Argument structure in nominalization*

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0. Introduction

This paper is concerned with the interpretation and the projection of argument structure in nominalization. More specifically, the issues are to account for how we come to understand (1a) and the subject John in the example in (1b) as referring to someone who employs Bill, and whether we have reason to think that Bill (or the whole of-phrase) in (1a) is an argument of employ, on a par with the familiar case in (2a), where the enemy and the city can be taken to be arguments of the head noun destruction (Chomsky 1970):

(1)  a. The employer of Bill.
     b. John employed Bill.

(2)  a. The enemy’s destruction of the city.
     b. The enemy destroyed the city.

In terms of theta-theory, we have to explain how the noun phrase in (1a) and the subject John in the example in (1b) are understood to be the Agent of the verb employ and to see whether the argument structure of the verb base in nominalization is projected in syntax.

In the following sections, I claim that despite the structural condition on theta-role assignment in nominalization and the control relationship seemingly paralleling those in syntax (section 1), there is no reason to assume, from the point of view of theta-role assigners and complementation, that theta-roles are assigned in derived nominals, and that the interpretation of derived nominals can be obtained by the lexical semantics of the nominalizers (section 2). I suggest an account for opacity to control in nominals in terms of the determination of nominal reference (section 3); and after showing that there is no justification for of-phrase being an argument of the head noun, I argue for a principle of projection of argument structure having the consequence that argument structure of the verb base is not projected in syntax (section 4). I conclude the paper with some remarks on some consequences of this view (section 5). For convenience, I will refer to derived nominals like that in (1a)-(2a) as (part of) derivational morphology, the defining properties of which not being of my immediate concerns here.

1. Locality constraint on theta-role assignment

In order to see whether theta theory has a role to play in derivational morphology, it is necessary to see whether the properties of theta theory in syntax are pertinent in derivational morphology. We will be considering here the locality condition on theta-role assignment and control by an Agent argument.

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1.1. Locality in syntax

Theta-role assignment is commonly assumed to be assigned under sisterhood in syntax (Chomsky 1986, Baker 1988). Chomsky (1981) and Marantz (1984) have argued that the subject (of a transitive verb) is assigned a theta-role compositionally by a constituent comprising the verb and its object. In the earlier view of clause structure where the subject is sister to the VP, as in (3a), no problem would arise for theta-role assignment to the subject or object; both are sister to the theta-role assigner:

\[
\begin{align*}
(3) \ a. \ & S \quad \ b. \ & IP \quad \ c. \ & IP \\
& NP \quad \ VP \quad \ NP \quad \ I' \quad \ NP_i \\
& \quad \ V' \quad \ NP \quad \ I' \quad \ V' \quad \ NP \\
& \quad \ NP
\end{align*}
\]

Some adjustments need to be made, though, in the current view of clause structure according to which the subject is in SpecIP as in (3b). Either we assume that the subject in this position is assigned a theta-role by VP under m-command (Aoun and Sportiche 1983), or under sisterhood by I'. If the subject is taken to originate in the SpecVP (Koopman and Sportiche 1985, Fukui and Speas 1986, Kitagawa 1986, Kuroda 1988) as in (3c), then it can be assigned a theta-role by V' under sisterhood. The movement of the subject to SpecIP is presumably for Case reasons.

1.2. Locality in derivational morphology

It appears that essentially the same assumptions about theta-role assignment in syntax can be made for derivational morphology as well. Suppose the internal structure of *employer* is as in (4). In this configuration, the verb base is in an appropriate structural condition for theta-role assignment under sisterhood (Roepner 1987:293):

\[
\begin{align*}
(4) \ & N \\
& V \quad N \\
& \quad employ \quad \quad \quad er
\end{align*}
\]

In fact, the assumption that theta theory is relevant to derivational morphology apparently has empirical support from examples like (5a) and (6a), if we assume that the morpheme *-er* must be assigned a theta-role (Roepner 1985, Burzio 1986. Cf. also Jaeggli 1986, and Baker, Johnson and Roberts 1989 for analysis of the passive morpheme *-en* as being assigned the Agent role):

\[
(5) \ a. \ *\text{seemer}, *\text{appearer.} \\
& b. \ *\text{John seems/appears that Bill is intelligent.}
\]
   b. *Mary employed Bill by John.

since raising verbs do not have theta-roles; therefore, the reason why the examples in (5a) are impossible is because -er is not theta-marked, exactly the same reason why those in (5b) are ungrammatical. For whatever reason (6b) is out, e.g., the argument in the by-
phrase cannot be understood as the Agent of the verb employ since the subject Mary already has that role, the impossibility of the example in (6a) would follow for the same reason.

