

# "PRO Analysis" for Subject-Oriented Secondary Predicates\*

Hisako Ikawa

The University of Arizona<sup>®</sup>  
Department of Linguistics

## 0. Introduction

The central aim of this paper is to argue that subject-oriented (depictive) secondary predicates<sup>1</sup> such as those in the sentences in (1) have PRO as their subjects, contrary to the prevailing "non-PRO analyses" in recent literature (Williams 1980, Rothstein 1983, Chomsky 1986, McNulty 1988, Roberts 1988, Nakajima 1991, Koizumi 1992, and others), which do not consider the predicate phrase to be constituted as a Small Clause<sup>2</sup>.

- (1) a. John married *young*.  
b. John left the hospital *healthy*.  
c. They left the medical school *doctors*.

In this paper, I will endeavor to show both empirical and theoretical reasons that we should adopt a "PRO analysis." The governing idea is that the relationship between the matrix subject NPs and their predicates is not theta-marking, but control.

Regarding the structure of the predicate phrase (Small Clause), I will present the possibility that the predicate phrase is AgrP, based on the phenomenon of agreement in English and Spanish. I will also deal with the inevitable question of how PRO is licensed.

---

\*I am very grateful to Andrew Barss, Dick Demers, Eloise Jelinek, and Simin Karimi for their invaluable suggestions and warm encouragement. I would also like to thank Richard Bernat, Tom Craig, Willem De Reuse, Amy Fountain, Chip Gerfen, Terence Langendoen, Shaun O'Connor, and Pilar Piñar, who kindly and patiently acted as consultants, and who provided me with many inspiring suggestions. I greatly appreciate the helpful comments and probing questions of Masaaki Fuji and Naoki Nakajima. Thanks are also due to my peer reviewers, especially Jen-i Jelina Li and Nayla Yateem.

<sup>1</sup>In this paper, we will deal only with the subject-oriented (depictive) secondary predicates. The term "secondary predicate" stems from its adjuncthood. The italicized predicates below are adjuncts that are not selected by any head.

- i) subject-oriented depictive  
a) John left *angry*.  
b) They left the medical school *doctors*.  
ii) object-oriented depictive  
a) John ate the meat *rare*.

<sup>2</sup>To the best of my knowledge, there is little literature on a PRO-analysis for the Small Clause (Chomsky 1981, Stowell 1981, and Hornstein and Lightfoot 1987, etc.), and only a small part of that literature focuses on secondary predicates. Hoshi (1992) is one of the exceptions.

The paper is organized as follows. Section 1 provides a brief review of previous studies based on theta-role assignment, with special emphasis on McNulty (1988). In section 2, I will first present the data and will then show that these data cannot be accounted for by a theta-marking analysis. Also I will present major reasons to choose a PRO analysis over theta-marking analysis in the light of the VP-Internal Hypothesis. In section 3, I will consider what structure should be given to the predicate phrase (Small Clause) under my analysis. I will also try to delineate a mechanism of licensing PRO within Chomsky's (1992) framework. I use negation data in both English and Spanish to support and develop my hypothesis. In the final section, the remaining problems with the predicate NP will be discussed.

### 1. Theta-marking Analysis — McNulty 1988

According to McNulty (1988), "predicate of" is understood to mean "theta-role assignment by an XP". That is, "B is predicated of A" is understood as B assigns a theta role to A, where B=XP. Consider the sentence in (2).

(2) John left angry.

Since the predicate *left* assigns a theta-role to *John*, *left* is a predicate of *John*. This relationship is called primary predication and *left* is the primary predicate. By contrast, *angry* in (2) is termed the secondary predicate because (2) would be a grammatical string even if the AP (*angry*) were eliminated. This is not the case with, for instance, VP, a primary predicate.

McNulty applies the above type of theta-role assignment requirement to secondary predication as well. In her theory, the AP *angry* is required to assign theta-role to *John* to establish a predication relationship.

McNulty elaborates her theta-marking analysis and proposes the following condition governing the distribution of secondary predicates.

#### (3) Locality Condition on XP Theta Role Assignment (LCXP)

A assigns a theta-role to B iff A mutually m-commands B and there is no Z such that Z mutually m-commands A, where A, Z = theta-assigning XP

(McNulty 1988)

Notice that in McNulty's framework the maximal projection XP assigns a theta-role to its subject. The AP *angry* can assign the theta-role to *John* with no violation of her LCXP<sup>3</sup>. (see

---

<sup>3</sup>As we will see in 2.2.1., McNulty (1988) assumes that the subject-secondary predicate is adjoined to the VP node. Consider the configuration she gives in McNulty (1988). Since she accepts Theta-Criterion (Chomsky 1986a) (and does not adopt the VP-Internal Hypothesis), the AP *angry* meets LCXP. Also notice that she has to take the definition of "m-command" in (ii) below to meet her LCXP, following the basic idea of May (1985) and Chomsky (1986b).



(6), and that it is generated as an argument of *win* in (7). In (6) and (7), PRO has no thematic relation with the adjectives *likely* and *certain (sure)*, respectively, but it certainly occupies the subject position of the infinitival complement.

(6) John left the room [ likely PRO to find his mother].

(7) John left the room [ certain/sure PRO to win a race].

I claim that PRO in the above sentences is controlled by the matrix subject *John*.

### 2.1.2. *Implicit Argument*

Roeper (1987) raises the examples below as grammatical sentences;<sup>4</sup>

(8) The game was played drunk/nude/sober/angry.

This kind of sentence is problematic for a theta-marking analysis, because the predicates (*drunk, nude, sober, angry*) do not assign a theta-role to the non-agentive subject (*the game*). Therefore, an explanation based on a theta-marking analysis does not work here. Notice that the following sentence is impossible.

