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ON THE INTEGRITY OF CONTROL THEORY*

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0. Introduction

Recently it has been claimed that the Control Theory is a subtheory or an extension of the Binding Theory or the Pro-Drop Principle. Specifically, Bouchard (1983) argues that obligatory control should be subsumed under the principle for anaphor-binding and non-obligatory control under the principle for pronominal coreference. Manzini (1983) also claims that control should be subsumed under a slightly modified version of the Binding Theory. Sportiche (1983) and Koster (1984) also argue that at least obligatory control should be incorporated into the Binding Theory (A). On the other hand, Huang (1984) claims that control should be incorporated into an extended version of the Pro-Drop Principle, or what he calls Generalized Control Rule.

The purpose of this paper is to show that control, obligatory, non-obligatory, or arbitrary, can never be subsumed under the Binding Theory or the Pro-Drop Principle at least for languages like Korean, Japanese, Chinese and maybe some other languages. In section 1 Obligatory Control, I will show how obligatory control is distinct from binding phenomena. In section 2 Optional Control, again I will show how non-obligatory control is distinct from binding phenomena. In section 3 Arbitrary Control, again I will show how arbitrary reference control is distinct from

binding phenomena. In section 4 The Syntactic Nature of Control, I will argue that the controlled position, not necessarily the controllee, is ungoverned so that we may maintain Chomsky's (1981) explanation for why only the subject position is controlled, even for cases where the controllee is lexical as well as cases where it is empty (=PRO). In section 5 Lexical and Semantic Factors for Control, I will discuss lexical and semantic factors affecting control but not binding, which is obviously another distinction between them.

1. Obligatory Control

In Korean the reflexive caki is bound by any c-commanding subject¹ whereas the pronominal k_i is free in its binding domain, as we see in (1).

- (1) John_i - in [Tom_j - i Bill_k - eke [Sam_l - i
 - TOP - NM - DAT - NM

 k_{i,j,k,*l} - l_{il}/caki_{i,j,l,*k} - l_{il} miw_əha - n - ta -
 he - AC self - AC hate -ASP- DEC-

 koj malha - əss - ta - koj mit - nin - ta²
 COMP say - PAST- DEC-COMP believe-ASP- DEC

 (John_i believes that Tom_j told Bill_k that Sam_l hated
 him_{i,j,k,*l}/self_{i,j,l,*k})

Note that in (1) the pronoun k_i can be coreferential with John, Tom and Bill but not with Sam since the former are outside of the binding domain of k_i and the latter is inside of the binding domain, whereas the reflexive caki can be bound by John, Tom and Sam but not by Bill since the former are subjects and the latter is not. Yang (1983) has shown how the binding phenomena of not only the pronoun k_i but also the reflexive caki may be accommodated within the Binding Theory through minimal parameterization.³

Assuming that both the pronoun k_i and the reflexive caki are subject to the Binding Theory with appropriate parameterization, consider the following sentence (2), in which an obligatory control structure is embedded.

- (2) John_i - in [Tom_j - i Bill_k - eke [PRO_{j,*i,*k}/
 - TOP - NM - DAT

 k_{i,j,*i,*k} - ka/caki_{j,*i,*k} - ka Mary - l_{il} manna -
 he - NM self - NM - AC meet -

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kess - ta - ko] yaksokha - əss - ta - ko] mit - nɨn -
 MOD - DEC-COMP promise - PAST- DEC-COMP believe-ASP-
 ta
 DEC

(John_i believes that Tom_j promised Bill_k [PRO_{j,*i,*k}/
 he_{j,*i,*k}/self_{j,*i,*k} to meet Mary])

Note that yaksokha 'promise' is a subject-control verb and that indeed the subject of the embedded clause is controlled only by the subject of the immediately embedding clause whether the former is PRO, the pronoun kɨ or the reflexive caki.⁴

One might argue that the obligatory control as illustrated in (2) is the unmarked anaphor-binding in Korean. There are some technical problems for such an argument, as we discuss later. Even if the technical problems may be somehow overcome, such an argument would merely rename obligatory control as 'unmarked anaphor-binding', gaining nothing for Korean grammar.

Furthermore, there is some evidence that obligatory control cannot be subsumed under the Binding Theory that would deal with the pronoun kɨ and the reflexive caki. That is, the pronoun kɨ and the reflexive caki occurring in the obligatorily controlled position as in (2) do not lose their respective properties as a pronoun or a reflexive but obey their respective binding conditions as well as the obligatory control condition. In other words, obligatory control is superimposed on the controllee whether it is a pronoun or a reflexive.⁵ Therefore, if it is assumed that obligatory control is unmarked anaphor-binding in Korean, we have to say that the pronoun kɨ functions as both a pronominal and an unmarked anaphor and that the reflexive caki functions as both a marked anaphor and an unmarked anaphor, when they occur in the subject position of an obligatory control clause. An obvious better alternative to this strange analysis is to recognize a separate theory of obligatory control distinct from the Binding Theory and to motivate the Control Theory that would allow obligatory control to apply to lexical controllees as well as empty controllees or PRO's. The latter argument will be discussed in section 4.