1.3. Control

Another set of facts that appear to suggest that theta-theory may also be relevant to derivational morphology involves control. Manzini (1983) points out that the grammatical contrast in (7), where the Agent of the passivized verb sink in (7a) can control the PRO in the infinitival, while the intransitive use of the same verb without an Agent cannot:

(7)  a. The ship was sunk [ PRO to collect the insurance ].
   b. *The ship sank [ PRO to collect the insurance ].

Roeper (1987) thus suggests that the contrast be accounted for by assuming control by an implicit Agent, which is available in (7a), but not in (7b).

The same explanation can apparently be given to account for the grammatical contrast in (8), if theta theory is indeed relevant to derivational morphology. Whereas the argument John bearing the Agent role c-commands and thus can control PRO in (8a), -er in (8b) assigned the Agent role does not c-command, hence cannot control the PRO (Roeper 1987:296):

(8)  a. Johni; employed Bill [ PROi to prove a point ]
   b. *The employeri of Bill [ PROi to prove a point ]

2. Theta-theory, complementation and interpretation of derived nominals

Despite the apparent relevance of theta-theory in derivational morphology, several issues arise. First, in syntax, an argument may be assigned a different theta-role according as the lexical property of the theta-role assigner, it is not the case in derivational morphology. In (9), the argument John is apparently in the same structural relation with the verb (i.e. sister to the verb), the theta-roles that it receives are different in the two cases, a Theme in (9a) but Experiencer in (9b) (Gruber 1965):

(9)  a. Bill hit John.
   b. Bill surprised John.

Consider now the structure in (10). The morpheme -ee apparently is in the same structural position with the same verb base as in the case of the morpheme -er (cf. (4)), even though the two resulting forms have different interpretations, employer (someone who employs) versus employee (someone who is employed):
Given that they have the same verb base, the semantic difference must come from the nominalizing suffix. Thus, if theta-role assignment is pertinent in derivation morphology, then we must say that morphemes with different intrinsic lexical properties may receive different theta-roles. This is in contrast to syntax. No matter what argument we substitute for John in (9), (e.g. the woman), the argument in the complement position of the verb would have the same theta-role. There appears to be no case in syntax in which a verb may assign a different theta-role to an argument according as the intrinsic lexical property of the argument.

We might say that theta-role assignment in syntax obeys some sort of hierarchy (e.g. Baker's (1985) Uniformity Theta Assignment Hypothesis), but that in morphology does not, perhaps as a result of the two being in different components of the grammar (Chomsky 1981). But one might then wonder why theta-theory should be present in the two different domains.

Second, given their syntactic distribution and the fact that they all have the same verb base, the structures in (4) and (10) must have nominalizers -er and -ee as X'-theoretic heads whose category is nominal (Selkirk 1982), and the verb base is their X'-theoretic complement. Theta-role assignment in derivational morphology as discussed above would be from the argument to the selecting head, exactly the reverse of that in syntax, where it is the argument that receives a theta-role.

Suppose now that the morphemes -er and -ee have some lexical information such as that in (11) (Di Sciullo and Williams 1987:41), a lexical stipulation that we must independently assume given the semantic difference between the two nouns employer and employee:¹

¹Diane Massam (personal communication) points out the example standee as a problematic case for the semantics of the suffixes -er and -ee, a full account of which is clearly beyond the scope of this paper (cf. Levin and Rappaport 1988). Lexical specifications of the sort in (11) and (14) are stipulative, the point is that selectional restrictions in derivational morphology can be imposed without resorting to theta-role assignment (cf. Di Sciullo to appear for a principled theory of selection in derivational morphology).

The notion of control in (11) is most likely not the same as that in syntax, where both the controller and the controlled argument are syntactically projected as XPs. What is intended in (11) is probably something like that in (i), where we specify the syntactic category with which these morphemes combine:

(i) a. -er: syntax: N, [ V __ ]
    semantics: Being a person of which the thematic role of the external argument of V is predicated.
b. -ee: syntax: N, [ V __ ]
    semantics: Being a person of which the thematic role of the internal argument of V is predicated.

