

REMARKS ON SECONDARY PREDICATES:
C-COMMAND, EXTRACTION, AND REANALYSIS*

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This paper is concerned with the clarification of the theoretical and empirical properties of sentences like the following two and their equivalents:

- (1) *Marta* despidió a su hija *tristísima*
'Marta said good-by to her daughter very sad(ly)'
- (2) *Mi madre* { compró *la lavadora rota* }
 { *la* compró *rota* }
'*My mother* { bought the washing machine broken' }
 { bought it broken' }

The empirical basis of this analysis are those constructions that traditional grammarians have called "predicative adjectives" and that in the present theory of formal grammar belong to Predication theory (Williams 1980, 1983; Rothstein 1983) and to the study of small clauses (Stowell 1981, 1983). Following Williams (1980) and Rothstein (1983), I will refer to them as "secondary predicates", i.e. as those elements that are predicated of an argument which is theta-marked by another lexical head. From a theoretical point of view, this work aims to revise and extend certain central assumptions of the theory of Predication, trying both to cover a new range of data and to incorporate into its analysis aspects of Universal Grammar which have not previously been considered to be relevant to Predication theory.

The structure of this paper is as follows. In the first section, I will introduce in some detail the constructions that are the object of my study, namely, subject-oriented and object-oriented adjectival predicates (secondary predicates), and I will try to isolate their more relevant distributional properties. In the following sections, I will show that these properties derive from the interaction between two subsystems of UG: the structural prin-

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ciple of c-command and the Empty Category Principle, together with a mechanism of Reanalysis triggered by the requirements of the latter principle. More specifically, in the second part I will show that the assumption that a secondary predicate and its subject *mutually* c-command, correctly predicts the possible configurations in which secondary predicates can appear and allows us to refine the notion of *adjunct* constituent. In the third section, I will study the pattern of extraction of these predicates and show that the apparent lack of homogeneity between the two subtypes of adjectival predicates can be accounted for if the barrier properties of the maximal projections in which they are generated are taken into consideration. In the fourth section, I will motivate a process of Reanalysis which affects object-oriented secondary predicates. Throughout the discussion I will use data mainly from Spanish.

1. DISTRIBUTIONAL PROPERTIES OF SECONDARY PREDICATES

1.1. Two subclasses of predicates

1.1.1. A non-theta-marked XP (in our case, an AP) can and must (Rothstein 1983) establish a predication relation with an argument NP through one of the two ways illustrated in (1) and (2). Namely, the adjectival predicate can be linked to the subject of S, as in (1), or it can be related to the direct object of the main verb, as in (2). Informally speaking, we will say that the predicates similar to those in (1) are *subject-oriented predicates* while those similar to (2) are *object-oriented predicates*. (3) illustrates the first subtype, (4) exemplifies the second:

- (3) a. *María* paseaba *distráida*
'María walked absent-minded(ly)'
b. *El barco* se hundió *lento*
'The boat sank slow(ly)'
c. *El profesor* saludó a los estudiantes *disgustado*
'The teacher greeted the students angry(ly)'

- (4) a. Luis { *come la carne cruda* }
 { *la come cruda* }
 ' Luis { eats the meat raw' }
 { eats it raw' }
b. Juan { *pintó la casa roja* }
 { *la pintó roja* }
 ' Juan { painted the house red' }
 { painted it red' }

Subjects and objects are thus the only two constituents to which secondary predicates can be associated. In other words, secondary predicates are available only within two non-argument maximal projections: S and VP. We will come back later to this important fact. At this time, let us simply remark that from the fact of being non-theta marked and belonging to maximal projections which are non-arguments the condition of adjuncts of adjectival predicates follows automatically (Chomsky 1986b).

1.1.2. In the literature on predication a distinction is made between so-called *depictive* predicates like (4a) and *resultative* ones, like (4b)¹ (Simpson 1983; Rothstein 1983). These two subclasses are distinct from a semantic point of view. In fact, although we find stative adjectives² in both the above-mentioned types of sentences, an adjective is interpreted as a resultative only when it co-occurs with perfective verbs like *pintar* 'to paint' (see (4b)), *cortar* 'to cut' (*Cortó la hierba corta* 'He/she cut the grass short'), *cernir* 'to sift' (*Cernió la arena gruesa* 'He/she sifted the sand coarse').³ Depictives, on the other hand, are found with imperfective verbs like *comer* 'to eat' (see (4a)), *tomar* 'to drink' (*Juan toma el café caliente* 'Juan drinks the coffee hot'), *devolver* 'to give back' (*Pedro devolvió el libro destrozado* 'Pedro gave back the book destroyed'). Finally, resultative predicates refer to final states: those which occur when a given action is completed (Fabb 1984). And in contrast with them, depictive predicates characterize situations that we could call temporary: they depict the state of the object at the moment the action takes place. (5a) and (5b) are paraphrases, respectively, of (4a) and (4b), and they illustrate the distinction just made:

- (5) a. *Juan come la carne mientras está cruda*
'Juan eats the meat while it is raw'
b. *Juan pintó la casa y (como consecuencia de ello) la casa está roja*
'Juan painted the house and (as a consequence) the house is red'

All the subclasses I have just established are based on the semantic interpretation that secondary predicates can receive. As is expected, not all of these semantic distinctions correlate with structural distinctions. Moreover, a crucial assumption of all the analyses of adjectival predicates is that the two subclasses I have mentioned in 1.1.1 (i.e. subject- and object-oriented predicates, or "subject predicates" and "object predicates" for short) are homogeneous or equivalent from a syntactic point of view. My contention, however, is that such an assumption does not hold and, to start with, I want to show three distributional properties along which they appear to diverge. Later on, I will try to provide an explanation for these properties.

1.2. Certain intriguing properties

1.2.1. *Contiguity*, that is, the requirement that a subject and a predicate appear one immediately after the other,⁴ is the first property that neatly distinguishes subject and object predicates. Actually, in object-oriented predicates this requirement holds in a very strict way. What is shown by the minimal pair (6a) and (6b) is that constructions with a secondary predicate related to the object are always grammatical when the predicate immediately follows its subject:

- (6) a. Juan $\left\{ \begin{array}{l} \text{le dio } \left\{ \begin{array}{l} \text{el café caliente} \\ \text{el libro roto} \end{array} \right\} \text{ a Pedro} \\ \text{se lo dio } \left\{ \begin{array}{l} \text{caliente} \\ \text{roto} \end{array} \right\} \text{ a Pedro} \end{array} \right\}$
 'Juan gave $\left\{ \begin{array}{l} \text{the coffee hot} \\ \text{the book broken} \end{array} \right\}$ to Pedro'
- b. Juan le dio a Pedro $\left\{ \begin{array}{l} \text{el café caliente} \\ \text{el libro roto} \end{array} \right\}$
 'Juan gave to Pedro $\left\{ \begin{array}{l} \text{the coffee hot} \\ \text{the book broken} \end{array} \right\}$

(6c) suggests that both elements can appear separated (although with a lower degree of acceptability) when the element interpolated between them belongs to the argument structure of the verb, i.e. to its theta-grid. In (6c) the interpolated element is a dative goal:

