On Control in Passive Construction and Derived Nominals

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0. Introduction

In early work in generative grammar, construction–specific rules, such as that governing the "passive", were proposed (See Chomsky (1965)). Recently, it is assumed that the "passive construction" is derived through a process of the interaction of the general rules and principles. According to Chomsky (1981), in the D–structure (1 b) of the passive sentence (1 a), the subject position is the non–θ–position and the object NP has no Case, which triggers NP–movement from object position to subject position.

(1) a. John was killed

　　　b. [e] was killed John

This is because, in English, the passive suffix *–en* absorbs the external θ–role, which should be assigned to the subject in the active counterpart, and the objective Case, which should be assigned to the object. The general principles of UG, i. e., θ–Criterion and Case Filter require that the object NP move to the subject position. Therefore, it would seem to be more appropriate to think of the passive as having two crucial properties, rather than being governed by construction–specific rules.

(2) a. [NP, S] does not receive a θ–role

　　　b. [NP,VP] does not receive Case

(Chomsky (1981))

Certain derived nominals share these properties.

（3）　a.　the destruction of the city

　　　　b.　the city's destruction

In (3), the nominal suffix *-tion* prevents the objective Case-marking, which triggers the application of the phonological rule *of-*insertion (as in (3 a)), and NP-movement to specifier position (as in (3 b)). External θ-roles are also absorbed by the suffix, since overt external arguments do not occur. If this is the case, we have to difine what the absorption of the θ-role involves.

In this paper, I will discuss control in passive and derived nominals. In section 1, I will survey the proposal on two kinds of control, argument control and thematic control, discussed in Jaeggli (1986), In section 2, I will suggest certain deficiencies in Jaeggli's understanding of control in derived nominals. In section 3, I will explore the structure of the derived nominals in terms of control.

1. Argument control vs. thematic control

One of the important questions with regard to the passive involves what happens when a θ-role is absorbed.[1] Roeper claims that the passive morphology absorbs external θ-roles, and then assigns them to "implicit arguments" (See Roeper (1983), (1987)). The following examples support his claim.

（4）　a.　　the boat was sunk to collect the insurance

　　　　b.　＊ the boat sank to collect the insurance

<div align="right">(Roeper (1987))</div>

In (4 a), the implicit argument of *sink* serves as a controller of PRO in the rationale clause, whereas the same element is not controlled in (4b) since the Ergative Rule deletes an agent in the lexicon and the ergative sentence does not have such implicit arguments (See Keyser and Roeper (1984)).

Derived nominals with passive-like structures allow a rationale clause as a passive sentence. It is natural to consider that these

nominals also have implicit arguments as a controller of PRO in a rationale clause.

(5)   the destruction of the city to prove a point

(Roeper (1983))

Not all passive sentences and derived nominals seem to contain implicit arguments, though.

(6)   *Bill was promised to shave himself

(Manzini (1983))

(7)   *the city's destruction to prove a point

(Roeper (1983))

According to Manzini (1983) and Koster (1984), the ill-formedness of the sentence (6) attributes to the lack of the argument bearing the external θ-role of *promise*, since *promise* is a subject control verb. Jaeggli (1986) argues that the external argument of *destruction* is deleted in (7), in order for NP-movement to be allowed.

If the properties given in (2) are descriptively correct, the following question arises: what distinguishes the well-formed sentences (4 a) and (5), on one hand, from the ill-formed sentences (6) and (7), on the other hand?

Note that the question of whether implicit arguments are present or not in passive and derived nominals should be separated from the question of whether control relation is possible or not in the passive sentence and the derived nominals involved. Let us consider the latter question first.

Jaeggli (1986) argues that control relation in (4 a) is different from the familiar control relation, and names the latter as argument control[2] and the former as thematic control. There are four differences between argument control and thematic control:

(8)   Argument control
    a.   implicit arguments cannot be a controller
    b.   a controller must c-command its controllee
    c.   long-distance control is possible

  d. control into possible infinitivals is possible

(9) Thematic control
  a. implicit arguments can be a controller
  b. a controller does not have to c-command its controllee
  c. long-distance control is not possible
  d. control into passive infinitivals is not possible

The following sentences illustrate the properties mentioned above, respectively.

