Backward control in Korean and Japanese[*]

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Abstract

Monahan (2003) argues that Korean has 'Backward Control' structures, offering an analysis in terms of Hornstein's 1999 Copy Theory account of Control. Since we have argued that backward control is impossible, we offer an alternative account of the Korean data. We argue that Korean and Japanese fall under one of the possible accounts that we suggested in our discussion of Tsez, that is, Semantic Control plus scrambling. We show that Korean, unlike Tsez, has properties that allow certain overt quantified controllees to obtain the interpretation which we would expect from standard (forward) control with an overt quantified controller.

1 Preliminaries

1.1 Introduction

Although this paper can be read simply as putting forward an alternative to the movement based analyses of Backward Control in Korean and Japanese, we see it as a contribution to a discussion of more fundamental questions — issues concerning the syntax of LF, the mental mapping from LF to representations at the Conceptual-Intentional interface posited in Chomsky's Minimalist Program, and the construction of meaning.

In the familiar lexically induced complement control, 'Forward Control', the structure, in a head-final language will be as in (1a) or (1b). In 'Backward Control', the structure is putatively as in (2a) or (2b). In each case the dash indicates the position of the 'understood' argument. We give a head-final order only because it allows a representation where the c-command relations can be seen directly without counting brackets — an argument c-commands one to its right. Different word orders and further structure are not immediately relevant to our discussion.

(1)   **Forward control**
       a. [Mary [[— to win] tried]]
       b. [John [Mary [[— to leave] persuaded]]]

(2)   **Backward Control**
       a. [— [[Mary to win] tried]]
       b. [John [— [Mary to leave] persuaded]]

The pre-theoretical terminology we use is as follows. Suppose we have a sentence like that in (3a). At some level of representation, for example that used for inference, it will have the form in (3b), where the three arguments of the Language of Thought verb PERSUADE are shown to its left:

(3)   a. *John persuaded Mary to leave*
       b. [john] [**mary**] [**mary** to leave] persuaded

We refer to the propositional complement of *persuade* as a clause whether or not it has a subject realized syntactically. We may refer to this clause as the Event argument of *persuade*. We refer to the matrix-argument occurrence of *Mary*, or a null element in this position, as the controller; and to the occurrence within the complement clause, again either of *Mary* or a null element in this position, as the controllee. The terminology is to hold even under different word orders. When we need to refer to *Mary* neutrally, as in the unanalysed (3a), we call it the control argument. Independent of any analysis, in Forward Control, the controller is overtly realised at PF, and the controllee within the Event argument is null or absent in NL syntax. In Backward Control, it is the controller which is null or absent in NL syntax, and the controllee which is overt at PF.
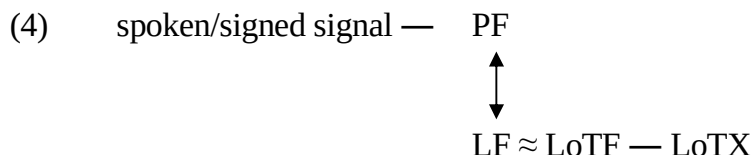
   We are not taking issue with the arguments in the literature that there are languages, including Tsez, Korean and Japanese,[1] in which the control argument ('Mary' here) is phonologically realised internal to the clausal argument of the control verb. It is this phenomenon which constitutes Backward Control.

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   [1] Languages which may have Backward Control include Tsez, (Polinsky and Potsdam 2002; see Cormack and Smith 2002 and ms.) and some other Nakh-Daghestanian languages; Malagasy (Polinsky and Potsdam 2003); Romanian (Alboiu 2004), Brazilian Portuguese (Farrell 1995).

1.2 Representations

Our ultimate interest is what natural language tells us about the human mind. We assume Chomsky's Minimalist conception of syntax, and Sperber and Wilson's inferential theory of Pragmatics. In the Minimalist program, syntax is a system that pairs a PF and an LF, where the LF is interpreted at the Conceptual-Intentional interface. In pragmatics, the minimal required interpretation of a sentence, its Explicature (Sperber & Wilson, 2002; Carston, 2002), is a representation which is obtained from the output of the language system by inference, where this inference utilises contextually available information. We assume that this inference takes place in a 'logical' language, 'Mentalese' or the 'Language of Thought' (LoT) in Fodor's (1975) terminology. This language is logical in the sense that it supports logical inference, so that there must be a coherent semantics for it. By assumption, LoT is a language whose syntax and basic vocabulary are fixed by properties of the human mind/brain, though some of the vocabulary differs from person to person.

  The simplest assumption about the connection between LF and the inferential system would be that the Conceptual-Intentional (C-I) Interface (Chomsky 1995:168) is simply a transducer, so that when an LF is presented to the interface there is a one-one mapping between elements of the two systems, with the LF being mapped onto a representation in LoT which we call LoTF. Under this assumption, *cat* in English is translated into CAT in LoT, and the syntactic structure of the LF corresponds to the structure of the LoTF.[2] We believe that this assumption must be largely correct, though there are problematic items such as Natural Language (NL) pronouns. We will however assume provisionally that LF and LoTF are lexically, and hence structurally, isomorphic (see Smith 1983:10ff., Chomsky 2004: 4). The levels of representation with which we will be concerned for an utterance of a sentence are as indicated in (4).

(4)   spoken/signed signal ── PF

$$\updownarrow$$

LF ≈ LoTF ── LoTX

The double-headed arrow represents narrow syntax. LoTF is result of the translation from the C-I interpretable units of NL into LoT. LoTX is the

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[2] Where it is necessary to distinguish LoT from NL items, we use small capitals for LoT. We reject decompositional accounts of meaning such as that defended by Jackendoff (1983).

'Explicature' (but we show no detail here except with respect to material with which we are directly concerned). We are assuming that it is in the mapping from LoTF to LoTX that occur pragmatic processes like strengthening and weakening, and the interpretation of metaphors and irony, which challenge isomorphism. Disambiguation and reference assignment may sometimes belong here, or may be due to pragmatically driven on-line selection among potential LFs relating to a single PF.[3]

Phonological words (PF lexical items) may nevertheless sometimes correspond to phrases in LF, or to more than one LF item.[4] Much of what is often attributed to a complex translation from LF items to LoT (in some guise) can alternatively be accomplished by assuming that any item of LoT is associated with a 'Logical Entry' containing information relating this item to others (e.g. GIRAFFE to ANIMAL; Sperber and Wilson 1995: 83 ff.,). We refer to an instance of such information as a Meaning Postulate (Fodor 1975: 149ff).[5] Meaning Postulates, along with at least some of the 'Encyclopaedic' information associated with an LoT item, and information derived from context, are used to derive the Explicature (LoTX) from the LoTF of an utterance. Conversely, such information must guide a speaker in formulating an utterance.

