject, as it is not an argument of the matrix verb. See Hong (1994) for similar arguments.

(29) Chelswu-nun [sensayng-nim-i kakey-ey ka-si-tolok]
Chelswu-Top teacher-hon-nom store-loc go-hon-comp
seltukha-ess-ta
persuade-past-decl
'Chelswu persuaded the teacher to go to the store.'

The example of particular interest is presented in (30). Notice that the crucial difference between (28) and (30) is that the controller is accusative, and honorific marking is still licensed on the embedded verb. This should be illicit if only subjects can license honorifics.

(30) Chelswu-nun sensayng-nim-eul kakey-ey ka-si-tolok
Chelswu-Top teacher-Hon-Acc store-Loc go-Hon-Comp
seltukha-ess-ta
persuade-past-decl
'Chelswu persuaded the teacher to go to the store.'

Section 4 argued that Korean *persuade* is an object control predicate and that the accusative *persuadee* DP is coindexed with Δ in the embedded clause, as in (25b). I argue that it must be Δ in the embedded clause that licenses the honorific morpheme on the embedded predicate. The proposed structure of (30) is presented in (31).

(31) Chelswu-nun sensayng-nim-ul$_i$ [Δ_i kakey-ey ka-si-tolok]
Chelswu-Top teacher-Hon-Acc store-Loc go-Hon-Comp
seltukha-ess-ta
persuade-past-decl
'Chelswu persuaded the teacher to go to the store'

The next section provides evidence for Δ in the backward control configuration (25a) based upon postnominal quantifier agreement.

5.2 Postnominal Quantifier Agreement

In Korean, if a quantifier follows the DP it modifies, the two must agree in case (Gerdts 1987, Choi 1988, Cho 2000). This is illustrated in the examples in (32) and (33), which show nominative agreement and accusative agreement, respectively.

(32) a. haksayng-tul-i motwu-ka/*lul us-ess-ta
student-Pl-Nom all-Nom/*Acc laugh-Past-Decl
'All the students laughed.' (Cho 2000:193)

b. haksayng-tul-i twul-i/*ul Chelswu-lul ttali-ess-ta
student-Pl-Nom two-Nom/*Acc Chelswu-Acc hit-Past-Decl
'Two students hit Chelswu.' (Cho 2000:193)

(33) a. Mary-ka haksayng-tul-ul motwu-lul/*ka sohwanha-ess-ta
Mary-Nom student-Pl-Accall-Acc/*Nom call-Past-Decl
'Mary called all the students.' (Cho 2000:193)

b. Mary-ka haksayng-tul-ul twul-ul/*i sohwanha-ess-ta
Mary-Nom student-Pl-Acctwo-Acc/*Nom call-Past-Decl
'Mary called two students.' (Cho 2000:194)

In (32a), the quantifier *motwu* 'all' agrees in nominative case with its modified DP *haksaeng* 'student'. The same is true in (32b). The examples in (33) correspond to those in (32) with the exception of accusative case agreement rather than nominative case agreement.

The case-marked quantifier can appear in any position to the right of its modified DP preceding the verb; it cannot, however, appear left of the quantified DP (Cho 2000). This is illustrated in (34).

(34) a. *twul-i haksayng-tul-i us-ess-ta
two-Nom student-Pl-Nom laugh-Past-Decl
'Two students laughed.' (Cho 2000:194)

b. *Mary-ka motwu-lul haksayng-tul-ul sohwanha-ess-ta
Mary-Nom all-Acc student-Pl-Acc call-Past-Decl
'Mary called all the students.' (Cho 2000:194)

In (34a), the quantifier *twul* 'two' is marked with nominative case and precedes its nominative case-marked quantified DP *haksayng* 'student'. This causes the unacceptability. A parallel explanation accounts for the unacceptability of (34b). Prenominal quantifiers, on the other hand, are not overtly Case-marked, as in (35).[10]

(35) a. twu haksayng-tul-i us-ess-ta
two students-Pl-Nom laugh-Past-Decl
'Two students laughed.' (Cho 2000:195)

b. Mary-ka motun haksayng-tul-ul sohwanha-ess-ta
Mary-Nom all student-Pl-Acc call-Past-Decl
'Mary called all the students.' (Cho 2000:195)

Recall from Section 3.2.3 that the accusative marked *persuadee* DP is a constituent of the matrix clause, and thus the embedded CP can scramble without the accusative *persuadee* DP. This was presented in (14). The example is reproduced below for convenience.