In addition, if there is a structural condition on the control relationship (cf. Larson 1988), then the fact that -er does not c-command anything other than the verb base explains the impossibility of (6a) and (8b) (Roeper 1987).
(11)  -er: (R), R controls external argument of the predicate.
    -ee: (R), R controls internal argument of the predicate.

Lexical specifications of this sort accounting for the semantic difference between -er and -ee render theta-role assignment unnecessary. On this view, the ungrammaticality (5a) follows from the fact that raising verbs do not have an internal argument to be controlled. It also explains why (6a) is ill-formed, the reason being that the external argument of the verb employ is controlled by -er, so the argument in the by-phrase cannot also taken to be the Agent of the verb, just as in (6b) (cf. also sections 3 and 4.3.4).

Therefore, from the point of view of theta-role assigners and complementation, there seems to be good reason to think that theta theory is irrelevant in derivational morphology.

3. On control in nominals

Return now to control in nominals, consider the example in (12), repeated from (8b):

(12) *The employer of Bill [ PRO to prove a point ]

Although the ungrammaticality of the example might be attributed to the lack of a c-commanding argument bearing the Agent role to control PRO (the Agent role is assigned to the morpheme -er which does not c-command PRO, cf. footnote 1), this account does not explain why Bill in (13), a Theme not an Agent of employ, can control PRO:

(13) John employed Bill [ PRO to prove a point ]

What this means is that PRO need not be controlled by an Agent.

Instead of appealing to theta-theory in derivational morphology, an alternative explanation in terms of the determination of nominals is readily available. If the infinitival is attached as an adjunct to N' or to NP (in the latter case, the projection of a noun phrase would be a DP, cf. Barwise and Cooper 1981, Abney 1987), as shown in (14):

(14)  a. The [N' [NP employer of Bill ] [ PRO to prove a point ]]
    b. [DP The [NP [NP employer of Bill ] [ PRO to prove a point ]]]

then the reason why we cannot take the reference of PRO as being the same as that of the employer of Bill is that the infinitival is part of the whole noun phrase. In other words, the reference of the whole noun phrase cannot be determined without the infinitival that is part of it. The same explanation can be given to account for the ungrammaticality of (6a) if the by-phrase is part of the whole noun phrase (cf. section 4.3.4).

There is some reason to think that this is correct. Consider the examples in (15):

(15)  a. [ The employer of Bill ] is here [ PRO to prove a point ]
    b. [ The man ] is here to [ PRO to prove a point ]

Clearly, the PRO can be controlled by the subject in (15a), since the infinitival is not part of the subject. This is just like the situation in (15b) where the PRO is controlled by the man, which is not an Agent argument of any predicate, showing again that an argument need not
be an Agent in order to be a controller, at least in these cases. One therefore might argue that the anomaly of the example in (7b) is precisely because PRO is controlled by a non-agentive subject, yielding a pragmatically odd interpretation.  

4. On argument-projection in derivational morphology

Turning now to the question of whether arguments of a nominalized verb are projected. Do we have reason to think that the argument in the of-phrase in the examples in (16) is syntactically an argument of the nominalized verb?

(16)  a. The employer (of the students) was stringy.
    b. The trainer (of the athletes) was lazy.

The question is of course related to the more general issue of whether we should consider the subject and object of the nominalized verb in (17a), repeated from (2), as arguments of the head noun on a par with the corresponding verb:

(17)  a. The enemy’s destruction of the city.
    b. The enemy destroyed the city.

Let us first ask what the subjects of the examples in (16) mean. They are certainly understood to mean something like that in (18):

(18)  a. The person who employs the students.
    b. The person who trains the athletes.

Thus, the noun phrases the students and the athletes are clearly semantic arguments of the verbs employ and train respectively in (18), especially from the point of view of selectional restrictions:

(19)  a. #The employer of the rocks.
    b. #John employed the rocks.

(20)  a. #The trainer of the bananas.
    b. #John trained the bananas.

Evidently, the argument in the of-phrase in derived nominals should be considered as the semantic argument of the verb base, not of the derived nouns. The problem is that apparently neither the argument in the of-phrase nor the of-phrase itself are in an theta-position; they are not sisters to the verb base (putting the bar-level aside):

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2It remains to be explained why the example in (7a) is possible with an interpretation in which the implicit Agent of the verb sink controls the PRO. The correct description of control seems to be that PRO is controlled by a syntactic controller, if it satisfies the selectional restriction of the predicate in the infinitival clause; otherwise, it would be controlled by the Agent, syntactically implicit or explicit, of the matrix clause (Roeper 1987). It is not clear why this should hold.
If we insist on the argument in the of-phrase being a syntactic argument of the verb, then we would either need to make some additional assumption about the projection of argument structure and theta-marking, or have to derive them from some representation in which the argument and the verb are sisters so that theta-role assignment may proceed. Let us consider these two cases in turn.