By way of ascertaining that the obligatorily controlled pronoun kɨ and reflexive caki do not lose their respective properties as a pronominal or a marked anaphor, compare (2) with (3).

(3) John_i - ɨn [Tom_j - i Bill_k - eke [kɨ_{i,j,k} - ka/
 - TOP -NM - DAT he - NM

caki_{i,j,*k} - ka Mary - lɪl manna - yaha - n - ta - ko]
 self - NM - AC meet - must -ASP- DEC-COMP

malha - əss - ta - ko] mit - nɪn - ta
 say - PAST- DEC-COMP believe-ASP- DEC

(John_i believes that Tom_j told Bill_k that he_{i,j,k/}
 self_{i,j,*k} must meet Mary)

Note that (3) has the same structure as (2) but does not contain an obligatory control clause. Indeed, the pronoun kɪ and the reflexive caki in (3) obey only their respective binding conditions: the pronoun kɪ may be coreferential with John, Tom and Bill since the latter are outside of the binding domain of kɪ, whereas the reflexive caki may be bound by John and Tom, which are subjects, but not by Bill, which is a nonsubject. Now turning to (2), the fact that the pronoun kɪ or the reflexive caki is controlled by Tom, the subject of the immediately embedding clause in (2), does not contradict their respective binding conditions for the pronoun kɪ and the reflexive caki, as illustrated in (3).

The more compelling evidence that the obligatorily controlled pronoun kɪ or reflexive caki does not lose their respective binding properties comes from cases like (4), which contains a nonsubject-controlled structure.

(4) John_i - ɪn [Tom_j - i Bill_k - eke [PRO_{k,*i,*j/}
 - TOP - NM - DAT

kɪ_{k,*i,*j} - ka/caki_{*i,*j,*k} -ka Mary - lɪl manna -
 he - NM self -NM - AC meet -

tolok] səltɪkha - əss - ta - ko] mit - nɪn - ta
 COMP persuade - PAST- DEC-COMP believe-ASP- DEC

(John_i believes that Tom_j persuaded Bill_k [PRO_{k,*i,*j/}
 he_{k,*i,*j/self}_{*i,*j,*k} to meet Mary])

Note that səltɪkha 'persuade' is a nonsubject-control verb and that indeed PRO of the control clause is obligatorily controlled by Bill, the dative of the embedding clause.⁶ Now why is it that the pronoun kɪ is obligatorily controlled by the dative Bill, just as PRO is, whereas the reflexive caki is not in (4)? In fact, the reflexive caki is impossible altogether here. The reason is simply that the pronoun kɪ being controlled by the dative Bill does not contradict the binding condition for the pronoun kɪ whereas the reflexive caki being controlled by the nonsubject Bill contradicts the binding condition for the reflexive caki. In other words, the

obligatorily controlled pronoun ki or reflexive caki has to satisfy both their respective binding conditions and the control condition. Thus, they have the more restricted distribution than PRO, which has to obey only the control condition.⁷

Essentially the same story can be told about Japanese and Chinese. Consider a Japanese example (5), which contains an obligatory subject-control structure.

- (5) John_i - wa [Tom_j - ga Bill_k - ni [PRO_{j,*i,*k}/
- TOP - NM - DAT
- zibun_{j,*i,*k} - ga Mary - ni au - to] yakusokusi - ta -
- self - NM - DAT meet-COMP promise -PAST-
- to] omotte - iru
- COMP think
- (John_i thinks that Tom_j promised Bill_k [PRO_{j,*i,*k}/
- self_{j,*i,*k} to meet Mary])

Note that yakusokusi 'promise' is a subject-control verb and that indeed PRO or the reflexive zibun in the subject position of the control clause is obligatorily controlled by the subject of the immediately embedding clause.⁸ Japanese reflexive zibun is normally bound by any c-commanding subject just as Korean reflexive caki is. Therefore, we see that the reflexive zibun being obligatorily controlled by the subject Tom does not contradict the binding condition. Consider (6), which contains an obligatory nonsubject-control structure.