- (6) c. Juan $\left\{ \begin{array}{l} \text{?le dio } \left\{ \begin{array}{l} \text{el café} \\ \text{el libro} \end{array} \right\} \text{ a Pedro } \left\{ \begin{array}{l} \text{caliente} \\ \text{roto} \end{array} \right\} \\ \text{se lo dio a Pedro } \left\{ \begin{array}{l} \text{caliente} \\ \text{roto} \end{array} \right\} \end{array} \right\}$

The sharp contrast in grammaticality between (6c) and (6d) indicates that constituents which do not belong to the argument structure of the verb, for instance location adverbials, cannot be interpolated between a secondary predicate and its subject:

- (6) d. Juan $\left\{ \begin{array}{l} \text{*le dio } \left\{ \begin{array}{l} \text{el café en bandeja de plata caliente} \\ \text{el libro en la terraza roto} \end{array} \right\} \\ \text{*se lo dio } \left\{ \begin{array}{l} \text{en bandeja de plata caliente} \\ \text{en la terraza roto} \end{array} \right\} \end{array} \right\}$
 'Juan gave him/her $\left\{ \begin{array}{l} \text{the coffee on a silver tray hot} \\ \text{the book in the terrace broken} \end{array} \right\}$

This fact becomes clearer when (6d) is compared to (7), where the location adverb does belong to the theta-grid of the verb. The grammaticality judgments in this case are similar to those in (6c):

- (7) Juan $\left\{ \begin{array}{l} \text{metió } \left\{ \begin{array}{l} \text{?el coche en el garaje roto} \\ \text{?la ropa en el armario sucia} \end{array} \right\} \\ \left\{ \begin{array}{l} \text{lo metió en el garaje roto} \\ \text{la metió en el armario sucia} \end{array} \right\} \end{array} \right\}$
 'Juan put $\left\{ \begin{array}{l} \text{the car in the garage broken} \\ \text{the clothes in the closet dirty} \end{array} \right\}$
 'Juan put $\left\{ \begin{array}{l} \text{it in the garage broken} \\ \text{them in the closet dirty} \end{array} \right\}$

Such a requirement of contiguity,⁵ as is obvious and as all the examples in (3) should illustrate, does not hold in subject-oriented predicates. However, one can note a stylistic preference for subject predicates to be in sentence-final position; when they appear before an adjunct, a preceding comma break seems to be required:

- (8) Luisa preparaba los apuntes $\left\{ \begin{array}{l} \text{contrariada, en su despacho} \\ \text{en su despacho contrariada} \end{array} \right\}$
 'Luisa prepared the notes $\left\{ \begin{array}{l} \text{disturbed in her office} \\ \text{in her office disturbed} \end{array} \right\}$

1.2.2. Subject and object predicates are sharply distinguished from one another with regard to *productivity*. Actually, subject-oriented predicates make a wide and open class in the sense that almost all verbs which assign theta-roles to their subjects can take secondary predicates. They therefore accept any adjective semantically compatible with the noun, provided that it is stative (cf. **Maria caminaba mortal* [-stative]). To illustrate what I have just said, I refer to the sentences in (3), where secondary predicates appear with intransitive non-ergative verbs ((3a)), with an inchoative verb ((3b)), and with a transitive verb ((3c)). However, a qualification of this general statement is in order. Observe that there is a set of psychological and perception verbs with which secondary predicates linked to a grammatical subject sound strange and sometimes awkward:

- (9) a. */?/? *La música me deleita/conforta armoniosa*
 'Music pleases/comforts me harmonious'
 a'. *Juan ama/adora la naturaleza extasiado
 'Juan loves/adores the nature enrapt'

- b. Rodrigo { pintó *el despacho morado*
lo pintó *morado* }
'Rodrigo painted { the office purple'
it purple' }
- b'. Rodrigo { #pintó *el despacho enorme*
#lo pintó *enorme* }
'Rodrigo painted { the office enormous'
it enormous' }
- (15) a. Tu propuesta hizo [_{SC} viable la solución]
'Your proposal made the solution viable'
a'. *Tu propuesta hizo [_{SC} elaborada la solución]
'Your proposal made the solution elaborated'
b. La marea dejó [_{SC} limpia la arena]
'The tide left the sand clean'
b'. *La marea dejó [_{SC} caliza la arena]
'The tide left the sand calcareous'

The level of attachment of the two types of secondary predicates and the possibility of reanalyzing certain adjectives with certain verbs in a given configuration will explain this pattern of productivity.

1.2.3. A third relevant property of our constructions can be viewed as a *co-occurrence constraint*. In fact, a subject-oriented and an object-oriented predicate can co-occur in a single sentence, as (16) shows:¹¹

- (16) a. Juan_i { sirvió *la carne_j pasada_j disgustado_i*
la_j sirvió *pasada_j disgustado_i* }
'Juan served { the meat overcooked angry'
it overcooked angry' }
- b. El mecánico_i { devolvió *el coche_j roto_j feliz_i*
lo_j devolvió *roto_j feliz_i* }
'The mechanic returned { the car broken happy'
it broken happy' }

But the co-occurrence of two object-oriented predicates is ruled out when the two predicates belong to the same syntactic-semantic subclasses (for instance, two depictives), as in (17), as well as when they are of different subclasses (a depictive and a resultative), as in (18):¹²

- (17) El mecánico { # encontró *el coche viejo arreglado*
?? lo encontró *viejo arreglado* }
'The mechanic found { the car old repaired'
it old repaired' }

- (18) Juan { # cortó *la hierba corta preciosa*
* la cortó *corta preciosa* }
'Juan cut { the grass short beautiful'
it short beautiful' }

This restriction on the possibility of co-occurrence is different in the case of subject-oriented predicates, but it is not easy to test at first sight. Actually, sentences similar to those in (19) could suggest that subject predicates cannot cumulate either:

- (19) a. *Juan bostezó cansado malhumorado
'Juan yawned tired ill-humored'
b. ??María habló breve enérgica
'María spoke short energetic'

My supposition, however, is that the co-occurrence of subject-oriented predicates is constrained by the same conditions governing the simultaneous appearance of series of adjectives within NPs, namely, by such conditions as being of different semantic classes (in (19a), for instance, we have two subjective qualifying adjectives; see Demonte 1982 in this regard), and by stylistic factors such as length. These conditions being satisfied, we can have sequences of subject-oriented predicates, as in (20):

- (20) María movió la mano débil(,) emocionada
'María waved her hand weak(ly), moved'

Object-oriented predicates are not even possible when a comma intonation appears. Again, the requirement of c-command and the characterization of secondary predicates as two different subclasses of adjuncts will explain the preceding facts. We will come back to them in sections 2 and 3.

2. STRUCTURAL RELATIONS

The proposal that I want to test in this section is that a predication relation obeys the following rule:

- (21) An NP and a predicate coindexed with it mutually c-command.