(9) \*The game was drunk/nude/sober/angry.

Roeper uses the example in (8) to show that predicate adjectives allow control by "implicit agents." This is similar to the arguments that Manzini (1983) referred to as "phonologically null agents." Roeper's assumption is that predicate adjectives, adverbial participial clauses, and rationale clauses all share a common property: a PRO subject. His examples are as follows;

(10) a. <the predicate adjective>

The game was played [PRO drunk].

b. <the adverbial participial clause>

The game was played [PRO wearing no shoes].

c. <the rationale clause>

The boat was sunk [PRO to collect the insurance].

Roeper (1987) argues that PRO (including "PRO-*arb*"<sup>5</sup>) can be controlled by implicit arguments<sup>6</sup>. However, he does not delve into clarifying the structure of secondary predicate constructions.

---

<sup>4</sup>Some of my consultants state that the present tense is more comfortable, as in the following examples.

(i) The game is played drunk/nude/sober.

cf. (ii) The game is played wearing no shoes.

<sup>5</sup>PRO that has an arbitrary reference is often called "PRO-*arb*" in the literature.

<sup>6</sup>Implicit arguments have been much discussed in recent literature (e.g., Jaeggli 1986, Safir 1987, Williams 1987, Baker, Johnson and Roberts 1989).

What I would like to point out in this section is that in order to explain the sentences in (8) we have to posit that secondary predicates have PRO as their subject.

### 2.1.3. Parallelism with Adverbial Participial Construction

Unlike 2.1.1. and 2.1.2, this subsection will not provide new, direct evidence for a PRO analysis. Rather, it serves to support the discussions in 2.1.1. and 2.1.2.

Let us consider what categories are allowed as secondary predicates. We will deal with this question in section 4. However, I will point out here that verbs cannot occur in bare infinitival form as secondary predicates. Consider the following sentences.

- (11) \*The boy came *run* out of the house.
- (12) \*Father sat *read* the newspaper.
- (13) \*They stood *look* at the exciting game.

If the italicized verbs are replaced with their participial (V-ing) forms, the sentences become grammatical as in (14)-(16).

- (14) The boy came *running* out of the house.
- (15) Father sat *reading* the newspaper.
- (16) They stood *looking* at the exciting game.

This construction has not been discussed in detail in generative grammar to date<sup>7</sup>. At present we must say that it is not clear what explanation should be given to the construction. However, it would be possible that this construction is also regarded as a VP secondary predicate, because X'-theory predicts that all categories can occur as secondary predicates, as long as an independent principle does not block it. The V-ing form in (14)-(16) is not NP but VP, as is clear from the following data.

- (17) \*The boy came the running out of the house.
- (18) a. \*Father sat the reading the newspaper.  
b. \*Father sat the reading of the newspaper.
- (19) \*They stood the looking at the exciting game.

I propose that the adverbial participial clause is a Small Clause having the structure, roughly, [PRO [VP]]. If this is the case, my secondary-predicate analysis can explain Roeper's example (10b). If one claims that the participle in question is a kind of secondary predicate, we can view the examples below as raising/unaccusative-verb secondary predicates. As is well known, raising/unaccusative-verbs have only one theta-role to assign, namely, an internal-theta role. The raising predicate *seeming* cannot assign an 'external' theta-role to *John* in (20) and neither can the unaccusative *arriving* in (21). Theta-marking analyses break down when it comes to this type of sentences, as they do with the examples given in 2.1.1.

---

<sup>7</sup>Williams (1975) is one of the exceptions. He refers to the participial clause as Small Clause, which is smaller than the "that" clause or the infinitival clause in that it does not include a S' node.

(20) John left the room seeming to be sick.

(21) John felt embarrassed arriving late.

Of course, we have to consider why this VP must be a V-ing form, and why it does not work as a bare V-infinitival form or other inflected form (e.g., PAST-form). And we have to delineate the exact structure of the Small Clause.

## 2.2. *VP-Internal Hypothesis and Theta-Role Assignment Capability*

In this section, I will discuss the VP-Internal Hypothesis and theta-role assignment. The VP-Internal Hypothesis (supported by Kitagawa (1986), Koopman and Sportiche (1988), Kuroda (1988), and others) proposes that subjects are base-generated VP-internally — namely, within the VP-node<sup>8</sup>. I will show that a PRO analysis for secondary predicates is compatible with the VP-Internal Hypothesis, while a theta-marking analysis is not. If one theory is compatible with a VP-Internal Hypothesis and another theory is not, then the compatible theory would definitely be preferred theory.

Taking this step further, if a PRO analysis is proved to be valid for secondary predicates, then this will support the VP-Internal Hypothesis. (The empirical data discussed above make a strong case for the advantages of a PRO analysis.) Once the VP-Internal Hypothesis is adopted, it seems clear that a PRO analysis must also be adopted. Many of the theta-marking analyses have incorporated the VP-Internal Hypothesis. However, these attempts are vulnerable in terms of category neutrality and theta-role assignment capability.

Let us begin by discussing whether theta-assignment can be done properly in a theta-marking analysis. A theta-marking analysis ought to show that the Theta-Criterion is met between the predicates and their subject (the matrix subject) because, under this view, the whole sentence is considered to be one unit. It proves useful to examine theta-assignment under both a theta-marking analysis and a PRO analysis.

### 2.2.1. *Theta-Criterion*

As is well known, Chomsky's Theta-Criterion actually has two versions. Let us discuss the earlier version first.

(22) Theta-Criterion

Each argument bears one and only one theta-role, and each theta-role is assigned to one and only one argument.

(Chomsky 1981, 36)

The Theta-Criterion of this version rules out the sentence in (2), as long as secondary predication is considered to be licensed by theta-marking. I will repeat (2) here as (23).