- (6) John_i - wa [Tom_j - ga Bill_k - ni [PRO_{k,*i,*j}/
- TOP - NM - DAT
- zibun_{*i,*j,*k} - ga Mary - ni au - yooni] settokusi -
- self - NM - DAT meet-COMP persuade -
- ta - to] omotte - iru
- PAST-COMP think
- (John_i thinks that Tom_j persuaded Bill_k [PRO_{k,*i,*j}/
- self_{*i,*j,*k} to meet Mary])

Note that settokusi 'persuade' is a nonsubject-control verb and that indeed PRO is obligatorily controlled by Bill the dative of the immediately embedding clause. But the reflexive zibun is not obligatorily controlled in (6), though it is in (5). In fact, the

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the nonsubject of the embedding clause. Now why isn't the reflexive ziji obligatorily controlled in (8) even if it is in (7)? It is simply because the reflexive ziji being obligatorily controlled by the nonsubject in (8) contradicts the binding condition of the reflexive whereas the reflexive ziji being obligatorily controlled by the subject in (7) does not.¹¹ Therefore, again in Chinese the pronoun ta and the reflexive ziji obey both their respective binding conditions and the obligatory control condition when they occur in the subject position of an obligatory control clause. The best way to deal with this situation is to recognize the separate theory of obligatory control distinct from the Binding Theory and to motivate the Control Theory that would apply even to the lexical controllees.

So far we have argued that obligatory control may not be subsumed under the Binding Theory in Korean, Japanese and Chinese. The same argument and facts about obligatory control in these languages go against the claim that control should be incorporated into an extended version of the Pro-Drop Principle; obviously the latter can never account for the lexical controllees.

2. Optional Control

In the preceding section we have seen that the subject of an obligatory control clause must be obligatorily controlled whether the subject is empty or lexical in Korean, Japanese and Chinese, and that obligatory control is effected or triggered by such factors as the matrix control verb, the control modal of the embedded clause, and/or the control complementizer. Now what happens to a control structure in the absence of such obligatory-control-triggering factors? In such a control structure, non-obligatory or optional control obtains. In an optional control structure, PRO is optional as we see in (9).

- (9) a. John prefers [PRO to see Mary].
 b. John prefers [for Bill to see Mary].

Obviously (9b) is not a control structure. In other words, optional control obtains only when PRO occurs in the subject position of the control clause. Therefore, unlike obligatory control, optional control never forces a lexical NP to be controlled in Korean, Japanese and Chinese.

Consider a Korean example (10).

- (10) John_i - i Bill_j - eke [PRO_{i,j}/ka_{i,j} - ka/caki_{i,*j} -
 - NM - DAT he - NM self -
 ka/Mary - ka Tom - il manna - yaha - n - ta - ko]
 NM - NM - AC meet - must -ASP- DEC-COMP

malha - əss - ta
say - PAST- DEC

(John_i told Bill_j that PRO_{i,j}/he_{i,j}/self_{i,*j}/Mary must meet Tom)

Note that there is no obligatory-control-triggering factor in (10) and that indeed only PRO involves control whereas the other lexical NP's possible in the embedded subject position have nothing to do with control.¹²

Now the question is whether the optional control PRO can be assumed to be subject rather to some form of the Binding Theory or the extended version of the Pro-Drop Principle. First of all, it is obvious that the optional control PRO cannot be assumed to be a marked anaphor like the reflexive caki since the former may be coreferential with Bill the nonsubject of the embedding clause whereas the latter may not in (10). It is also difficult to assume that the optional control PRO is a so-called unmarked anaphor since it can be coreferential with John or Bill just as the pronoun k_i can in (10). But it could very well be assumed to be a pure pronominal, since apparently it behaves exactly like the pronoun k_i in (10).

However, there are some crucial differences between the optional control PRO and the pronoun k_i. Consider (11).

(11) John_i - i [Tom_j - i Bill_k - eke [PRO_{j,k,*i}/k_{i,j,k} -
- NM - NM - DAT he -
ka/caki_{i,j,*k} - ka/Mary - ka Sam - əl manna - yaha -
NM self - NM - NM - AC meet - must -
n - ta - ko] malha - əss - ta - ko] mit - nin - ta
ASP-DEC-COMP say - PAST- DEC-COMP believe-ASP- DEC
(John_i believes that Tom_j told Bill_k that PRO_{j,k,*i}/
he_{i,j,k}/self_{i,j,*k}/Mary must meet Sam)

Note that the pronoun k_i may refer to John the subject of the highest clause whereas the optional control PRO may not in (11).¹³ This shows that even optional control PRO has strong preference to find its controllee in the immediately embedding clause, though long-distance control is also possible if no such controller is available. Such strong preference for a local controller makes very suspicious the claim that optional control PRO is really a pure pronominal and subject to the Binding Theory.

