

On Implicit Arguments in Derived Nominals*

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0. Introduction

This paper is an attempt to explore the possibility of solving some problems bearing on English derived nominals by extending Jaeggli's (1986) idea on implicit arguments in passives to derived nominals.

One of the problems, for instance, concerns the following pair involving derived nominals:

- (1) the examination was 8 pages long.
- (2) the examination of the students lasted 3 hours.

(Lebeaux (1986))

The nominals in (1) refers to some existing thing in the world while the one in (2) stands for some named action or process. Nominals of the former type are referred to as result nominals and those of the latter type as action nominals.¹ In section 1, I will examine previous analyses of the two types of derived nominals, and point out their difficulties. In section 2, I will try to solve the problems by extending Jaeggli's idea on implicit arguments in passives to derived nominals. In section 3, I will demonstrate that the extension enables us to obtain an insight into other problems bearing on derived nominals that have defied solution for many years such as the well-known subject/object asymmetry in NP, passive nominals, etc.

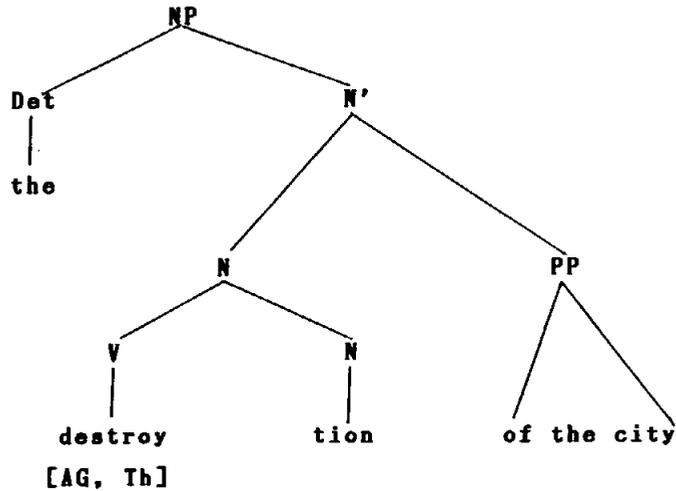
1. Action Nominals vs. Result Nominals

1.1. Lebeaux's Approach

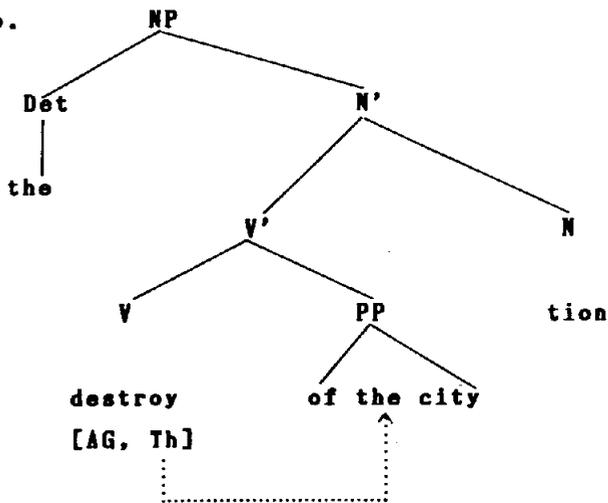
Lebeaux (1986) tries to capture the distinction between the action and result nominals mentioned above by extending an affix-raising approach proposed by Pesetsky (1985). He argues that the distinction between the two types of derived nominals reflects a difference in attachment sites for nominalizing affix at LF. For instance, affix-raising to N'-level as in (3b) from (3a) means

that the selection properties of the verb are satisfied at that level in a way comparable to that of the corresponding verb. Thus object PP is assigned a thematic role that the verb contains:

(3)a. the destruction of the city

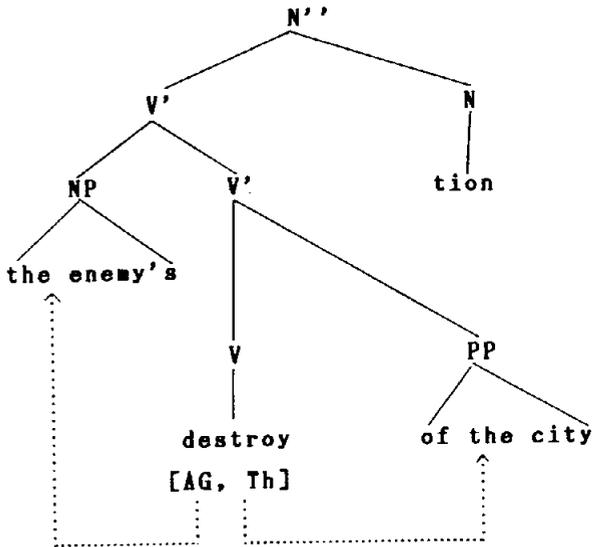


(3)b.



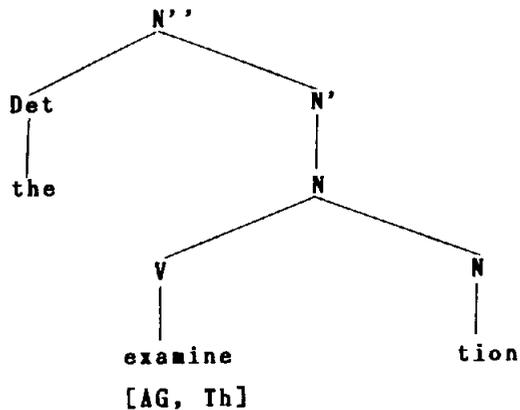
Affix-raising to the highest N"-level as in (3c) allows the full thematic roles to appear, and the Agent role is assigned to the pronominal genitive NP and the Theme role to the postnominal PP:

(3)c. the enemy's destruction of the city



The result nominals, on the other hand, do not involve affix-raising as in (3d), and thematic roles are not assigned to any elements. Thus they do not exhibit characteristics that verbs exhibit, i.e. the thematic role assignment.

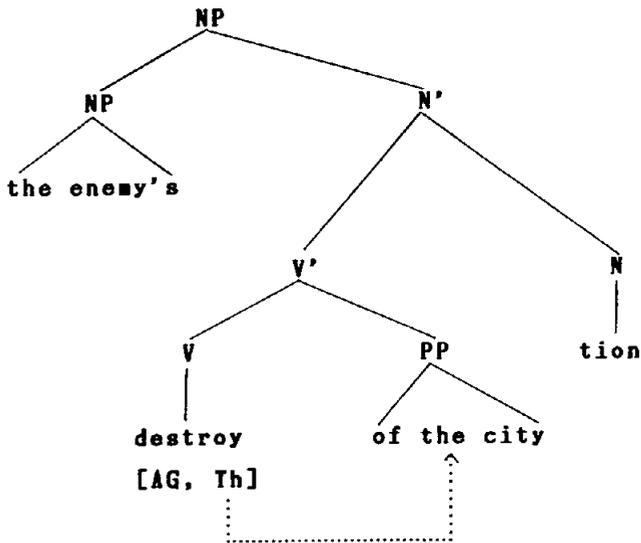
(3)d.



Although this approach, at first glance, might seem to capture the verb-like characteristics of action nominals and the nominal-like properties of result nominals quite elegantly, it seems to face difficulties in terms of the interpretation of

prenominal genitive NP of action nominals. As pointed out by Safir (1987), Lebeaux's account would allow for a case where affix-raising is only to N' and yet the prenominal genitive NP is not assigned the external thematic role of Agent as follows:

(4) the destruction of the city



This interpretation, however, seems to contradict Anderson's (1983) generalization that when the head noun represents the action, the prenominal genitive NP could be only Agent. Consider, for instance, the following sentence discussed by Anderson:

(5) John's reconstruction of the crime required deductive skills.

According to her, when the noun reconstruction is interpreted as an action nominal as in (5) and represents the act of reconstruction, the prenominal genitive NP John could be only Agent of the action. Hence a contradiction arises in Lebeaux's system.