10. Prenominal quantifiers in Korean show a different phonological shape than their postnominal counterparts. For example, 'all' in prenominal position is *twu*, while it is *twul* in postnominal position.

(14′) Chelswu-nun [kakey-ey ka-tolok] Yenghi-lul seltukha-ess-ta
Chelswu-Top store-Loc go-Comp Yenghi-Acc persuade-Past-Decl
'Chelswu persuaded Yenghi to go to the store.'

If the *persuadee* is semantically quantifiable, then we expect it to license a quantifier in its now post-clausal position. This is illustrated in (36).

(36) Chelswu-nun [kakey-ey ka-tolok] ai-tul-ul motwu-lul
Chelswu-Top store-Loc go-Comp child-Pl-Acc all-Acc
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded all the children to go to the store.'

Notice that because the quantifier is postnominal, it must agree in case with the quantified DP, even in post-clausal position. This is expected. In (36), the DP *child* and its quantifier are assigned accusative case by the matrix verb. Next consider the example in (37).

(37) Chelswu-nun ai-tul-i_i kakey-ey ka-tolok motwu-lul**$_i$**
Chelswu-Top child-Pl-Nom store-Loc go-Comp all-Acc
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded all the children to go to the store.'

In (37), the quantifier disagrees in case with the overt quantified DP.[11] This should be illicit considering the facts regarding Korean case agreement between the quantifier and quantified DP outlined above. The accusative case on the quantifier must be licensed somehow. The overt *persuadee* DP cannot license it, as it is nominative. I attribute this disagreement to the existence of a null element, or controllee, coindexed with the controller. The proposed structure of (37) is presented in (38).

11. An expected example is presented in (i).

(i) *Chelswu-nun Δ_i motu-lul [ai-tul-i_i kakey-ey ka-tolok]
Chelswu-Nom all-Acc child-Pl-Nom store-Loc go-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded all the children to go to the store.'

This example, however, is unacceptable. I do not have a concrete answer explaining its deviance. One possibility is due to a processing problem. The quantifier precedes the overt DP and is marked with accusative case. Were the quantifier marked with nominative case and a constituent after the embedded clause, crucially after 'child', the example is acceptable.

(38) Chelswu-nun [ai-tul-i kakey-ey ka-tolok] [Δ_i motwu-lul$_i$]
Chelswu-Top child-Pl-Nom store-Loc go-Comp all-Acc
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded all the children to go to the store'

The configuration in (38) shows that the accusative case on the quantifier can be explained if it is licensed by Δ coreferenced with the overt nominative case-marked *persuadee*. The embedded subject shows nominative case and the quantifier receives accusative case by virtue of being in agreement with the direct object. The peculiar case disagreement exhibited by the example in (39) is accounted for with a backward control structure. Next, I present evidence from reflexive binding that provides additional support for the phonetically empty element in backward control.

5.3 Reflexive Binding

Korean has three local reflexive anaphors: *seolo* 'each other', *jaki-jasin* and *keu(nyeo)-jasin* 'himself (herself)'. JM Yoon (1989) argues that the local reflexives (the type mentioned above) in Korean are subject to Condition A of the binding theory (Chomsky 1981). For the examples we are concerned with here, we can formulate the requirement as reflexive anaphors must be bound within their own clause. The sentence in (39), however, initially seems to be a counter example.[12]

(39) Chelswu-nun [Yenghi-ka$_i$ ka-tolok] [$_{PP}$ kunyecasin-ul$_i$
Chelswu-Top Yenghi-Nom go-Comp herself-Acc
yuik-ul wihay] seltukha-ess-ta
for benefit-Acc persuade-Past-Decl
'Chelswu, for herself's$_i$ benefit, persuaded Yenghi$_i$ to go.'