(10) a. *Bill was promised to go to Disneyland
   b. *John was promised by Bill [PRO to win]
   c. They thought I had suggested that [PRO feeding each other] would be difficult
   d. John wants [PRO to be loved by everyone]

(11) a. John was promised that he would go to Disneyland [to get him to stop crying]
   b. the price was decreased by the government [PRO to help the poor]
   c. John was told that [PRO to clean the house [in order PRO to impress the guests]] is foolish
   d. *the gifts were brought [PRO to be admired by the Indians]

               (Jaeggli (1986))

According to Jaeggli, tne contrast between (10) and (11) attributes to the differences between argument control and thematic control as stated in (8) and (9). Assuming that implicit arguments exist in the passive, the implicit argument bearing the external θ-role of *promise* might be a possible controller, since *promise* is a subject control verb. In (10 a), however, control is impossible because this is an instance of argument control and implicit arguments cannot function as controller in argument control (as in (8 a)). Meanwhile, control is possible in (11 a), since it is an instance of thematic control and implicit arguments can be

thematic controllers (as in (9 a)).

Given that Jaeggli's proposal is correct, the ill-formedness of the sentence (6) can be accounted for in the same way. As in (4 a), an implicit argument occurs in (6), but the impossibility of argument control results in the ungrammatical sentence (6). Therefore, what distinguishes grammaticality in (4 a) and (6) derives from the presence of control relation, argument control or thematic control, but not from whether implicit arguments exist or not in the passive sentence.

Next, let us consider the c–d sentences in (10 – 11). PRO in (10 c) can be coindexed with the matrix subject *they*: that is, long–distance control is possible in argument control. On the contrary, in (11 c), PRO in the most embedded clause cannot be coindexed with the elements in the matrix clause, such as the implicit argument which represents the person who told *John*. It can be interpreted as being arbitrary or coreferential with the subject of *clean*, PRO in the next higher clause, which is controlled by the matrix subject *John*. Long–distance control is impossible in thematic control. Another difference between argument control and thematic control is illustrated in (10 d) and (11 d). Argument control into passive infinitivals is possible in (10 d), while thematic control into passive infinitivals is impossible in (11 d). Thus, by assuming that argument control and thematic control are different with respect to the properties described in (8 – 9 a, c, d), we can account for the contrast between (6) and (10), on one hand, and (4 a) and (11), on the other hand.

Turning to (8 – 9 b), (10 b) and (11 b) might seem to support the second difference between two kinds of control. In (10 b), the possible controller *Bill* does not c–command PRO; this violates the requirement that an argument controller must c–command its controllee. In contrast, the possible controller *the government* in (11 b) can control PRO since thematic control does not require c–command relationship.

Now, let us consider the following sentence.

(12) he said to them that I have suggested that [PRO feeding each other] would be difficult

In (12), PRO can be interpreted as coreferential with *them* in the matrix clause, that is, *them* controls PRO, though it does not c-command PRO. One might say that (12) is not an instance of argument control but thematic control. If it were an instance of thematic control, argument control must also hold sway in (10 c) and thematic control in (12), in spite of the same sentence construction. One, then, cannot explain what differentiates two kinds of control. (I will return to this problem in section 2 below.)

Now, let us suppose that a controller does not have to c-command its controllee in argument control as well as thematic control, instead. Then we have to explain why (10 b) is ungrammatical while (11 b) is grammatical. Suppose that passive sentences have implicit arguments, even when *by*-phrases appear in passive sentences. Then, the ungrammaticality of (10 b) reduces to the ungrammaticality of (10 a), and the grammaticality of (11 b) to the grammaticality of (11 a). Namely, implicit arguments can be a controller in (11 a–b), but not in (10 a–b).

The assumption of implicit arguments in passive sentences with *by*-phrases raises a question: To which should the external θ-role that the passive suffix *-en* absorbs be assigned, to the implicit argument or to the NP in the *by*-phrase? Such a consideration of nominals seems to suggest that the passive *by*-phrase is not an argument of verbs, or nominal heads (See Jaeggli (1986), Roeper (1987)[3]). It follows that implicit arguments may co-occur with *by*-phrases. Therefore, the external θ-role can be assigned to the implicit argument via passive morphology, not to NP in the *by*-phrase. In the case of thematic control, the implicit argument bearing the external θ-role can be a controller, regardless of whether the passive *by*-phrase is present or not (as in (11 a–b)).

To sum up this section, it can be stated that the contrast between (4 a) and(6) attributes to the difference between thematic control and argument control, not to any structural difference,

such as the existence of implicit arguments. Taking Jaeggli's proposal that argument control is different from thematic control, and Roeper's proposal that implicit arguments are present in the passive, as plausible, I will consider derived nominals in section 2.