For another distinction between the optional control PRO and

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the pronoun k_i , note the fact that the latter may occur in the object position whereas the former may not, as illustrated in (12).

- (12) John_i - i [Tom_j - i Bill_k - eke [Mary - ka
 - NM - NM - DAT - NM
 PRO_{*i,*j,*k}/k_{i,j,k} - l_il/caki_{i,j,*k} - l_il/Sam - il
 he - AC self - AC - AC
 manna - yaha - n - ta - ko] malha - əss - ta - ko]
 meet - must -ASP- DEC-COMP say - PAST- DEC-COMP
 mit - n_in - ta
 believe-ASP-DEC

(John_i believes that Tom_j told Bill_k that Mary must
 meet PRO_{*i,*j,*k}/him_{i,j,k}/self_{i,j,*k})

Note that unlike the pronoun k_i the optional control PRO is just impossible in the object position.¹⁴ If the optional control PRO is really a pure pronominal and subject to the Binding Theory, there would be no way to account for this fact. However, the Control Theory automatically accounts for this fact: PRO is impossible in the object position since the latter is governed by the verb.¹⁵

Therefore, the above-discussed facts would not be most naturally accounted for by the Binding Theory. On the other hand, long-distance control of optional PRO would not be naturally accounted for by any extended version of the Pro-Drop Principle since local identification of PRO is impossible in such a case. In conclusion, for optional control in Korean we need to recognize the Control Theory distinct from the Binding Theory or the Pro-Drop Principle.

Essentially the same story can be told about Japanese and Chinese. Consider a Japanese example (13).

- (13) John_i - ga [Tom_j - ga [PRO_{j,*i}/kare_{?i,j} - ga/zibun_{i,j}
 - NM - NM he - NM self
 - ga/Mary - ga Bill - ni atta - to] itta - to]
 - NM - NM - DAT met -COMP said -COMP
 omotte - iru
 think
 (John_i thinks that Tom_j said that PRO_{j,*i}/he_{?i,j}/
 self_{i,j}/Mary met Bill)

Note that the pronoun kare may be coreferential with John the subject of the highest clause whereas the optional control PRO is not in (13).¹⁶ This shows that in Japanese also even the optional control PRO has strong preference to find its controller in the immediately embedding clause though long-distance control is possible if no such controller is available. The following example (14) shows that PRO is impossible in the object position in Japanese, too.

- (14) John_i - ga [Tom_j - ga [Mary - ga PRO_{*i,*j}/kare_{i,j} -
 - NM - NM - NM he -
 ni/zibun_{i,j} - ni/Bill - ni atta - to] itta - to]
 DAT self -DAT - DAT met -COMP said -COMP
 omotte - iru
 think
 (John_i thinks that Tom_j said that Mary met PRO_{*i,*j}/
 him_{i,j}/self_{i,j}/Bill)

The best way to account for these facts in Japanese would be again to recognize the Control Theory distinct from the Binding Theory and the Pro-Drop Principle.

Similar phenomena can be observed in Chinese optional control structures. Consider the following Chinese examples.

- (15) John_i shuo [PRO_i/ta_{?i}/ziji_i qu jian Mary]
 (John_i said that PRO_i/he_{?i}/self_i met Mary)
 (16) John_i shuo [Mary qu jian PRO_{*i}/ta_i/ziji_{*i}]
 (John_i said that [Mary met PRO_{*i}/him_i/self_{*i}])

In the above examples, the binding behaviors of the pronoun ta and reflexive ziji are best accounted for by the parameterized Binding Theory (cf. Yang 1983), and the behavior of the optional control PRO would be best accounted for by the separate theory of control.

3. Arbitrary Control

Manzini (1983) argues that the distribution of arbitrary reference PRO follows from her modified version of the Binding Theory. For example, her version of the Binding Theory predicts

that a PRO in a subject clause (co)refers freely, as illustrated in (17).

(17) [PRO_{arb} to behave oneself in public] would help Bill.

Indeed the PRO in the following Korean example has arbitrary reference interpretation.