Chelswu is masculine, and *Yenghi* is feminine. In (39), the matrix feminine reflex is bound by the embedded subject *Yenghi*. This poses two problems with the conditions argued for by JM Yoon 1989. First, the anaphor is not c-commanded by its antecedent. Second, the antecedent is not local. Thus, the interpretation in (39) should be impossible. The acceptability of this interpretation, I argue, is due to the existence of Δ in the matrix clause. The reflexive in (39) is

12. The example in (i) is also acceptable.

(i) Chelswu-nun [$_{PP}$ kunyecasin-uy$_i$ yuik-ul wihay] Yenghi-ka$_i$ ka-tolok
Chelswu-Top herself-gen benefit-acc for Yenghi-Nom go-comp
seltukha-ess-ta
persuade-past-decl
'Chelswu, for herself's$_i$ benefit, persuaded Yenghi$_i$ to go'

The reason for using (39) is because the matrix PP adjunct is unambiguously a constituent of the matrix clause, as it is in post-embedded clause position. The matrix adjunct PP is also possible in pre-embedded clause position.

embedded within an adjoined matrix PP.[13] The controller is nominative, and is therefore a constituent of the embedded clause. The Δ, however, is in argument position of the matrix predicate that is coindexed with the embedded subject. This is illustrated in the structure in (40).

(40) Chelswu-nun [Yenghi-ka$_i$ ka-tolok] Δ_i [$_{PP}$ kunyecasin-ul$_i$
Chelswu-Top Yenghi-Nom go-Comp herself-Acc
yuik-ul wihay] seltukha-ess-ta
benefit-Acc for persuade-Past-Decl
'Chelswu, for herself's$_i$ benefit, persuaded Yenghi$_i$ to go.'

Therefore, the antecedent of the reflexive is not the overt DP *Yenghi* but the Δ in the matrix clause that is coindexed with the overt DP. Thus, by having Δ in the matrix clause, Condition A is satisfied, and the interpretation in (39) is licensed.

The arguments in Section 5 from honorific licensing, post-nominal quantifier agreement and reflexive binding support both the ideas that Korean *persuade* licenses a control configuration and the existence of Δ coindexed with the overt controller. Moreover, evidence from postnominal quantifier agreement and reflexive binding support the existence of Δ in backward control, similar to the structure presented in (25a). In Section 6, I consider the identity of Δ. I discuss a *pro*-based analysis and show where it is inadequate both empirically and theoretically. I provide a control-is-movement analysis and discuss its advantages.

6. Analysis

The goal of this section is to determine the identity of Δ in the Korean object control constructions in (25). Within the traditional Principles and Parameters theory of grammar, as described in Chomsky (1981) and Chomsky and Lasnik (1993), there are few possibilities for the identity of Δ. The first, most obvious choice is PRO. This analysis is inadequate regardless of which assumptions regarding PRO you accept, whether it be the government-based-view of PRO (Chomsky 1981), the case-less view of PRO (Bouchard 1984), the null-case analysis (Chomsky and Lasnik 1993; Martin 1996; Bošković 1997) or an Agreement view of exhaustive control (Landau 2000). These problems are discussed at greater length in Polinsky and Potsdam (2002).

Another logical possibility is *pro*, which is an empty category that alternates with overt DPs. In this section I reject the *pro* approach for exhaustive control and instead argue for a control-is-movement analysis.

6.1 Pro Analysis

Polinsky and Potsdam (2002) argue for backward subject control in the Caucasian language Tsez. They argue that Tsez has a control *oqa* 'begin' that assigns an external θ-role.[14] The structure assigned to control *oqa* is presented in (41).

13. I leave the exact structure for (40) aside. It seems reasonable that the PP is adjoined to the matrix VP, however.

(41) $\Delta_{i/*k}$ [kidba:$_i$ ziya bišra] yoqsi
girl-erg cow-abs feed-inf begin-past
'The girl began to feed the cow.' (backward control; Polinsky and Potsdam 2002)

The standard PRO approach is inadequate for backward control. Therefore, Polinsky and Potsdam (2002) adopt a control-is-movement analysis, whereby the embedded subject raises covertly into the matrix clause in order to license the φ-features and θ-role of the matrix verb. For specifics, I point you toward the original paper.