1.2. Pustejovsky's Approach

Pustejovsky (1985) tries to capture the distinction between

prenominal genitive NP of result nominals. Pustejovsky notes that the ill-formed action nominal in (9) is well-formed when it is interpreted as a result nominal, to which the following representation is assigned:

- (10) [the enemy's]_i [destruction]_j
 (R_j, Th_j, A_i)

In (10), the head noun is linked to R and Theme at the same time, where all θ -role are associated successfully. Thus (10) is correctly predicted to be grammatical in his system.

Notice, however, that the representation in (10) means that the prenominal genitive NP is linked to Agent in this case. This seems to contradict Anderson's another generalization to the effect that the meaning of the prenominal genitive NP of result nominals is Possessor, as opposed to Agent. For instance, consider the following sentence taken from Anderson (1983):

- (11) John's reconstruction of an 18th century French village
 was damaged in the fire.

According to her, the result nominal reconstruction above denotes the physical product of the act and the prenominal genitive NP John's can be interpreted only as Possessor not as Agent of an action². Hence a contradiction arises in Pustejovsky's system in terms of the interpretation of result nominals.

To sum up, the problems of previous analyses seem to stem from the fact that they could not capture Anderson's generalizations on the interpretation of prenominal genitive NP: the prenominal genitive NP is interpreted as Agent in action nominals and as Possessor in result nominals. In the following section, I will demonstrate that this generalization can be captured successfully by extending Jaeggli's idea on implicit arguments in passives to derived nominals.

2. An Alternative

2.1. Jaeggli's Idea on Implicit Arguments

Before proceeding directly to the explication, let us make clear what Jaeggli's idea on implicit arguments in passives is like, which we will make crucial use of in solving the problems at issue. Consider the following active-passive pair:

- (12)a. John hit Mary.
 b. Mary was hit by John.

According to Chomsky (1981), the passive in (12b) exhibits the following two crucial properties:

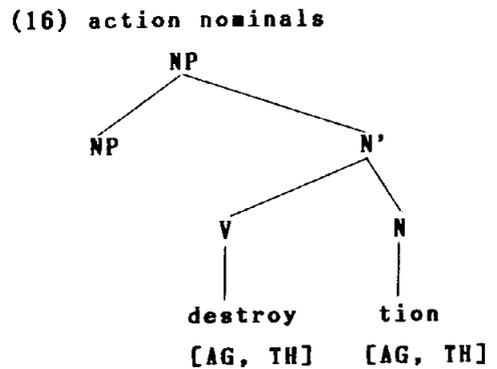
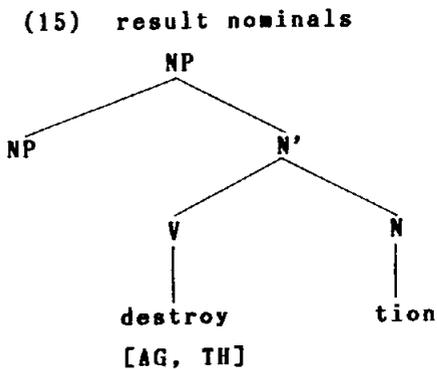
- (13)a. the subject does not receive a θ -role
 b. the object does not receive a Case

In the passive (12b), since the subject does not have a θ -role as stated in (13a), the object NP with a θ -role may move into the position without violating the θ -criterion. The object NP is not assigned a Case as in (13b), and thus the NP is moved into the subject position to satisfy the Case-filter. Now the descriptive properties in (13) raises the following question: what mechanism prevents the assignment of a θ -role to the subject as well as of a Case to the object in passives? Jaeggli tries to account for this by assuming that the passive suffix -en functions as the recipient of the subject θ -role and the object Case. Once the Case and the θ -role are assigned to this suffix, they can no longer be assigned to the subject and object positions, respectively. Hence, the facts in (13) follows.

Jaeggli's idea that a bound morpheme such as -en may be identified as an argument receiving a θ -role seems naturally to extend to derived nominals. To see this, consider the following result nominal discussed in the introduction:

- (14) the examination was 8 pages long.