This statement is an alternative to Williams' (1980) rule of predication, which assumes an asymmetric relation of c-command: his rule stipulates only that a subject must c-command and be c-subjacent to its predicate

where, according to Williams, α c-commands β iff every branching node which dominates α dominates β (see also Reinhart 1976 for the first motivation of this notion).¹³ Apart from this revision of Williams' analysis (a revision which, moreover, explicitly refers to the extended notion of c-command), we assume with him that the rule of predication coindexes NPs and predicates at a given level of a syntactic derivation (as stated in (21)). Obviously, in saying that our revision explicitly refers to the extended notion of c-command, we are adopting Aoun and Sportiche's (1983) definition expressed in (22). This second definition strongly implies mutual c-command between immediate constituents of a maximal projection:

- (22) α c-commands β iff α does not dominate β and every γ that dominates α dominates β (Chomsky, 1986b:8).

There are three questions, both of theoretical and empirical import, which immediately arise if we want to justify and amplify the preceding assumption. The first is the reason why a notion of symmetric or mutual c-command is relevant to the characterization of the predication relation. The second is what consequences its adoption entails with regard to the basic configurations in which secondary predicates can appear and, more interestingly, for the formulation of a more precise notion of adjunct constituent. The third question is at what level of a syntactic derivation rule (21) is satisfied.

2.1. Symmetric c-command

2.1.1. The first motivation to use mutual c-command in the definition of predication comes from facts of descriptive adequacy. Actually, two of the properties that we have described in the first section (contiguity and productivity or selection) express the intuitive idea that secondary predicates and their subjects belong to the same maximal projection. This idea is better formalized through (21) than through any definition which states an asymmetric c-command.

2.1.2. Secondly, there are theory-internal reasons that also make rule (21), in comparison to Williams' rule, more tenable. Notice that if we assume that coindexation is not merely a technical device but a substantive relation that unifies case-marking, theta-marking, and predication, then we cannot exclude the theta-marker, i.e. the predicate, from the definition of the process of coindexation.

2.1.3. A third body of positive evidence for mutual c-command has to do with the empirical import of our assumption. Actually, constituency tests

and the way predication takes place within NPs strongly appear to give support to (21). Let us consider the two sets of facts separately.

2.1.3.1. If c-command were asymmetric, that is, if only c-command of the subject over its predicate were expected, it could be asserted that both kinds of secondary predicates are VP-internal. In fact, this is the claim made by Roberts (1987: section 3.2.2). This author uses constituency tests to show that subject predicates (which he names "temporally independent adjectives") cannot be isolated from the VP. Interestingly, these constituency tests give clearly opposite results with Spanish data. The *a* cases of (23) show the behavior of subject-oriented predicates (which, in fact, can be isolated from the VP), while the *b* cases are object-oriented predicates:

(23) VP-deletion

- a. Juan_i cantó el lied contento_i y Pedro_j \emptyset disgustado_j
'Juan sang the lied happy and Pedro unhappy'
b. ??Juan vió a María contenta_i y Pedro \emptyset disgustada_i
'Juan saw María happy and Pedro unhappy'

VP-fronting

- a. Juan_i quería viajar contento_i y regresar pudo
Juan wanted to travel happy and to return (he) could
pro – desasosegado_i
pro restless
'Juan hoped to travel happy but he returned restless'
b. ??Juan quería encontrar el coche_i arreglado_i y encontrarlo
Juan wanted to find the car repaired and to find it
pudo *pro* – deshecho_i
(he) could *pro* in pieces
'Juan hoped to find the car repaired, but he found it in pieces'

Right-node raising

- a. Es fácil PRO hablar – pero Juan encuentra difícil dar clases – triste
'It is easy to talk – but Juan finds difficult to teach – sad'
b. *Es fácil regalar el coche – pero Juan encuentra difícil
'It is easy to give away the car – but Juan finds (it) difficult to comprarlo – roto
buy it – broken'

Pseudoclefts

- a. Lo que Pedro_i hizo fue pagar el coche sonriente_i
 'What Pedro did was to pay for the car smiling'
 Lo que Pedro hizo sonriente fue pagar el coche
 'What Pedro did smiling was to pay for the car'
- b. Lo que Pedro hizo fue comprar el coche_i roto_i
 'What Pedro did was to buy the car broken'
 *Lo que Pedro hizo roto fue comprar el coche
 'What Pedro did broken was to buy the car'

The preceding examples show that there is a systematic difference between subject and object predicates regarding category memberships, and they clearly suggest that the two types belong to different projections. It appears, moreover, that they have to be internal to the projections in which they can be c-commanded by their respective subjects.

2.1.3.2. In Spanish, secondary predicates are possible with nominals derived from both unaccusative and unergative verbs provided that the arguments of these nominals are projected as a "de 'of' + N" branch, i.e. they are grammatical in structures where the subjects of the nominals are linked to their basic positions:

- (24) a. *Unaccusatives*
 [La llegada de Luis_i contento_i] nos sorprendió
 'The arrival of Luis happy surprised us'
 [La entrada de Estela_i sonriente_i] me tranquilizó
 'The entrance of Estela smiling quieted me down'
- b. *Unergatives*
 [El baile de Irene_i arrodillada_i] fue conmovedor
 'The dancing of Irene barefoot was moving'
 [La caminata de Pepe_i descalzo_i] me horrorizó
 'The walking of Pepe barefoot terrified me'

Now, when the subjects of these nominals are projected into the specifier position through a possessive genitive, as is normal in Spanish and other Romance languages (Cinque 1980), a contrast appears. In fact, secondary predicates of the unaccusative nominals are unacceptable:

- (25) a. *Unaccusatives*
 ??[Su_i llegada contento_i] llamó la atención
 'His arrival happy surprised us'
 ??[Tu_i entrada descalzo_i] nos sorprendió
 'Your entrance barefoot surprised us'

b. *Unergatives*

- [Tu_i caminata descalzo_i] llamó la atención
 'Your walking barefoot shocked everyone'
 [Su_i baile descalzo_i] fue mejor que su baile con zapatillas
 'Her dancing barefoot was better than her dancing with dancing shoes'

If we assume that the secondary predicate of the unaccusative nominal internal argument is generated under N', and if we suppose (as proved in Giorgi 1984) that in nominals N' counts as a barrier to c-command, we can explain the contrasts in (25): in (25a) the predicates do not c-command their subjects, while in (25b) mutual c-command holds.

2.1.4. Finally, if c-command is symmetric, a complementary consequence of (21) (which, obviously, also follows from Williams' rule) is that secondary predicates will occur in Romance neither with indirect objects nor with any propositional complement. The reason is that in these constructions, the subject of the secondary predicate is located within a maximal PP projection, and for this reason it will fail to c-command its predicate. This consequence holds rigorously, as the sentences in (26) show:¹⁴

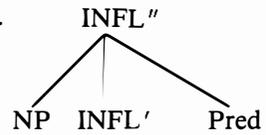
- (26) a. #Enrique le regaló un juguete [_{PP} a su hija] contenta
 'Enrique gave a toy to his daughter happy'
 b. *Esther compró las entradas [_{PP} sin Andreu] enfadado
 'Esther bought the tickets without Andreu angry'

2.2. *The underlying structure of secondary predicate constructions*

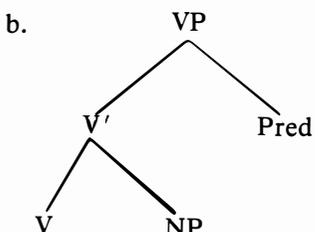
From the reasoning in 2.1, clear consequences can be deduced with regard to the underlying representation of the two types of predicates that we are characterizing. These consequences are expressed in the statements in (27):

- (27) a. Subject-oriented predicates are daughters of INFL".
 b. Object-oriented predicates are within VP.

