Note on Movement and Control (1)[1, 2]

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Ⅰ. Introduction

Based upon the general framework of recent Minimalist Program[3], the concept of movement and control seems to be dubious, and might need a little modification. In particular, concerning the control theory, there seems to be a wide-ranged interpretation among the GB framework and the Minimalist approach. The concept of control derived from movement or from raising seems to remain unsolved still now, even though N. Hornstein has suggested a radical approach to stipulate two kinds of control; obligatory and non-obligatory, cannot share the same property; the former has a movement operation and the latter has a raising operation. This paper seeks whether this hypothesis is acceptable or not.

In Section Ⅱ, general survey on the research of PRO will be shown briefly. In Section Ⅲ, the existent sentences with obligatory control or non-obligatory control will be shown to seek the possibility whether the control structures can be formed by movement operations, even though Minimalist approach makes it possible to remove D-structure as a grammatical level. In Section Ⅳ, the plausible interpretation of control structures will be shown tentatively.

Ⅱ. General Survey on Control

Generally speaking, the treatment of control and raising has been treated differently. In most cases of the Extended Standard Theory, control was defined as the Binding Theory; the result of PRO, while the concept of raising still remains an instance of movement. In the GB framework, the sentence with PRO contrasts with the sentence with raising as follows:

Sentence(1a) John promised to attend.

(1b) $John_i$ promised [PRO_i to attend]

Sentence(2a) John seemed to attend.

(2b) $John_i$ seemed [t_i to attend]

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[1]Norvert Hornstein. 1999. "Movement and Control." *Linguistic Inquiry Vol.30, No.1*, 69– 96. Cambridge, Mass.: MIT Press.

[2]Norbert Hornstein. 1998. "Adjunct Control and Parasitic Gaps." *University of Maryland Working Papers in Linguistics 6*, 102 – 121. Department of Linguistics, University of Maryland, College Park.

[3]Noam Chomsky. 1995. "A Minimalist Program for Linguistic Theory." *The Minimalist Program*, 167 – 217. Cambridge, Mass.: MIT Press.

In the control configurations, the embedded subject position in Sentence (1a) can be defined by the Binding Theory. On the contrary, in raising structures as in Sentence (2a), the embedded subject in Sentence (2a) can be generated by movement, which results in A-chain; the head, the antecedent, binds its trace.

Within the framework of GB Theory, the distributions of PRO can be defined as the PRO Theorem, while the distributions of NP traces can be defined as the Empty Category Principle(ECP). Compared with these different theories, the distributions of PRO and those of NP traces ought to show distinctive features. On the PRO Theorem, PROs are base-generated, while NP-traces must be properly governed. However, these distinctive theories seem to share the common features; caseless and phonetically null.

Besides, within the framework of the Minimalist Program approach, the θ-roles seem to be completely different from each other. Empirically, in Sentence (1a), the antecedent of PRO bears two θ-roles, whereas in Sentence (2a), the subject of NP bears only one θ-role. This semantic difference seems to show the basic principle between control and raising.

Recently, the interpretation of control has become a hot area of research. N. Hornstein claims as follows:[4]

> The theoretical basis for the distinction in GB technically rests on distinguishing a level of D-structure. D-structure is the sole locus of lexical insertion, an operation that precedes all other transformations. Lexical insertion is subject to θ-requirements. In particular, D-structure is defined as the phrase marker that purely represents GF-θ, the levels at which all and only thematic positions of the sentence are occupied by lexical material. Subsequent transformations move the lexical expressions located in θ-positions to non-θ-positions. These movements are further restricted by the θ-Criterion so that going from one θ-position to another is strictly forbidden.
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> The GB package of assumptions (the combination of D-Structure and θ-criterion) forces a distinction between PRO and trace, and thereby between binding and control. Two suppositions are central, and both are retained in the Minimalist Program: first, the θ-Criterion (the assumption that (A-)chains are constrained to possess but a single θ-position; i.e., movement from one θ-position to another is strictly forbidden); second, the priority of θ-marking over movement (i. e., the requirement that θ-position; coindicate with the foot of a chain).