---

<sup>8</sup>The VP-Internal Hypothesis successfully explains various properties of languages, such as the behavior of floating quantifiers and word-order parameters. (See Koopman and Sportiche (1988).)

(23) John left angry.

By definition, *angry* assigns the theta-role to *John*, and *left* also assigns the agent theta-role to *John*. As a result, *John* receives two theta-roles in this sentence. This is clearly a Theta-Criterion violation, and there is no way to avoid it, unless we either consider a very different mechanism from theta-marking to establish the predication relationship (as in Williams 1980), or posit that the secondary predicate *angry* assigns the theta-role to PRO, which the matrix subject *John* controls.

Now we will consider the later version of Theta-Criterion, a weaker version than (22).

(24) Theta-Criterion

Each argument  $\alpha$  appears in a chain containing a unique visible theta-position P,  
and each theta-position P is visible in a chain containing a unique argument  $\alpha$

(Chomsky 1986a, 97)

Notice that (24) allows an argument to receive more than one theta-role. This formulation requires that every chain contain one and only one argument and one and only one theta-marked position.

If we adopt the (1986a) version of the Theta-Criterion and do not take the VP-Internal Hypothesis, then the following sentence can be ruled grammatical.

(25) John left the room angry.

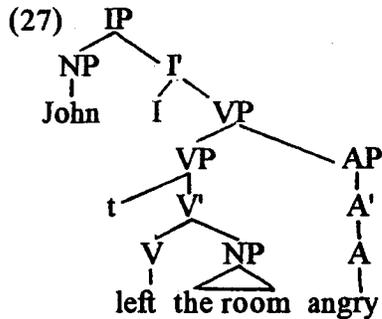
*John* is a single member chain. *John* can be assigned two theta-roles — one by *left* and one by *angry* — with no violation at all, because the chain contains only one argument and only one theta-marked position. The sentence in (25) clearly satisfies the Theta-Criterion (1986a). Whether or not this is a clever solution will not be discussed here. In either case, the problem is resolved.

If we take the VP-Internal Hypothesis (and consider it to be category-specific only for the sake of this discussion), complicated problems may arise.

(26) [John<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> [<sub>VP</sub> [<sub>V</sub> left the room]] [<sub>AP</sub> angry]]]

In (26), *left* theta-marks *t* with no problems, and *angry* must theta-mark *t* to establish secondary predication. The chain (John, *t*) contains one theta-marked position: the position of *t*.

If this theta-assignment were done properly, there would be no problems. If we take McNulty's LCXP, and assume that AP is the theta-assigner, we see that AP *angry* can assign the theta-role to *t* in her framework, because the AP *angry* mutually m-commands *t*. McNulty assumes that *angry* is adjoined to the VP. The structure in question is as follows:



However, under the VP-Internal Hypothesis, if we consider  $A^0$  (or  $A'$ ) (*angry*) to be a theta-assigner to  $t$ , then *angry* cannot theta-mark  $t$  because the  $A^0$  *angry* does not mutually m-command  $t$ .

A PRO analysis does not face these problems under either version of the Theta-Criterion. This is another strong argument for a PRO analysis. And most importantly, if we adopt the VP-Internal Hypothesis, it becomes essential that we also adopt a PRO analysis, as I will explain in the next subsection. The VP-Internal Hypothesis and a theta-marking analysis have been used together in the literature (e.g., Hasegawa 1991), but this combination seems problematic. In the next subsection, I will explain in detail why the VP-Internal Hypothesis requires a PRO analysis, and how a PRO analysis supports the VP-Internal Hypothesis.

### 2.2.2. Category Neutrality

Stowell (1981, 1983) argues for structural uniformity across categories in terms of the "X'-theory," which was originally proposed in Chomsky (1970) and later elaborated upon in Chomsky (1981). Stowell proposes that all major syntactic categories contain a structural subject position, conforming to a general pattern determined by principles of X'- theory.

In the VP-Internal Hypothesis theta-role assignment of both the subject and the object is done uniformly within the V-projection. Committing the specifier of the VP guarantees the null hypothesis that all categories have their own specifier positions. It follows that the verb assigns the 'external' theta-role to the subject in [Spec VP], and that the adjective assigns the 'external' theta-role to the subject in [Spec AP].

That is, an adjective assigns the theta-role AP-internally within this hypothesis. More generally, all theta-marking by X is done within the projection of X. The VP-Internal Hypothesis is not category-specific but category-neutral.

Consider the following sentence. I will repeat (26) here as (28).

(28) [John<sub>i</sub> [<sub>VP</sub> t<sub>i</sub> [<sub>VP</sub> [<sub>V</sub> left the room]] [<sub>AP</sub> angry]]]

In (28) *angry* cannot assign the theta-role to *John* (or its trace), which is outside the AP. Instead *angry* must assign the theta-role to the Spec of AP. This is only compatible with a PRO analysis. This idea is fully compatible with Chomsky's recent framework<sup>9</sup> (e.g., Chomsky 1992),

<sup>9</sup>Chomsky and Lasnik (1991) adopt the VP-Internal Hypothesis. According to their assumption, in a sentence such as "John met Bill.", *John* is considered to be generated in [SPEC, VP], and raises to [SPEC, IP] to receive

because, informally speaking, the subjects are too far away from A (A-projection) ( $A^0$ ,  $A'$ , AP) to be theta-marked, as long as we subscribe to the notion of highly-differentiated functional categories, such as  $Agr_sP$ , TP, and  $Agr_oP$ . The category neutrality of the VP-Internal Hypothesis is a strong argument for PRO analysis. And PRO analysis for secondary predicates can be a contribution to establish VP-Internal hypothesis:

### 3. The Predicate Phrase as AgrP

We now turn to two related questions. First, what is the exact internal structure of these predicates? And what licenses PRO?