(18) [PRO_{arb} salam - ìl soki - nìnkəs] - ìn nappi - ta
man - AC deceive-COMP - TOP bad - DEC

([PRO_{arb} deceiving people] is bad)

However, the generic context is also crucial for the arbitrary reference interpretation of PRO in addition to the syntactic context. That is, the arbitrary reference interpretation of PRO becomes impossible in (18) if we make the object of the control clause specific along with an adverb like *cikim* 'now', as we see in (19), or make the tense of the control clause past, as we see in (20).¹⁷

(19) *[PRO_{arb} cikim i salam - ìl soki - nìnkəs] - ìn
now this man - AC deceive-COMP - TOP

nappi - ta
bad - DEC

(*[PRO_{arb} deceiving this man now] is bad)

(20) *[PRO_{arb} salam - ìl soki - n - kəs] - ìn nappi - ta
man - AC deceive-PAST-COMP- TOP bad -DEC

(*[PRO_{arb} having deceived people] is bad)

The utterances (19) and (20) can only be interpreted such that the empty category refers to someone identified in the discourse, hence being not a PRO but an empty variable bound by an empty topic operator as suggested in footnote 12.

Furthermore, the arbitrary reference interpretation of PRO is possible even in an object clause as long as the generic context obtains, as we see in (21).

(21) John_i - ìn [PRO_{i,arb}/kì_{?i} - ka/cakì_i - ka salam - ìl
- TOP he - NM self man - AC

soki - nìnkəs] - ìl silhəha - n - ta
deceive-COMP - AC hate -ASP- DEC

(John_i hates [PRO_{i,arb}/he_{?i}/self_i deceiving people])

Note that PRO in (21) may be interpreted as under optional control or arbitrary reference. One might argue that in (21) the complementizer ninkəs somehow affects the status of the control clause such that the PRO in it may have free coreference like a gerund in English, and claim that if we replace the complementizer ninkəs with other complementizer like ki in (21) then the PRO may not have arbitrary reference interpretation any more, as we see in (22).

(22) John_i - in [PRO_{i,*arb}/k_i?_i - ka/caki_i - ka salam - in
- TOP he - NM self - NM man - AC

soki - ki] - l_il silhəha - n - ta
deceive-COMP-AC hate -ASP- DEC

(John_i hates [PRO_{i,*arb}/he_{?i}/self_i to deceive people])

Note that indeed PRO in (22) may not have arbitrary reference interpretation. However, whatever the syntactic or semantic differences between the two complementizers ninkəs and ki may be, apparently they are irrelevant to the Binding Theory that deals with the pronoun ki and the reflexive caki, since each of the latter behaves exactly the same in (21) and (22). Therefore, it is difficult to assume that the distribution of the arbitrary reference PRO follows from the Binding Theory in Korean.

I assume that the differences between the two complementizers ninkəs and ki with respect to arbitrary reference interpretation of PRO as in (21) and (22) are rather semantic or lexical than syntactic: ninkəs is [+generic] in the sense that it makes the complement clause generic whereas ki is [-generic]. Another evidence that the "generic" factor is crucial for arbitrary reference interpretation is the fact that even the reflexive caki receives arbitrary reference interpretation if the generic context obtains and another reflexive caki follows in the same clause, as we see in (23).

(23) [caki_{i/arb} - ka caki_i - l_il soki - ninkəs] - in
self - NM self - AC deceive-COMP - TOP

nappi - ta
bad - DEC

([Self_{i/arb} deceiving self_i] is bad)

Note that in (23) the second reflexive caki is bound by the first one and that the first one has no binder. This kind of exceptional

cases of arbitrary reference interpretation would be most naturally accounted for by interpretation rules in the Control Theory rather than by the Binding Theory.

If PRO in general may occur only in the ungoverned position, i.e., in the subject position, the arbitrary reference PRO should do so, too. Indeed, the latter is impossible in the nonsubject position in Korean, as we see in (24).¹⁸

(24) *[uli - ka PRO_{arb} soki - ninkəs] - in nappi - ta
we - NM deceive-COMP - TOP bad - DEC

(*[We deceiving PRO_{arb}] is bad)

The utterance (24) can only be interpreted such that the empty category is discourse-bound as in the cases of (19) and (20).

In conclusion, the arbitrary reference PRO also should be accounted for in the separate theory of control rather than by any extended version of the Binding Theory. Obviously it can never be accounted for by any extension of the Pro-Drop Principle as Huang (1984) admits, since an arbitrary reference PRO should not be locally identified. Essentially similar stories can be told about Japanese and Chinese, though I do not cite relevant examples here.

4. The Syntactic Nature of Control

In the preceding sections we have seen that, unlike binding phenomena, control crucially involves some lexical or semantic factors such as obligatory-control-triggering factors, generic-context factors for arbitrary reference interpretation, and maybe some others. But in this section I will argue that the unique syntactic property of control that PRO should be ungoverned, as originally claimed by Chomsky (1981), should be maintained even for lexical controllees so that we can explain why the controllee, empty or lexical, occurs only in the subject position. Note that this argument in turn would support the integrity of the Control Theory distinct from the Binding Theory or the Pro-Drop Principle.