1.3 Minimalist theories of control

Within the generative paradigm, control has been analysed in several ways. In Chomsky 1981, and Chomsky and Lasnik 1991 (Chomsky 1995; chapter 1), control was associated with a special anaphor, PRO, licensed only in non-finite clauses. Other Minimalist analyses have rejected PRO, in favour of trace (Hornstein 1996), multiple predication under Agree (Manzini and Roussou 2000), or Copy Theory linking controller and controllee (Hornstein 1999, 2003). Some sample analyses are sketched in (5b) to (5d), for the sentence in (3a), repeated here as (5a). Indexing is for the reader's benefit, and need not be part of syntax — it indicates variously binding, copy, or the argument-predicate relation (where the predicate bears a superscript).

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[3] See Sperber and Wilson 1995, Carston 2002 for discussion of the underdetermination of LoTX relative to the phonological form of an utterance.
[4] Examples may be found in Cormack and Smith 1996, and Larson, den Dikken and Ludlow 1997.
[5] See Chierchia and McConnell-Ginet (1993) for an introduction to Meaning Postulates.

(5)   a. *John persuaded Mary to leave*
        b. John [Mary$_k$] [$_{TP}$ PRO$_k$ to leave] persuaded   PRO as anaphor
        c. John [Mary$_k$] [$_{TP}$ Mary$_k$ to leave] persuaded   Copy Theory
        d. John [Mary]$_k$ [$_{VP}$ to leave]^k persuaded^k Multiple predication

In addition to these theories of control, there is another possibility. LFG has long made a distinction between Functional Control and Obligatory Anaphoric control where, in the latter, the controllee is a bound variable pronoun, with a null phonological realisation. The former is used to explain inter alia English complement control; we will refer to this as 'Syntactic Control', so that all the theories mentioned above are theories of Syntactic Control.[6] We argue below that we need within Minimalism a second theory of complement control, approximating to LFG's Anaphoric Control. We call this 'Semantic Control'.[7] A Semantic Control analysis of *persuade* would be as in (6b). The idea is that the controller and controllee are both syntactically present (though not necessarily phonologically overt), and occur as independent arguments. The fact that *pro* has a local antecedent is ensured not by virtue of its anaphoric content, as with PRO in (5b), but semantically, by the Meaning Postulates associated with the control verb (see section 3).

(6)   a. *John persuaded Mary to leave*
        b. John [Mary$_k$] [$_{TP}$ *pro$_k$* to leave] persuaded
        Meaning Postulates give co-reference.

It is clear that neither the PRO version nor the Multiple Predication version of control is capable of accounting directly for Backward Control, since neither allows for a phonologically overt subject within the embedded clause.

  The Copy Theory account of Forward Control as in (5c), where the control argument is merged initially in the embedded clause, will have its PF derived as in (7a). This extends directly to Backward Control if the PF associated with the moved DNP may instead be realised in a non-final position, as in (7b).[8]

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[6] Borer's (1989) theory of 'Anaphoric Agr' qualifies as a theory of Syntactic Control, despite its hypothesis of pro rather than PRO as the subject in complement control, because the dependency giving rise to control is *syntactically* mandatory when anaphoric Agr is selected.

[7] See also Wurmbrand 2002.

[8] A chain representation with traces could similarly give backward Control under theories where the PF related to the chain can be realised at some position other than the highest in the chain.

(7)   a. John persuaded [Mary$_k$] [M̶a̶r̶y̶$_k$ to leave]   Copy Theory Forward PF
       b. John persuaded [M̶a̶r̶y̶$_k$] [Mary$_k$ to leave]   Copy Theory Backward PF

It is a Copy Theory version of control which has been exploited for 'Backward Control' in Tsez (Polinsky and Potsdam 2002), and Korean (Monahan 2003).[9] We have suggested (Cormack and Smith, 2002) that Copy Theory is not compatible with Minimalist principles, and makes incorrect predictions for Backward Control. We show here that a version of Semantic Control, which also has a full clause (TP) for the Event argument, is viable, and makes correct predictions.

2 Problems with copy theory

There are two sorts of theoretical problem with Copy Theory. The first concerns any structure where the LoTX must be equivalent to an expression containing bound variables. Consider the highly simplified derivations in (8) and (9) In a theory which postulates variables in LoT, LoTX will be relevantly as given in (8d) and (9d)/(9e) respectively.[10] The LF must be either what is shown in (8b) and (9b), or that shown in (8c) and (9c): both options have been assumed in the Minimalist literature.

(8)   a. *Which dog did you chase*?
       b. [**Which dog**] T$^{\textbf{past}}$ do you [**which dog**] chase   LF version 1
       c. [which dog] past do you [w̶h̶i̶c̶h̶ ̶d̶o̶g̶] chase   LF version 2
       d. **WHICH DOG** PAST λx [YOU x CHASE]   LoTX
       e. **WHICH DOG** PAST [YOU CHASE]   variable-free LoTX

(9)   a. *John tried to leave*
       b. **John** T$^{\textbf{past}}$ [[**John**] [**John** to leave]try   ]   LF version 1
       c. john **past** [j̶o̶h̶n̶ [j̶o̶h̶n̶ to leave] try]   LF version 2
       d. JOHN **PAST** λx[[x] [x TO LEAVE] TRY]   LoTX [11]
       e. JOHN **PAST** [TO LEAVE] TRY   variable-free LoTX

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[9] See also Hornstein 2003: §1.8.1.
[10] A variable-free representation for (8a) and (9a) may be obtained in a Categorial Grammar, for example. See below for discussion of (9e).
[11] An equivalent to this lambda expression is required for VP ellipsis in (i):
(i) *John tried to leave, and so did Gerald* [$_{VP}$].