#### 3.1. Why AgrP?

In this section, I will argue that the predicate phrase (Small Clause) is AgrP.

The empirical evidence for this proposal is that the predicate must agree with the PRO, which is controlled by the matrix subject. Consider the following sentences. (29) is from Spanish, and (30) is from English.

(29) Thomas y Pedro se fueron [PRO enfadados]

Tom and Peter left angry  
(+plural, +masculine)

(30) They left the medical school [PRO doctors/\*a doctor].

In (29) the matrix subject, *Thomas y Pedro*, is [+plural, +masculine] and the secondary predicate adjective, *enfadados*, is also [+plural, +masculine]. The agreement is fully realized morphologically. English does not have such a rich inflectional system. However, (30) shows that even in English the secondary predicate noun agrees with the matrix subject in number.

These facts tell us that the predicate has to get agreement within its clause. This means we have to assume that the predicate clause includes an agreement mechanism within itself. Although Small Clauses have been broadly analyzed as a [-Tense], the possibility that they are [+Agr] has been explored in the literature<sup>10</sup>.

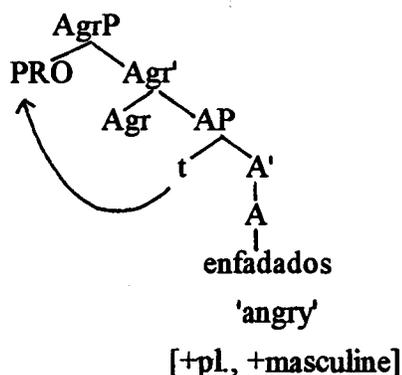
For the present purpose, I will tentatively propose the following internal structure for the secondary predicate phrase. The tree in (31) is for (29).

---

Case and produce a visible chain.

<sup>10</sup>Belletti (1990) analyzes Small Clauses as AgrP based on Italian data.

(31) [PRO enfadados]



PRO is base-generated in Spec AP in (31). The Spec AP is the subject position of the Small Clause. This is derived from the VP-Internal hypothesis. The next step is that PRO moves to Spec AgrP. The question that arises is why PRO can't stay in its base-generated position. If PRO moves to Spec AgrP, is PRO properly licensed in this configuration? This question will be dealt with in detail in the next subsection.

Notice that the movement of PRO also triggers subject-predicate agreement. The predicates (*enfadados* in (31)) must get agreement in the given structure. We have to consider the mechanism of this agreement. I propose that, (presumably) at LF, the predicates (e.g., the A in (31)) raise to Agr solely for agreement, not for Case or other requirements. (However, I will not go into the further discussion at present.)

### 3.2. How is PRO Licensed?

#### 3.2.1. The Ungovernment Requirement

In Chomsky's (1981) theory, the PRO theorem requires that PRO be ungoverned. In D-structure, *enfadados* governs PRO in (31). So we are forced to conclude that PRO moves to an ungoverned higher position, namely, the Spec position of the (closest) XP (maximal projection phrase) distinct from its own projection. In the case of secondary predicates, we must consider the XP to be the AgrP, as was proposed in section 3.1. Thus, PRO is motivated to move to Spec AgrP in order to be ungoverned. However, a problem arises. The head Agr is generally taken to be a governor for PRO; PRO is governed by Agr in this movement. In Chomsky's (1981) theory, there must be a non-governing head. This requirement is hard to meet in the configurations I proposed.

Also, in the Pre-Minimalist theory, we have to consider the possibility that PRO is governed from outside of the Small Clause (AgrP). Since the Small Clause in question is an adjunct, it may be an island. In fact, by the definition of Cinque (1990, 42)<sup>11</sup>, AgrP is a barrier that prevents PRO from being governed from outside.

---

<sup>11</sup>Cinque defines a barrier for government as follows:

Every maximal projection that fails to be directly selected by a category nondistinct from [+V] is a barrier for government.

In the Pre-Minimalist theory, the XP does not have to be AgrP for PRO to evade government. There is no restriction that states the XP should be a functional category, because the only condition for XP is that it be a barrier for the predicate (*enfadados* in (29) and *doctors* in (30)). However, in Chomsky's (1992) framework, PRO must be Case-checked via a head-Spec relation, and only a functional category can be a Case Checker. As a consequence, XP must be a functional category. In this respect, the argument in Minimalist theory is more constrained and restrictive, and, as a result, stronger than that in Pre-Minimalist theory.

For this reason, we do not further explore the "pre-Minimalist PRO licensing mechanism."

### 3.2.2. *The Case-Checking Requirement*

In this section, we consider how PRO is licensed — that is, how PRO is Case-checked — following Chomsky's recent works.

Chomsky and Lasnik (1991) claim that PRO has Case like other arguments, observing that PRO is forced to move from a non-Case position to a position where its Case can be checked. However, they assert, the Case that PRO bears is different from the familiar ones like nominative Case, accusative Case, etc. They regard PRO as a "minimal" NP argument, lacking independent phonetic, referential or other properties. Their proposal is that PRO has a minimal Case called "null Case," and is checked via a head-Spec relation. In their framework, nominative Case is checked by INFL, the head of IP, where I involves the features of tense and agreement, while null Case is checked by the minimal "INFL," where I lacks tense and agreement features. They assume that null Case is checked by the infinitival element (with null agreement) and the head ING of gerundive nominals, since PRO typically appears in such constructions as:

- (32) a. PRO to VP (to be sick)
- b. PRO ING VP (being sick)

However, even if this is the case, there is no independent reason to assume that only *to* and ING can be null Case Checkers. In the next subsection, I will explore the possibility that another functional head can Case-Check PRO under the Spec-head configuration.

