

## Article

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Joseph Emonds

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# **$\theta$ -ROLE ASSIGNMENT IN DERIVED NOMINALS<sup>1</sup>**

Joseph Emonds

In recent writings in grammatical theory, a property of noun phrases termed "abstract case" has been accorded a central role in explaining various syntactic phenomena. In fact, case has been treated as a syntactic primitive, in that it is taken to be a fundamental property distinguishing nouns and verbs, in terms of which other properties are to be explained.

In particular, Chomsky (1981, Ch. 3) and Stowell (1981, Ch. 3) attribute an asymmetry in the noun and verb complement systems to how these two categories assign case. They claim that subcategorization and  $\theta$ -role assignments for NP complements is parallel in the two systems, with any irregularities being typical of the kind of variation found across lexical entries. However, since nouns do not assign case, a deep structure sister NP of a noun can receive case (and hence be interpreted) only by virtue of a preposition *of*, which can assign case.

In the view that I will defend here, and have developed in more detail in Emonds (1985, Chs. 1 and 5), abstract case assignment is dependent on structural configurations that the theory of  $\theta$ -role assignment determines, and it is the latter which explains asymmetries in the noun and verb complement systems. That is, the theory of  $\theta$ -role assignment, and not that of case, is the primitive system not always parallel to subcategorization; in turn, case assignment is completely predictable in terms of the structural configurations provided by  $\theta$ -theory.

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1. Most of this material is taken from section 1.7 of Emonds (1985), and is reprinted with permission. I presented this material at the Université du Québec à Montréal in April, 1984, during a visit to Montreal for which Judith McA'Nulty was one of my hosts. She later gave me extensive and valuable comments on this material (and on the rest of Chapter 1 of Emonds, 1985), almost all of which I incorporated in one way or another into the final text. In fact, I am deeply indebted to Judith for her careful and sympathetic readings of much else of what I have written.

It is not my purpose here to examine the “base-dependent” case theory proposed in Emonds (1985, Ch. 1); rather, I wish to justify my claim that a principle of  $\theta$ -role assignment is the proper device for explaining noun/verb complement system asymmetries.

To begin with a familiar and much-discussed construction, if a noun is subcategorized as + \_\_\_\_\_NP in the lexicon (e.g., most derived nominals of transitive verbs are so subcategorized), the only way this NP can receive a  $\theta$ -role, in my view, is through a PP structure. That is, the subcategorization can be satisfied only by a PP sister of the head N in which the P is empty in deep structure. This empty P is typically realized as *of* in surface structure, although a principle of derived structure deletes the empty P in certain transformationally altered constructions.<sup>2</sup>

Thus, contrasting with the V, NP sister configurations for verbs in (1), we find in the  $\bar{N}$  system (2) either a PP structure with an empty or entry-particular P for direct objects, or that the feature + \_\_\_\_\_NP does not carry over unaltered to the derived nominal.

- (1) describe the city; promise reform; answer a question; blame the accident on someone; marry Sue; expect this bad news; receive a phone call.
- (2) the description of a city; the promise of reform; the answer [to/\*of] a question; the blame [for/\*of] the accident; John's marriage [to/\*of] Sue; \* John's anxious expectation of this bad news; \*Mary's reception of a phone call.

For Chomsky and Stowell, the differences between the V's in (1) and the N's in (2) is one of case-Marking (3); pairs like *describe/description* and *promise/promise* are all + \_\_\_\_\_NP in the lexicon. Both verbs and derived nominals appear in the deep structures in (4), and case is assigned in the derived nominal by (5).

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2. The discussion of when elements such as this P may be empty is contained in the first appendix to Chapter 2 of Emonds (1985). The formal statement of when these elements may be empty is given there as follows :

Empty Head Principle. If an empty head  $X^0$  induced by sub-categorization c-commands an adjacent empty and caseless  $Y^{max}$ ,  $X^0$  has no phonetic realization.

