A Note on Movement and Control in the English Noun Phrase*

HAMAMATSU Junji*

1. Introduction

In this note I will attempt to offer an account of the alternation between (1a) and (1b), in which the Agent DP, realized as a subject in (1a), seems to be 'demoted' in (1b):

(1) a. John’s attempt to gain attention (failed)
   b. The attempt of John to gain attention (failed)

To the best of my knowledge, no satisfactory analysis of the alternation has been presented in the literature. In what follows I will argue that in (1a) John moves from the embedded infinitival clause, which gives rise to the interpretation in which John is perceived as the Agent of both attempt and gain (attention). More specifically, the movement approach to control à la Hornstein (1998, 1999) offers a neat explanation for the alternation between (1a) and (1b). The NP structure, a nominal analogue of vP, which has been put forward by Carstens (2000) and Radford (2000), plays a crucial role in the extension of the movement analysis to control within the noun phrase.

2. A Demoted Agent: The Problem

At first blush, the most straightforward way to analyze (2a) is to assume that it involves control of PRO in the specifier of the embedded TP, as schematized in (2b):

(2) a. John’s decision to respond
   b. John’s decision [TP PRO to respond]

* Professor, School of Letters, Senshu University
Obviously, this is in parallel with the analysis of (3a) as (3b):

(3) a. John decided to respond
    b. John decided \([\text{TP PRO to respond}]\]

Notice, however, that (2a) is similar to (4) in meaning:

(4) the decision of John to respond

In (4) the Agent appears in the postnominal position. In analyzing this occurrence, we would be forced to regard the of-phrase as an adjunct controlling PRO in the specifier of the embedded TP. This is illustrated in (5):

(5)

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  \( \begin{array}{c}
    \text{DP} \\
    \text{D} & \text{NP} \\
    \text{the} & \text{NP} & \text{PP} \\
    \text{N} & \text{TP} & \text{of John} \\
    \text{decision} & \text{PRO to ...} \\
  \end{array} \)
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This would mean that the syntactic status of the of-PP is similar to that of the by-phrase in (6), which is typically considered to be an adjunct:

(6) the decision to respond by John

It is mistaken, however, to assimilate the Agent of-PP to the by-PP. The data in (7) through (9) conspire to indicate that the latter is an adjunct, whereas the former is not:

(7) a. *the decision to respond of John
    b. the decision to respond by John

(8) a. the decision by the court on Oct. 3 to reconsider the decision
    b. the decision on Oct. 3 by the court to reconsider the decision

(9) a. the decision of the court on Oct. 3 to reconsider the decision
b. *the decision on Oct. 3 of the court to reconsider the decision

As shown by the pair in (7), the by-phrase can follow the to-infinitive, whereas the of-phrase cannot. On the other hand, the by-phrase can either precede or follow the adjunct PP in (8), but the of-phrase has to precede one in (9).

In what follows I will suggest that the structure of (4) should be like (10):

(10) the decision [TP of John to [VP respond]]

This in turn means that no control is involved in (4), with PRO excluded in analyzing the instance. I will further argue that the example in (2a) also has the structure analogous to that in (10) at some point in its derivation, which would lead to the abandonment of PRO in the structural analysis of (2a). Before tackling with the control within the nominal, though, it would be instructive to take a close look at the internal structure of the noun phrase.
3. The Nominal Architecture and the Theory of Control

Since the pioneering work by Abney (1987) the structure of the noun phrase has undergone intense scrutiny, which has led to the articulation of its internal structure as well as the proliferation of functional categories inside it. More recently, Carstens (2000) and Radford (2000) proposed that a 'light noun' heads 'NP shell' structure. If we follow them, the example in (11a) would form the structure in (11b) in its derivation:

(11) a. John's decision of the offer
   b. 

\[
\begin{array}{c}
\text{NP} \\
\text{DP} \\
D \quad \text{nP} \\
's' \quad \text{DP} \quad n' \\
\text{John} \quad n \quad \text{NP} \\
\text{N} \quad \text{PP} \\
\end{array}
\]

The noun is split into the base N and n, with the former raising to the latter. N assigns an internal Theme θ-role to the PP in N’s complement position, whereas n assigns an external Agent θ-role to John in [Spec, nP]. Let us further assume that D and n assign a genitive Case to the DP in [Spec, nP] and to the PP in N’s complement position, respectively. Suppose further that D and the DP in [Spec, nP] agree in φ-features and the former has an EPP feature in (11b). Thus, John raises to [Spec, DP], resulting in the sequence in (11a).