In both the derivations, it can be seen that one or more lower copies have to obtain a new interpretation by LoTX (either as nothing at all, or as a variable with the additional complication of the lambda binder), distinct from that of the head-copy, which has its natural interpretation. In order to adhere to the Inclusiveness Principle (Chomsky 1995:225), we cannot have the object ~~JOHN~~ in LF if only JOHN appears in the lexicon, so that LF version 2 should be rejected. Chomsky 2004: 15 states that all copies are transmitted to the phonological component, which also suggests that version 1 would be the correct one.[12] Hence it must be the representations in (8b) and (9b) respectively that correspond to LF. But adopting LF 1 merely pushes the Inclusiveness problem into the LoT domain, since the representations in (8d)/(8e) and (9d)/(9e) are also subject to syntactic well-formedness conditions. If (8b) and (9b) are translated into LoTX, it also leaves the C-I system to try to make sense of the ill-formed representation that result. The correct strategy for doing so is not obviously one that follows from general processing principles. Either variables should be introduced into narrow syntax, as lexical items, or the representation required for LoTX should not contain variables, but rather be derived as a complex predicate, [[TO LEAVE] TRY], where the complement of *try* is a subject-less verb phrase.[13]

The second concern about Copy Theory concerns compositionality. Consider (10).

(10)   a. E*veryone tried to leave*
         b. **everyone** T$^{\textbf{past}}$ [**everyone** [**everyone** to leave] tried]
         c. everyone **past** [[~~everyone~~] [~~everyone~~ to leave] tried]
         d. [everyone **past** [λx [[x] [x to leave] tried]]]   LoTX
         e. everyone **past**   [[to leave] tried]   variable-free LoTX

The problem is evident most obviously in production. If what a speaker wants to say is given by (10d)/(10e), it is perverse to suppose that she will start constructing the NL structures by merging lexical items to form the LF phrase [EVERYONE TO LEAVE], when this does not enter in to what she is trying to convey. The same problem occurs, somewhat less transparently, in (11):

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[12] A representation similar in relevant respects to (9c) indicates processing done after the representation has reached the Articulatory-Perceptual interface.
[13] Perhaps as in Manzini and Roussou 2000, or with the mediation of combinators as in Cormack and Smith 2002, always assuming that relevant problems put forward in Landau 2003 can be solved under these proposals.

(11)   a. *John persuaded everyone to leave*
        b. John T$^{\textbf{past}}$ **everyone** [**everyone** [**everyone** to leave] persuaded]
        c. john **past** everyone [[~~everyone~~] [~~everyone~~ to leave] persuaded]
        d. john **past** [everyone λx [[x] [x to leave] persuaded]]   LoTX
        e. john **past** [everyone [[to leave] persuaded]]   variable-free LoTX

The problem arises because the LF construction process suggested in (10b) and (11b) is not compositional. But Hornstein's explanation of Backward Control in structures comparable to (11) apparently provides direct evidence that there is indeed a lower copy in movement structures, hence evidence for (11b), and indirectly for (10b).

The compositionality problem raises the related issue of the learnability of the process which gives rise to the kind of representation in (10b) or (11b). In discussing the conceptual primitives of linguistic theory, in a context where this is construed as "a model of how an idealized language acquisition system works", Chomsky (1982:118) observes that such linguistic primitives must meet "a condition of epistemological priority" such that they can be applied to primary linguistic data "pretheoretically" (ibid). He continues by claiming that one such primitive might be the notion 'precede', but that it is implausible that something like 'subject' could be such a primitive. We suggest that compositionality is a plausible, indeed necessary, primitive in this sense. In the case of the control examples we are discussing this would have the implication that the PF representation must bear some transparent relation to the LF (and LoTX) representations. If it did not, each example would be equivalent to an idiom and would need to be learned piecemeal. The systematicity of the phenomena and the associated intuitions of well- and ill-formedness clearly indicate that this is not the case. We take it then that learnability considerations constitute further evidence for our position.

These are the theoretical objections to Copy Theory. At the empirical level, we claim that Copy Theory predicts incorrectly that there can be quantified control arguments in Backward Control. That is, parallel to (7), we can equally expect (12):

(12)   a. John persuaded [everyone$_k$] [~~everyone$_k$~~ to leave]   Forward control PF
        b. John persuaded [~~everyone$_k$~~] [everyone$_k$ to leave]   Backward control PF

We claim that because Natural Language is largely compositional, no PFs as in (12b) could occur, and that this fact is correctly predicted by a Semantic Control version of Backward Control. In Cormack and Smith (2002), we showed this for Tsez. In section 6, we explain why apparent Korean and Japanese Backward Control with a quantified control argument does not in fact provide a counterexample to our claim.

3 Semantic control and meaning postulates

As indicated above, Semantic Control is loosely based on 'Anaphoric Control', which was introduced within the paradigm of LFG (see Bresnan 1982: §8.3, Dalrymple 2001: chapter 12, and Kroeger 1993).

The basic idea behind Semantic Control, as interpreted within Minimalism, is very simple. Suppose English used Semantic rather than Syntactic Control for *persuade*. A Forward Semantic Control analysis for English would pair the PF in (13a) with the LF in (13b), where the co-indexing represents obligatory co-reference or binding of the null pronominal *pro* by the controller MARY.

(13)   a. *John persuaded Mary to leave*
        b. JOHN [MARY]$_k$ [*pro*$_k$ TO LEAVE] PERSUADED   (cf. (6b))

So far, the phonologically null pronominal might in principle be a bound variable pronoun or a referential pronoun, not necessarily bound or co-referring with MARY. However, its relation to *Mary* is regulated by the meaning of the verb *persuade*. In LFG, this is stated as part of the standard lexical entry, but we assume that the information is given as a Meaning Postulate which relates to the concept or LoT item PERSUADE, rather than to the NL item *persuade*.

Informally, if someone is persuaded to do something, then he must be the agent of the action.[14] So if the sentence is to make sense, the pronoun in (13) must

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[14] See Sag and Pollard (1994: 287 and 294, where 'actor' rather than 'agent' seems to be suggested), and Kroeger (1993). In *John persuaded Mary to be examined by a doctor*, the Meaning Postulate will force there to be some 'causative coercion' of the passive meaning, so that the internal argument of EXAMINE is seen as having an Agent role, as well as a Patient role (we assume that passive demotes the active Agent to Cause or the like). The required meaning approximates to 'John persuaded Mary *to allow/cause herself* to be examined by a doctor'. The same holds for unaccusatives, as in *John persuaded Mary to undergo surgery*. For causative coercion in relation to control, see Pollard and Sag (1994: §7.4).

depend for its reference on MARY. More formally, the information about the LoT item is stated in the form of a Meaning Postulate (axiom). The relevant Meaning Postulate is (simplified) as in (14). We will consider further Meaning Postulates relating to PERSUADE in section 6.2.[15]

(14)   Meaning Postulate 1:
        For all *s*, *x*, *y*, if 'PERSUADE *s y x*' holds then *y* is Agent in Event *s*
        (*s* is the Event argument of PERSUADE, *y* the persuadee, *x* the persuader,
        where *x* and *y* are individuals).[16]

Because Agents are generally subjects (if we assume as in footnote 14 that in passives, the erstwhile Agent is demoted to Cause or some such), this would achieve the same effect as Syntactic Control theories. Also, in a structure like that in (13b), the controller c-commands the *pro* controllee, so that the controller may be a quantified noun phrase.