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[4]Norbert Hornstein. 1999. "Movement and Control." 70.

As mentioned above, in the course of derivation, the first requirement refrains movement to θ-positions, while the second one retains a central feature of D-Structure. In the Minimalist Program approach, the thematic restriction on lexical insertion can be to the merger of trivil chains, which might restrict D-Structure is the locus of pure GF-θ.

Concerning the control theory, R. Martin[5] develops by exploiting the notion of null Case suggested by Chomsky and Lasnik[6] to account for the distribution of PRO. The Minimalist Program retains the θ- Criterion by assuming θ-roles are not features and that Movement must be greedy.

To be precise, the interpretation of PRO does not seem to be sufficient, because it is not clear what principle determines the antecedent of PRO, and whether or not all instances of control are actually the same or not.

Ⅲ. Obligatory Control and Non - Obligatroy Control

To manifest why a theory of PRO and control is necessary, sentences with obligatory control and non-obligatory control have to be shown, empirically. If PRO Theorem still remains to be effective, some related features of PRO must be the same whether the distribution of PRO is obligatory or not; non-obligatory. However, the properties of PRO show the different shades between obligatory control and non-obligatory PRO as follows:

Sentence(3a) *It was expected PRO to warm herself.

(3b) It was expected that PRO warming herself was necessary.

Sentence(4a) *Mary hopes that it was expected PRO to warm herself.

(4b) Mary_i hopes that it was expected that PRO_i warming herself was important.

The difference of grammaticality between Sentence (3a), (4a) and Sentence (3b), (4b) seems to show the different peculiarities between obligatory control PRO and non-obligatory control PRO.

In the GB framework, the interpretation of PRO must be the same; namely, PRO is a pronominal anaphor. Then, an anaphor must be properly governed within the governing category subject to Principle A, but a pronoun must be free in the governing category subject to

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[5]Roger Martin. 1996. *A Minimalist Theory of PRO and Control.* Doctoral diss. University of Connecticut, Storrs.

[6]Noam Chomsky and Howard Lasnik. 1993. *The Principle and Parameters.* In *The Minimalist Program.* 13 – 127. Cambridge, Mass.: MIT Press.

Principle B. Then, in this contrastive condition, the interpretation cannot be considered in the governing category. This is why PRO; a pronominal anaphor cannot be appeared in the governing category; namely it is ungoverned. Then, XPs without governors must be without governing category, and meet their binding conditions. Therefore, the [Spec, IP] position of infinitives and gerunds may be ungoverned, so that the distribution of PRO can be explained. Concerning Case-marking, this concept can manifest why PRO cannot be Case-marked. In the GB, Case-marking head, which governs it, can assign Case to a D/NP. As the distribution of PRO cannot be governed, they cannot be case-marked. These interpretations of PRO, within the GB framework, seem to be effective, but these interpretations might not apply to all kinds of PROs ; namely both to obligatory control PRO and non-obligatory control PRO.

In sentence (3a), the antecedent of PRO cannot be found, so that this ungrammaticality seems to show obligatory control PRO needs an antecedent. On the contrary, in Sentence (3b), this grammaticality shows that non-obligatory control PRO does not require an antecedent, so that Sentence (3b) is acceptable. Besides, the grammatical difference between Sentence (4a) and Sentence (4b) also shows the different peculiarity of obligatory control PRO and non-obligatory control PRO. In sentence (4a), the antecedent of obligatory control PRO must be in the local position. On the contrary, the antecedent of non-obligatory PRO can be appeared beyond the local position.