Cormack and Smith (2002), however, propose an alternative. They build upon an analysis rejected by Polinsky and Potsdam (2002:fn17) that analyzes the null (external) argument of the control verb as *pro* and not PRO. The matrix subject is *pro* and is obligatorily coindexed with the overt embedded subject, as in (42).

(42) [$_{TP}$ [$_{DNP}$ *pro*$_i$] [$_{TP}$ [girl$_i$ [$_{VP}$ the cow feed]] began] T]

Although Cormack and Smith (2002) provide an account for backward subject control, it can presumably be adjusted as to account for backward object control. An analysis that has *pro* as Δ applied to the Korean backward control data in (25a) is presented in (43), substituting-in English words for exposition. The null object *pro* is in matrix spec,V^o and is coindexed with the embedded subject.

(43) [$_{TP}$ Chelswu [$_{VP}$ [$_{DNP}$ *pro*$_i$] [$_{V'}$ [$_{CP}$ Yenghi$_i$ store go] persuaded]]]

Initially, an analysis of this sort looks promising in Korean, as it is a null object language (Cole 1987; Speas 1995), and the null element can alternate with an overt pronoun in post embedded clause position, which is discussed below.

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14. Polinsky and Potsdam (2002) provide considerable evidence that there are two *begin* verbs in Tsez, one raising and one control. One such argument comes from evidence that an inanimate is available only with the raising verb and not with the control verb. This is illustrated in (i), (ii) and (iii).

(i) k^{w}art'-ā čikay yexur-si
hammer-Erg glass.Abs break-Past.Evid
'The hammer broke the glass.'

(ii) #k^{w}art'-ā čikay yexur-a roq-si (control)
hammer-Erg glass.Abs break-Inf begin-Past.Evid

(ii) k^{w}art'a čikay yexur-a roq-si (raising)
hammer.Abs glass.Abs break-Inf begin-Past.Evid
'The hammer began to break the glass.' (Polinsky and Potsdam 2002: 250)

This along with other evidence indicates that control *begin* assigns a θ-role to its subject, while raising *begin* does not. I point you toward Polinsky and Potsdam (2002) for additional arguments of the facts.

Polinsky and Potsdam (2002:fn17) rejected a *pro*-based analysis on three grounds. First, an obligatory control relationship in the above structure does not exist. This is because *pro* is not required to be interpreted with another argument in the same sentence. Cormack and Smith (2002:366) account for the obligatory control interpretation with a meaning postulate in the lexical entry of the backward control verb. Their Meaning Postulate was for subject control verbs. In (44), I extend it to object control verbs.[15]

(44) $\forall s \forall x \forall y$ [PERSUADE.s.x.y $\rightarrow$ x is an agent in the event given by s]
Where type x, y = ‹e›, type s = ‹t›

This Meaning Postulate coindexes *pro* in the matrix object position with the agent of the embedded clause, creating the obligatory control relationship.

The second problem with a *pro* account, according to Polinsky and Potsdam (2002), is that it fails to explain why *pro* cannot alternate with an overt DP in Tsez. Cormack and Smith (2002) do not address this issue.

Finally, as Polinsky and Potsdam (2002) note, *pro* c-commands its antecedent, which is a clear violation of Condition C of the Binding Theory. In order to address problem, Cormack and Smith (2002) propose that in the lexical entry of backward control verbs, there is a different stipulated structure. They propose that *pro* is base generated in a position where it does not c-command its antecedent. In extending this to Korean, the lexically required structure for Korean *persuade* would not be as presented in (42), but rather as in (45).

(45) [$_{TP}$ Chelswu [$_{VP}$ [$_{CP}$ Yenghi$_i$ store go] [$_{V'}$ [$_{DNP}$ *pro*$_i$] persuaded]]]

Korean *persuade* is then required to have the lexical entry that states the configuration presented in (45) to be unmarked.[16] Notice that *pro* does not c-command its antecedent. The Meaning Postulate then applies and provides the control interpretation.