I claim that the subject position is always ungoverned in languages without AGR such as Korean, Japanese and Chinese¹⁹ under the assumption that it is AGR that governs the subject position. Yang (1983) has shown that there is no AGR in Korean, Japanese and Chinese with respect to the Binding Theory of the languages. If we assume that the subject position is always ungoverned due to lack of AGR in these languages, we can explain why PRO is always possible in the subject position of any clause, tensed or non-tensed, in these languages. Note here that these languages have no subject-verb agreement at all and cannot be assumed to be so-called Pro-Drop languages.

Now the question is how the lexical subject is to be assigned nominative Case if the subject position is always ungoverned in these languages. I assume that the lexical subject is assigned nominative Case inherently by the θ -role from the predicate in these languages.²⁰ Chomsky (1984) makes essentially the same proposal for the Case-marking of the ungoverned subject in English, i.e., the subject of a gerund. He claims that in the clause John's reading the book the predicate reading the book θ -marks and inherently Case-marks John, the inherent Case being realized as Genitive Case by POSS-Insertion Rule that inserts POSS 's in the context [_{NP} NP α], where α = VP or \bar{N} . In a similar way, I assume that in Korean and Japanese the inherent nominative Case is realized by Subject-Marker Insertion Rule that inserts the subject marker in the context [_S NP α], where α = VP or S (α = S for multiple-subject constructions). In Chinese, I have to assume, the inherent nominative Case is vacuously realized since there is no formal realization of Case.

If we assume that the nominative Case is assigned by the θ -role from the predicate, the inherent nominative Case being realized by Subject-Marker Insertion Rule in Korean and Japanese, then we can explain why multiple-subject constructions are possible at all in these languages, since multiple-subject constructions are possible only where the subject-predicate relation holds between the subject and the S adjacent to it, as we see in the following example.²¹

- (25) yaksi, [_{S₁} yəlim - i [_{S₂} məkcu - ka [_{S₃} mas - i
indeed summer- NM beer - NM taste- NM
coh - ta]]]
good- DEC

(After all, it's during the summer that beer tastes good)

In this triple-subject construction, the VP coh-ta 'be good' is the predicate of the subject mas 'taste' of S₃, the S₃ mas-i coh-ta 'the taste is good' can be the predicate of the subject məkcu 'beer' of S₂, and the S₂ məkcu-ka mas-i coh-ta 'beer tastes good' can be the predicate of the subject yəlim 'summer' of S₁. If the subject of S₁, yəlim 'summer', is replaced by, say, çək 'book' in this sentence, the sentence becomes ungrammatical since the S₂ məkcu-ka mas-i coh-ta 'beer tastes good' cannot be the predicate of the subject NP çək 'book' and thus the latter NP cannot be θ -marked nor inherently Case-marked.

Thus, my claim is that multiple-subject constructions are possible only in languages where the nominative Case is inherently assigned. In Chinese, in which there is no nominative Case marker,

I suspect, some of the so-called topic constructions in which the topic has no bindee in the clause can be analyzed as multiple-subject constructions.

Now turning to the lexical controllee, even if it is assigned nominative Case inherently it is still in an ungoverned position; hence, it is subject to the Control Theory for the property of obligatory control if all the relevant conditions are met.²² Thus, we have to assume that the Control Theory applies to the ungoverned position rather than the ungoverned element. Then, we can explain why a lexical NP may be obligatorily controlled in languages like Korean, Japanese and Chinese at all whereas it may not in languages like English. In languages like English, a lexical subject NP in an ungoverned position may never be assigned nominative Case inherently and always violates the Case Filter.²³

For the binding of the anaphors and pronouns in the subject position in languages without AGR like Korean, Japanese and Chinese, I propose the principle (26).

- (26) A Case-realized NP is governed inherently, if not structurally.

Assuming that an inherently governed NP counts as containing the governor in itself, we can now explain why the inherently Case-marked anaphors and pronouns in ungoverned positions, such as the possessive pronoun or reciprocal in the subject position of a gerund in English or pronouns and anaphors in subject positions in Korean, Japanese and Chinese, are subject to the Binding Theory.

Thus, obligatorily controlled lexical NP's can be subject to the Control Theory since they occur in ungoverned positions and also subject to the Binding Theory since they are inherently governed according to (26). In conclusion, by recognizing the Control Theory that applies to the ungoverned positions as opposed to the Binding Theory that applies to the governed elements, we can explain various complex phenomena of control, including why the controllee, empty or lexical, occurs only in the subject position. Any theory that assumes that PRO can be governed and subject to the Binding Theory would lose the natural explanation for why the controllee occurs only in the subject position.