2. Derived nominals

Jaeggli argues that control in derived nominals is argument control, taking the following sentences as examples.

(13) a. *the city's destruction to prove a point

b. *the city's destruction by the army to prove a point

c. their statement that I had suggested that feeding each other would be difficult is completely false

d. the attempt to be introduced to the king failed

(Jaeggli (1986))

Like the instances of argument control given in (10), sentences a–b. are ungrammatical in (13). Long–distance control is possible in (13 c). PRO in the most embedded clause can be coindexed with *their* in the matrix clause. In (13 d), control into the passive infinitival is possible. These four examples exhibit argument control properties as stated in (8). Jaeggli concludes that control in derived nominals is uniquely argument control.

However, empirical and conceptual problems arise in Jaeggli's proposal on control in derived nominals.

Consider next examples (14) and (15).

(14) a. the destruction of the city to make a point

b. the destruction of the city by the army to make a point

(15) *the destroyer of the city to make a point

(Roeper (1983), Jaeggli (1986))

According to Jaeggli, in (15), PRO in the rationale clause is not controlled, since the suffix -*er* deletes Agentive θ-role completely. In other words, there are no implicit arguments in (15). The

ungrammaticality of (15) reduces to the ungrammaticality of the ergative construction in (4 b). Meanwhile, the examples in (14) are grammatical since the suffix -*tion* does not delete Agentive θ-role. It means that the derived nominals in (14) have implcit arguments bearing the external θ-roles; these control PRO in the rationale clause, though Jaeggli does not say so explicitly. This explanation raises a problem. If Jaeggli's claim that control in derived nominals is uniquely argument control is correct, (14 a) would be wrongly predicted as ungrammatical, because implicit arguments cannot control PRO in the case of argument control, as stated in (8 a).

As mentioned above, requirement of c-command in argument control as in (8 b) seems doubtful. We can find counterexamples in (13 c) as well as in (12). In (13 c), an instance of argument control, *their* in the matrix clause does not c-command the infinitival subject in the most embedded clause, but it properly controls its controllee. Like (10 b) and (11 b) in section 1 , the ill-formedness of (13 b) reduces to the ill-formedness of (13 a), and the well-formedness of (14 b) to the well-formedness of (14 a).

Another problem is a conceptual one. Jaeggli does not explicitly account for what distinguishes argument control from thematic control. The differences between the two kinds of control as stated in (8)-(9) (except for b.) seem to be descriptively correct, but Jaeggli does not explain why argument control must hold in (6), (10), and (13), on one hand, and thematic control in (4 a) and (11), on the other hand.

Suppose that the category where a controllee appears determines which control should hold in the construction. That is, control relationship may well depend on whether a controllee occurs in an argument clause, such as clausal complements and clausal subjects, or in an adjunct clause, such as rationale clauses. Consider the examples (10)-(11), again, in terms of the category where PRO appears.

(10)　a.　＊Bill was promised to go to Disneyland

b.   *John was promised by Bill [PRO to win]

c.   they thought I had suggested that [PRO feeding each other] would be difficult

d.   John wants [PRO to be loved by everyone]

(11) a.   John was promised that he would go to Disneyland [to get him to stop crying]

b.   the price was decreased by the government [PRO to help the poor]

c.   John was told that [PRO to clean the house [in order PRO to impress the guests]] is foolish

d.   *the gifts were brought [PRO to be admired by the Indians]

(Jaeggli (1986))

Notice that all infinitival clauses in (10), which is an instance of argument control, are argument clauses. PRO occurs in clausal complements (a, b, d) or clausal subject (c) in (10). Interestingly, in (11), which is an instance of thematic control, all infinitival clauses in question are adjunct clauses, namely, rationale clauses. In (11 c), PRO in the most embedded clause, which is a rationale clause, must be thematically controlled, and therefore, long–distance control is impossible in (11 c). In contrast, the subject of *clean* occurs in an argument clause, and it cannot be controlled by the implicit argument, which represents the person who told *John*.