There are a number of problems with the *pro*-based analysis in extending it to the Korean control facts. First, Cormack and Smith (2002:367) argue that it should be impossible to have a distributively quantified controller. This is because it is not in a structural configuration to bind the controllee. The variable is not in a c-command relationship with its binder. However, Korean backward control does license distributed quantifiers in the embedded subject position, as in (46) and (47).

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15. Cormack and Smith (2002) propose the Meaning Postulate in (i) to account for the obligatory control relationship in the *try* backward subject control examples from Tsez:

(i) $\forall s \forall x$[TRY.s.x. $\rightarrow$ x is an agent in the event given by s]
Where type x = ‹e› and type s = ‹t›

16. For Cormack and Smith (2002), a lexical entry like that in (45) would necessarily be unmarked. Because Korean allows both forward and backward control, it must be the case that Korean has the option of the lexical entry in (48) for backward control or one where *pro* is a constituent of the embedded clause for forward control.

(46) Chelswu-nun [kakkak-uy ai-ka swukcay-lul ha-tolok]
Cheoslu-Top each-Gen child-Nom homework-Acc do-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded each child to do the homework.'

(47) Chelswu-nun [ai-tul-i motwu-ka swukcay-lul ha-tolok]
Cheoslu-Top child-Pl-Nom every-Nom homework-Acc do-Comp
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded every child to do the homework.'

The structure assigned to (46), under the *pro* account, is presented in (48). The QP must c-command *pro*, which is not the case.

(48) $[_{TP}$ Chelswu $[_{VP}$ $[_{V'}$ $[_{CP}$ $[_{DP}$ each child$_i$] homework do] $[_{DP}$ *pro*$_i$] persuaded]]]

Another issue relating to the *pro* account regards the Meaning Postulate in (43). Because it is a semantic condition and not a syntactic one, the Meaning Postulate allows coreference between *pro* and a non-subject agent of the embedded clause, as in a passivized embedded clause, for example.

(49) Chelswu-nun *pro*$_{*i/j}$ [Swuyeng-i$_j$ Yenghi-eykey$_i$ intephyu
Chelswu-Top Swuyeng-Nom Yenghi-Dat interview
pat-tolok] seltukha-ess-ta
pass-Comp persuade-Past-Decl
'Chelswu persuaded Swuyeng to be interviewed by Yenghi.'
'*Chelswu persuaded Yenghi$_i$ that she$_i$ be interviewed by Swuyeng.'

In (49), the Meaning postulate (44) predicts that *Yenghi*, the agent of the embedded clause, is coreferenced with *pro* in the matrix clause. This, however, is an unavailable interpretation. Rather, *pro* must be coindexed with the embedded passive subject *Swuyeng*. Thus, as long as the Meaning Postulate is formulated as it is in (44), it incorrectly predicts the controller-controllee relationship when the embedded clause is passivized in Korean backward object control configurations.

Moreover, *pro* is impossible in pre-embedded clause position. This is obvious from the unacceptability of (50).

(50) *Chelswu-nun kunye-lul$_i$ Yenghi-ka$_i$ kakey-ey ka-tolok seltukhaessta
Chelswu-Top she-Acc Yenghi-Nom store-Loc go-Comp persuaded
'Chelswu persuaded Yenghi to go to the store.'

This unacceptability results from a condition C violation. A coreferential pronoun is possible, however, in post-emedded clause position. This is presented in (51).

(51) Chelswu-nun Yenghi-ka kakey-ey ka-tolok kunye-lul$_i$ seltukhaessta
Chelswu-Top Yenghi-Nom store-Loc go-Comp she-Acc persuaded
'Chelswu persuaded Yenghi to go to the store.'

This indicates a possible solution that more closely resembles Cormack and Smith (2002) may be adequate. However, in (52), a reflexive, which requires a binder, cannot be bound by the embedded quantified subject DP, despite the fact that the reflexive is in post-embedded clause position and no longer c-commands its antecedent.