“Induced” is a technical term defined and motivated in the reference.

- (3) Only V and P can assign case to complement NP's.
- (4)  $\bar{X} (= N, V) [X \text{ NP}]$
- (5)  $\emptyset \Longrightarrow \text{P}[\text{of}] / \text{N} \text{ \_\_\_\_\_\_ } \text{NP}$

For me, the difference between (1) and (2) is accounted for by the following principle of more general empirical coverage, as will be argued in what follows.<sup>3</sup>

- (6) Direct θ-role Assignment : θ-roles can be assigned only to those phrasal complements which are sisters to V or P.

The data in (1)-(2) is compatible with (3) or (6), so we need to consider other constructions to see which is more adequate. Consider first the “linking” verbs which take predicate nominals : *be, become, remain, stay, appear, etc.*

- (7) John became an adult.

As is well-known, such verbs do not assign morphological accusative case in case-making languages, and so it is plausible to assume they do not assign abstract case to the predicate nominal either. Now, how is (7) interpreted? Typically, the subject position of linking verbs is one to which NP's are moved (via passive and subject-raising), and is hence not a position to which verbs assign θ-roles. In a sentence like (7), we therefore expect that the subject NP is interpreted not by virtue of receiving a θ-role from *become*, but by virtue of being the subject of the predicate nominal *adult*. The predicate

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3. For a discussion of problems for Chomsky's Projection Principle posed by (5), see Yim (1984). In my framework, *of* is the P which is inserted when the following NP is “genitive” (i.e., case-marked by a neighboring SPEC(N)). In the generalized case-marking theory developed in Emonds (1985, section 1.8), SPEC(N) is the only category capable of assigning case within an NP; thus, the counterpart to the “structure-building” (5) is (i) :

(i)  $\text{P}[\emptyset] \Longrightarrow \text{of} / \text{ \_\_\_\_\_\_ } \text{NP}_{\text{genitive}}$

“Genitive case” is related to SPEC(N) as “accusative” is related to V.

The theory of grammar must exclude a PP realization of the feature +  $\text{ \_\_\_\_\_\_ } \text{NP}$  whenever an object NP can be realized as a sister to the head. This is explicit in Emonds (1985, Ch. 1), where Direct θ-role Assignment (6) takes precedence over what is called there Indirect θ-role Assignment (via an intervening P). This is also made explicit in (5) by stipulating the category N (and not V); but the Chomsky-Stowell theory might also replace this rule-particular stipulation with a more general principle; e.g., Chomsky's suggestion in 1984 class lectures of a “last resort principle” could apply to rules like (5).

nominal NP, on the other hand, receives its case from its subject (as is shown in an overwhelming number of morphologically case-marking languages) and a  $\theta$ -role from the verb. (It may be more accurate to say that the subject-predicate nominal pair, of which the predicate nominal is the logical head, receives a  $\theta$ -role from the verb.)

What do we expect when predicate nominal constructions appear in derived nominals? Since a linking verb does not assign (accusative) case to the predicate nominal, any asymmetric case-marking abilities of nouns and verbs should not come into play inside the derived nominal. If (3) were sufficiently general, there would be no reason to expect that derived nominals with nominalized linking verbs should be excluded or should require a "case-marking" P.

In contrast, if Direct  $\theta$ -role Assignment (6) is correct, then derived nominals with predicate nominals should be excluded, or should require the insertion of a P which licenses  $\theta$ -role assignment. In fact, this latter situation obtains :

- (8) \*Each being {of/as} a good friend was much appreciated.  
 \*I was disappointed by John's unexpected remaining a cook.  
 \*The becoming {of/as} an adult entails responsibilities.  
 \*Her ten-year stay a political prisoner ruined her career.  
 (Cf. Her ten-year stay behind bars ruined her career.)  
 \*My arrival a poor man surprised my family.  
 Her appearance {as/\* $\phi$ } the unwelcome guest was embarrassing.  
 The chair's resemblance {to/\* $\phi$ } a couch is surprising.