This generalization can be extended to derived nominals. In (13 c), PRO, the subject of *feeding*, appears in a clausal subject, and therefore, argument control must hold in (13 c). This is consistent with the fact that long–distance control is possible in (13 c). The infinitival clause of (13 d) is an argument clause. Compared with (14 a), the infinitival in (13 d) is the object of *attempt* semantically; there is no such relationship in (14 a). Thus, argument control must hold for PRO in the clausal complement in (13 d); actually, control into the passive infinitival is possible in (13 d).[4]

On the contrary, all infinitival clauses in (13 a–b) and (14 a–b) are rationale clauses, adjunct clauses, like (11). Therefore, thematic

control must hold. Assuming that the derived nominals in (14) contain implicit arguments, PRO in the rationale clause is properly controlled by the implicit argument. The grammaticality of (14) can be accounted for. It remains to account for (13 a–b). The ill-formedness of (13 a–b) attributes to another reason, which I will discuss in section 3. (13 a–b) do not degrade the generalization on control. Thus, argument control should hold for PRO in argument clauses, and thematic control for PRO in adjunct clauses.

To summarize, argument control should be distinguished from thematic control, as Jaeggli suggests. It follows from his proposal that passive sentences and certain derived nominals may contain implicit arguments. Jaeggli, however, does not explain what distinguishes argument control from thematic control, and why argument control holds for PRO in derived nominals. Furthermore, his classification raises an empirical problem. It cannot account for the grammaticality of (14).
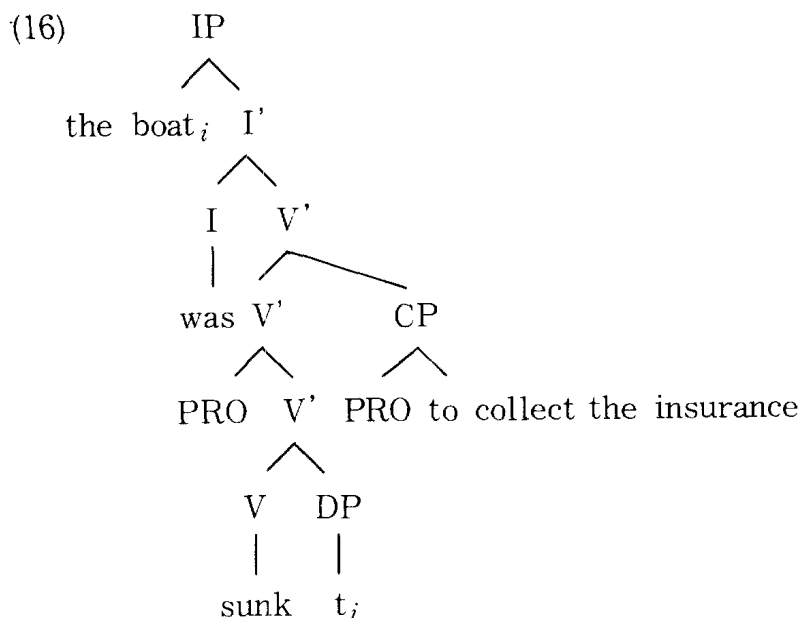
Then, assuming that argument control should hold for PRO in argument clauses and thematic control for PRO in adjunct clauses,[5] the (un)grammaticality of (10 – 11), (13 c–d), and (14) can be accounted for, and a conceptual problem in Jaeggli (1986) is partially overcome.

3. The structure of derived nominals

Fukui & Speas (1986) argues that the so-called "noun phrase" is really DP (=D"), where D(eterminer) is its head and N' is its complement.[6] This DP assumption gives a unfied account for DP (=D") and IP(=I"). This model is helpful in examining some above mentioned problems.

First, let us consider the structure of (4 a). Following Fukui & Speas, the S–structure representation of (4 a) has the form shown in (16). In (16), the internal θ–role of *sink* is assigned to the chain [the boat$_i$, t$_i$], whose terminal element appears in the complement position of the verb; the external θ–role is assigned to PRO, a sister of V'. Since the passive suffix *-en* absorbs objective Case,

the object with no Case must be moved to the specifier position, where it receives Case from Infl(ection).

(16)
```
          IP
         /\
   the boat_i  I'
            /\
           I   V'
           |   /\
          was V'      CP
             /\      /\
          PRO V'  PRO to collect the insurance
             /\
            V   DP
            |   |
          sunk  t_i
```

Given that DP analysis in Fukui & Speas (1986) is on the right track, PRO, which is assigned the external θ-role, is nothing but an implicit argument. In the case of thematic control, PRO as a sister of V' can be a controller. In (16), in fact, the implicit argument that is a sister of V' properly controls PRO in the rationale clause.