Walinska de Hackbeil (1984) observes that the result nominals such as (14) have the meaning of a complement of their verbal base. This observation can be captured if we assume that a result nominal acquires its meaning by assigning the verbal base's object role to itself. Under this assumption, a question immediately arises: where is the thematic role assigned? Extending Jaeggli's idea, I propose to identify the suffix of the result nominal as an implicit argument and to assign the thematic role to it. This enables us to represent the action and result nominals in the following way:



What is crucial here is that the suffix of derived nominals are ambiguous between a thematic suffix as in (16) and an implicit argument as in (15). Following Roeper (1987), I assume that the suffix of action nominals contains the list of θ -roles compatible with the verbal base as in (16). The thematic suffix makes it possible for the verb to assign its thematic roles to its arguments in postnominal and prenominal positions. The suffix of result nominals, on the other hand, is an implicit "argument," which is not a thematic suffix, and thus makes it impossible for verbs to assign its thematic roles. Thus action nominals always assign a thematic role to the prenominal and postnominal arguments while result nominals do not. This raises the following question: if result nominals do not assign thematic roles, how do prenominal and postnominal elements acquire thematic roles? I assume with Anderson (1983) that genitive 's assigns Possessor role to the

prenominal NP in result nominals. Thus prenominal genitive NP in result nominals always have Possessor role. The prenominal 's of action nominals, on the other hand, is not a Case or a thematic role assigner but a realization of an inherent Case that is assigned by a head noun. Thus prenominal genitive NP always acquire the thematic role assigned by the head nouns, e.g. Agent (cf. Chomsky(1985)). In this way, our idea extending Jaeggli's idea on implicit arguments in passives to derived nominals enables us to capture Anderson's generalizations on the interpretation of prenominal genitive NP.

3. Some Implications

This section is devoted to the discussion of some consequences and implications of our idea on implicit arguments in NP. I will take up some topics bearing on derived nominals and discuss previous analyses of them, pointing out their difficulties. It will be demonstrated that our idea developed in the previous section enables us to solve and shed a new light on the problems.

3.1. Subject/Object Asymmetry

Let us begin by discussing the well-known subject/object asymmetry in NP. Observing an asymmetry such as the following, Higginbotham (1983) argues that arguments to nouns, unlike those of verbs, are optional*:

- (17)a. John's reconstruction
 b. *John reconstructed.

It is true that an asymmetry is observed when the noun is an action nominal as in (17), but as Chomsky (1981), Roeper (1987), among others, point out, there is a symmetry between verbs and nouns when action nominals are involved:

- (18)a. *the enemy's destruction lasted for ten hours.
 b. *The enemy destroyed.

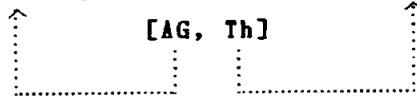
Chomsky (1981) tries to explain the ungrammaticality in (18a) by claiming that since destroy in (18b) requires an object, the corresponding action nominals in (18a) is ruled out for the same reason. This account, unfortunately, does not carry over to the result nominal in (17), since the subject may appear without an explicit object.

Our idea on result nominals, on the other hand, seems to be able to capture the problematic paradigm above elegantly. Making use of Pustejovsky's mechanism of the θ -role assignment, I propose the following convention on θ -marking:

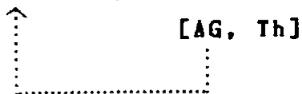
- (19) θ -roles are assigned from bottom up according to the thematic hierarchy: A > S, L, G > Th.

What (19) means is that a θ -role may not be assigned if other roles that are lower on the thematic hierarchy remains unassigned. Let us see how this proposal works on concrete examples. Consider first the following action nominals:

- (20)a. the enemy's destruction of the city



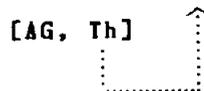
- b. *the enemy's destruction



(20a) is licit because all thematic roles are successfully assigned. (20b), on the other hand, is illicit, since Agent role is assigned to the enemy while Theme role that is lower than Agent on the thematic hierarchy remains unassigned.