More specifically, we tentatively propose that structures (28a) and (28b) represent, respectively, (27a) and (27b):

- (28) a. 

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graph TD
  INFL'' --> NP
  INFL'' --> INFL'
  INFL'' --> Pred
  
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- b. 

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graph TD
  VP --> V'
  VP --> Pred
  V' --> V
  V' --> NP
  
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Secondary predicates are thus defined through (27) as non-theta-marked constituents adjoined to non-argument maximal projections.

However, some qualifications of this general statement are necessary. Note, first, that the notion of an adjunct constituent implied by (28) is minimally different from the usual notion of adjunct. What we want to express through this formal representation is that these predicates do not belong to the branch where subcategorized complements appear, but we do not introduce them – at least not at this moment – as daughters of a VP adjoined to VP or of an INFL" segment adjoined to INFL".

The reason for this decision is twofold. On the one hand, we do not want to add to principle (21) the stipulation that c-command can hold across a maximal projection node when predication is involved. On the other hand, Binding theory considerations seem to indicate that there is a distinction between object-oriented secondary predicates and true adverbials generated in the VP (for instance, manner and instrumental adverbials). In (29a) and (29b), examples of the two adverbials just mentioned, referential identity between the pronoun and the NP in the complement is possible, suggesting that there is not c-command between the two elements, since otherwise condition C of the Binding Theory would be violated. In (29c) (a secondary predicate), on the contrary, disjoint reference is obligatory, thus suggesting that c-command applies, and avoiding a violation of condition C:

- (29) a. Luisa la saludó a *ella*_i [de la forma como *María*_{i/j} quiere]
 'Luisa greeted her in the way that María likes'
 b. Luisa lo mató a *el*_i [con el cuchillo de *Pedro*_{i/j}]
 'Luisa killed him with Pedro's knife'
 c. Luisa la encontró a *ella*_i [cansada de *María*_{*i/j}]
 'Luisa found her tired of María'

It thus appears, at first sight, that a distinction should be made between strong adjuncts (or ungoverned maximal projections that behave like islands (Longobardi 1985a), i.e. adverbials¹⁵) and weak or c-commanded adjuncts. At this point, however, it is an open question whether the phenomenon in (29c) is due to the condition of "weak" adjuncts of secondary predicates or to another additional property of object predicates. We will come back to this issue in sections 3 and 4.

Even if tentative, this distinction between weak adjuncts and strong adjuncts, established in terms of weak and non-c-command, respectively, could justify the phenomenon of co-occurrence that we described in 1.2.3, provided that we make the auxiliary assumption that in certain languages one and only one slot for secondary predicates is reserved within non-argument maximal projections. This fact does not seem to be exclusive to Spanish. Simpson (1983) provides evidence in Warlpiri. This fact, again,

establishes a sharp difference between adjunct or secondary predicates and adverbial adjuncts, which do co-occur, as is well known:

- (30) Juan visitó las playas (alegremente) (a las siete) (con María Luisa)
 'Juan visited the beaches happily at seven with María Luisa'

This restriction to one secondary predicate in each projection may be because secondary predicates are weak adjuncts subject to the C-command Condition.

2.3. The application of the Predication rule

A well-established assumption of all accounts of predication – starting from Williams' (1980) – is that the rule which coindexes NPs and APs (or other forms of predicates) applies at S-structure. The reason this coindexation takes place at S-structure is that both lexical NPs and their traces count as subjects for a predicate. This statement, however, appears not to be categorical, at least not at first sight. Actually, it becomes weak in the face of the two following observations. In certain cases (which we will consider in 2.3.1) traces of NPs seem not to be eligible for predication. Second, there are phenomena taking place at LF that affect the establishing of the predication relation (we will analyze them in 2.3.2).

2.3.1. *Predication in passive sentences.* Certain perfectly acceptable sentences containing secondary predicates turn out to have passive counterparts that are not acceptable at all, or not immediately:

- (31) a. *pro* cortaron la hierba corta
 'They cut the grass short'
pro comieron las frutas frescas
 'They ate the fruits fresh'
pro cantó la canción emocionado
 'He/she sang the song moved'
 b. *La hierba fue cortada corta
 'The grass was cut short'
 ??Las frutas fueron comidas frescas
 'The fruits were eaten fresh'
 *La canción fue cantada emocionado
 'The song was sang moved'

Looking at the preceding sentences, it may appear that traces of NPs do not count for predication. This conclusion, though, is difficult to accept, since in almost all instances of α -movement the underlying predication relations

remain at S-structure; this is the case, for instance, for raising structures like *Pepe_i pareció [t_i sonreír cansado_i]* 'Pepe seemed to smile tired'.

Moreover, if we examine the data in a careful way, we find that predication is possible in modal passive sentences like those in (32) (see also Demonte 1986, 1987):

- (32) a. ?Esta hierba puede ser cortada corta
 'This grass may be cut short'
 Esta hierba debe ser cortada corta
 'This grass must be cut short'
 b. Estas frutas pueden/deben ser comidas frescas
 'These fruits may/must be eaten fresh'
 c. Esta canción puede/debe ser cantada emocionado
 'This song may/must be sung moved'

The obvious descriptive generalization that follows from the above tested data is that predication in passive sentences is related to a still not very well known process of genericization. In clarifying, then, where this genericization process takes place and the way such a generic operator is introduced in the syntactic-semantic representation of the sentences under consideration, we will be able to provide a thorough explanation of the phenomenon of predication in passives. We will leave the question open in this article, however, since it would take us too far afield, but we will come back immediately to other data of predication in passives which bear on the issue of the level at which the predication principle applies. Up to this point, we continue to assert with Williams (1980) that coindexation for predication takes place at S-structure.

Now this last assertion might merely indicate that predication should be established once SS is formed but not necessarily *in* SS. To solve this dilemma we should ask whether there are processes taking place at LF that affect the phenomenon we are studying. And, in fact, there are two Spanish phenomena which seem to bear on this issue. The first relates to the assignment of wide and narrow scope in doubly quantified sentences, the second to passive and middle sentences with inverted subjects.

2.3.2. Predication at LF

2.3.2.1. In the following Spanish sentence the quantified expression *cinco casas* 'five houses' can have either narrow or wide scope, as is usual in constructions of this type, which May (1986) calls "multiple quantification sentences":

- (33) *Veinte madrileños pintaron cinco casas*
 'Twenty Madrilenians painted five houses'

This sentence can be assigned two scopally interacting readings. On the one hand, it means that there are twenty Madrilenians and each of them has painted five houses (broad scope for the subject phrase). On the other hand, there are five houses and each of them was painted by twenty Madrilenians (broad scope for the object phrase). The relevant issue is that, for certain speakers, the wide-scope interpretation for the object phrase disappears when an adjectival predicate occurs in this type of sentence. That is, in sentences like (34) we cannot construe the number of houses as being only five:

- (34) *Veinte madrileños pintaron cinco casas rojas*
 'Twenty Madrilenians painted five houses red'

In other words, when a secondary predicate appears, only the Quantifier Raising structure (35a) is possible, not (35b):

- (35) a. [_{Si} [α twenty Madrilenians] [_{Sj} [β five houses] [_{Sk} α painted β red]]]
 b. [_{Si} [β five houses] [_{Sj} [α twenty Madrilenians] [_{Sk} α painted β red]]]

However, if QR is only adjunction to S, as suggested by (35) (based on May 1977), and if all kinds of traces are eligible for predication, then the lack of wide scope for the lower quantifier cannot be easily accounted for, since in both structures of (35) subject and predicate mutually c-command. But if we minimally change these assumptions, an explanation will arise.