  Given the existence of bound variable pronouns, and of suitable Meaning Postulates associated with the control verb, structures that are accounted for under Semantic Control rather than Syntactic Control are to be expected.[17] But the two are not interchangeable. For example, we see from (15) that the putative *pro* subject of the infinitival clause which is the complement of the control verb EXPECT may bear diverse theta roles (Anderson 2001). There is then no Meaning Postulate that would determine that it is *pro* that must co-refer with *Mary* here; subject-control *expect* can only be analysed as falling under Syntactic Control.

(15)   Mary expects [to climb the hill]/[not to grow any taller]/[to be given a book]

Semantic Control may still be obtained when there is no c-command between controller and controllee: our analysis of Korean and Japanese Backward Control exploits this property.[18]

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[15] Meaning Postulates relating to control are discussed in Chierchia 1984: chapter IV; Dowty 1985; Pollard and Sag (1994: §7.2); and Fukushima 1990: §2 (in relation to Japanese control).
   [16] In order to be available for inference, the Meaning Postulate should properly be stated wholly within LoT, and will function as an Inference Rule.
   [17] We might also expect versions of Semantic Control where the pronominal is an overt pronoun, rather than being PF-null.
   [18] Williams 1992: 309 argues for 'logophoric control' of the subject of the infinitival subject clause in examples such as 'to find himself alone in Times Square became one of John's most abiding fears'. There is no c-command relation between *John* and the *pro* subject we would

4 Case variation in Korean and Japanese object control structures

In some languages, it is possible to determine whether the control argument in an object control structure is the controller or the controllee by inspecting its morphological case. In particular, in a language with a simple Nominative/Accusative type case-marking system, in Anaphoric Control we might expect an overt controller to be marked with Accusative case as appropriate to a patient, and an overt controllee to show the Nominative case marking appropriate to a subject. Korean and Japanese show overt case-marking, but the systems are complex, and it is necessary to provide additional evidence as to which control argument is overt.

  Object control structures in Korean and Japanese show variation in the morphological case marking on the overt control argument as shown respectively in (16), from Monahan (2003), and (17).

(16)   Chelswu-nun Yenghi-**lul/ka**   kakey-ey ka-tolok   seltukha-ess-ta
        Chelswu-TOP Yenghi-ACC/NOM   store-LOC go-COMP persuade-PAST-DE[19]
        'Chelswu persuaded Yenghi to go to the store.'

 (17)   Tom-wa/-ga   Mary-**ni/-ga**   mise-ni   iku-yo(uni)   susumeta
        Tom-TOP/NOM   Mary-DAT/NOM shop-LOC go-COMP   persuade-PAST

It can be shown that the ACC (Korean) or DAT (Japanese) case is assigned or checked in the matrix clause by the control verb, on its object,[20] while the NOM alternant arises directly or indirectly from the subject selection in the embedded clause. For Korean, Monahan (2003, in prep.) argues that when the control argument bears ACC case, it is the controller, but when it bears NOM case, it is the controllee. We accept this part of Monahan's analysis. Monahan argues for Korean, as Polinsky and Potsdam did for Tsez, for a 'control as movement' Hornstein-style analysis of the data, and specifically for one where it is possible for a lower Copy rather than the highest Copy of some element to be realised at PF. Schematically, Monahan's analyses of the case alternatives is as in (18a) and (18b) ─ where the

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postulate for the clause, but there is obligatory co-reference, depending ultimately, we surmise, on Meaning Postulates related to FEAR and its hypothetical source.
  [19] TOP = topic, COMP = complementiser; DECL or DE = declarative
  [20] ACC case on the control argument is marginally acceptable (it is formal or old-fashioned), according to HU. Conversely, in Korean, the control argument may be marked DAT.

'Δ' represents some sort of gap or empty head. But our rejection of the Copy Theory of control obliges us to supply an alternative explanation for any Backward Control data. As we did with Tsez, we turn to 'Semantic Control' to provide a solution, but in combination with scrambling rather than morphology. We are going to adopt (19a) from S-H Kim (1993), and argue for (19b).[21]

(18)   Control as movement, spell out position in chain differs.
        a. forward control (spell out high)
        John [Mary-ACC] [[Δ to leave] persuaded]
        b. backward control (spell out low)
        John [Δ] [[Mary-NOM to leave] persuaded]

(19)   Semantic control, scrambling possible, Δ = *pro*
        a. John [Mary-ACC] [[Δ-NOM to leave] persuaded]   without scrambling
        b. John [Mary-NOM to leave] [[Δ-ACC] persuaded]   with scrambling

We will be making the default assumption that if the Korean verb *seltukha* is correctly translated as the English verb *persuade*, where the latter corresponds to the LoT PERSUADE, then the Korean verb also translates into the LoT PERSUADE, and similarly for the Japanese *susumeru* and *settoku suru*.[22, 23] It follows that the

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[21] We will have nothing to say about why one of these structures should be chosen in a particular utterance rather than the other, but we assume the choice has some discourse-related function.

[22] *settoku-sita* is the past of the Verbal Noun + Light Verb combination *settoku suru*. The light verb inherits the theta properties of its nominal complement (Grimshaw and Mester 1988, and much subsequent work), and the two together behave at least for our purposes as a single verb. The meaning is slightly different from that of *susumeru*, but not so far as the Meaning Postulates are concerned.

[23] This assumption needs some care. In both Korean and Japanese, it is possible to have a 'controller' which is distinct in reference from the 'controllee', provided the 'controller' can be seen as controlling the actions of the 'controllee'.

  (i) Chelswu-nun pumo-ekey kakkak-uy ai-ka swukcey-lul ha-tolok seltukha-ess-ta
      Chelswu-top [parent-dat] [each-gen child-nom homework-acc do-comp] persuade-past-decl
      'Chelswu persuaded the parent(s) to make each child do the homework'

We see this as arising by coercion from the control meaning (exploiting the syntactic independence of the controller and controllee, and including causative coercion), rather than as indication that the underlying meaning of the Korean verb *seltukha*, or Japanese *susumeru* or *settoku suru*, does not satisfy Meaning Postulate 1 in (14). See further the discussion of construals with plural controllers, in section 6.2. However, even if what Korean and Japanese exhibit is in fact optional control, the 'backward' cases would need to have the structure and interpretations we argue for. It is also feasible that Partial Control (Landau 2000) might be induced by a coercion

same Meaning Postulates apply to the LoT representations of control sentences in Korean and Japanese as in English. The referent of *pro* will be determined by Meaning Postulate 1, repeated here as (20).