4.1. Inheritance of argument structure

Randall (1982) suggests that nominalizing affixes may inherit the argument structure of the verb base (cf. also Booij 1986 and Levin and Rappaport 1988), the selectional restriction of the verb base would then become a property of the nominalizers. On this view, the reason why the of-phrase obeys the selectional restriction of the verb base is because it is a sister to the derived noun V+er (also V+ee) whose head, the nominalizing affix -er (or -ee), inherits the argument structure of the verb base. The of-phrase can then be said to be theta-marked by the V+er (or V+ee) derived noun (cf. Grimshaw 1990 for arguments that of-phrases are not theta-marked).

Nevertheless, just as it seems to make no sense to say a noun like person takes an argument (cf. the examples in (18)), therefore, there is no reason to suppose that nouns like employer or trainer has an argument either, given their interpretations comparable to nouns like person as given in (18).

4.2. Nominalization as head-movement

Another possibility is to derive the examples in (16) from some representation in which the verb is sister to the argument in the of-phrase, and undergoes head-to-head movement to the nominalizing affix, as shown in (22):

There are two problems with this view. First, if there were a VP inside a nominalized verb, then we should expect a VP-adverb to be possible, contrary to fact:
(23) a. *
\[
\begin{array}{c}
N \\
V \\
\text{employ}_i \\
N \\
\text{occasionally} \\
\text{VP} \\
t_i \text{ (of) the students}
\end{array}
\]

b. *
\[
\begin{array}{c}
N \\
V \\
\text{train}_i \\
N \\
\text{seriously} \\
\text{VP} \\
t_i \text{ (of) the athletes}
\end{array}
\]

Second, the *of*-phrase is optional in (16) (cf. section 4.3.3), contrary to the obligatory presence of the argument in the corresponding verbs:

(24) a. John employs *(the students).
   b. John trains *(the athletes).

It is not clear how one can explain the optionality of the *of*-phrase if deverbal nouns are derived from some representation with a VP inside them. The same problem also arises if they have the argument structure of the verb base.

4.3. Projection of argument structure

In this section, we will first see how the problems with the notion of inheritance of argument structure and the head-to-head movement derivation for deverbal nominals can be resolved in a principled way, especially the issue of the optionality of the *of*-phrase that is problematic in both approaches. We then proceed to see how the suggested solution can be extended to other types of derived nominal which has a process or result interpretation.

4.3.1. Principle of syntactic projection

The optionality of the *of*-phrase can be simply accounted for if the deverbal nouns in -er-nominalization (also in -ee-nominalization) do not have argument structures. I would like to propose a principle of projection of argument structure as in (25):

(25) An argument structure of \( \alpha \) is projected only if \( \alpha \) projects maximally.

It is not difficult to see why the principle in (25) should hold. When we look at theta-role assignment in syntax, we clearly see that theta-marking heads always project maximally to an XP, and their arguments filling the theta positions are also maximal projections. The principle in (25) is obviously related to the Projection Principle in that the right-to-left condition is as originally proposed by Chomsky (1981), provided that we take syntactic projection as projection of lexical properties (in terms of subcategorization properties). One natural approach to take is to make the principle in (25) bi-conditional, construing it as the generalized Projection Principle.

We can now explain in a principled way why derived nominals take no arguments. Since the verb base to which the morphemes -er and -ee attach does not project maximally, hence its theta-positions are not projected in syntax. It then follows straightforwardly that the deverbal nouns in -er-nominalization (also in -ee-nominalization) have no argument, there being no theta-positions. Neither the problem of construing V+er or V+ee head nouns, both being concrete nouns, as taking an argument, nor the problem of VP-adverbs
inside derived nominals would arise. Deverbal nouns do not inherit the argument structure of the verb base, and are not derived by X*-movement of the head of a VP.