Returning to (13 a), the S–structure of (13 a) becomes (17) if we assume that the complement of N is moved to the specifier position to receive Case. As in (16), the internal θ-role of *destruction* is assigned to the chain [the city$_i$, t$_i$] and the external θ-role to PRO that is a sister of N' in (17). *The city* is moved to the specifier position to receive Case from D. Since PRO in question appears in an adjunct clause, thematic control must hold in (17) and the implicit argument that is a sister of N' can be a potential controller of PRO in the rationale clause. However, it fails to control PRO and (13 a) is ungrammatical. Thematic control is not possible in (17), although (17) has almost the same structure as (16).
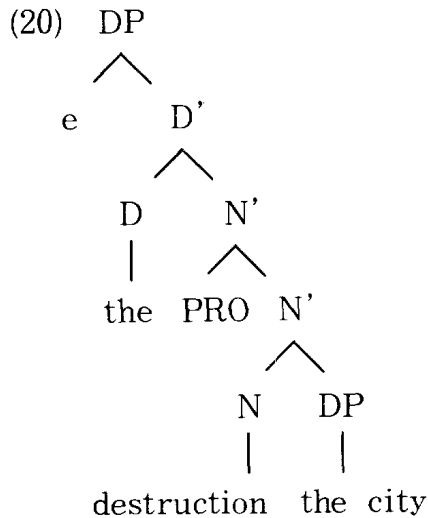
(17)　　DP

the city_i D'

　　　D　N'
　　　|
　　　-'s　N'　　　CP

　　PRO　N'　　PRO to prove a point

　　　N　DP
　　　|　　|
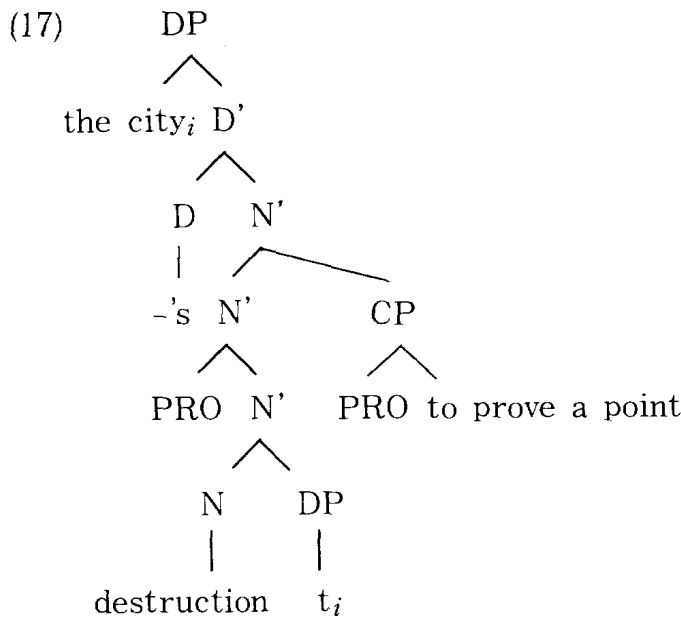
destruction　t_i

Let us consider the following examples. We can find a contrast between DP and IP in the following:

(18)　a.　　the destruction of the city

　　　b.　＊e destroyed the city

(19)　a.　　yesterday's destruction of the city

　　　b.　＊yesterday destroyed the city

In English, the Extended Projection Principle requires that an overt subject occur in IP; otherwise, a sentence with a missing subject will be ungrammatical, as in (18 b). In contrast, the Extended Projection Principle does not hold of the nominals, and therefore, the derived nominal with no overt subject, such as (18 a), is allowed. Another difference concerns to selectional restrictions. IP does not allow non-argument of the verb to occupy the specifier position, while DP does allow any element not selected as an argument of the nominal head in the specifier position.
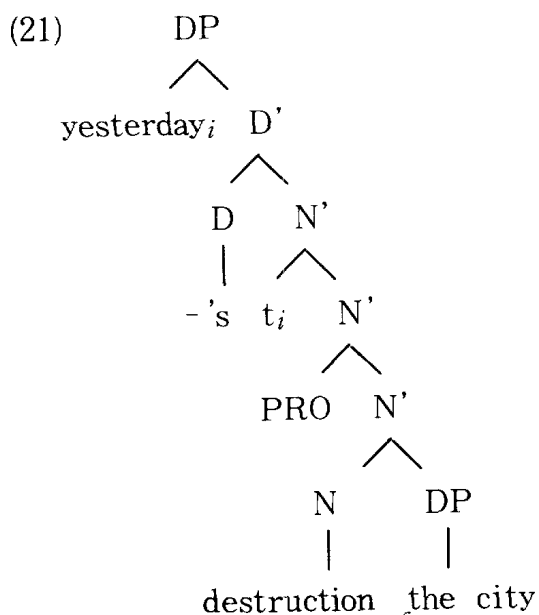
Following Fukui & Speas, let us assume that argument position must be occupied if Case assigners or θ-role assigners select arguments in that position. Infl is a Case assigner and the Saturation Principle requires that Infl discharge Case to the argument in the specifier position. If an overt subject is missing, Infl cannot discharge Case and violation of the Saturation Principle will occur.