(52) Chelswu-nun motwu-ka$_i$ kakey-ey ka-tolok caki-lul$_{*i}$
Chelswu-Top everyone-Nom store-Loc go-Comp self-Acc
seltukha-ess-ta
persuade-Past-Decl
'Chelswu persuaded themselves that everyone to go to the store.'

Therefore, in an example which requires binding between the embedded subject and the matrix object, a coreferential interpretation is unavailable. This further suggests that it is a not a *pro* analysis.

Finally, in Korean, following Cormack and Smith (2002), we are required to postulate two argument orders, rather than one unmarked one. Although this fact, in and of itself, is not sufficient to reject the *pro* analysis, it does complicate the lexical properties of object control verbs, which is undesirable if there is another alternative.[17]

17. In a more recent paper, Cormack and Smith (2004) reply to the problems raised here for their analysis of backward control. They take a similar stance for backward object control in Korean and Japanese by using a scrambled word order (45) and meaning postulate similar to (44). Their primary objection to a backward control analysis like that in Polinsky and Potsdam (2002) and the one presented here is that a copy theory of movement results in non-compositionality. Neither Hornstein (1999), Polinsky and Potsdam (2002) nor a possible LF movement analysis of the facts here (fn. 19) relies on the fact that copies as opposed to traces are the residues of movement. The analysis works with either a copy theory or a trace theory (although in Section 6, I do sketch a movement analysis that relies on the ability to pronounce either the head or tail of a copy of a chain at PF).

Moreover, the Korean/Japanese (KJ) *pro* analysis (Cormack and Smith 2004) is not without problems. The KJ *pro* analysis requires that the null *pro* is an e-type pronoun that receives its reference from a Meaning Postulate. Crucially, it is not a bound variable pronoun. Evans (1977, 1980) argued that e-type pronouns cannot receive a distributive reading, nor can they be bound by NPIs. This raises two issues. First, the KJ *pro* analysis still does not capture the fact that in examples like (46) and (47) a distributed reading is possible. The current *pro* analysis must treat the controller (*pro*) as a group predicate: "each of the group performed some action, which jointly caused the Event to be realized" (Cormack and Smith 2004: 78). This still does not account for the individual distributed reading where each child does their homework independently to an independent outcome, as in (46) and (47). More detrimental to the e-type analysis of backward control is the fact that in Korean, an NPI can be licensed as the embedded subject. The facts for NPIs in the Korean backward control configuration are presented in

In the next section, I follow Polinsky and Potsdam (2002) in adopting a control-is-movement analysis of exhaustive backward control, and show that it is superior to the *pro*-analysis that was discussed in this Section 6.2. First, I discuss the mechanics, and second, I show how it circumvents the problems encountered in adopting a *pro* approach to backward control in Korean.

6.3 Control is Movement Analysis

Hornstein (1999) aims to completely eliminate the control module from the grammar by reducing PRO to a residue of DP movement.[18] Since the inception of the Minimalist Program (Chomsky 1993, 1995), numerous attempts have been made to eliminate the seemingly stipulatory control module from the grammar by reducing control to movement, analysis-specific details aside (O'Neil 1995; Lidz and Idsardi 1998; Hornstein 1999; Manzini and Roussou 2000). Despite there being no general consensus as to how control should be accounted for adopting minimalist ideals, there exists, I believe, a push toward its elimination as an autonomous module.

The control-is-movement analysis rests on the assumptions that chains may contain more than one θ-role and that movement into θ-positions is a permissible operation (Brody 1993; Bošković 1994). Furthermore, θ-roles are reduced to features that must be checked/deleted in the course of a derivation (Bošković and Takahashi 1998; Hornstein 1999). The example in (53) illustrates object control (Hornstein 1999: 83).

(53) a. John persuaded Harry to leave.
b. [$_{TP}$ John [$_{T^o}$ past [$_{VP}$ John v + persuaded [$_{VP}$ Harry persuaded [$_{TP}$ Harry [to [$_{VP}$ Harry leave]]]]]

Section 3.2.4. If *pro* is a group predicate, then it should be impossible for *pro* to bind an NPI, as a group predicate cannot denote a group of nothing.