The accusative case-marking asymmetry of N and V in the Chomsky-Stowell system does not explain why derived nominals never tolerate predicate nouns. But the requirement that complements within  $\bar{N}$  receive a  $\theta$ -role only by being within a PP does.

Predicate adjectives are not case-marked by V either, as a survey of languages which mark case morphologically also shows. But again we find, asymmetrically, that AP complements to V are tolerated, while those to N are not. This again suggests that the ability to case-mark is not the source of discrepancies in the V and N complement systems.<sup>4</sup>

4. Superficially complicating the issue here is the existence of many derived nominals which paraphrase verb-predicate attribute combinations :

- (9) John appeared reluctant to leave.  
 \*We were surprised by John's appearance reluctant to leave.  
 That dessert tasted sweeter than candy.  
 \*That dessert's taste sweeter than candy overwhelmed us.  
 His plant grew tall.  
 \*His plant's tall growth is easily explainable.  
 My friend stayed sober for years.  
 \*I am happy about my friend's stay sober for years.

Further confirming evidence for my view that N and V assign θ-roles differently (and that asymmetric case marking is only a special case of the more general contrast) can be obtained by examining predicate attributes (NP's and AP's) of transitive as well as intransitive verbs. In (10), the head of the  $\bar{V}$  has two phrasal sisters which receive a θ-role directly, one from the head (V) and the other from the complement of which it is the subject NP. The direction of direct θ-role assignment is diagrammed in (11).

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- a. She could recognize that the trumpet sounded flat.  
 b. She could recognize the trumpet's flat sound.

But in cases like (b), *the trumpet's flat sound* is also a paraphrase of "N — is — A" (*the trumpet's sound was flat*), and some interpretive device ID must account for this latter alternation independently of "V-predicate attribute" combinations, as shown in (c)-(d) :

- c. She could pick out the trumpet's flat note.  
 The trumpet's note was flat.  
 \*The trumpet noted flat.  
 d. We disliked that flat rendering of the Davis tune.  
 That rendering of the Davis tune was flat.  
 \*They rendered the Davis tune flat.

Not only can the device ID work on N + A when the corresponding V is not + \_\_\_\_\_AP, it may *not* work on N + A when V, + \_\_\_\_\_AP exists but N-is-A does not :

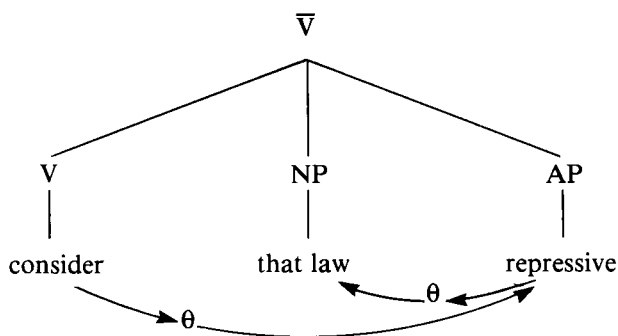
- e. \*John's appearance was reluctant to leave.  
 \*His plant's growth was tall.

It must be concluded then that the interpretation of A + N combinations as in (a-b) does not result from any parallelism with V + AP combinations, and hence does not involve a similar assignment of θ-roles. That is, the adjectives that modify nouns are not arguments of the nouns, but rather modifiers of a different sort. Both in traditional and early transformational grammar, it was assumed that these adjectives are directly related to relative clauses, at least in their mode of interpretation; as such, they do not receive θ-roles from N, but are interpreted by some independent mechanism.

I retain this assumption here, as there is no evidence to contradict it. With this assumption providing the explanation for the existence of apparent counterexamples like (a-b), the examples in (9) and (12) provide confirming evidence that N does not directly θ-mark AP, while V does.