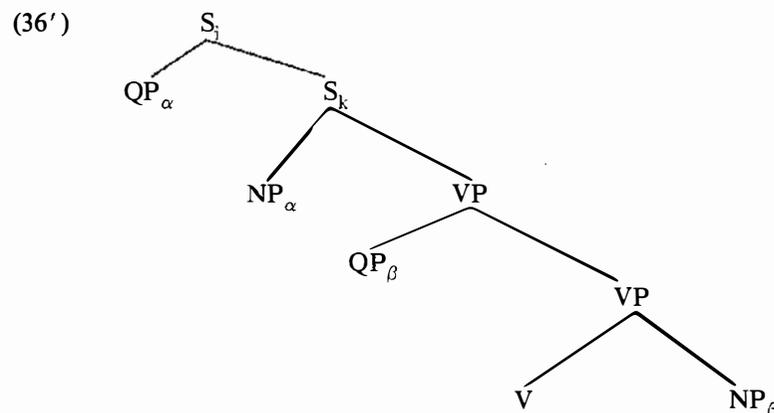
Let us assume first (for the moment as a stipulation) that traces of LF movement do not count for the predication rule, and consequently, that the configuration which represents the correct reading of (34) is (36):

- (36) [_{Si} [α twenty Madrilenians] [_{Sk} α [_{VP} [β five houses] [_{VP} painted β red]]]]

On the contrary, the two structures of (35) (the adjectival predicate omitted) are available for (33), i.e. for the sentence with ambiguity of scope. In other words, in line with May (1986) and Chomsky (1986b), we can think that there are various landing sites for quantifier movement and that multiple scope interpretation, as in (33), is due to mutual c-command between the quantifiers. When there is only one interpretation and, moreover, the lost reading is the one that follows from raising the lower quantifier, this can be attributed to the fact that the quantifier took the option of adjoining to VP. What is interesting is that it might be thought that this option could be, in a sense, forced by predication, since only if this option is taken will the predicate c-command the subject in (34) (= (36)), at least in the weak

sense of c-command. However, if this reasoning is correct it follows that, for structures where logical rules apply, the predication rule is checked also at LF.

A clarification of the preceding reasoning is now in order. As R. Huybregts has correctly pointed out to me, given a definition of government in terms of "inclusion" or dominance (Chomsky 1986b)⁶ in a configuration like (36) (repeated below as (36')), S includes traces of both alpha and beta, while VP does not include beta; therefore, QP-beta does have c-command over QP-alpha. The "lost ambiguity" problem seems to reappear:



To avoid this undesirable consequence and to block mutual c-command among the two QPs, we have to resort to a definition of government in terms of "exclusion". If we do not have government of β (= QP β) only when *no* segment (but not *every* segment) of α (= VP) dominates β , then we will have c-command of QP β within the whole VP projection (the adjoined predicate segment included) and vice versa. Moreover, QP β will not c-command QP α since VP will be a barrier to government over S, given that no segment of VP will dominate QP α . We will come back later to this problem of government in terms of exclusion or inclusion in adjoined structures.

2.3.2.2. Evidence parallel to that which I have just discussed comes from passive and middle sentences with an inverted subject in Spanish. Notice that in (37a) and (38a) predication is not possible, in contrast with (37b) and (38b), respectively.

- (37) a. #*pro* fueron comidas *las frutas* maduras¹⁷
 pro were eaten the fruits ripe
 'The ripe fruits were eaten'
 b. *Las frutas* deben ser comidas maduras
 'The fruits must be eaten ripe'

- (38) a. #*pro* se vendieron *los coches* nuevos
 pro 3rd p. sold the cars new
 'The new cars were sold'
 b. *Los coches* se vendieron nuevos
 'The cars were sold new'

Omitting many details that would be needed for a thorough analysis of the preceding sentences,¹⁸ we can think that in the relevant cases ((37a) and (38a)) there appears a *pro* expletive-argument chain which, to satisfy the requirements of chain links, has to be rebuilt at LF so that the argumental element becomes the head of the chain. In other words, in passive and middle sentences either we have syntactic movement for the Theme argument to receive nominative case (as in (37b) and (38b)),¹⁹ or else the movement which did not take place in the syntax takes place at LF, where expletives are eliminated and the argument NP substitutes for the expletive, thus forming a true A-chain. If this is the case and, again, if traces of LF movement do not count for predication, then sentences (37) and (38) might indicate that the predication rule is also checked at LF. Predication in (37a) and (38a) will be ruled out because the predicate fails to c-command the relevant subject, although it is c-commanded by it.

We conclude that certain phenomena taking place at LF have a bearing on predication, strongly suggesting that although the predication rule applies at SS it is checked again at LF. The reason syntactic traces behave differently from traces of movement at LF remains a mystery at this point.

3. ON CERTAIN DIFFERENCES BETWEEN THE TWO SUBTYPES OF PREDICATES. THE FACTS OF EXTRACTION

3.1. A paradoxical pattern

Regarding their behavior in extraction, secondary predicates exhibit a pattern that does not follow from the usual hypothesis about movement of adjuncts. Extraction of adjuncts, on the other hand, constitutes a phenomenon not well understood from an empirical point of view, since it covers complex data subject to a relative idiolectal variability and in which lexical options are still not duly clarified. Consequently, and to start with, it is necessary to impose a certain idealization over a set of complicated material.

The idealization that will be my point of departure is that in Spanish it appears to be possible to extract object-oriented predicates through Wh-movement, but that, in contrast, subject-oriented predicates are not extractable at all. Sentences (39)–(42) illustrate this contradictory behavior.

(i) *Extraction in simple sentences*

- (39) a. $\left\{ \begin{array}{l} \# \text{Cómo} \\ ?? \text{Cómo de entusiasmada} \\ * \text{Cuán entusiasmada} \end{array} \right\}$ compró Lola el coche *e*
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How enthusiastic} \end{array} \right\}$ did Lola buy the car?

The symbol # indicates that 'She bought it enthusiastic' is not a possible answer to the higher expansion of (39a). It can be compared to the question *¿Cómo está Juan?* 'How is Juan?' for which *Está entusiasmado* 'He is enthusiastic' is a possible answer. Now, sentence (39a) contrasts with (39b):

- (39) b. $\left\{ \begin{array}{l} \text{Cómo} \\ \text{Cómo de caliente} \\ \text{Cuán caliente} \end{array} \right\}$ toma Pepe el café *e*
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How hot} \end{array} \right\}$ does Pepe drink the coffee?