(20)   Meaning Postulate 1:
        For all *s*, *x*, *y*, if 'PERSUADE *s y x*' holds then *y* is Agent in Event *s*
        (*s* is the Event argument of PERSUADE, *y* the persuadee, *x* the persuader,
        where *x* and *y* are individuals).

Since we repudiate the Hornstein-style account of Korean and Japanese Backward Control, we need to do two things. First, we need to show that there is a plausible account of the structure in which the overt control argument is interpreted within the complement clause (section 5). Second, we need to investigate the effects of this structure when the control argument is a quantified noun phrase (section 6).

5 Korean semantic control with scrambling

As a first attempt at an alternative structure for the backward control version, consider (21), analogous to (19a).

(21)   Chelswu-nun *pro*   Yenghi-**ka**   kakey-ey ka-tolok seltukha-ess-ta
        Chelswu-TOP   [*pro-ACC* [[Yenghi-NOM store-LOC go-COMP] persuaded]]
        'Chelswu persuaded Yenghi to go to the store.'

The hypothesised accusative marked pronoun (and its case-marking) are phonologically null. Now if the Meaning Postulates associated with the 'persuade' verb establish that the pronoun co-refers with *Yenghi*, we would obtain the correct meaning, under Semantic Control. However, there would be a principle C violation, since the pronoun would c-command the full noun phrase. We suggest then that the clausal and the noun phrase arguments of the control verb must be locally scrambled, and that such scrambling may affect the c-command relations between

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based on a Semantic Control structure, though this too could be explained by weakening Meaning Postulate 1. We leave these possibilities for further research by those who obtain the relevant readings. We will treat the relevant verbs as having only a control meaning, and omit the non-control readings where these may occur.

the two phrases. The structure should be rather that in (22) (so that 'Backward Control' is a misnomer):

(22)   Chelswu-nun Yenghi-**ka**   kakey-ey ka-tolok *pro*   seltukha-ess-ta
        Chelswu-TOP [[Yenghi-NOM   store-LOC go-COMP] [[*pro-ACC*] persuaded]]
        'Chelswu persuaded Yenghi to go to the store.'

We will show that Korean does have the properties which would make this structure plausible. First, Korean has object *pro* (Cole 1987, S-H Kim 1993). Second, Korean allows both the controller and the controllee to be overt, as we see from (23) below (S-H Kim's 15a, see also Borer 1989).

(23)   John-i   Bill-eykey   − / ku-ka   katolok   seltukha-ess-ta
        [John-NOM   [Bill-DAT   [[*pro*/he-NOM   to-go]   persuaded]]]
        'John persuaded Bill to go'

On this and other grounds, Kim argues that the embedded subject in Korean (forward) object control clauses is *pro* rather than PRO, and that the control effects are obtained by lexical semantics. That is, these forward control structures are licensed by Semantic rather than Syntactic Control. This makes the occurrence of *pro* in (22) unsurprising. Third, scrambling within the VP is possible, and such scrambling may obviate Principle C violations. We can see this from the Korean and Japanese examples, (a) and (b) respectively, in (24) to (26) below. In each case the pronoun and *Bill* are to be taken as co-referential; the # marks sentences where the co-reference is unobtainable. (24) gives the standard order; if the co-referential noun phrases are reversed, as in (25), a Principle C violation occurs. However, if the two internal arguments are then scrambled, as in (26), the result is grammatical. There is, as expected, no c-command relation between the subject of the clausal argument and the dative argument, as we can see from the grammaticality of (27b), though this sentence is unacceptable in Korean.[24]

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[24] Even within English, informants differ as to how readily they accept examples with the pronoun preceding the antecedent, where no c-command obtains, so the Korean/Japanese discrepancy here is not surprising.

(24) a. Mary-nun Bill-ekey ku-ka   sihem-ey hapkyek   ha-yss-ta-ko
Mary-TOP Bill-DAT [he-NOM exam-at   pass   do-PAST-DE]-COMP
malha-yss-ta
tell-PAST-DE

b. Mary-ga   Bill-ni   kare-ga   siken-ni   ukatta (toiu)   koto-o
Mary-NOM [Bill-DAT] [[he-NOM   exam-DAT   passed (COMP) thing-ACC]
tutaeta
told   ]
'Mary told Bill$_k$ that he$_k$ had passed the exam.'

(25) a. #Mary-nun   ku-ekey [Bill-i   sihem-ey   hapkyek ha-yss-ta]-ko
Mary-TOP   he-DAT Bill-NOM   exam-at   pass   do-PAST-DE-COMP
malha-yss-ta
tell-PAST- DE

b. #Mary-ga   kare-ni Bill-ga   siken-ni ukatta (toiu)]   koto-o tutaeta.
Mary-NOM [he-DAT] [[Bill -NOM   exam-dat passed (COMP)] thing-ACC] told

'Mary told him$_k$ that Bill$_k$ had passed the exam.'

(26) a. Mary-nun Bill-i   sihem-ey hapkyek ha-yss-ta-ko   ku-ekey malha-yss-ta
Mary-top [Bill-NOM exam-at   pass   do-PAST-DE-COMP] [he-DAT] told

b. Mary-ga   Bill-ga   siken-ni ukatta (toiu)   koto-o   kare-ni tutaeta.
Mary-NOM [[Bill-NOM exam-dat passed (COMP)] thing-ACC] [he-DAT] told

'Mary told Bill$_k$ that he$_k$ had passed the exam '

(27) a. # Mary-nun ku-ka   sihem-ey hapkyek ha-yss-ta-ko   Bill-ekey malha-yss-ta
Mary-TOP [he-NOM exam-at pass   do-PAST-DE-COMP] [Bill-DAT] told

b. Mary-ga   kare-ga siken-ni   ukatta (toiu)   koto-o   Bill-ni   tutaeta
Mary-NOM [he-NOM exam-DAT passed (COMP) thing-ACC] [Bill-DAT] told

'Mary told Bill$_k$ that he$_k$ had passed the exam.'