The same is true in the case of DP whose head is the Case assigner -'s. Since the determiner *the* has no Case to discharge, missing subjects are allowed in DP with *the* as its head, yielding the structure shown in (20).

(20) DP
```
        DP
       /  \
      e    D'
          /  \
         D    N'
         |   /  \
        the PRO  N'
                /  \
               N    DP
               |    |
         destruction the city
```

In (20), PRO is an implicit argument and receives the external θ-role from *destruction*. Like (16), this implicit argument bearing the external θ-role controls PRO in the rationale clause in (14 a).

Consider next (19 a). (21) is assumed to be the S-structure of (19 a) in Fukui & Speas. *Yesterday* in the specifier position at S-structure is moved out of N', to meet the Saturation Principle, which requires that the determiner -'s discharge Case.

(21) DP
```
           DP
          /  \
   yesterday_i  D'
              /  \
             D    N'
             |   /  \
            -'s t_i  N'
                    /  \
                  PRO   N'
                       /  \
                      N    DP
                      |    |
                destruction the city
```
(Fukui & Speas (1986))

However, this approach cannot rule out the following examples.

(22)　a.　＊the city's yesterday destruction

　　　b.　＊the enemy's yesterday destruction

Note that the argument in the specifier position of the nominal which has no argument structures, such as *John* in *John's book*, is considered to be base-generated. This can be extended to all nominals. Suppose that every argument which occurs in the specifier position of DP with -'s as its head is base-generated in that position[7]. The D-structure representation of (23), for example, has the form shown in (24).

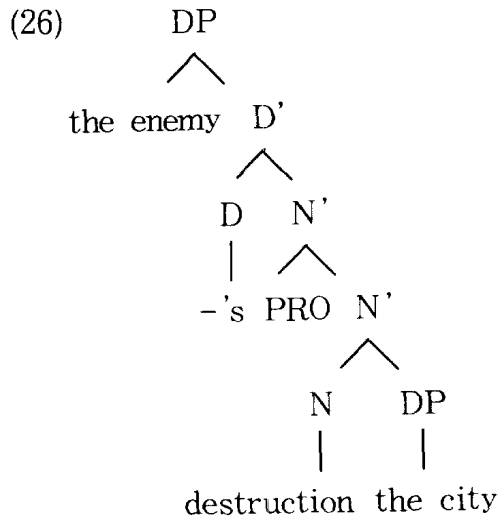(23)　yesterday's destruction of the city to prove a point

(Fukui & Speas (1986))