- (10) We elected John secretary.  
 Chomsky considered that paradigm an interesting problem.  
 I judged this the best entry.  
 They appointed me guardian of your estate.  
 They made me an illegal alien.  
 Who classified them political prisoners?  
 He considers that law repressive.  
 She dislikes reggae music loud.  
 Bill might prefer his steak rare.  
 Kathy proved him wrong.  
 Many believed a Labor Party capable of redistributing wealth.  
 They recommended preparing the meat dry.

(11)



Since complements to N can be assigned  $\theta$ -roles only via an intermediate P, it follows from (6) that derived nominals exactly corresponding to the examples in (10) should be excluded. They are so excluded :

- (12) \*Our election of John secretary was illegal.  
 \*Chomsky's consideration of that paradigm an interesting problem was a turning point.  
 \*My judgment of this the best entry was criticized.  
 \*Their appointment of me guardian of your estate was a mistake.  
 \*Their making of me an illegal alien was unprecedented.  
 \*Any classification of them political prisoners would be a step forward.

- \*The consideration of that law repressive is evidence of an open mind.
- \*Her dislike of reggae music loud cost her a friend.
- \*Bill's preference of his steak rare came as no surprise.
- \*Kathy's proof of him wrong came at a good moment.
- \*A belief of a Labor Party capable of redistributing wealth was a post-war characteristic.
- \*They recommended the preparation of the meat dry.

The theory of  $\theta$ -role assignment does not determine of itself when the use of the prepositions *of* and *as* together suffices to create a derived nominal corresponding to an example of (10).<sup>5</sup> Direct  $\theta$ -role Assignment only predicts that if such a derived nominal exists, all the  $\theta$ -role assignments within it will be indirect. So there are acceptable examples as in (13) :

- (13) Our election of John as secretary was illegal.  
 Your opinion of that law as repressive is evidence of an open mind.

In Emonds (1984), I show that non-comparative *as*, as in (13), is indeed a preposition, but one whose peculiarity, like that of the verb *be*, is that it does not assign case to its sister NP. Such a P (like the verb *be*) does, however, allow its sister to be assigned a  $\theta$ -role, and hence to satisfy (6). When no alternative with *as* is available, the derived nominal for a verb with a subcategorization feature + \_\_\_\_\_NP AP or + \_\_\_\_\_NP NP either does not exist, or is not compatible with this complement structure.<sup>6</sup>

5. Direct  $\theta$ -role Assignment does not itself specify that a P rather than a V or some subordinate clause strategy be used to express a complement to an N. As suggested by Ian Roberts (pers. comm.), a language with serial verbs such as Chinese might be one which chooses V rather than P as a category to introduce complements when direct  $\theta$ -role assignment is not available.

6. Chomsky (1970) briefly discusses "action nominalizations," which for the most part exhibit internal structure typical of NP's, and whose head is of the form *V-ing*. Predicate attributes in such nominals are marginally acceptable :

? Their painting of the White House red disturbed even the Secretary of Labor.

?His calling of the rebels Communists gave the signal to the death squads.

The restrictions that action nominalizations are subject to, such as the above and several others pointed out by Chomsky, suggest to me that they are derivatively generated and hence ungrammatical, for reasons entirely analogous to those given by Chomsky (1970) for derivatively generating noun-modifying adverbial clauses.



The reader may verify that derived adjectives corresponding to verbs which take predicate attributes do not appear with AP and NP complements either. Just a few typical examples are given here.

- (14) The desserts are tasty. The desserts taste too sweet.  
 \*He criticizes desserts tasty too sweet.  
 We are considerate of our guests.  
 We consider our guests very comfortable.  
 \*We were considerate of our guests very comfortable.  
 Mary was judgmental. Mary judged John ill-tempered.  
 \*Mary was judgmental of John ill-tempered.