Now the structure of (2a), repeated here as (12a) would be like (12b):
(12) a. John’s decision to respond

\[ nP \]
\[ \downarrow \]
\[ DP \quad n' \]
\[ \triangle \]
\[ John \quad n \quad NP \]
\[ \downarrow \]
\[ N \quad TP \]
\[ \downarrow \]
\[ decision \quad DP \quad T' \]
\[ \triangle \]
\[ PRO \quad T \quad vP \]
\[ \downarrow \]
\[ to \quad respond \]

*John* is given an external θ-role from *n*. It controls PRO in the specifier position of the TP, which constitutes N’s complement. The PRO receives an external θ-role from the light verb in the embedded clause.

However, the instance in (2b), repeated here as (13), does not seem to fit the structure in (12b):

(13) the decision of John to respond

If we respect the similarity in meaning between (12a) and (13), *John* should be assigned an external θ-role from the light noun in (13) in the same manner as in (12a). In (13), though, the Agent DP is located lower than [Spec, *nP*]. The only place for *John* in (13), it seems, is [Spec, TP] in the infinitival clausal complement. Since *John* is also an external argument of *respond*, it should originate in [Spec, vP] below the TP, moving to [Spec, TP] afterwards. This is illustrated in (14):

(14) \[ \nuP \ n \ [nP \ \text{decision} \ [\text{TP} \ \text{John} \ [\text{T} \ \text{to} \ [\nuP \ \text{John} \ \text{respond}]asi}}}]]

Notice now that the verbal counterpart of (14) looks like (15):

(15) \[ \nuP \ \text{v} \ [\text{VP} \ \text{decide} \ [\text{TP} \ \text{John} \ [\text{T} \ \text{to} \ [\nuP \ \text{John} \ \text{respond}]asi}]asi}]]}
Interestingly, this is the very structure Hornstein (1998, 1999) proposed for control predicates. If we follow his theory, the structure in (15) will result in the sentence in (16), which is the sentential analogue of (12a):

(16) John decided to respond ( = 2a)

More specifically, Hornstein argued that control involves movement, which would dispense with the need for PRO. His important presumptions include (17i-iii), which are adopted from Hornstein (1999 : 78):

(17) i. θ-roles are features on verbs.
    ii. A DP receives a θ-role by checking a θ-feature of a verbal/predicative phrase that it merges with.
    iii. There is no upper bound on the number of θ-roles a chain can have.

If we follow this set of assumptions, the derivation of (16) would be schematized as (18):

(18) [TP John T [VP John v [VP decided [TP John to [VP John v [VP respond]]]]]]

In (18) John originates in the Spec of the embedded vP, where it gets its first θ-role from respond. The DP then moves to the specifier position of the embedded TP. Next, it moves to the specifier of the upper vP, in which it receives its second θ-role from decide and has its Case checked by T. This gives rise to the control effect. Finally, attracted by the EPP feature in the matrix T, it lands in [Spec, TP].

If we respect the parallelism between the sentence and the noun phrase, therefore, it would be instructive to suggest that the structure in (14) constitutes the initial structure not only of (13) but of (12a) as well. I propose directly extending the above line of derivation to (12a), the nominal counterpart of (16). To specify, it has the initial structure in (14), in which the Agent DP receives a Case in an Agree relation with D and then moves to D’s specifier position, forming the structure in (19):

(19) [DP John [DP John’s [NP John n [NP decision [TP John to [VP John v [VP respond]]]]]]]