4.3.2. On argument structure in process and result nominals

As is well-known, nominals derived by suffixation of -ion-, -ment-, and others in English are systematically ambiguous between the process and result readings. Process nominals name a process or an event, whereas result nominals name the output of a process or an element associated with the process (Grimshaw 1990:49). The principle of syntactic projection in (25) is apparently problematic if Grimshaw (1990) is correct in that the of-phrase is obligatory in process-denoting derived nominals. For instance, she points out that while the noun examination has both the process and result interpretations, the noun exam only has the result interpretation. On the basis of the grammaticality of in the examples in (26), Grimshaw argues that process nominals do, but result nominals do not, require an of-phrase:

(26) a. The examination/exam was on the table.
   b. The exam *(of the patients) was on the table.
   c. The examination/exam of the patients took a long time.

She suggested that the ambiguity can be teased out by manipulating the predicate as in (26), or by adding a prenominal adjective like constant, frequent, deliberate, or intentional, or by adding an (Agentive) by-phrase:

(27) a. The intentional examination *(of the papers) took a long time/was on the table.
   b. The examination *(of the papers) by the instructor.

In Grimshaw’s framework, while result nominals lack argument structures (a-structures) process nominals have a-structure of the verb base except that the external argument (the most prominent argument in her theory) of the base is suppressed, as illustrated in (28) for the verb repress and the related deverbal noun repression (in its process interpretation, Ev is an event argument, and the Ø symbol next to the argument x means that the argument has been suppressed, Grimshaw 1990:137):

(28) a. repress (x (y))
   b. repression (Ev (x-Ø (y)))

The reason why the of-phrase in (29) is obligatory is that the a-structure of repression must be satisfied just like it must be in the case of the corresponding verb:

(29) a. They (constantly) repressed *(human rights).
   b. The CIA’s constant repression *(of human rights).
   c. The constant repression *(of human rights) (by the CIA).

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3It is clearly beyond the scope of this paper to consider the whole range of facts discussed in Grimshaw (1990). The discussion that follows deals only with some of the issues that are most pertinent to the principle of syntactic projection suggested in (25). Thus, it remains an open question whether one can maintain Grimshaw’s claim that some nouns have argument structure just like verbs in light of my criticisms of it.
The \( x \) argument in (28b) may license, though not requires, a by-phrase, since it has been suppressed.

There are both conceptual and empirical problems with this account. First, it is very unclear what it means for a process to have an argument structure, the same problem that we saw in the case of \(-er\)- and \(-ee\)-nominalization (cf. section 4.1). Second, if the derived nominal repression denotes a process, as it does judging from its interpretation given in (30):

(30) The process of constantly repressing human rights.

then the of-phrase is clearly a semantic argument of the verb base. More relevantly, the of-phrase in (29) is not an argument of the derived noun repression. Therefore, in -ion-nominalization too, there is no reason to suppose that the argument in the of-phrase or the of-phrase itself is a syntactic argument of the deverbal noun.

Empirically, there are cases where a process nominal need not have an of-phrase. Alongside of Williams’ (1985) examples in (31):

(31) a. John underwent an operation.
    b. John submitted himself to her scrutiny.

those in (32) are quite acceptable:

(32) a. Human rights in third world countries are subject to constant repression.
    b. The poor is susceptible to constant exploitation by the rich.
    c. A very strong will for survival helped the villagers sustain such heavy bombardment.
    d. Political dissidents in the ex-USSR were under constant surveillance by the KGB.
    e. The sea water was sent to the plant for desalination.
    f. The analysis needs further refinement.
    g. The UN officials appeared to be in constant negotiation.
    h. Constant exposure to the sun is harmful to the skin.

If the examples in (32) are possible, then the of-phrase is not strictly obligatory in process nominals either. This is just what we should expect if deverbal nouns do not have argument structures, as I suggested. The problem remains, though, as to why an of-phrase is apparently necessary in cases like (29).

4.3.3. On the obligatoriness of the of-phrase

It seems that in a case like (29), the presence of a prenominal adjective like constant, intentional, and so on apparently adds some specific information about the process in question, but nothing about its participants. It might well be that some pragmatic factor that is at work to the effect that if we are to add any specific information about a process, we should expect it first to be about the participants, and then about other aspects of the process. In other words, we should first have particular information about the participants, and then about other aspects of the process. Although it is not clear why this should be so, the grammaticality of the examples in (31) and (32) suggests that something along this line is probably correct.
In these examples, the semantic argument (of the verb base) in the derived nominals (i.e. the of-phrase) is not present in a position theta-marked the verb base, although information about the argument can be recovered from other parts of the sentence. For instance, in (31a) we understand the subject John as the object (or Theme) of operation, and the poor, the subject in (32b) as the Theme of exploitation, even though they are not syntactic arguments of the corresponding verbs. Therefore, more specific information supplied by prenominal adjectives like constant, heavy, and so on about other aspects of the process can be added.