So far, I have shown that N's and A's cannot assign  $\theta$ -roles directly to NP and AP sisters, whether they are direct objects or predicate attributes. In Emonds (1985, Ch.1), I go on to explain how the asymmetric case-marking properties of N and V follow automatically from the asymmetries imposed on deep structures by  $\theta$ -role theory.<sup>7</sup> Here, I will continue demonstrating that an elaboration of case-marking theory fails in principle to explain further asymmetries of complement structure between V on the one hand, and N and A on the other.

In particular, I will investigate whether N can assign  $\theta$ -roles directly to a projection of V. Direct  $\theta$ -role Assignment (6) again predicts an asymmetry in the array of possible clausal complements to N and V. V and P should be able to take  $V^k$  clausal complements, where  $k = 2$  or  $3$ , without benefit of an introductory grammatical formative of the category P, but N should not be able to assign a  $\theta$ -role directly to a  $V^k$  sister.<sup>8</sup>

The first such gap in complements to N's that concerns us has to do with a restricted kind of non-finite complement in English introduced by V

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7. One such a symmetry is that in a case language like German, the NP objects of a transitive verb are typically accusative, while prepositionless NP complements to nouns and adjectives are invariably marked as dative or genitive rather than accusative (van Riemsdijk, 1983). As argued in Emonds (1985, Ch. 5), this oblique case inflection within NP's is best explained by the presence of an empty deep structure P (as also with indirect objects of a verb). Thus, as far as phrasal sisters to  $X^0$  are concerned, all and only the NP which are sisters to  $X^0$  are in fact sisters of V or P.

8. In Emonds (1985, Ch. 3), I present arguments that a VP is best analyzed as  $V^2$  and that S is best analyzed as  $V^3$ , in a system where other maximal projections such as NP are  $N^2$ . For purposes of the argument here, however, it only matters that the various types of clausal complements discussed in the text are not NP's or AP's.

+ *ing*. In a previous study of English gerunds (Emonds, 1976, Ch. IV), I gave a series of syntactic tests in support of a hypothesis of Rosenbaum (1967) that gerundive complements are NP's, with (only) two classes of exceptions : the V + *ing* complements of intransitive verbs of temporal aspect are not NP's (examples italicized in (15)), because they do not undergo various NP movements and otherwise do not behave as NP's. For similar reasons, both the V + *ing* complements and certain bare infinitives after transitive verbs of perception (italicized in (16)) are not NP's.

- (15) They continued *clearing the street*.  
 Did David start *doing his project*?  
 She should cease *describing the machines*.
- (16) One should see a cat *fight(ing) another cat*.  
 They noticed me *tak(ing) a tooth brush off the rack*.  
 They will arrest Bill *picketing the consulate*.

My claim is not that *a cat fighting another cat* can't be an NP gerund, but rather that, **under one structural analysis**, this string is not an NP (following Chomsky (1957); cf. also Akmajian (1977)). Two arguments for this are : (i) The NP understood as the subject of the perception verb infinitive or gerund (e.g., *a cat*) can be extracted, in contrast to the subject of an NP gerund, which cannot be :

- (17) What did they see fight their cat?  
 Who did they notice taking tooth brushes?  
 \*What did they describe fighting their cat?  
 \*Who do they enjoy playing the piano?

(ii) Essentially any NP can be the focus constituent in a cleft sentence, but the VP following a perception verb cannot be so focused :

- (18) \*It was picketing the consulate that they arrested Bill.  
 \*It's taking tooth brushes that they notice shoplifters.

In Emonds (1985, Ch. 2), I argue that the gerund complements of intransitive temporal aspect verbs and of transitive perception verbs are VP's, not S's, in deep structure. In the context of this argument, whether they are VP or S complements is not crucial; as long as they are not NP's or AP's,

they do not receive abstract case. Hence, a difference in their distribution within  $\bar{V}$  and  $\bar{N}$  cannot be attributed to differing case-marking properties of the head V and N.