Sentences (39c) show that the secondary predicates of unaccusative or ergative verbs pattern with (39b) (object-oriented predicates) with regard to extraction out of simple sentences:

- (39) c. $\left\{ \begin{array}{l} \text{Cómo} \\ \text{Cómo de satisfecha} \\ \text{Cuán satisfecha} \end{array} \right\}$ volvió Rosa *e* de Ginebra
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How content} \end{array} \right\}$ did Rosa come back from Geneva?

To correctly evaluate this judgment the reader can think of an extraction in an intransitive sentence. The answer to *¿Cómo paseaba María?* 'How did María walk?' cannot be *Paseaba contenta* 'She walked happy'.

(ii) *Extraction from embedded sentences*

- (40) a. $\left\{ \begin{array}{l} \# \text{Cómo} \\ ?? \text{Cómo de entusiasmada} \\ * \text{Cuán entusiasmada} \end{array} \right\}$ piensas [que compró Lola el coche *e*]
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How enthusiastic} \end{array} \right\}$ do you think that Lola bought the car?

The symbol # has the same explanation as the one in the preceding sentence. We have a similar contrast with movement of the object predicate ((40b)) and secondary predicates of ergatives ((40c)):

- (40) b. $\left\{ \begin{array}{l} \text{Cómo} \\ \text{Cómo de caliente} \\ \text{Cuán caliente} \end{array} \right\}$ piensas [que toma Pepe el café *e*]
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How hot} \end{array} \right\}$ do you think that Pepe drinks coffee?
- c. $\left\{ \begin{array}{l} \text{Cómo} \\ \text{Cómo de satisfecha} \\ \text{Cuán satisfecha} \end{array} \right\}$ dices [que volvió Rosa *e* de Ginebra]
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How satisfied} \end{array} \right\}$ do you say that Rosa came back from Geneva?

(iii) *Extraction from Wh-islands*

- (41) a. $\left\{ \begin{array}{l} * \text{Cómo} \\ * \text{Cómo de entusiasmado} \\ * \text{Cuán entusiasmado} \end{array} \right\}$ te preguntas [quién compró el coche *e*]
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How enthusiastic} \end{array} \right\}$ do you wonder who bought the car *e*?
- a'. *Así de entusiasmada es como me pregunto [si Lola compró el coche *e*]
 '(With) such an enthusiasm is how I wonder whether Lola bought the car'
- b. $\left\{ \begin{array}{l} * \text{Cómo} \\ ?? \text{Cómo de caliente} \\ ?? \text{Cuán caliente} \end{array} \right\}$ te preguntas [quién toma el café *e*]
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How hot} \end{array} \right\}$ do you wonder who drinks coffee?
- b'. Así de caliente es como me pregunto [si Pepe puede tomarse el café *e*]
 'That hot is how I wonder if Pepe can drink coffee'
- c. $\left\{ \begin{array}{l} ?? \text{Cómo} \\ * \text{Cómo de cansado} \\ * \text{Cuán cansado} \end{array} \right\}$ no sabes [quién llegó *e*]
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How tired} \end{array} \right\}$ don't you know who came *e*?
- c'. Así de cansada es como me pregunto [si llegó Lola *e*]
 'That tired is how I wonder whether Lola came'

(iv) *Extraction out of the secondary predicate in Wh-islands*

- (42) a. *Con qué novio no sabes [si Lola compró el coche [enfadada e]]
 'At which boyfriend don't you know whether Lola bought the car mad?'
 b. ?Con qué novia no sabes [si María encontró a Pepe [enfadado e]]
 'At which girlfriend don't you know whether María found Pepe mad?'
 c. De qué novia no sabes [si Pepe volvió [harto e]]
 'From which girlfriend don't you know whether Pepe came back fed up?'

(43) summarizes the facts and judgments of (39)–(42):

(43)	Subject predicate	Object predicate
(i) Simple sentences	–	+
(ii) Embedded sentences	–	+
(iii) Wh-islands	–	–/?
(iv) Out of the predicate	–	?

The interpretation of these facts, however, is not trivial. In the first place, if both types of secondary predicates are adjuncts, a parallel behavior under extraction is to be expected. Namely, extractions should be possible in simple and embedded sentences (cases (i) and (ii) of (43)) but not in Wh-islands (cases (iii) and (iv)). It is well known that the reason for this expectation is that in (41) and (42) – the examples corresponding to cases (iii) and (iv) of (43) – non-lexically governed constituents are likewise not antecedent-governed. More explicitly, following Lasnik and Saito (1984), we can assume that in the configuration found in (44) below (corresponding to (41a)) the trace t_i' fails to antecedent-govern the non-lexically governed trace t_i since the former is not in the position of the head of COMP and the Wh-pronoun cannot be deleted without violation of the principle of recoverability of deletions:

- (44) *Cómo_i te preguntas [COMP [t_i' quién] INFL" [compró el coche t_i]]?

The ungrammaticality of (44) (= (41a)) would, then, be explained by the ECP.

In a parallel way, and contrary to the facts shown by (39a) and (40a), extraction should be possible for instance in (39a), where the trace t_i , although non-lexically governed, can be properly antecedent-governed. (45) analyzes (39a):

- (45) [COMP [Cómo_i] INFL" [compró Lola el coche t_i]]

But (45) (= (39a)), as we have noted, is ungrammatical. And all of these facts show that subject-oriented predicates do not fulfill the standard expectations of adjunct behavior.

Second, and contrary to the predictions at the beginning of this section, object-oriented predicates do not seem, at first sight, to behave as regular adjuncts. This result is not what is expected if their underlying structure is the one that we proposed in (28b), i.e. if they are constituents located within the VP. Recall that it has been generally assumed (Lasnik and Saito 1984; Chomsky 1986a) that VP is a barrier to external government and that, consequently, non-lexically governed constituents within the VP cannot be at all properly governed. Reformulating this idea along the lines of Chomsky (1986b), we can say that if movement of Wh-phrases requires VP-adjunction, then the VP will remain a barrier to government if we define government in terms of "inclusion" (i.e. total dominance).

We will come back to this question in more detail in section 4, but I want to draw attention now to the fact that the data are not as clear-cut as they appear at first sight. Observe (41'): this sentence indicates that the ungrammaticality effect is weaker when the predicate is extracted for relativization. Given these facts and the preceding considerations, we can hypothesize that object-oriented predicates also fail to exhibit the pattern of behavior typical of adjuncts. Notice, incidentally, that the secondary predicates in ergative sentences pattern with the objects of transitive ones over against unergative subjects. These facts, however, do not constitute a counterexample to the descriptive generalization just established if we assume that ergative subjects – as is usual in Romance languages – are in fact deep objects and that the adjectives in (39c) and (42c) are, then, predicates of the structural object trace.

As a corollary to the preceding observations, we can now conjecture that the extraction of secondary predicates cannot be equated to that of normal adjuncts. Further, we can ask whether the characteristic paradigm of their extraction is the one shown by subject predicates or that exhibited by object predicates (see (43)). To answer this question it is important to look at the facts in other languages. In English, movement of secondary predicates seems to be impossible. The following sentences, from Chomsky (1986b), illustrate what I have just said:

- (46) a. *How angry_i did John leave the room e_i ?
 b. *How raw_i did John eat the meat e_i ?