As shown above, the completely opposite peculiarities can be found between obligatory control PRO and non-obligatory control PRO. Then, the interpretation of PRO seems to be ambiguous ; anaphoric expressions in obligatory control structures, and pronominal ones in non-obligatory structures. From the Minimalist Program approach, the PRO Theorem approach also seems to be unappealing. N. Hornstein claims on Chomsky and Lasnik[7] as follows:[8]

> Chomsky and Lasnik have further argued against this approach to PRO on empirical grounds. Consider the sentences in (8).
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> (8) a. We never expected [PRO to be found t].
>
> b. *We never expected [PRO to appear to t [that Sally left]].
>
> If movement is a last resort operation and PRO must be ungoverned, then the threat of being governed suffices to force PRO's movement in (8a). But if being governed suffices to license movement in (8a), why is it insufficient in (8b)? Chomsky and Lasnik argue that both examples are accounted for if one assumes that PRO has a Case that must be

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[7]N. Chomsky and Howard Lasnik. 1993. *The Principle and Parameters.*

[8]N. Hornstein. 1999. "Movement and Control." 74.

checked. Movement in (8a) is then a typical case of last resort movement under passive. (8b)'s unacceptability stems from a violation of Greed; since PP is a domain for Case checking, movement to [Spec, IP] is unnecessary and so prohibited. This essentially assimilates the unacceptability of (8b) to that of (9).

(9) *We never expect that Sally will appear to t that...

In (9) Sally raises to [Spec, IP] to check Case. However, it has moved from within PP, which is also a Case-checking domain. As case has already been checked inside the PP, further movements prohibited by Greed. Chomsky and Lasnik propose treating (8b) in analogous fashion. They assume that the embedded [Spec, IP] in (8b) is a Case position. PRO checks its Case here. Movement of PRO from within the PP to this [Spec, IP], therefore, violates Greed.

As mentioned above, the PRO Theorem is no longer required, so that the semantic features of PRO can play a crucial point to decide PRO pronominal, anaphoric, or both. General assumption seems to define obligatory control PRO as anaphoric, and non-obligatory control PRO as pronominal.

Considering the different peculiarities of PRO, the detailed stipulation of PRO seems to be required.

Ⅳ. The Interpretation of PRO

Concerning the interpretation of PRO, only one interpretation of PRO cannot be applied, for empirically there are at least two kinds of PRO; obligatory control PRO, and non-obligatory control PRO. It seems to be dubious whether PRO shares some feature with NP-trace or wh-trace. However, it is interesting to assume the obligatory control PRO seems to share the feature with NP-trace, while non-obligatory control PRO seems to share the feature with pro. With lots of empirical materials of obligatory control PRO, the concept of standard GB and further Minimalist Program approach might be proved insufficient.

To prove obligatory control PRO seems to have the feature of NP trace, it is crucial to deny the standard GB and Minimalist Program approach. However, even now, a plausible hypothesis to manifest obligatory control PRO as some kind of NP-trace, N. Hornstein has set the following hypothesis:[9]

a. θ-roles are features on verbs.

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[9]N. Hornstein. 1999. "Movement and Control." 78.

b. Greed is Enlightened Self-Interest.

c. A D/NP "receives" a θ-role by checking a θ-feature of a verb/predicative phrase that it merges with.

d. There is no upper bound on the number of θ-roles a chain can have.

e. Sideward movement is permitted.

These hypotheses need lots of discussion and empirical evidences. The hypothesis: θ-roles are features on verbs, might lead to the requirement if movement to a θ-position is to conform to the principle of Greed. Then, obligatory control PRO might be required other Minimalist approach in case of being reduced to movement. Hypothesis b-e is much more difficult to define whether this assumption is accepted or not, as the most recent approaches on the standard GB and Minimalist approach cannot admit this radical proposal to obligatory control PRO. However, empirically, these concepts seem to be effective. Anyway, the distinctive features of obligatory control PRO have to be defined to share some features with NP-traces. In the following paper, these radical hypotheses will be defined effective or not, considering the most recent arguments with empirical materials.

References

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