5. Lexical and Semantic Factors for Control

We have already discussed various lexical and semantic factors for control, such as obligatory-control-triggering factors and generic context factors. Such lexical and semantic factors are very rare, if ever, for binding phenomena. This contrast suggests that control and binding are different kinds of grammatical phenomena.

On the other hand, lexical and semantic factors may override the syntactic condition for control but rarely, if ever, override the syntactic condition for binding in discourse-oriented languages like Korean, Japanese and Chinese. For example, the unique syntactic condition for control that PRO may not be governed may be overridden by lexical and semantic factors, as we see in the following examples.

- (27) John_i - i [Mary - ka [e]_i miwəha - n - ta - ko]
 - NM - NM hate -ASP- DEC-COMP

malha - əss - ta
 say - PAST- DEC

(John_i said that Mary hated [e]_i)

- (28) [ɨysa - ka [e]_{arb} soki - ninkəs] - in nappi - ta
 doctor-NM deceive-COMP - TOP bad - DEC

([Doctors deceiving [e]_{arb}] is bad)

Note that in (27) the embedded object empty category may be coreferential with the matrix subject just like an optional control PRO and that in (28) the embedded object empty category may have arbitrary reference interpretation just like an arbitrary reference PRO.

However, if we replace the embedded verb miwəha 'hate' with manna 'meet' in (27), then the embedded object empty category cannot be coreferential with the matrix subject but can only be discourse-bound, as we have discussed with respect to (12). And if we replace the embedded subject ɨysa 'doctor' by uli 'we' in (28), then the embedded empty category cannot have arbitrary reference interpretation but can only be discourse-bound, as we have discussed with respect to (24).

Furthermore, such nonsubject empty categories interpreted like PRO's are rather exceptional and may well be treated in a special way in our grammar. I suggest that they should be treated as lexical exceptions or due to semantic/pragmatic inferences probably at the level of LF' (probably peculiar to discourse-oriented languages) rather than due to grammatical principles like the Control Theory or the Binding Theory at the level of SS or LF.

In conclusion, the Control Theory is much more susceptible to lexical and semantic factors than the Binding Theory, which in turn suggests that control and binding are distinct grammatical phenomena.

FOOTNOTES

*I have greatly benefited from discussions on this paper with many people, in particular with Noam Chomsky, Kenneth Hale, James Huang and Susumu Kuno. I have also benefited from comments on this paper by the participants of the 15th NELS meeting at Brown University.

¹The reflexive caki may also be bound by the topic or the head of a relative clause under certain conditions. For the anaphoric nature of the reflexive caki despite the \bar{A} -binding cases, see Yang (1983, in preparation).

²The abbreviations for glosses are as follows: NM = Nominative marker, AC = Accusative Marker, DAT = Dative Marker, ASP = Aspect Marker, PAST = Past Tense Marker, MOD = Modal, DEC = Declarative Ending, COMP = Complementizer. NM is i after a vowel and ka after a consonant.

³Ueda (1984) claims that the Japanese reflexive zibun, the Japanese counterpart of the Korean reflexive caki, is not an anaphor but a pronominal since it does not have a fixed local binding domain. The obvious problem with this claim is the fact that the Japanese reflexive zibun (or the Korean reflexive caki) is bound exactly in the local domain in which the Japanese pronoun kare (or the Korean pronoun ka) is free, as illustrated in (1). On the other hand, Fukui (1984) claims that the Japanese reflexive zibun is \bar{A} -bound, hence presumably not subject to the Binding Theory, in the light of the fact that it can be bound by the topic or the head of a relative clause. The obvious problem with this claim is that not all the binding positions for the reflexive zibun (or caki in Korean) can be assumed to be \bar{A} -positions. Hence Fukui has to assume that the \bar{A} -bound reflexives, i.e., reflexives bound by the subject of a complement clause, are rather marked. In contrast to this position, Chomsky (1984) suggests that the unmarked anaphor-binding is rather subject-oriented, i.e., bound by the subject. For further support for the position of Yang (1983), see Yang (in preparation).

⁴Strictly speaking, the obligatory subject-control effect in (2) is due compositionally to the embedding control verb yaksokha 'promise' and the embedded modal kess, which indicates the subject's volition.

⁵In fact, obligatory control may even be superimposed on an R-expression if appropriate conditions are met, as we will discuss later. See footnote 7.

⁶Strictly speaking, the obligatory nonsubject-control effect in (4) is due compositionally to the control verb saltikha 'persuade' and the control complementizer tolok 'so as to'.