The KJ *pro* analysis response to the problems with passivization and the Meaning Postulate, as in (49), is also not without problems. The KJ *pro* analysis claims that agentivity is required, but it is obtained by 'causative coercion.' For the KJ *pro* analysis, the actual interpretation of (49) is something like *Chelswu persuaded Swuyeng*$_i$ *to let herself*$_i$ *be interviewed by Yenghi*. Recall that *force* in Korean also licenses backward control. If we paraphrase that interpretation using *force*, the KJ *pro* analysis encounters problems. In *John forced Mary to be hit by Bill*, there is no interpretation where *Mary* is allowing herself to be a participant in the action. Moreover, by denying that *Yenghi* is the agent in the passivized embedded clause, the KJ *pro* analysis denies that Meaning Postulates range over thematic structure, but instead range over objects. This is a further complication to the alternative and the interpretative mechanisms. Finally, it is unable to account for the fact that a reflexive cannot be bound in post embedded clause position by the embedded subject, as in (52). In short, it appears that the KJ *pro* analysis does not account for the issues raised here and instead encounters additional problems.

18. Engelhardt (1999), Landau (2000, 2003), Culicover and Jackendoff (2001) and Miller (2002) discuss problems with reducing the control module to the theory of movement. Landau (2000:2) describes PRO and control theory as perhaps "an irreducible fact of UG." (See Boeckx and Hornstein 2003, 2004 for replies.)

In (53), *Harry* merges with the embedded verb and checks its θ-feature. *Harry* is then raised again into embedded spec,Tº to satisfy the EPP requirement. The embedded subject then raises into the θ-position of the matrix verb and checks the θ-feature of the matrix verb. It is in this position that it checks accusative case. These operations all occur in the overt syntax. Crucially, the chain bears more than one θ-role.

Polinsky and Potsdam (2002, 2003) account for backward control in Tsez and Malagasy by positing LF movement of the controller into matrix subject position. The thematic requirements of the matrix verb drove the covert movement of the embedded subject into the matrix clause. Here, I maintain that control-is-movement adequately accounts for the facts from Korean, but pursue a slightly different approach.[19]

Adopting a copy theory of movement, it has been proposed that language has a choice in determining which member of a chain survives PF deletion (Bobaljik 1995; Richards 1997; Pesetsky 1998; Nunes 1999, 2004; Bošković 2002). According to this approach, movement always takes place in the overt syntax. It is at PF, however, where the option of pronouncing the head or tail of a chain arises. If the head of a chain is pronounced, this is the correlate of overt movement. If the tail of the chain is pronounced, this is the correlate of covert movement. Crucially, however, the phrase markers sent to LF and PF are identical. PF deletion causes the apparent contrast. An analysis of this sort was worked out by Bošković (2002) to obviate a PF constraint against consecutive homophonous *wh*-words in Serbo-Croatian.

This mechanism allows us to posit that the movement in Korean control cases is always overt. At PF, then, there is the option of pronouncing the head of the chain, with accusative case from *persuade*, or pronouncing the tail of the chain, with nominative case from embedded T°. Because multiple structural case is illicit (J Yoon 1996), we are forced to assume that the nominative case assigned by embedded T° is not structural.

To sketch the analysis proposed here, first, the DP *Yenghi* is merged in the embedded spec,T°. There, it satisfies the thematic requirements of *go* and the φ-features of embedded T°. Still in the overt syntax, it merges into matrix object position, satisfying the thematic requirements of the matrix verb. In this position, *Yenghi* is marked with accusative case. Therefore, the phrase marker sent to PF appears as in (54).

(54) [$_{CP}$ [$_{IP}$ Chelswu-Top [$_{VP}$ Yenghi-Acc [$_{CP}$ [$_{IP}$ Yenghi-Nom [$_{VP}$ store-Loc go]] Comp] persuade] Past] Decl]

At PF, either the head of the chain or the tail of the chain can be pronounced, while the other copy is deleted. The forward control structure is then presented in (55) and the backward control structure is presented in (56).