Direct  $\theta$ -role Assignment (6) predicts that the  $V^k$  complements of temporal aspect and perception verbs ( $k = 2$  or  $3$ ; see note 8) cannot be interpreted as sisters to N, and this prediction is borne out :

- (19) \*The continuation (of) clearing the street was a surprise.  
 \*We were all relieved at David's start (of) doing his project.  
 \*A cessation (of) describing the machines would be welcome.  
 \*The sight of a cat fight another cat is interesting.  
 \*Their notice of me take tooth brushes led to my arrest.  
 \*The arrest of Bill picketing that house went unnoticed.

French lacks gerund complements (verbal forms in *-ant* appear only in adverbial positions), but it does seem to have infinitives that correspond to the non-finite constructions in (15)-(16). French infinitives can follow transitive perception verbs; however, the counterparts to the temporal aspect complements are possibly exemplified by the complements to a different semantic class of verbs. The initial V in these structures are the motion verbs such as *monter*, *descendre*, *sortir*, *partir*, etc. It has been noted in the literature (e.g., Gross (1968)) that the prepositionless infinitives that follow these verbs may not be negated, passivized, or otherwise modified.

- (20) Michel est sorti acheter du vin.  
 'Michael went out to buy wine.'  
 Marie va descendre voir ses amies.  
 'Mary will go down to see her friends.'  
 Elle part faire du tourisme.  
 'She's leaving for some touring.'

By analyzing these infinitives as VP ( $V^2$ ) complements to V, the basis is laid for an account of their inability to passivize, to be negated, etc. In any case, these infinitives do not have the properties of NP's.

The evidence for (6) consists in the fact that the derived nominals of these motion verbs cannot be followed by such infinitives :

- (21) Sa sortie (\*acheter du vin) n'a pas été remarquée.  
 'His leaving (to buy wine) was not noticed.'  
 Sa descente (\*voir ses amies) sera probablement périlleuse.  
 'Her going down (to see her friends) will probably be dangerous.'  
 Son mari est triste de son départ (\*faire du tourisme).  
 'Her husband is sad over her leaving (for some touring).'

The impossibility of direct θ-role assignment between a derived nominal and a projection of V (either VP or S) explains the contrast (20)-(21).

Both French and English have infinitival complements which are probably best analyzed as V<sup>3</sup> (S) complements. French infinitives and English infinitives with lexically realized subjects (impossible in French) both provide evidence in favor of the contention that P and V assign θ-roles directly, while N and A assign them indirectly.

Huot (1981) argues that the morphemes *à* and *de* which introduce French infinitives are members of COMP. In Emonds (1985, Ch. 7), I argue that COMP are P, so as a special case the French *à* and *de* before infinitives are then P also; this is of course corroborated by the fact that *à* and *de* are also P's which appear in the context + \_\_\_\_\_NP in French. (6) then predicts that N and A can only have infinitival complements introduced by a P (such as *à* and *de*), while some V may be subcategorized to take infinitives without a COMP. Again, this prediction of (6) is straightforwardly borne out :

- (22) Il préfère (\*à) boire du vin blanc avec le poisson.  
 'He prefers to drink white wine with fish.'  
 Sa préférence { *à*/\* $\emptyset$  } boire du vin blanc avec le poisson a été encouragée.  
 'His preference for white wine with fish was encouraged.'  
 Claire a voulu (\*de) changer de travail.  
 'Claire wanted to change her job.'  
 La volonté de Claire { *de*/\* $\emptyset$  } changer de travail n'a pas été respectée.  
 'Claire's wish to change jobs wasn't respected.'  
 Il dit pouvoir influencer ses parents.  
 'He says he can influence his parents.'  
 On a discuté son pouvoir { *d'*/\* $\emptyset$  } influencer ses parents.  
 'They discussed his ability to influence his parents.'

Since S infinitives do not receive case, the contrasts in (22) can not be predicted by the inability of N to assign case.