Finally, most, and possibly all, Object Control verbs are such that a Meaning Postulate parallel to Meaning Postulate 1 can be given, ensuring that if the DNP argument is referential, then it must co-refer with the Agent argument in the complement clause. In particular, we expect such a Meaning Postulate to hold not only of *seltukha* 'persuade' but also of *kangyohata* 'force', *chwungkohata* 'advise' and *ceyanhata* 'suggest', cited by Monahan (2003) as apparently participating in Backward Control.

Monahan suggests that the use of a Meaning Postulate such as 1 will give the wrong results with passive Events, such as in his example in (28).

(28)   Chelswu-nun [Swuyeng-i   Yenghi-eykey intephyu pat-tolok] seltukha-ess-ta
         Chelswu-TOP Swuyeng-NOM Yenghi-DAT interview PASS-COMP persuaded
         'Chelswu persuaded Swuyeng to be interviewed by Yenghi.'
         * 'Chelswu persuaded Yenghi$_i$ that Swuyeng interview her$_i$.'   [ibid]

The Meaning Postulates predict, incorrectly according to Monahan, that the Persuadee must be the same individual as the agent of the passive embedded clause. Monahan is clearly assuming that the agent of the passive clause is the same as the agent of the related active clause. This would indeed give an incorrect result.

We think this argument is incorrect. The agentivity is indeed required, and must be obtained by 'causative coercion'. The construal must be something like 'Chelswu persuaded Swuyeng to get/let herself (be) interviewed by Yenghi', as is the case for the English gloss (see footnote 14). Similarly, we need to claim that the demoted (dative) logical subject of *intephyu* 'interview' is no longer an Agent.

We have established, then, that Semantic Control structures like (22) are possible accounts of the data concerning referential singular control arguments. We turn next to quantified control arguments. Our expectation is that distributed quantified control arguments should be ungrammatical, because the syntax suggested disallows a bound variable semantic structure. For Tsez, this expectation is met (Cormack and Smith 2002), but not for Korean or Japanese, as we see in (29) and (30): the Korean (29) (from Monahan 2003) is acceptable, as is the equivalent Japanese in (30):

(29)   Chelswu-nun kakkak-uy ai-ka   swukcey-lul   ha-tolok seltukha-ess-ta
         Chelswu-TOP [each-GEN child-**NOM**   homework-ACC do-COMP] persuaded
         'Chelswu persuaded each child to do the homework.'

(30)   Tom-wa   sorezore-no kodomo-ga syukudai-o   suru-you(ni) settoku-shita
        Tom-TOP [each-GEN   child-**NOM** homework-ACC do-COMP] persuasion-did
        'Tom persuaded each child to do the homework'

How do we explain this data, without recourse to Copy Theory, and hence to an essentially non-compositional account of Backward Control? We discuss this question in the next section.

6 Quantified control arguments

6.1 Identifying a referent for *pro*

Given that we accept that the overt control argument in Korean and Japanese may be the controllee, and inside the embedded clause, what we have to establish to refute the threat of non-compositionality is that there is a semantics for the structures which does not depend on the controllee being interpreted as a bound variable at some level of interpretation. This is clearly viable for the referential singular controller/controllee considered in the previous section. What happens with other noun phrases? What we will need to show is that where the controllee is overt and quantified or plural, and does not c-command the *pro* controller, the required meaning can be constructed on the basis of some referential value for *pro*, where this value is pragmatically related to that of the controllee (as in our analysis of (22) above). Crucially, we will argue that where Meaning Postulates are used to restrict the range of noun phrases that can properly be in a Semantic Control 'persuade' relation, it is not necessary that the controllee and the agent of the Event be coreferential.

   According to our claims, in Semantic Control, the control relation depends not only on the compositional semantics obligatorily derived from the syntax, but on the Meaning Postulates associated with the noun phrase (and in particular, its quantifier), and on those associated with the control verb. Pragmatics and real world knowledge may also be involved. In particular, during comprehension, pragmatics will be involved in retrieving a value for the postulated *pro*, and in production, it is the speaker's responsibility to ensure that the hearer can retrieve the appropriate value. In the case of (29), we claim that syntax provides the LF indicated in (31a), and that the LoTX is as in (31b), where *pro* of (31a) has been construed as 'the children'. If *pro* takes its reference somehow from the quantified

noun phrase (see below), we expect it to follow the Event clause, as shown. We argue below that this is correct.

(31) a. C.-nun kakkak-uy ai-ka   swukcey-lul   ha-tolok   *pro* seltukha-ess-ta
         C.-TOP [each-GEN child-**NOM** homework-ACC do-COMP] *pro* persuaded
      b. [Chelswu [[each child] [the homework] do] [the children] persuaded]
      c. 'Chelswu persuaded each child to do the homework'

There are three things that need to be established: (i) the nominal part of the noun phrase *kakkak-uy ai-ka* may be construed as a plural noun phrase (as in 'each of the children'), (ii) this nominal can be the antecedent of *pro* in (31), and (iii) that the relevant Meaning Postulates can be satisfied, and that this will give rise to the appropriate meaning given in (31c).

   We begin with the possible antecedent of *pro*. We are concerned with cases where the antecedent noun phrase from which *pro* might get a value is quantified, but where there is no c-command or scope relation between the two. On the basis of examples like (32) (see Vendler 1967: 77-78), we might expect it to be impossible for *pro* to refer to 'the children' in (31).

(32) Pick up each apple and put it/*them in the basket.

It was because of examples like this in English that we predicted that there would be no Backward Control with an essentially quantified controllee (i.e. one that could not be construed as setting up a discourse referent), and in particular, not with a distributed quantifier. But in Korean and Japanese, with the distributed quantifier meaning 'each/every', pronominal reference to the set given by the NP restrictor is fine:

(33)   Kakkak-uy senswu-ka kum-medal-ul-wihayeo ssawu-ess-ta. *pro*/Kutul-un
         Each-GEN player-NOM gold-medal-ACC-for fight-PAST-DECL *pro*/they-TOP
         nwuchek   pikonhay poye-ss-ta
         much   tired   look-PAST-DEC
         'Each player fought for the gold medal. They look very tired'

(34)   Sorezore-no   seito-ga   kinou   siken-o   uketa.   Sono-ato
         every-GEN   student-NOM yesterday exam-ACC   take-PAST. That-after

pro /karera-wa   mina(-de) nomiya-ni   atsumatta[25]
pro/(they-TOP   all(-part) drinking-place-LOC   gather-PAST.
'Every student took an exam yesterday. Afterwards they met in the pub'

We assume this is because a noun not marked PLURAL in Korean may be interpreted as singular or plural according to context (C. Kim 2003). The same holds in Japanese (Miyagawa 1989: 21). Tomioka (2003) argues that *pro* in Japanese can be either a pro-form for a DP, or for an NP (type <e,t>). In the latter instance, it may be construed as singular or plural, and definite or indefinite. This accounts for the interpretation of the *pro* in (33) and (34).