(24)
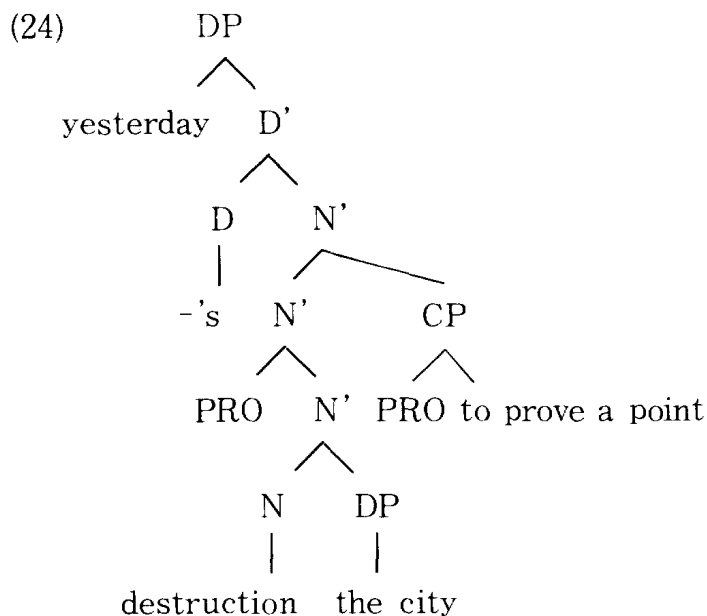
In (24), the internal θ-role is assigned to the object of *destruction*, and the external θ-role to PRO, a sister of N'. *Yesterday* is base-generated in its position and receives Case from D, and the Saturation Principle is satisfied. PRO bearing the external θ-role controls PRO in the rationale clause because implicit arguments can function as controller in thematic control.
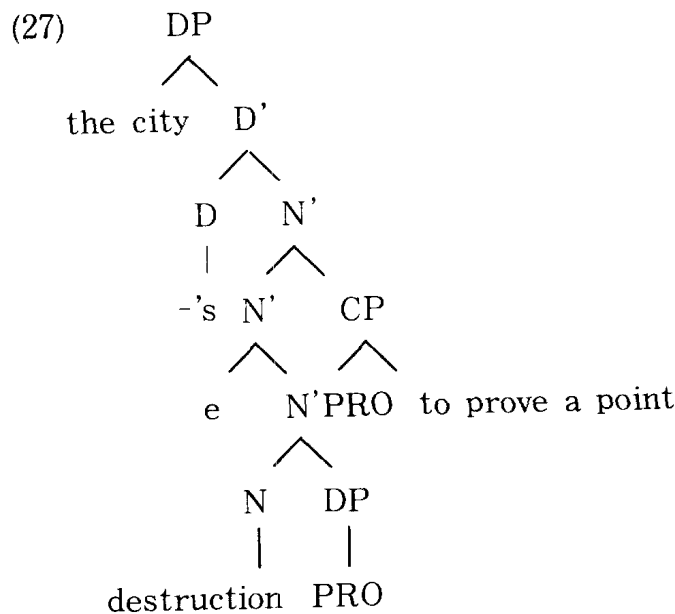
Consequently, the S-structure of (25) is like (26). *The enemy* is not moved out of N' as Fukui & Speas suggests, but it is base-

generated in the specifier position and controls PRO in N', which is assigned the external θ-role of *destruction*.
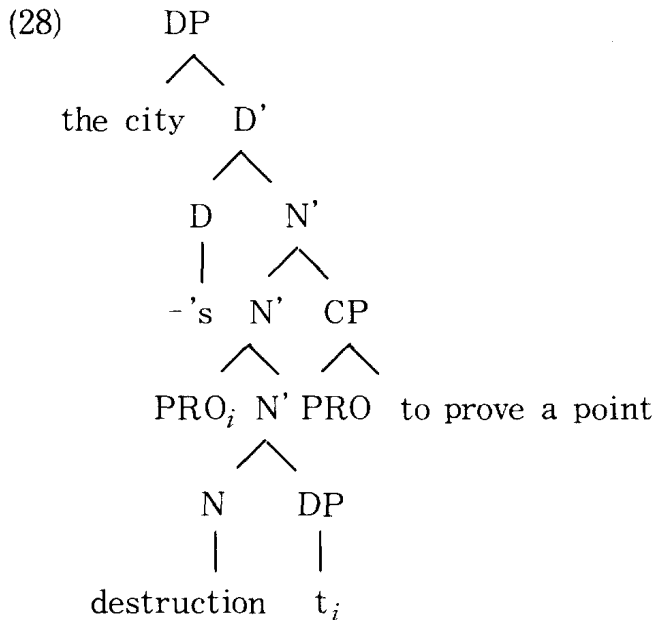
(25)　the enemy's destruction of the city

(26)　　DP
```
              DP
             /  \
     the enemy   D'
                /  \
               D    N'
               |   /  \
             -'s PRO   N'
                      /  \
                     N    DP
                     |    |
              destruction the city
```

Finally, returning to (13 a), let us assume that the D-structure of (13 a) has the representation shown in (27).