The hypothesis that I am going to defend is that the unmarked situation, even in the case of Spanish, is the one illustrated in (46).²⁰ In other words,

I will assume that adjectival predicates cannot be moved out, and that when they appear extracted, this is due to the fact that some change has occurred which has subverted their underlying status. To justify this claim, two questions should now be answered. The first is why subject-oriented predicates cannot be moved. The second is why some object-oriented predicates appear to have been moved and what process has affected them. I will answer the first question in the following subsection. The second will be taken up in section 4.

3.2. The nature of subject predicates

A lateral but pertinent observation necessary to the understanding of what I am going to propose is that secondary predicates cannot be assimilated to adverbials in their syntactic behavior. As I have anticipated in 2.2.1, the fact that they assign a theta-role to the NP they are predicated of establishes a first important difference between them and adjunct adverbials (but see Zubizarreta 1982). The second difference comes from the c-command requirement that adverbials do not need to satisfy.²¹

Secondary predicates are similar to adverbials, though, in that they can appear inside different non-argument maximal projections. Recall, as a way of illustration, that both semantic (Barstch 1975) and syntactic classifications of adverbials distinguish three types among them. First, there are sentential adverbs that characterize the way the sentence is uttered or, more strictly, the attitude of the utterer of the sentence. I will use the term suprasentential or subject-speaker-oriented adverbs to refer to them.²² Second, there are sentential adverbs that specify the event described in the sentence as a whole, namely, causal, condition, purpose, locative, and temporal adverbials. Finally, there are VP adverbials, probably manner and instrumental adverbs (but see note 15).

Coming back to the core of our discussion, the conjecture that I want to justify in this subsection is that secondary predicates cannot be extracted, in the canonical situation. The reason for this impossibility is twofold and is different for each subclass of predicates.

Let us start by considering subject predicates. The question that is necessary to answer is why they cannot be moved out, if their underlying structure is (28a), that is, a configuration similar to that of sentential adverbs, and if, consequently, it is expected that the requirement of proper government by an antecedent in a local context be satisfied. As is well known, there is strong empirical evidence showing that INFL'' (= IP) – in contrast to VP – is not an inherent barrier and that antecedent government can take place across its boundaries.

The explanation that can be developed may be related to the fact that subject-oriented predicates have an underlying structure similar, although

not identical, to that of suprasentential adverbials. To start with, consider the following sentences with suprasentential or subject-speaker-oriented adverbs:

- (47) a. *Francamente*, no creo que Luis haya dicho esa tontería
 'Frankly, I do not believe that Luis has said that foolishness'
 b. *Por lo que a Pepe_i respecta*, el_i no puede haber dicho eso
 'Regarding Pepe, he cannot have said that'

Note, in the first place, that it is impossible to formulate a question on the subject-oriented adverbs of (47). Observe also that when these adverbs occur in internal position in the sentences, they cannot be taken as subject-oriented adverbs; in these cases they are VP adverbials:

- (48) No creo que Luis haya dicho *francamente* esa tontería
 'I do not believe that Luis has frankly said that foolishness'

Subject-oriented secondary predicates share with suprasentential adverbials this impossibility of movement, as the sentences (39a), (40a), (41a), and (42a) above have illustrated. Moreover, in parallel to suprasentential adverbs, subject-oriented predicates tend to appear in sentence-final position, differing in this sense from object-oriented predicates (recall the facts of contiguity mentioned in section 1). Consider the sentences below:

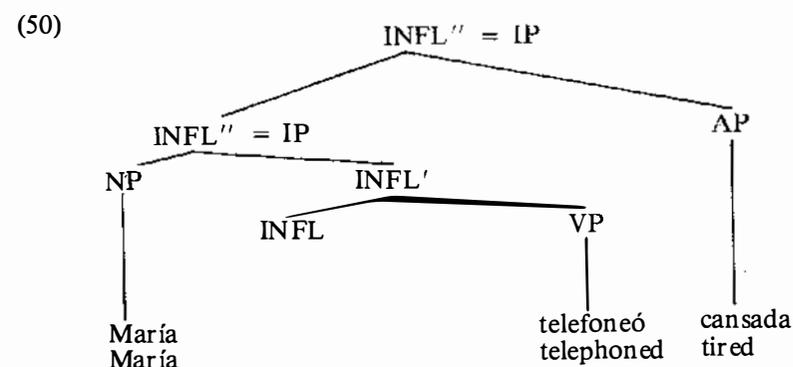
- (49) a. María compró el coche agotada
 'María bought the car exhausted'
 b. ??María compró agotada el coche
 'María bought exhausted the car'
 c. *María compró agotada ayer el coche
 'María bought exhausted yesterday the car'
 d. María compró ayer el coche agotada
 'María bought yesterday the car exhausted'

These sentences suggest that, in spite of their functional similarity and their shared characteristics of adjuncts, the two subtypes of secondary predicates diverge not only with regard to the maximal projection in which they occur but also in their relation to their own subject. Intuitively speaking, subject predicates appear to be "detached" from their subjects, while object predicates are very "close" to them. The reason for this closeness will be explained in the following section; the point now is how we can re-elaborate the underlying structure of subject predicates. This underlying structure obviously cannot be the one proposed in (28a), which treats the predicate as a sister of the subject NP, since otherwise their extraction

should be possible as happens with causal, manner, and purpose adverbs.

Now, the suggestion that subject predicates be treated as suprasentential adverbials does not appear to be sound either. Observe that, in line with Reinhart's (1983) and Haegeman's (1984) proposals, these adverbials should be attached to an E-node and fall outside the boundaries of sentence grammar. However, given our reasoning in section 2, any representation of these predicates must respect the condition of mutual c-command required by the predication rule.

With these previous constraints, the underlying structure that arises is one in which subject predicates are not strictly but weakly c-commanded by their subjects, i.e. a representation like (50), where sisterhood for theta-assignment can be obtained:



Assuming this configuration, the ungrammaticality of sentences where subject predicates are extracted might follow as a violation of proper government. Let us recall, to start with, Chomsky's (1986b:14) definition of *barrier*:

- (51) γ is a barrier for β iff (a) or (b):
 (a) γ immediately dominates δ , δ a BC for β ;
 (b) γ is a BC for β , $\gamma \neq IP$.

According to (51), then, IP is an exception among elements that qualify as blocking categories (BC) and cannot be a BC by itself. Now, given that IP is not an L-marked category (i.e. it is not a sister to a lexical item which theta-marks it) we can suppose that it has substantively the capacity to "transmit" barrierhood to its adjoined IP; phrasing the situation the other way around, we can suppose that the adjoined IP can become a barrier by satisfying definition (a) of (51). This contrast between the internal IP not being a barrier by definition (b) of (51) and the upper IP being a barrier by

inheritance will explain the differences we found in the extraction of sentential adverbs (which are under the lower IP) over against the extraction of suprasentential adverbs and secondary predicates (which are in higher nodes).