Consider next the following result nominals:

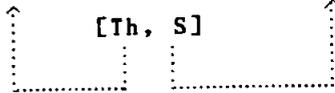
- (21) John's reconstruction



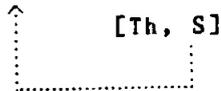
(21) is licit because only Theme role is assigned to the suffix -tion with no further illicit assignment of thematic roles being made.

The convention in (19) may be supported by the following paradigm involving psych nouns:

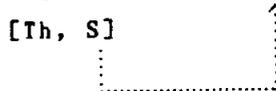
(22)a. John's enjoyment of the play



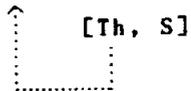
b. *the plays enjoyment



c. *the enjoyment of the play



d. John's enjoyment



(Pustejovsky (1985))

Assume with Pustejovsky (1985) that in psych nouns the subject NP bears Theme role and the object NP Source role, respectively (cf. Gruber (1965)). Given this, (22b) and (22c) are correctly ruled out. This is because Source is assigned while Theme, which is thematically lower than Source on the hierarchy, remains unassigned in violation of (19).

3.2. Complement vs. Adjunct

We have argued above that action nominals assign thematic roles to prenominal and postnominal elements while result nominals assign the object role to the suffix and no other thematic role assignment is made. This seems to have some implications for the following paradigm discussed in Williams (1987):

dentally, would argue against Lebeaux's approach discussed above. Since Lebeaux tries to capture the distinction between the two types of derived nominals at LF, the sensitivity of the two types of derived nominals to the syntactic operation, which precedes LF, should not be seen. But, in fact, it seems that the distinction at issues should be established at an earlier level than LF.

3.3. Passive Nominals

In this section I will defend our position of derived nominals through the discussion of another derived nominal construction: passive nominals. Passive nominal is the nominal construction such as (26b) that looks like passives in clauses like (25b):

- (25)a. The enemy destroyed the city.
- b. The city was destroyed by the enemy.
- (26)a. the enemy's destruction of the city
- b. the city's destruction by the enemy

I will first discuss previous analyses of this construction and point out their inadequacies and suggest that the difficulties may be overcome by our idea developed above.

3.2.1. Anderson's Approach

Discussing the following paradigm showing that the parallelism between sentences and NPs breaks down in passives, Anderson (1979) proposes a constraint on passive nominals.

- (27)a. Everyone knows the theorem.
- b. The theorem is known by everyone.
- c. everyone's knowledge of the theorem
- d. *the theorem's knowledge by everyone

The constraint at issue, which she refers to as "Affectedness Constraint", states that only nouns denoting action, such as destruction, which affects the nouns' objects can be

subcategorized for a bare NP object. She stipulates that non-affective nouns such as knowledge are subcategorized for PP. Furthermore she notes that NPs, unlike sentences, disallows preposition stranding:

- (28)a. John was depended on.
 b. *John's dependence on.

Assuming this much, she claims that NP-preposing in non-affective nouns are ungrammatical because the operation always yields the illicit configuration of preposition stranding in NP. Thus non-affective nouns may not involve NP-preposing.

But why should it be the case that non-affective nouns take a PP complement while affective nouns takes an NP complement? We prefer to derive the stipulation from some component of core grammar. Our idea on derived nominals developed above, in fact, seems to be able to do this. Before proceeding directly to this task, it is necessary, first of all, to clarify the semantic nature of the affective and non-affective nouns.