Turning again to English, the subject NP of an infinitive may be lexically realized after a relatively small set of verbs of belief and desire. For a variety of reasons, Chomsky (1981, Ch. 2) argues that in such structures, no  $\bar{S}$  can intervene between the verb and its S complement. Examples of such S complements are italicized in (23).<sup>9</sup>

- (23) He expected *there to be lasting peace*.  
 We prefer *the weather to be cool*.  
 Anne considers *her travels to be indispensable*.

The impossibility of direct  $\theta$ -role assignment by N in the present system implies that derived nominals corresponding to (23) can contain clausal complements only if they are introduced by an intervening COMP (i.e., a P). And this is the case :

- (24) \*His expectation (of) *there to be a lasting peace* was never met.  
 \*Our preference (of) *the weather to be cool* should be taken into account.  
 Our preference for the weather to be cool should be taken into account.  
 \*I am aware of Anne's consideration (of) *her travels to be indispensable*.

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9. Chomsky refers to these complements as being derived by " $\bar{S}$ -deletion", indicating that at deep structure, there is perhaps an  $\bar{S}$  present. I believe that the only motivation for an  $\bar{S}$  might be to insure the possibility of long-distance WH-movement out of such complements via a COMP "escape hatch." If there is no  $\bar{S}$  present, and if S is a bounding node for subadjacency, multiple levels of the type of complement in (23) could lead to subadjacency violations, and yet extractions in such configurations are acceptable :

- (i) How warm did he expect us to want our room to be?

Granting both subadjacency and that S is a bounding node in English, the fact still remains that extractions out of *two adjacent bounding domains of the same category type* produce examples that are either acceptable or only very slightly unacceptable. Thus, (i) and (ii) have the same acceptability, as far as I can tell.

- (ii) Which city did you take pictures of the outskirts of?

We went along a river that the trees along the banks of looked very unhealthy.

Thus, I see no reason to assume that the complements of the main verbs in (23) are  $\bar{S}$ 's at any level of description.

Having now seen instances of both VP and S non-finite complements to V whose counterparts are lacking inside  $\bar{N}$ , we can turn to whether there are finite complements with the same skewed distribution, as principle (6) predicts. In most recent generative work, any embedded S is assumed to be generated by the following rule.

$$(25) \bar{S} \longrightarrow \text{COMP} - S$$

As mentioned earlier, I argue elsewhere that  $\bar{S}$  should be identified with PP and that the grammatical formative category COMP should be identified with P. Given this result, the above question becomes, can V take a finite clause directly, without an intervening COMP and  $\bar{S}$  (just as P = COMP can), while the categories that cannot assign a  $\theta$ -role directly, N and A, are obliged to have only  $\bar{S}$  complements?

As seen above, the answer to the corresponding question for a range of different types of non-finite clauses is yes. For English, the same answer is warranted for finite clauses, since the COMP can be absent between certain V and a finite complement :

(26) John feared Mary would be late.

\*John's fear Mary would be late turned out to be unjustified.  
She decided no one qualified.

\*Have you heard about her decision no one qualified?

In my terms, the COMP (= P) *that* is providing  $_{PP}[P-S]$  structure, which is allowed for both V and N; however, V can also have an S sister which is  $\theta$ -marked directly. Thus, (6) correctly predicts that *that* will appear optionally with verbs, but that it must appear with nouns.<sup>10</sup>

10. In French, there is no large class of verbs where *que* 'that' can be omitted before the complement S. But significantly, with only one or two exceptions involving WH (*si* 'if', *quand* 'when'), *que* is also always required between subordinating conjunctions P and a complement S : *pendant que* 'while', *avant que* 'before', *puisque* 'since', *lorsque* 'when', *bien que* 'although', *dès que* 'as soon as', etc. If we make the plausible assumption that *que* is inserted in French with every finite S, the following rule can be postulated, essentially as part of the mapping from surface structure to phonological form :

$\emptyset \longrightarrow que / C \text{ \_\_\_\_\_\_ } \text{finite S; } C \neq \text{WH; obligatory}$

If C = N or C = A, there is an empty P required by Direct  $\theta$ -role Assignment between N, A and a finite S, so *que* will fill that P in phonological form. If C = a lexical P, there will be no such empty P following, and if C = V, there need not be. In these latter cases, *que* will be inserted into the terminal string but will not be assigned a syntactic category. With this clarification for French, it appears that the prediction that V and P assign  $\theta$ -roles to S complements in parallel fashion can stand (both for French and English).