Interestingly enough, this derivation is completely in parallel with
Let us now return to the derivation of (13), which shares with (12a) the initial structure in (14). Remember that \( n \) can assign a Case, as observed in (11). Then \( \text{John} \) is assigned a genitive Case in [Spec, TP] in (14), which is later realized as \( \text{of} \), as shown in (20):

\[
(20) [\_{\_P} \ n \ [\_{\_P} \ \text{decision} \ [\_{\_P} \ (\text{of})\text{John} \ [\_T \ \text{to} \ [\_vP \ \text{John respond}]]]]]
\]

The derivation does not stop here, because \( n \)'s \( \theta \)-feature remains to be checked. The DP therefore further moves to [Spec, \( nP \)], receiving a \( \theta \)-role by checking \( n \)'s \( \theta \)-feature. With the merger of D and the \( nP \), we get the sequence in (21):

\[
(21) [\_D_{\_P} \ \text{the} \ [\_{\_P} \ \text{(of)John} \ [\_n_{\_P} \ \text{decision} \ [\_{\_P} \ \text{John} \ [\_T \ \text{to} \ [\_vP \ \text{John respond}]]]]]]
\]

Clearly, this does not reflect a correct surface word order. It is known, however, that there are more functional projections within the noun phrase than in (21). Also, movement of N to such functional heads has been proposed by a number of authors, including Ritter (1988), Bernstein (1993), and Cinque (1995). If we assume that a functional head, call it F, takes the \( nP \) as a complement and N moves to F, we will get the right word order as in (22):

\[
(22) [\_D_{\_P} \ \text{the} \ [\_F_{\_P} \ \text{decision} \ [\_{\_P} \ \text{(of)John} \ [\_n_{\_P} \ \text{decision} \ [\_{\_P} \ \text{John} \ [\_T \ \text{to} \ [\_vP \ \text{John respond}]]]]]]]
\]

Consequently, our line of approach accounts for the similarity between (12a) and (13). This has been made possible by assuming that they share the structure in (23) at some point in their derivations:

\[
(23) [\_D_{\_P} \ \text{D} \ (\text{the}'/s)\ [\_{\_P} \ \text{(of)John} \ [\_n_{\_P} \ \text{decision} \ [\_{\_P} \ \text{John} \ [\_T \ \text{to} \ [\_vP \ \text{John respond}]]]]]]]
\]

The difference in the surface position of the external argument, on the other hand, is attributed to the presence/absence of an EPP feature in D and that of a Case feature in \( n \).

### 4. On the Impossibility of Raising in the Noun Phrase

The gap between (24a) and (24b) poses a problem to the movement approach to control in the nominal:

\[
(24) \ a. \ \text{John's decision to respond}
\]
b. *John’s appearance to be successful
Since Chomsky (1970) it has been well known that raising is prohibited in the noun phrase, though it is possible in the sentence such as that in (25):

(25) John appears to be successful

If control involves movement as in (26a), the question arises as to what hampers raising in (26b):

(26)a. [DP John D(’s) [NP decision [TP John to respond]]]

b. [DP John D(’s) [NP appearance [TP John to be successful]]]

In (26a), John moves from the specifier of the embedded TP to that of the main TP. Obviously, the lack of movement in (26b) as contrasted with (26a) needs some explanation.

I argue that the gap in grammaticality between (24a) and (24b) originates from the categorial status of the clausal complements. On the one hand, it is widely accepted in the literature that raising complements constitute TP. There is reason, on the other, to conjecture that the structure of control complements is more complex than it appears. More specifically, the complement of a control verb forms a CP, as indicated by the fact that it allows coordination with a that-clause, as shown by (27):

(27) John expected [to write a novel] but [that it would be a critical disaster] (Koster and May 1982: 133; brackets mine)

This seems to hold true of nouns derived from control verbs. Consider the pair in (28):

(28)a. Mary’s refusal [for John to attend the party]

b. Mary’s refusal [Mary to attend the party]

The appearance of for in (28a) points to the CP status of the control complement. This in turn suggests the possibility that the infinitival clause in (28b), albeit the absence of an overt complementizer, also constitutes a CP.