### 3.2.3. *Proposal — Agr as a Null Case Checker*

As we have discussed in 3.1, PRO is generated in Spec AP in (31). This position is the subject position. Then PRO moves to Spec AgrP in order to be Case-Checked. For PRO to be licensed, this movement is obligatory.

Now we can say that the null Case Checker is the head Agr. Notice that Agr is the only possible Case-Checker within the predicate phrase. According to Chomsky (1992), only the functional category can check Case. As shown in (31), Agr meets the Case-Checking condition from the viewpoint of syntactic configuration. It would be desirable to analyze the predicate phrase as AgrP, since this would provide a way for PRO to do its Case-Checking without stipulation.

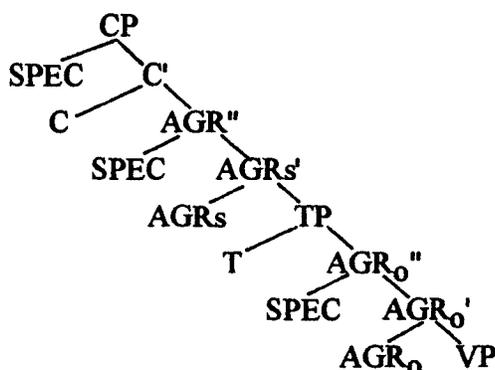
### 3.2.4. *Is a TP Node needed?*

As is well known, the Small Clause has no overt Tense manifestation. Thus, we have two logical possibilities available regarding the Tense Phrase: 1) the predicate phrase (AgrP) contains

a Tense node, and 2) it does not<sup>12</sup>.

First, we will explore the possibility that the predicate phrase contains a Tense node. According to Chomsky (1992) (and Lasnik (1993)), nominative Case is licensed via the head-Spec relation with the functional head AGRs-Tense complex created by the raising of Tense to AGRs. Nominative Case is checked by the N-feature of T [+Tense]. In a similar way, accusative Case is licensed by the AGR<sub>o</sub>-V complex created by the raising of the Verb to AGR<sub>o</sub>. Chomsky assumes the following basic structure:

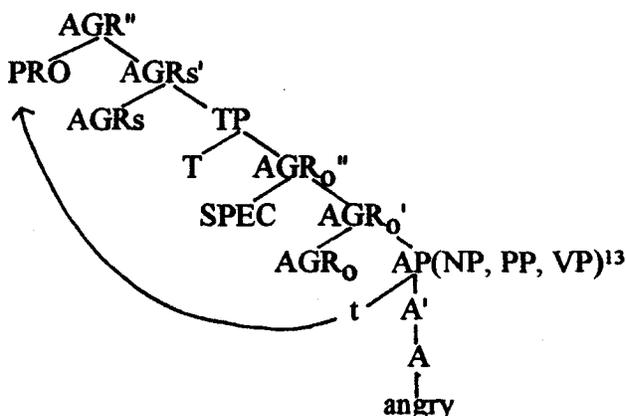
(33)



The assumption is that the Case properties depend on characteristics of T and the V head of VP.

Following Chomsky's view, it is possible to assume that null Case can be checked by the N-feature of T [-Tense]. Thus, we might have the following structure for a predicate phrase having the [-Tense] feature. Consider, for example, the sentence *John left angry*.

(34)



I propose, for the time being, that the N-feature of T [-Tense] triggers null Case Checking.

<sup>12</sup>Bellelli (1990) and Grimshaw (1991) take the latter position.

<sup>13</sup>The question of what categories are allowed as secondary predicates will be discussed in section 4.

This proposal is consistent with cases where PRO appears in other configurations. Consider the typical occurrence of PRO: the subject of the infinitival clause and that of gerundive nominals.

In the next subsection, we will observe negation data from Spanish and English, and then consider whether this data supports our hypothesis. The relevant questions here are 1) whether the negation data proves the hypothesis that the predicate phrase is AgrP, and 2) whether the negation data suggests the existence or absence of the Tense node in Small Clauses. The significant issue here is whether the TP node is actually needed in the predicate phrase.

### 3.3. Negation

In this section, we will consider the interaction of negation and AgrP. Consider the sentences below. (35) is from English, and (35') is from Spanish.

- (35) a. John left the room not angry.  
b. ? John married not young.  
c. They parted not good friends.
- (35') a. \* Juan salio de la habitación no enfadado  
John got out of the room not angry  
b. \* Juan se casó no joven.  
John married not young

According to my consultants, the English sentences in (35) are grammatical, or at least acceptable, while the Spanish sentences in (35') are not.

How can we explain this difference in grammaticality between Spanish and English? Why can English secondary predicate phrases be negated, while those in Spanish cannot?<sup>14</sup>

According to Laka (1990), Spanish NegP has the structure shown in (36), while English has the structure shown in (37) (Pollock (1989)). (For the sake of convenience, the structures are simplified.)

---

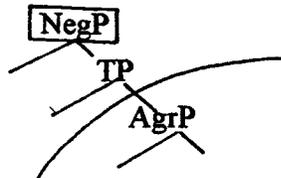
<sup>14</sup>The examples in (35) and (35') seem to be sentence negation rather than constituent negation. It may be more appropriate to use sentences of the following type to show that the examples truly are sentence negation.

- i) John left the room not convinced that he'd done the right thing.

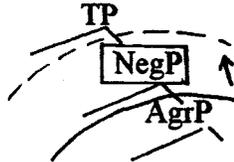
The following examples can be regarded as constituent negation. When regarded as constituent negation, the sentences are more acceptable in Spanish, according to my consultants.