Abney (1987) makes an interesting observation on the semantics of the action and result nominals. He notes that although it is usually clear whether or not a nominal denotes an action or an object i.e. an action nominal or a result nominal, it is impossible, with nouns of mental states, such as knowledge, to distinguish between the action denoted by the verb and the mental state of knowing. Pursuing this line of idea, he concludes that stative verbs meaning always yields stative nominals or result nominals. He suggests, but does not pursue, the possibility of extending this idea to non-affective nominals, i.e. the possibility of identifying all non-affective nouns as stative or result nominals in the bipartite distinction between the action and result nominals (cf. note 1). This idea seems to be supported by the behavior of the non-affective nouns with respect to the subject/object asymmetry in NP discussed above. Recall that transitive verbs may not appear without explicit object PP but result nominals can:

- (29)a. *the enemy's destruction (action nominal)
 b. *The enemy destroyed.
- (30)a. the enemy's reconstruction (result nominal)
 b. *The enemy reconstructed.

Crucially non-affective nominals pattern like result nominals:

- (31)a. John's knowledge.
 b. *John knows.
 cf. John's discussion lated for three hours.

This suggests that non-affective nouns belong not to action nominal class but to result nominal class.

Given that non-affective nouns are identified as result nominals, we can deduce Anderson's stipulation from the core grammar that non-affective nouns select PP. The explanation proceeds as follows. Since non-affective nouns assign the object roles to the bound morpheme, -tion, for instance, the head noun does not assign any other thematic roles to the postnominal PP. Thus a preposition has to be base-generated to assign a thematic role to the postnominal NP. Thus non-affective nouns select PP by virtue of the θ -criterion. Affective nouns, on the other hand, assign an inherent Case that realizes as of and a thematic role to the postnominal NP. Thus affective nouns select NPs.

Let us next consider how our approach would explain the fact that passive nominals are barred in non-affective nouns. There seems to be several reasons. First, the movement of postnominal NP out of PP to the prenominal genitive 's positions constitutes a Chain with two Cases, one from P and the other from 's. This violates the Case-uniqueness requirement of the θ -criterion.⁵ Second, since non-affective nominals are identified as result nominals, the postnominal PP is base-generated adjunct. Thus NP-preposing is barred by whatever principle prohibits extraction out of adjunct.

4. Conclusion

In this paper, we have attempted to solve some problems bearing on derived nominals by extending Jaeggli's idea on implicit arguments in passives to derived nominals. This position was defended through the discussions of various constructions related to derived nominals such as the subject/object asymmetry in NP, the action and result nominals, passive nominals, etc.

Notes

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¹ The term, result nominal, may be a misnomer in a sense because result nominals do not always denote the result of the action of the verb, as Abney (1987) discusses. Following Abney and others, I will use the term in an extended sense to cover all nominals that denote objects, whether it be concrete or abstract, instead of action.

² S represents Source, Th Theme, and A Agent respectively. R means Referential, which is linked to the head noun by convention. Every noun has an argument R by virtue of which it can be used referentially (cf. Williams (1982)).

³ The term, Possessor, is used here in an extended sense, which corresponds to Gruber's (1965) possessional location. See Anderson (1983).

⁴ His original examples are:

- (i) John's/the purchase
- (ii) *John purchased.

I assume that noun purchase above is derived from the corresponding verb by zero-affixation.

⁵ The θ -criterion is defined as follows:

- (i) A CHAIN has at most one θ -position; a θ -position is visible in its maximal CHAIN. A CHAIN is Case-marked if it contains exactly one Case-marked position; a position in a Case-marked CHAIN is visible for θ -marking.

(Chomsky (1985))

Jaeggli 1986 also tries to explain why non-affective nouns may not be involved in passive nominals by the θ -criterion. He assumes that the class of derived nominals that do not allow passive nominals are special in that their subject roles are not marked as optional, thus movement of an element with an independent θ -role to the prenominal position violates the θ -criterion. He tries to account for why the class of nouns which does not allow the subject role to be eliminated in thematic terms. His claim is that when an object is not affected, its thematic interpretation is not well-defined. The object has to be thematically dependent on the thematic interpretation of the subject, thus the subject role may not be eliminated.

But if the object of non-affective nouns requires the subject role to compute its thematic role, it does not seem clear why the by-phrase in the following sentence which is ideantical to the subject in thematic relation does not allow the object NP to compute its thematic relation.

- (i) *the topic's discussion by John

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