  The ability of the *pro* to pick up its reference from the controllee noun phrase is supported by the fact that it is possible to replace *pro* in (31) by the overt noun phrase:

(35)   Chelswu-nun kakkak-uy ai-ka   swukcey-lul   ha-tolok
         Chelswu-TOP [each-GEN child-NOM homework-ACC do-Comp]
         ai-tul-ul   seltukha-ess-ta
         [child-PLURAL-ACC] persuade-Past-Decl
         'Chelswu persuaded each child to do the homework'

If the noun phrase *ai-tul-ul* 'the children' is placed in the unscrambled position, before the Event clause, as in (36), the only possible interpretation is the disjoint reading where some antecedently available set of children persuaded some other group of children to do the homework. There is presumably a principle C violation if the groups are the same.[26]

(36)   Chelswu-nun ai-tul-ul   kakkak-uy ai-ka   swukcey-lul
         Chelswu-TOP [child-PLURAL-ACC] [each-GEN   child-NOM homework-ACC
         ha-tolok   seltukha-ess-ta
         do-Comp] persuade-PAST-DECL
         'Chelswu persuaded the children to cause each child of some other group of children to do the homework'

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[25] Hiroyuki Uchida rejects this discourse, but it is accepted by Hitoshi Shiraki. HU accepts the discourse when the first sentence is *Dare-mo-ga siken-o uketa* 'everyone took an examination'.
[26] The disjoint reading is also marginally available for the sentence in (35) (Kook Hee Gill p.c.).

This strongly supports out hypothesis that Backward Control is obtained by scrambling: in (29), the phrase *kakkak-uy ai-ka* ('each-GEN child-NOM') provides the antecedent for *pro* in the same way that it provides an antecedent for *ai-tul-ul* 'the children' in (35).

6.2 Plurals and meaning postulates

The next requirement is that we consider the relation of Meaning Postulates to plurals. Recollect that we are assuming that PERSUADE is the LoT translation not only for the English verb *persuade* but for the Korean verb *seltukha* and for the Japanese noun + light verb *settoku suru* translated as 'persuade', at least in the structures we are considering. Hence we may use arguments about English to elucidate the workings of Korean and Japanese.[27] Possible Meaning Postulates for PERSUADE include (37), repeated from earlier, which relates controller and controllee, and others indicated in (38).[28]

(37)   Meaning Postulate 1:
        For all *s*, *x*, *y*, if 'PERSUADE *s y x*' holds then *y* is Agent in Event *s*
        (*s* is the Event argument of PERSUADE, *y* the persuadee, *x* the persuader,
        where *x* and *y* range over individuals).

(38)   For all *s*, *x*, *y*, if 'PERSUADE *s y x*' holds then the following Meaning
        Postulates apply:
        s is an event,[29]
        x desires the event *s*
        x intentionally causes a change in *y*'s mind
        x intends the change in *y*'s mind to initiate the bringing about of the event *s*
           the new state of *y*'s mind caused *y* to intend to be Agent in the event *s*
        y acts on his intention

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[27] As Chomsky (2000:5) puts the converse situation: "evidence about Japanese bears directly on the assumptions concerning the initial state for English."
[28] These are no more than indications of what sort of information the Meaning Postulates should contain: so that as they stand they are closer to the 'elucidations' of Higginbotham 1989:467.
[29] In the homophonous *persuade* [*that* …] the clausal argument represents a proposition in the mind of the persuadee, rather than an event.

Because *x* and *y* are individuals, these Meaning Postulates tell us nothing directly about how to interpret utterances where the agent or controller arguments are plural or quantified phrases. Consider (39):

(39)   Alice persuaded the crowd to disperse

Meaning Postulate A and B hold as usual, but it is clear that we cannot apply all the Meaning Postulates in (37) and (38) directly. In particular, a crowd does not have 'a mind', as required by Meaning Postulate C of (38), though the individuals who make it up have minds. For this reason, 'the crowd' is understood distributively with respect to Meaning Postulates C and D. Because the predicate in the Event argument is necessarily a group/mass-taking predicate, it is not feasible that what each member of the crowd did was to disperse, so that Meaning Postulates E and Meaning Postulate 1 from (37) do not apply to the individuals of the crowd. In this case, the interpretation seems to be that each of the individuals of the crowd was persuaded to do something, for example to leave the vicinity, and the cumulative effect of these individual actions ensured that the crowd dispersed.[30] Here, Meaning Postulate 1 holds with respect to 'the crowd' taken as a group, so that if the LoTX is equivalent to (40a), it must nevertheless be capable of equating to (40b):

(40) a. [ALICE [THE CROWD] λu [u [u DISPERSE] PERSUADE]]
      b. [alice [the crowd] [[the crowd] disperse] persuade]

That is, *u* must be allowed to range over groups as well as individuals (most simply achieved if groups and individuals are of the same type, as in many theories of plurals). Finally consider the relation between the controller and the Event, as required by Meaning Postulate E (and F). The controllee argument [THE CROWD] must be understood distributively with respect to its actions, but collectively with respect to the event which is cumulatively the result of its actions; this indirectness is typical of group contributions to some event, as in *John and Henry lifted the piano (together)*. This part of the construal does not need to be specified as part of the lexical entry of PERSUADE; rather it will be a consequence of Meaning Postulates relating to plural arguments.

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[30] See Higginbotham (1992: 85, 99-100) and Williams (1992: §4) for discussion of similar examples. Note that for us, *The crowd tried/wanted to disperse* is also unacceptable.

We suggest that the Meaning Postulates for PERSUADE should be left as they are, defined for the individual persuadee. We believe that the required interpretation can be worked out on the basis of some general rules (of the lexicon), and the underlying Meaning Postulates for plurals/groups and for PERSUADE, together with further general knowledge, though clearly this enterprise requires further substantiation and formalisation.

We return now to the Korean sentence in (31), repeated here in (41a), with the LoTF we have argued for in (41b).