- (ii) a. John left the room not very angry.  
b. John married not very young.  
(ii') a. ?? Juan salio de la habitación no muy enfadado.  
b. ?? Juan se casó no muy joven.
- (iii) John married not particularly far into his thirties.  
(iii') Juan se casó no muy entrado en los treinta.

(36) [Spanish]



(37) [English]

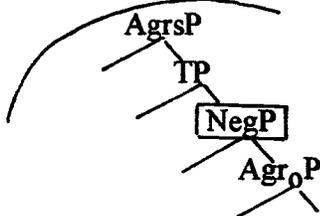


In Spanish, NegP occupies the highest position in the structure (Laka 1990). In English, on the other hand, NegP is located between TP and AgrP. Notice that TP dominates AgrP. That is, TP is higher than AgrP in Pollock's theory<sup>15</sup>. I will adopt this analysis.

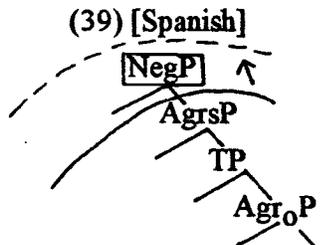
If we postulate that the AgrP does not dominate a Tense node, the following straightforward explanation is possible: In Spanish, the predicate phrase (AgrP) cannot include Neg beyond TP, but in English it can. This seems plausible.

If we assume that AgrP dominates a Tense node, following Chomsky's (1992) basic idea, we must consider another configuration. In Chomsky's framework, the two functional roles of AGR — Agr<sub>s</sub>P and Agr<sub>o</sub>P — are distinguished. In Chomsky (1992), NegP is located between TP and Agr<sub>o</sub>P in English in the following way:

(38) [English]



The Spanish structure is arguably the following:



In (38), NegP is evidently located under Agr<sub>s</sub>P, which accounts for the fact that secondary predicates can be negated in English. The Spanish case is more complicated. In (39), NegP is

---

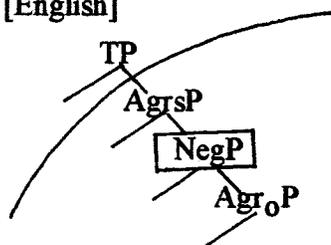
John got married not very entered in his thirties.

<sup>15</sup>Note, however, that Belletti (1990) argues that AgrP dominates TP.

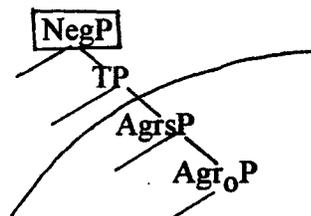
still in the highest position. However, if AgrP can incorporate the higher NegP as a constituent — just as we assumed in explaining the English data in the configuration (37) — Neg must occur within Agrp. This prediction contradicts the fact that Spanish does not allow negation within the predicate phrase. This shows that Chomsky's (1992) Case-checking mechanism using Tense features (or the clause structure he assumes) does not work as it is in secondary predicate phrases. As long as we use Tense features to check the null Case, we must have the structures shown in (38) and (39), and as we have seen, these structures are problematic for Spanish.

To explain the Spanish data, I will not take the configuration in (39). Instead, I will assume that TP dominates AgrP, namely, that TP is higher than AgrP. I will apply Pollock's analysis to recent models of functional categories — highly differentiated Agr phrase configurations. Thus, I will propose the structures shown below. Note that I am turning to the position that the predicate phrase (AgrP) does not dominate a Tense node.

(40) [English]



(41) [Spanish]



In (40), since NegP is lower than AgrsP, the predicate phrase can include Neg. This explains the fact that, in English, the predicate phrase can be negated. In (41), TP intervenes between NegP and AgrsP. For this reason, AgrsP cannot incorporate NegP beyond TP. This explanation agrees perfectly with the Spanish data.

To conclude, the predicate phrase is AgrP, and it has no Tense node<sup>16</sup>. The assumption is

<sup>16</sup>If we assume that the secondary predicate phrase (AgrP) has no Tense node, there is a possibility that we can explain the semantic constraint in subject-oriented secondary predicates.

The constraint is that secondary predicates must be stage-level predicates (cf. Carlson (1978) and Kratzer (1989)). Consider the sentence below:

(i) John came to the party blue-eyed.

The predicate *blue-eyed* is normally an individual-level predicate. However, in this construction, we have to interpret the predicate as a state-level predicate. Therefore, the interpretation is that John came to the party wearing blue contact lenses (in order to surprise the guests).

According to Diesing (1992), in the case of individual-level predicates, the subjects are base-generated in [Spec, IP], and the subjects of stage-level predicates are base-generated in [Spec, VP]. If we interpret Diesing's IP

that TP dominates AgrP. This idea comes originally from Pollock (1989), and is developed for Romance in Laka (1990).

#### 4. Primary Predication and Secondary Predication

In the rest of the paper, I will deal with the difference between primary predication and secondary predication. I will first address the question of what categories are allowed as secondary predicates.

##### 4.1. What categories are allowed as Secondary Predicates?

What categories are allowed as secondary predicates? McNulty (1988) observes that English has AP, NP, and PP secondary predicates, as in the following sentences.

- (42) John left the hospital healthy. [AP]
- (43) John left the hospital a healthy man. [NP]
- (44) John left the hospital in good health. [PP]

If we add a VP to the above categories, we can have a more complete paradigm. The X'-schema predicts the occurrence of every category. Thus, if we are faced with the absence of a category, it follows that we must filter it out by certain independent principle(s).

McNulty (1988) points out that NP secondary predicates do not exist in Spanish, but she does not provide any explanation for it. Some languages seem to allow NP secondary predicates, while others do not. The reason is worth exploring. Notice that the NP predicate is allowed in primary predication universally, but not in secondary predication. In theory, we should expect a NP to occur as a secondary predicate, as long as the NP is licensed. Are there any crucial differences between primary predication and secondary predication? We will discuss this problem in the next subsection.