⁷In fact, even an R-expression may be obligatorily controlled in (4), though not in (2), which is apparently due to the Binding Theory (C). That is, even if the controller NP Tom cannot be repeated in the controllee position in (2) simply because the controller c-commands the controllee and the Binding Theory (C) would be violated, the controller NP Bill can be repeated in the controllee position in (4) since the controller apparently does not c-command the controllee due to the Case marker or postposition eke 'to' attached to the controller and the Binding Theory (C) is not violated. Thus, the obligatory controller does not c-command its controllee in (4) though it does in (2). (Apparently the postposition eke counts as separate constituent for c-command whereas the nominative Case marker does not.) This suggests that obligatory control does not necessarily involve c-command relation between the controller and the controllee, which in turn would imply another distinction between obligatory control and anaphor-binding.

⁸I do not cite the case of the pronoun kare being obligatorily controlled since some speakers of Japanese do not accept the pronoun kare obligatorily controlled. But it does not affect my argument here, since the speaker of Japanese whom I checked accept the reflexive zibun obligatorily controlled though they find it slightly unnatural. I suspect that those speakers of Japanese who do not accept the obligatorily controlled pronoun may have a stronger condition of Avoid Pronoun than others. Saito (1982) claims that even the Japanese reflexive zibun cannot be obligatorily controlled when the matrix control verb is kokoromiru 'attempt'.

⁹The same argument applies even if the Japanese reflexive zibun is assumed to be a pronominal (Ueda 1984) or \bar{A} -bound (Fukui 1984). That is, it would be quite strange to say that zibun functions as an unmarked anaphor as well as a pronominal or an \bar{A} -bound variable at the same time, when it occurs as the subject of an obligatory control clause.

¹⁰The only difference is as follows. The Korean or Japanese reflexive can be bound by any c-commanding subject, wherever the reflexive may occur. But the Chinese reflexive can be bound by any c-commanding subject only when the reflexive occurs in a subject position; in a nonsubject position it can be bound only by the subject of the clause in which it occurs. Thus, it can be assumed that the Chinese reflexive-binding is the same as the Korean/Japanese reflexive-binding as far the examples (7) and (8) are concerned. See Yang (1983) for further related discussions.

¹¹There are some speakers of Chinese who accept the reflexive ziji obligatorily controlled by the nonsubject as in sentences like (8). But they are exactly the ones who relax the subject-binding condition of the reflexive even for non-control

cases.

¹²In fact, in (10) the empty pronominal may refer to someone identified in the discourse context. I assume such an empty category to be a variable bound by the empty topic operator as Huang (1984) argues. Hence, such a discourse-bound empty category has nothing to do with control, either.

¹³In (11) PRO may be coreferential with John in case John is the topic of the discourse. But then the empty category is not a PRO but a variable bound by the empty topic operator; hence it has nothing to do with control.

¹⁴In fact Huang (1984) claims that an empty pronominal is impossible in the object position in all languages though an empty variable is possible in the object position. Indeed, in (12) a discourse-bound empty category may come in place of PRO; but it would be a variable, not a PRO. Apparent exceptions to this generalization will be discussed in section 5.

¹⁵It will be argued in section 4 that in languages without AGR like Korean PRO is always possible in the subject position since the subject position is always ungoverned.

¹⁶Some speakers of Japanese find the coreference possibility between kare and Tom in (13) rather weak. I suspect that such speakers have a stronger condition of Avoid Pronoun than others.

¹⁷As I argue in section 4, PRO may occur even in a past tense clause in languages without AGR, in which the subject position is always ungoverned.

¹⁸Apparent exceptions to this generalization will be discussed in section 5.

¹⁹Saito (1982) already claims that the subject position is always ungoverned in Japanese. Huang (1982) also claims that there is no AGR in Chinese.

²⁰Saito (1982) makes essentially the same proposal for Japanese.

²¹For multiple subjection constructions in Japanese, see Saito (1982). (25) is adapted from his Japanese example.

²²We have to assume that there are some variations on the conditions for the possibility of lexical controllees depending on languages and structures, as we have noted with respect to Japanese. Even in Korean, when obligatory control is triggered by the control complementizer lyoko, an obligatorily controlled pronoun is impossible and an obligatorily controlled reflexive is

a little unnatural, as we see in (i).

- (i) John_i - i [PRO_i/*k_i - ka/?caki - ka Mary - l_il
 - NM he - NM self - NM - AC
 manna - lyəko] ha - n - ta
 meet - COMP do -ASP- DEC
 (John_i tries [PRO_i/*he_i/?self_i to meet Mary])

²³In English the subject of a gerund can be assigned Case inherently even if the position is ungoverned, as discussed earlier. However, the subject position of a gerund is not a position to be obligatorily controlled.

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