Quite apart from the nominalization contexts, more or less the same sort of pragmatic factor appears to be at work in sentences as well. It seems that the sentence in (33a) is not very felicitous with the adverb providing some particular information about the act of the process but nothing about its participants. Adding some information about participants of the process as in the example in (33b) sounds much better:

(33) a. John constantly wrote.
    b. John constantly wrote to Mary/Sci-Fi novels.

Independently of the merits of this pragmatic explanation, the point that I would like to emphasize here is that one would probably want to say that of-phrases are optional in general and only in some contexts like the ones in (29) where information about other aspects of the process is known is an of-phrase required to supply information about the participants. If process nominals generally require an of-phrase, then it would be a mystery that the examples in (31) and (32) are possible without one.

4.3.4. On by-phrase

Return now the example in (6a), repeated in (34):

(34) *The employer of John by Bill.

As is well-known, by-phrases are more restricted in nominals than in sentences (Rappaport 1983):

(35) a. The government imprisons refugees.
    b. The imprisonment of refugees by the government.

(36) a. Many people fear flying.
    b. Fear of flying (*by many people).

Suppose that a by-phrase whose argument is construed as an Agent like the one in (35) is an Agentive by-phrase, to distinguish it from the by-phrase in cases like (37), which seems to denote authorship or designerhip (cf. Roep 1985:282 footnote 15 claims that some examples comparable to those in (37) are ungrammatical):

(37) A book by Chomsky, the watch by Swatch, pants by Gap.
and that process nominals denote events as suggested by Grimshaw. We can now state the constraint on the *by*-phrase in nominals in that they are restricted to event nominals. With these two assumptions, the grammatical status of (34) is explained on a par with the example in (38):

(38) A person by John, a person who employs Bill by John.

The *by*-phrase is illegitimate in these cases because -er-nominals are not event-denoting, and cannot be interpreted, perhaps for pragmatic reasons, as denoting authorship or designership as in (37).

As Zubizaretta (1985:252ff) points out, *by*-phrases behave like adjuncts with respect to extraction out of syntactic islands (Ross 1967). A question that one might naturally ask is that how the constraint on *by*-phrase is formally stated, if they are indeed adjuncts and cooccurrence restrictions are mostly taken to be selectional restrictions imposed by lexical heads on their arguments. It is simply a restatement of facts if one is to say that *by*-phrases are a-adjuncts, and are licensed by an suppressed argument (Grimshaw 1990:135), for the question still remains as to why such licensing should hold.

If we are to confine the structural condition on theta-role assignment to sisterhood, then the Agent role that the argument in the *by*-phrase receives can only come from the preposition *by*. The simplest assumption to make about the syntactic distribution of the *by*-phrase is that it is subject to no selectional restriction at all, given its adjunct status. It may be that the reason why the *by*-phrase is possible in nominals that are related to process of sorts is that only in these contexts can we see the relevance of an Agent argument to the interpretation of the nominals. In other words, the oddity of the examples in (34) and (38) may be due to the difficulty of relating the Agent argument in the *by*-phrase to a non-process involving no Agent.

5. Conclusion

If the claim that derived nominals do not have argument structures is correct (cf. footnote 3, however), then some consequences immediately follow. First, all nouns, derived or underrived, results, process or concret, would be uniformly have no argument structure. This is exactly the traditional partition of categories into substantives and predicates. The distinction between them can now be cast straightforwardly in terms of the presence versus absence of argument structure, from which it follows that *of*-phrase and *by*-phrase in derived nominals are optional. There would also be no entities that are both arguments and adjuncts, a powerful assumption that makes the general theory of grammar more difficult to falsify. That is, any entity would surely fit into one of the three possibilities: argument, adjunct, or both.

Second, theta-assignment can be maintained in its most restricted form, namely, theta-marking is under sisterhood and the direction of assignment is from the predicate that has an argument structure to its arguments. Third, if nominalization is part of derivational morphology, then much of the latter can be subsumed in syntax. General principles of projection of argument structure and theta assignment determine the syntactic distribution of the arguments of the verb base.

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4 Notice that there is no appeal to argument structures here, since the notion of event is independently necessary for the semantics of process nominals. Depending on what we take events to be, the constraint on *by*-phrase might turn out to be a restriction on events with an Agentive participant.
References