(55) [$_{CP}$ [$_{IP}$ Chelswu-Top [$_{VP}$ Yenghi-Acc [$_{CP}$ [$_{IP}$ ~~Yenghi-Nom~~ [$_{VP}$ store-Loc go]] Comp] persuade] Past] Decl]

19. An LF movement analysis can be easily worked out for the facts. Crucially, in this analysis, Case must be optionally licensed in the embedded subject position. If nominative case is not licensed in embedded subject position, then *Yenghi* raises into the matrix clause before Spell-Out. If nominative case is licensed in embedded subject position, then the phrase marker can be sent to PF and pronounced, while *Yenghi* further raises covertly into the matrix clause. This analysis, like Hornstein (1999) and Polinsky and Potsdam (2002,2003), does not crucially rely on a copy theory of movement. Traces could be left behind, and the same analysis would hold.

(56) [$_{CP}$ [$_{IP}$ Chelswu-Top [$_{VP}$ ~~Yenghi-Acc~~ [$_{CP}$ [$_{IP}$ Yenghi-Nom [$_{VP}$ store-Loc go]] Comp] persuade] Past] Decl]

The thematic requirements, case requirements and φ-feature requirements have already been satisfied, and therefore, no LF movement is necessary. The optionality of accusative or nominative case marking, and therefore structural position, results as a byproduct of the ability to pronounce either the head or tail of a nontrivial chain. This analysis also accounts for the facts in Section 5. The accusative marked quantifier and the matrix reflexive are licensed by the head of the chain at spell-out. For the post-nominal quantifier agreement data in (37), the accusative marked universal quantifier is licensed by the copy of *Yenghi* that is deleted at PF. A similar account holds for the locally bound reflexive *kunyecasin* 'herself' in (39). The copy of *Yenghi* that is deleted at PF is licensing the reflexive.

Deletion of the tail of the chain is preferred (Bošković 2002). This provides a rationale for the general cross-linguistic preference for forward control. It does, however, predict that backward control, as I have shown for Korean, is a possible configuration.[20]

This analysis raises the question of why we do not see a similar configuration in English. For example, if control-is-movement, then why is English unable to pronounce the lower copy of the chain, resulting in a 'backward' control configuration? This must be due to case licensing possibilities on the embedded subject of an infinitival clause. It has been documented extensively that Korean licenses nominative case on infinitival subjects. This is particularly salient in ECM constructions (Kang 1998) and causative constructions (Lee 1992). English apparently never licenses infinitival subjects. Therefore, because infinitival subjects in Korean are case marked, this allows for their pronunciation at PF. Following Yoon (1996), however, chains are unable to receive/check two structural cases. Thus, this infinitival nominative is likely something other than a structural case. This is not particularly surprising, as in most accounts it is analyzed as a default nominative (Kim 1990; Kang 1998), or it is perhaps some sort of quirky case. Either way, its distribution does not seem to be that of the other structural cases. In short, the conjecture is that it is this infinitival case marking that permits the pronunciation of the tail of the chain in Korean and explains why languages like English do not permit it.

7. Conclusion

In this paper, I have presented novel evidence in support of the claim that Korean licenses backward control in object control predicates. The empirical contribution is that of an additionally documented backward control configuration, which adds to the presently growing number of backward control configurations found cross-linguistically. Second, it was illustrated

20. Howard Lasnik (p.c.) raises the issue of what forces the pronunciation of the lower copy. For Boškovič (2002), there were additional constraints that forced the pronunciation of the lower copy of a *wh*-chain. For our purposes here, because the accusative and nominative freely alternate, it is unclear what the motivating factor is beyond the simply optionally to do so. We could speculate that when the lower copy is pronounced, it is because it has been assigned a structural nominative case from embedded infinitival T. This complicates the problem because now the chain has two structural cases, which should be impossible (Yoon 1996). For now, because the forward and backward control constructions seem to be in free variation, I suggest that it is simply a matter of optionality of which copy is pronounced.

that the *pro*-based approach, despite modifications by Cormack and Smith (2002), was inadequate in accounting for backward control. Instead, it was shown that a control-is-movement analysis, as exploited in Polinsky and Potsdam (2002), adequately accounts for the construction, which I argued, results from the ability to pronounce either the head or tail of a PF chain.

8. References

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