In this study, several instances of predicate attribute and  $V^k$  (clausal) complement types have been examined, and shown to bear out the theory of  $\theta$ -role assignment expressed in (6). In particular, these constructions taken together demonstrate that  $V$  can assign  $\theta$ -roles directly to sisters of any phrasal type, while  $N$  and  $A$  can assign  $\theta$ -roles to complements only indirectly, to  $Y^{\max}$  which are  $PP$  or are embedded in  $PP$ . Since predicate attributes, whether  $NP$ 's or  $AP$ 's, are not assigned case by either a governing verb or noun, case theory cannot predict the patterns observed here, while  $\theta$ -theory, as expressed in (6), predicts not only the new patterns examined here, but also the long-noticed asymmetry in how objects to verbs and derived nominals are syntactically realized.

The clausal complement structures which support the theory of  $\theta$ -role assignment presented here are : (i) the  $V^2$  participial clauses which appear after verbs of temporal aspect but not in derived nominals (English); (ii) the  $V^2$  participial and infinitival constructions which appear with transitive perception verbs (English and French), but not after the nominals derived from these verbs; (iii) the French subjectless  $V^3$  infinitives which can be immediately preceded by a governing  $V$  or  $P$ , but never by a governing  $N$  or  $A$  (an intervening  ${}_p[\hat{a}]$  or  ${}_p[de]$  being necessary); (iv) the English infinitives with lexical subjects after verbs like *expect* and *prefer*, excluded after corresponding derived nominals; and (v) the COMP-less finite  $V^3$  complements which are sisters to verbs like *fear* and *decide* (English). Since, in the case-marking system devised by Stowell (1981, Ch. 3), the various  $V^k$  never receive case, the asymmetry in their distribution cannot be properly considered as due to the theory of case-marking. Rather, the more general principle of Direct  $\theta$ -role Assignment (6) developed here is the appropriate explanation for a much wider range of facts. Differences in case-marking follow from the influence of  $\theta$ -role theory, rather than being stipulated as primitives in Universal Grammar.

I conclude that every complement inside  $\bar{N}$  or  $\bar{A}$  must be introduced inside a structural  $PP$ . This result dovetails with the independent arguments given in Emonds (1985, Ch. 7) to the effect that COMP is a  $P$  and  $\bar{S}$  is a  $PP$ , since we have seen that clausal complements to  $N$  often require a COMP while those to  $V$  do not ((iii)-(v) above).

From these considerations, there emerge the following two points, both essentially implicit in traditional grammar.

- (27) V and P are “relational” categories; each can introduce any maximal phrase as a complement (the maximal phrases are NP, AP, VP, S, and PP). N and A are non-relational; their complements must be introduced via the universal subordinating category P.
- (28) Abstract and morphological case principles are not asymmetry-inducing primitives in Universal Grammar, but are indicators of the presence of local (usually adjacent and sometimes empty) case-assigning categories. Case assignment is based on the following pattern :
- |                  |                              |
|------------------|------------------------------|
| accusative :     | presence of V                |
| dative/oblique : | presence of P                |
| genitive :       | presence of SPEC(N)          |
| nominative :     | presence of SPEC(V) = “INFL” |

In (28), the informal term “presence of” is in fact to be replaced by the term “governed by”, where the appropriate definition of government is as in Emonds (1985, section 1.8).

*Joseph Emonds*  
*University of Washington*  
*Stanford Center for Advanced*  
*Study*



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