##### 4.2. Identificational *be* and Predicational *be*

Now let us consider the differences between primary predication and secondary predication. Descriptively speaking, we can say that primary predication includes a copula *be* at least in some languages like English, while secondary predication does not.

However, I propose that both primary and secondary predication include a copula *be*. I suggest that *be* in primary predication is overt, while *be* in secondary predication is covert. Observe the following examples:

- (45) a. John left the hospital *healthy*. [AP]
- b. John left the hospital *a healthy man*. [NP]
- c. John left the hospital *in good health*. [PP]

---

to be TP and not AgrP, the explanation might be possible. The predicate phrase (AgrP) has no TP. Thus, individual-level predicates (base-generated in [Spec TP]) cannot occur as secondary predicates, while stage-level predicates (base-generated in [Spec, VP]) can occur within the AgrP. This possibility is left for further research.

- d. John came *running out of the house*. [VP: V-ing]
- (46) a. John is healthy.  
 b. John is a healthy man.  
 c. John is in good health.  
 d. John is running out of the house.

The secondary predicates in (45) are all forms that can appear in the post-*be* position in primary predication, as in (46). I will further discuss the "covert *be* hypothesis" in section 4.3.

Given the hypothesis that both primary and secondary predication include a copula *be*, we can compare the characteristics of *be* in these two types of predication.

In primary predication there are at least two kinds of *be*: the identificational *be* and the predicational *be*<sup>17</sup>. Consider the examples below.

- (47) [Identificational *be*]  
 a. Mary *is* my mother.  
 a'. My mother *is* Mary.  
 b. The morning star *is* the evening star.  
 b'. The evening star *is* the morning star.
- (48) [Predicational *be*]  
 a. Mary *is* a nurse  
 a' \* A nurse *is* Mary.  
 b. The student *was* sick

The NPs in the identificational sentences must be [+specific]. The truth value in these sentences is not changed if the two NPs are exchanged as in (47 a-a') and (47 b-b'). By contrast, the predicational sentences do not have such properties, as is clear from (48).

I claim that *be* in secondary predication should be the predicational *be*, not the identificational *be*, while *be* in primary predication can be either type of *be*. This is the most significant difference between primary predication and secondary predication. Consider the following sentences.

- (49) [Secondary predication--Identificational *be*]  
 a. \* Mary left the school my mother.  
 b. \* The morning star disappeared the evening star.
- (50) [Secondary predication--Predicational *be*]  
 a. Mary left the school a nurse.  
 b. The student left the party sick.

The sentences in (49) are not allowed, while the sentences in (50) are possible. The ungrammaticality of (49) is due to the fact that *be* in secondary predication does not allow identificational interpretation.

---

<sup>17</sup>This kind of distinction is made in Akmajian (1970) and Higgins (1973).

### 4.3. Case and the covert *be*

According to my consultants, there are at least several languages which do not allow NP secondary predicates: Spanish, Dutch, and Persian. Japanese is also this type of language.

In this section, we will discuss 1) why primary predication allows NP predicates universally while secondary predication does not, and 2) why English allows NP secondary predicates and some other languages do not. Both of these questions will be discussed from the perspective of Case theory, because Case theory is a logically possible licensing condition for overt NPs.

Let us first consider the following question: Does the predicate NP (the adjunct NP) need Case?

Chomsky (1986) states that the visibility condition does not require Case assignment to an NP that is not theta-marked (unless this NP must transfer Case to an argument<sup>18</sup>).

#### (51) Visibility Condition

An element is visible for theta-marking only if it is assigned Case.

(Chomsky 1986, 95)

In the following sentences, the Case filter requires that Case be assigned to the bracketed NPs, but the visibility condition arguably does not.

(52) John is [a fine mathematician].

(53) [John], I consider [a fine mathematician]

(54) John did it [himself].

If we consider the visibility condition to be valid, the predicate NP does not need Case, because it is not an argument. Then, if we assume that predicate NPs do not need Case universally, and that the secondary predicate NP is not assigned any Case (or not Case-Checked) uniformly, how can we explain the difference that we have seen in this section (between English-type languages and Spanish-type languages)? Further, how can we explain the fact that NPs can occur as primary predicates universally, but not as secondary predicates?

I propose that, at the very least, the predicational NP needs Case. The hypothesis is as follows. In primary predication, the predicational NP is [-Specific] and the overt *be* can assign an inherent Case universally (arguably, a partitive Case in Belletti (1988) and Lasnik (1992)). The predicational NP in primary predication can be licensed in this way. On the one hand, in secondary predication, the covert *be* does not always assign an inherent Case. Thus, in English-type languages it does, but in Spanish-type languages it does not. In English-type languages the covert *be* seems to have the inherent Case assigning property to license NP secondary predicates, although such a mechanism would need further research.

One thing we have to bear in mind is that inherent Case must be related to theta

---

<sup>18</sup>Chomsky refers to Case Transmission in sentences such as:

(i) There is a man in the room.

assignment. In other words, a Case-marked NP has to be assigned a theta-role. The problem is that a predicate NP is not selected by a head. In order to solve this problem, and to elucidate the mechanism that licenses NP predicates, further research is required, especially on the relationship between morphological case and abstract Case cross-linguistically.

## 5. Conclusion

In this paper, I argued that a PRO analysis should be adopted over a theta-marking analysis for subject-oriented secondary predicates. I presented empirical evidence that the predicate phrase should have a PRO subject. The occurrence of raising adjectives as secondary predicates is one of the strongest pieces of evidence for this view. I also showed theoretical grounds in favor of a PRO analysis. PRO analysis supports a theory of UG: VP-Internal Hypothesis.