(41) a. Chelswu-nun kakkak-uy ai-ka swukcey-lul ha-tolok   *pro* seltukha-ess-ta
       C.-TOP [each-GEN child-**NOM**   homework-ACC do-COMP] *pro* persuaded
       'Chelswu persuaded each child to do the homework'

   b. [Chelswu [[[each child] **[**the homework] do] [[the children] persuaded]]]

The persuader is Chelswu. The controller is indicated by THE CHILDREN, but the construal, in as much as it depends on minds, must rely on the individual children in the corresponding set. The Event is given (in English) by 'each child does the homework'. What we need to establish is that the Meaning Postulates, interpreted for plurals as sketched above, do give the right reading. The only interpretive problem lies in the relation between the controller and the Event. Here, the predicate in the Event is not necessarily a group predicate, and indeed the presence of the distributive [EACH CHILD] precludes the homework being done jointly. We might expect then that the controller [THE CHILDREN] can uniformly be given a distributed reading; but this would entail that each of the individuals of [THE CHILDREN] caused the event [EACH CHILD DID THE HOMEWORK]. This is impossible. We must then treat the controller as a group predicate: each of this group performed some action, which actions jointly caused the Event to be realised, as in our example (39). It is clear from general knowledge that in order to achieve this, every child y_i must perform the action s_i, [y_i THE HOMEWORK DO]. This will indeed give the right reading.

6.3 Backward control with a *wh* control argument

A further potential problem for the Semantic Control analysis of Korean and Japanese Backward Control is provided by *wh*-questions centred on the control argument.[31]

(42)   a. Tom-um nwu-ka   kakey-ey ka-tolok   sultukhayss-ni?   Korean
       b. Tom-wa dare-ga   mise-ni iku-yo(uni) susumeta-no?   Japanese
          Tom-TOP [who-NOM shop-LOC go-COMP]   persuaded-Q
          'Who did Tom persuade to go to the shop?'

Korean and Japanese are '*wh*-in situ' languages; but the presence of a true *wh*-phrase within the event clause, even if it moves covertly to an A-bar position by LF, would result in an illicit structure. We would get a reading comparable to that in (43):

(43)   Who$_k$ did [Tom [[t_k should go to the shop] [[him$_k$] persuade]]]

where the pronoun must be a Bound Variable Pronoun, but has no legitimate binder. However, although *nwu(kwu)-* and *dare-* are often translated in such a context as 'who', they are not dedicated *wh*-words, but occur also in *nwu(kwu)-na* 'everyone'[32] and *nwu(kwu)-(i)nka* 'someone', *dare-mo* 'everyone' and *dare-ka* 'someone' and other phrases. Other 'indeterminates' (Kuroda 1965:91) which may head the noun phrase in a *wh*-question are likewise multi-purpose items, in both Korean and Japanese. Nishigauchi 1990 argues that indeterminates are unselectively bound by the operators. Following Kim and Kitagawa 2003 for Korean, and Takahashi 2002 for Japanese, we take *nwu-* and *dare-* to be noun phrases, 'person', associated here with a *wh*-operator. The LF will be equivalent to something like (44c) or (44d), where the *wh*-operator is outside the clause, and only the nominal restrictor on the operator is inside the clause. In the syntax, some checking, Agree, or Move relation must hold between the restrictors and the operator, and between the operator and some restrictor.[33]

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[31] The relevance of *wh*-arguments to our proposals for Backward Control was suggested by Eric Potsdam (p.c.).

[32] Suh 1989 says that the meaning is closer to English free-choice *any*.

[33] There are several alternative proposals for the relation between the operator and the indeterminates. See for example Reinhart 1998, Pesetsky 2000, Simpson 2000: chapters 1 and 2

(44) a. Tom-um nwu-ka   kakey-ey ka-tolok   *pro*   sultukhayss-ni?
    b. Tom-wa dare-ga   mise-ni iku-yo(uni) *pro*   susumeta-no?
    c. Tom-TOP [[$_{NP}$ person-NOM] shop-LOC go-COMP] [$_{NP}$ person]   persuaded-Q
    d. **?**$\langle x,y \rangle$ [TOM [[x $_{PERSON\,x}$ TO-SHOP GO]]   [[y $_{PERSON\,y}$]   PERSUADE]]]
    e. **?**$\langle x \rangle$ [TOM [[x $_{PERSON\,x}$ TO-SHOP GO]]   [[x $_{PERSON\,y}$]   PERSUADE]]]

In (44a), (44b), *pro* will take its reference from the nominal of the persuadee, as indicated in (44c). Both the overt and the phonologically null occurrences of *nwu/dare* relate to the *wh*-operator. In (44d), we indicate in a notation using variables how the meaning is constructed. The *wh*-operator, shown as '**?**', unselectively binds both the variables, where these are restricted in each case to range over persons. Meaning Postulate 1 requires the identity of the variables in the two internal arguments of PERSUADE, so that the required meaning, as represented as in (44e), is obtained by inference from (44d).

  In Korean and Japanese, and probably in other *wh*-in-situ languages, the occurrence of *wh*-questions with null controller and overt controllee does not provide a counter example to the possibility of a Semantic Control analysis for Backward Control.

7 Summary and concluding remarks

We suggest that the explanation we have offered here for 'Backward Control' is the general one. The solution we suggested for Tsez is a special case (where it is not scrambling which obviates principle C, but unusual properties of the relevant control verbs, which incorporate a definite existential argument, functioning semantically like referential *pro*). The strategy offered extends naturally to subject control.

  Apparent 'Backward Control' may be manifest in a language which has at least the following properties:

(a)   The controller may be *pro*
(b)   The controller and the Event clause may be in some structural relation
       that obviates Principle C effects (e.g. by scrambling)

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especially §2.6, and the survey articles Watanabe 2001 and Cheng 2003 and references therein. The alternatives do not affect our argument here.

(c) Where the controllee is necessarily a subject, there are Meaning Postulates associated with the control verb which require that the *pro* controllee fulfil the Agent role in the clausal argument.

(d) For essentially quantified noun phrase (QNP) controllee, the restrictor of the QNP must be available as the antecedent of a plural (null) pronoun. For *wh*-questions, the *wh* binder has scope over the matrix clause, and binds both the 'in situ' controllee phrase in the event clause and the null *pro* of the controller (where both these must be construable as NP, not DP).

Backward Control does not provide an endorsement of Copy Theory; Semantic Control provides an alternative analysis of the phenomenon which is more searching in its requirements. Most importantly, we have proposed and defended analyses which preserve the properties of compositionality and learnability that are conceptually necessary for the achievement of an explanatorily adequate theory.

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