(27)　　DP
```
              DP
             /  \
      the city   D'
                /  \
               D    N'
               |   /  \
             -'s  N'   CP
                 / \   / \
                e  N'PRO  to prove a point
                  / \
                 N   DP
                 |   |
          destruction PRO
```

Like (24) and (26), *the city* is base-generated in the specifier position in (27). The internal θ-role of *destruction* is assigned to its object. *The city* in the specifier position controls PRO bearing the internal θ-role. The complement position, however, is governed by

N.　Therefore, PRO in the complement position at D–structure must be moved to the ungoverned position.

Suppose that the nominal suffix *–tion* does not have to discharge the external θ–role which it absorbs.[8]　It follows that the position of a sister of N', which is occupied by implicit arguments in (24) and (26), will be empty at D–structure when the suffix *–tion* optionally does not discharge the external θ–role.　This position is ungoverned and complement PRO can only be moved to this position in order to be licensed, yielding the structure shown in (28).

(28)　　DP
　　　　／＼
　　the city　D'
　　　　　　／＼
　　　　　D　　N'
　　　　　|　　／＼
　　　　-'s　N'　CP
　　　　／＼　／＼
　　PRO$_i$ N' PRO　to prove a point
　　　　／＼
　　　N　　DP
　　　|　　|
　　destruction　t$_i$

In (28), possible controllers of PRO in the rationale clause are *the city* and PRO controlled by *the city*. But they cannot control PRO in the rationale clause because of the selectional restrictions of *prove*; that is to say, the subject of *prove a point* must be an element with the feature [+human]. PRO in the rationale clause is not properly controlled, which results in the ungrammaticality of (13 a). Since *the city's destruction* is perfectly well–formed, the ungrammaticality of (13 a) may attribute to the fact that PRO in the rationale clause is not controlled, rather than to the peculiarities of NP–movement in derived nominals.

To summarize, the assumption that argument control must hold

for PRO in argument clauses and thematic control for PRO in adjunct clauses can provide a unified account for assignment of external and internal θ-roles, absorption of external θ-roles by the passive suffix -en and the nominal suffix -tion, and for the behavior of implicit arguments in passive and derived nominals.

Notes:

1. Concerning absorption of external θ-roles, see Jaeggli (1986), Baker, Johnson, and Roberts (1989).

2. See Williams (1980), Koster (1984), for further classification of "argument control" in the sense of Jaeggli (1986).

3. Consider the following examples from Roeper (1987).

   (1)　a.　a symphony by Mozart

   　　　b.　*a symphony by Mozart to win a prize

   (2)　a.　*the enemy's destruction (the enemy=Agent)

   　　　b.　?the destruction by the enemy

   As (1 b) shows, nominals which have no argument structures and therefore no implicit arguments do not allow a rationale clause, in spite of the occurrence of a possible controller in the by-phrase. It follows that the by-phrase in (1) is not an agrument of the nominal head *symphony*. The same approach holds ture of (2 b). As pointed out by Chomsky (1981), Agent is not allowed unless Theme does not appear in the construction in question. *Destruction* in (2) is similar to *symphony* with respect to argument structures. The by-phrase in (2 b) is similar to the by-phrase in (1) in that it is not an argument of the nominal head.

4. As for the antecedent of PRO in the passive infinitival in (13 d), another problem arises. In argument control, an implicit argument could not be a controller, but the implicit argument seem to control PRO in (13 d). The first property of argument control (as stated in (8 a)), then, will be elaborated as follows. It is implicit arguments as an element which appears in the argument position, not those as an Agent θ-role possessor, that cannot control PRO in the case of argument control. The former includes implicit arguments in passive and the nominals of *destruction* type, and the latter, the implicit Agent in those of *attempt* type. Unlike *destruction, attempt* does not

have an argument position to assign its external θ-role. Still it has an implicit Agent, which controls PRO in (13 d). See Williams (1985).

5. For a different approach, see Williams (1985), where implicit arguments in the derived nominals, such as (14 a), are not posited.

6. The label D" is used instead of DP, in Fukui & Speas (1986), where non-lexical categories are assumed to project up to the double bar level, whereas lexical categories to the single bar level. The complement of D is not NP but N'. See Fukui (1986) for further discussion on projections of lexical categories and non-lexical categories.

7. In order to control PROs in N', the base-generated argument in specifier position must have a θ-role independently. It may be supposed that the determiner -'s assigns some abstract θ-role to be appropriate equally to *the enemy, the city*, or *yesterday*.

8. Consider the contrast as illustrated in (3)-(4).

    (3) a.   the destruction of the city

           b.   the city's destruction

    (4) a. ＊the enemy's destruction

           b. ?the destruction by the enemy

While assignment of internal θ-roles is obligatory, that of external θ-roles is optional. It seems that the suffix *-tion* optionally discharges external θ-roles.

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