I claimed that the predicate phrase is AgrP because of agreement facts. In my analysis, I considered Agr to be a null Case checker for PRO. PRO has to be licensed within AgrP, and the head Agr meets the licensing condition for PRO under the Spec-head configuration. On the basis of some negation data in Spanish and English, I proposed that AgrP does not dominate the Tense node.

Finally, I dealt with the difference between primary predication and secondary predication, and pointed out that primary predicates can either be identificational or predicational, while secondary predicates must be predicational. I addressed the question of why NP predicates are allowed in primary predication universally, but not in secondary predication. I also suggested the possibility that the predicational NP as a secondary predicate might have inherent Case in languages such as English.

## References

- Akmajian, A. (1970). *Aspects of the Grammar of Focus in English*. Ph.D. dissertation, MIT.
- Baker, M., K. Johnson, and I. Roberts (1989). "Passive Arguments Raised," *Linguistic Inquiry* 20, 219-51.
- Belletti, A. (1988). "The Case of Unaccusatives," *Linguistic Inquiry* 19, 1-34.
- Belletti, A. (1990). *Generalized Verb Movement: Aspects of Verb Syntax*. Rosenberg & Sellier, Torino, Italy.
- Carlson G. (1978). *Reference in Kinds in English*. Indiana University Linguistics Club, Bloomington.
- Chomsky, N. (1970). "Remarks on Nominalization," in Jacobs and Rosenbaum (eds.), 184-221.
- Chomsky, N. (1981). *Lectures on Government and Binding*. Foris, Dordrecht.
- Chomsky, N. (1986a). *Knowledge of Language: Its Nature, Origin, and Use*. New York, Praeger.
- Chomsky, N. (1986b). *Barriers*. Cambridge, Mass.:MIT Press.
- Chomsky, N. (1992). "A Minimalist Program for Linguistic Theory", MIT Occasional Papers in Linguistics 1.
- Chomsky, N. and H. Lasnik (1991). "Principles and Parameters Theory", in J. Jacobs, A. von Stechow, W. Stenfeld, and T. Vennemann, (eds.), *Syntax: A International Handbook of Contemporary Research*, Walter de Gruyter.

- Cinque, G. (1990). *Types of A'-Dependencies*. Cambridge, Mass.: MIT Press.
- Grimshaw, J. (1991). "Extended Projection," ms. Brandeis University.
- Hasegawa, H. (1991). "Secondary Predicates, VP-internal Subjects, and Mutual C-command," *English Linguistics* 8, 1-15.
- Higgins, F. R. (1973). *The Pseudo-cleft Construction in English*. Ph.D. dissertation, MIT.
- Hornstein, N and D, Lightfoot (1987). "Predication and PRO," *Language* 63, 23-52.
- Hoshi, H. (1992). "Circumstantial Predicates, PRO, and D-structure Adjunction," *English Linguistics* 9, 1-20.
- Jaeggli, O. (1986). "Passive," *Linguistic Inquiry* 17, 587-622.
- Kitagawa, Y. (1986). *Subject in Japanese and English*, Ph.D. dissertation. University of Massachusetts.
- Koizumi, M. (1992). "Secondary Predicates," ms., MIT.
- Koopman, H. and D. Sportiche (1988). "Subjects," Mimeographed, UCLA.
- Kratzer, A. (1989). "Stage and Individual Level Predicates," In *Papers on Quantification, NSF Grant Report*, University of Massachusetts, Amherst.
- Kuroda, S.-Y. (1988). "Whether We Agree or Not: A Comparative Syntax of English and Japanese," in Poser (ed.), 103-43.
- Laka, M. (1990). *Negation in Syntax: On the Nature of Functional Categories and Projections*. Ph.D. dissertation. MIT.
- Lasnik, H. (1992). "Case and Expletives: Notes toward a Parametric Account", *Linguistic Inquiry* 23, 381-405.
- Lasnik, H. (1993). "The Minimalist Theory of Syntax: Motivations and Prospects", ms. University of Connecticut.
- Manzini M. R. (1983). "On Control and Control Theory", *Linguistic Inquiry* 14, 421-446.
- McNulty, E. (1988). *The Syntax of Adjunct Predicates*. Ph.D. dissertation, University of Connecticut.
- May, R. (1985). *Logical Form: Its Structure and Derivation*, Cambridge, Mass.: MIT Press.
- Nakajima, H. (1991). "Secondary Predication," *The Linguistic Review* 7, 275-309.
- Pollock, J.-Y. (1989). "Verb Movement, Universal Grammar, and the structure of IP," *Linguistic Inquiry* 20, 365-424.
- Roberts, I. (1988). "Predicative APs," *Linguistic Inquiry* 19, 703-710.
- Roeper, T. (1987). "Implicit Argument and the Head-Complement relation," *Linguistic Inquiry* 18, 267-310.
- Rothstein, S. (1983). *The Syntactic Forms of Predication*. Ph.D. dissertation, MIT.
- Safir, K. (1987). "The Syntactic Projection of Lexical Thematic Structure," *NLLT* 5, 561-601.
- Stowell, T. (1981). *The Origins of Phrase Structure*. Ph.D. dissertation, MIT.
- Stowell, T. (1983). "Subjects across Categories," *The Linguistic Review* 2, 285-312.
- Williams, E. (1975). "Small Clauses in English," in Kimball (ed.) *Syntax and Semantics* 4, 249-273.
- Williams, E. (1980). "Predication," *Linguistic Inquiry* 11, 203-388.
- Williams, E. (1987). "Implicit Arguments, the Binding Theory and Control," *NLLT* 5, 151-80.

(Received January 8, 1994)