In this connection, the infinitival clausal complement such as the bracketed part in (29a) is argued to form a CP, by the analogy of (29b) (Bresnan 1972; Chomsky 1981; Snyder and Rothstein 1992):

(29)a. John wants [Mary to dance]

b. John wants very much [CP for Mary to dance]

This assumption is supported by the possibility of coordination in
(30): John wants [to sing] and [for Mary to dance]

Crucially, the same is true of the construction in question, as shown by the grammaticality of (31):

(31) John’s refusal [to sing] and [for Mary to dance]

Suppose now that N can take only a CP as its clausal complement. Given that control predicates are CPs, nouns can select them as their complements. Since raising predicates always constitute TPs, by contrast, N cannot select them. This contrast is schematized by the pair in (32):

(32) a. decision [CP C [TP John to respond]]
    b. *appearance [TP John to be successful]

More specifically, I claim that N’s clausal complement should involve full-fledged extended projections in the sense of Grimshaw (2005). This seems to hold true of N’s complements generally. Consider the gap between (33a) and (33b):

(33) a. destruction [PP of DP the city]
    b. *destruction [DP the city]

Although of is semantically transparent in (33a), its absence results in ungrammaticality as shown in (33b). I assume, following Grimshaw, that P and D together constitute N’s extended projections. The unacceptability of (33b) will then naturally originate from the lack of N’s topmost extended projection.

If the control complement contains a CP, the derivation in (26a) should be revised as (34):

(34) John’s decision [CP C [TP John to respond]]

In (34) John crosses over a CP, which might be taken to trigger a minimality violation. Nunes (2007, 2010) and Boeckx, et. al (2010) claim that movement crossing a CP is not blocked if the movement is motivated by checking of a θ-feature. Consider the contrast between (35a) and (36a), which have the structure in (35b) and (36b), respectively at some point in their derivation:

(35) a. *John was decided to respond
    b. [TP John T (was) [VP decided [CP C [TP John to respond]]]]

(36) a. John was persuaded to respond
    b. [TP T (was) [VP John persuaded [CP C [TP John to respond]]]]
One of the major differences between (35b) and (36b) is that the matrix verb θ-marks the subject of the embedded TP in the latter, whereas it does not in the former. In (36b) John moves to have its θ-feature checked. In (35b), on the other hand, the trigger for the movement of John has to do with ϕ-features: the finite T and the embedded subject DP should agree in ϕ-features. According to Nunes, this agreement is blocked because of the intervention of C’s ϕ-features.

Nothing hampers raising since raising complements lack C, which, if present, would prevent the ϕ-features of the matrix T and those of the embedded subject from agreeing with each other:

(37) John appears [TP John to be successful]

However, raising is not allowed in the noun phrase, as far as N cannot c-select a TP. If it took a CP complement, we would have the derivation in (38), contrary to fact:

(38) [DP John D (’s) [NP appearance [CP C [TP John to be successful]]]]

This derivation is impossible for the same reason as (35b): D and the embedded subject should agree in ϕ-features in order for it to move to [Spec, DP]. The ϕ-features of the intervening C block this agreement.

All in all, the absence of raising within the noun phrase reduces to the impossibility of nouns to take TP complements. Therefore, it poses no problem for the movement analysis of control inside the noun phrase.

5. Conclusion

Hopefully, this paper has established that the apparent demotion of the Agent in the noun phrase boils down to the movement of the Agent DP from the embedded TP to the matrix clause. This necessitates the movement analysis of control, thus rendering unnecessary the presence of PRO in the noun phrase. Also, the alternation between the prenominal Agent and its demoted analogue has been explicated in a natural way; they share the same structure at a certain point in their derivations, with the difference attributed to EPP and
Case features in D and n. Consequently, this study lends support to the movement approach to control phenomena.

Notes
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1) Williams (1987) notes that the affinity between (2a) and (4) is only superficial, maintaining that the noun and the of-PP together form an appositive to the to-infinitive. He bases his argument on the gap between (i) and (ii):
   (i)  The decision of the committee was to leave
   (ii) *The decision by the committee was to leave
   In his theory the Agent can only be demoted unless there is no Theme represented in the noun phrase. The contrast does not seem to be so general, however. Observe that replacing decision with refusal results in degradability:
   (iii) *The refusal of/by the committee was to accept the policy

2) To get the word order in (4), we need to assume that the TP undergoes rightward movement or adjunction to the upper NP.

References