4. REANALYSIS

To complete our argument it is necessary to characterize in a more precise way the syntactic and semantic relation that is established between the verb, the direct object, and its adjectival predicate.

What we have noticed previously is that these predicates seem to behave more like elements of the argument structure of the verb than like true adjuncts. Distributional properties, and ECP and Binding effects, are the empirical and theoretical axes on which this observation is based. The aforementioned apparent contradiction, however, can be explained by making reference to the supposition that these effects result from the fact that these constructions are in some sense "marked". More explicitly, the hypothesis that can be sustained and easily justified is that certain object predicates are submitted to a reanalysis process which places them in the V' projection, thereby explaining their syntactic behavior.

4.1. Reanalysis processes are usually defined as the merging of the subcategorization properties of an element, usually a verb, with the subcategorization properties of another (Manzini 1983). This merging is sometimes conceived as being submitted to a structure-preserving condition (Stowell 1982). It is assumed, furthermore, that any reanalysis causes a thematic restructuring (Rouveret and Vergnaud 1980) in the sense that the syntactically reanalyzed constituents assign thematic roles in a compositional way.

Peculiar ways of case assignment, ECP effects, and apparent violations of the adjacency requirement for case assignment are linked to the fact that a certain sequence of two elements is a consequence of reanalysis. It is assumed, moreover, that reanalysis rules are language specific and that to be a "reanalyzer" is a feature or defining property of certain lexical items.

The following are three typical instances of reanalysis. First, the formation of a verbal complex either from the sequence V + S in Romance causative constructions (Rouveret and Vergnaud 1980) or from verb plus infinitival complement in Italian (Rizzi 1978). Second, the merging of a preposition with the preceding verb in Dutch or English structures with stranded prepositions (Van Riemsdijk 1978). And third, the incorporation of the NP indirect object to the verb in double-object constructions in English (Stowell 1982). (52a), (52b), and (52c) illustrate, respectively, the three cases that I have summarily described (curly brackets indicate the initial string, regular brackets the terminal string):

- (52) a. On a v' [fait {sortir_i} Marie e_i] du bureau
 'They made Marie come out from the office'
 b. What suitcase_i did you v' [travel {with} e_i]
 c. I v_p [[gave Mary_i] a book p_p {P e_i }]

4.2. The reanalysis that takes place in structures with object-oriented predicates is similar to the one in (52b) in that it explains certain paradoxical ECP effects. It shares with the case illustrated by (52a) the capacity to explain certain order and constituency effects. Let us now look in detail at four arguments that give support to this reanalysis hypothesis.

4.2.1. In the preceding section, we have heavily anticipated the relevance for the ECP of the reanalysis hypothesis. But let us extend and render more precise what we have previously said. If the object-oriented predicate is a non-lexically governed element generated under VP, then it is expected that any extraction of it will produce ungrammaticality, since the remaining trace will not be antecedent-governed under the assumption that VP is an inherent barrier or a blocking category (BC) to this kind of local governing (Lasnik and Saito 1984; Chomsky 1986b). Even if we assume, as recent studies do, that extraction out of a VP is made through VP-adjunction, we can still predict the impossibility of extracting predicates out of a VP if government is defined in terms of "inclusion". In this case the original VP will be a BC for the government relation between the adjoined trace and the lower one. (Recall that with a definition of government in terms of "inclusion" α governs β if all maximal projections dominating α also dominate β . In the other definition of government, α governs β iff α m-commands β and there is no γ , γ a barrier for β , such that γ excludes α – where α excludes β if no segment of α dominates β (Chomsky, 1986b:8–9).)

Chomsky (1986b) considers the possibility that movement of a Wh-phrase requires adjunction to VP, together with a definition of government in terms of exclusion – not inclusion – so that proper government obtains; as a matter of fact, in this situation the adjoined position would act as an "escape hatch". Although empirical considerations (basically the fact that objects can be extracted out of a VP) led Chomsky (1986b) to assert that the definition of government in terms of exclusion is maybe the correct one, the facts of adjectival predicate extractions in English – where certain instances are allowed and others are not (see section 12 in Chomsky 1986b) – give rise to a paradoxical situation in the sense that both definitions of government appear to be necessary to account for the data. In the rest of this work, we will not take any position on the correct definition of government, nor will we pursue the idea that extraction of secondary predicates is made through VP-adjunction. We will keep the discussion neutral with respect to all these matters, but we will rely on the uncontroversial assumption that proper government requires either lexical government or antec-

dent-government. The main reason to abandon the just-mentioned alternative line of explanation is that we seem to have conclusive evidence in favor of another approach to this material. In fact, we can prove that a reanalysis process acts in certain object-oriented predicate structures.

With this proviso, let us come back to our basic data. As we have shown in (39)–(42), extraction of object-oriented predicates is freely allowed in certain cases. We have also observed that object predicates sometimes even may be extracted from a Wh-island. Recall the contrast in (41) that we repeat in (53):

- (53) a. *Así de entusiasmada_i es como me pregunto [si Lola compró el coche e_i]
 b. Así de caliente_i es como me pregunto si [Pepe puede tomarse el café e_i]

The minimal pair in (53) not only shows a divergence between subject and object predicates, it indicates that this second adjunct can be equated to regular lexically governed constituents which, under certain conditions (see Torrego 1984), can be moved out of a Wh-island in Spanish. Observe, in (54a), that extraction of a direct object from a Wh-island is permitted, while moving of an adverbial adjunct creates ungrammaticality, in (54b):

- (54) a. Qué coche_i no sabes [_{COMP} [por qué] se compró Luis e_i]
 'What car don't you know why Luis bought?'
 b. *Cómo_i no sabes [_{COMP} [quién] discutió con ella e_i]
 'How don't you know who had an argument with her?'

A clear explanation for (53b) and all similar cases comes from the reanalysis hypothesis. If the predicate falls under lexical government by the verb before Wh-movement takes place, the ECP will not be violated and grammatical sentences like (39b), (40b), and (41b') are to be expected.

In a similar fashion, there are more crucial additional data which corroborate the reanalysis hypothesis. In fact, the interesting thing is that not all object predicates can be moved out, not even in single sentences. Observe the sentences in (55) and contrast them with those in (39b):

- (55) a. $\left\{ \begin{array}{l} ??\text{Cómo}_i \\ ??\text{Cómo de roto}_i \end{array} \right\}$ escondió mi hija el regalo e_i
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How broken} \end{array} \right\}$ did my daughter hide the present?'
 b. $\left\{ \begin{array}{l} *\text{Cómo}_i \\ *\text{Cómo de furiosa}_i \end{array} \right\}$ alojé a mi prima italiana e_i ²³
 $\left\{ \begin{array}{l} \text{'How} \\ \text{'How furious} \end{array} \right\}$ did I lodge my Italian cousin?'

If we make the standard assumption that reanalysis is a lexically conditioned process, the data in (55) will follow in a straightforward way. Actually, we can suppose that, in the structures that we are considering, the verb and the adjective that compositionally assign the theta-role to the direct object can be reanalyzed only when the resulting string can be interpreted as a unit from a semantic point of view.²⁴ A more strict way of phrasing this general idea is to say that the two mentioned constituents are candidates for reanalysis when the meaning of the adjective is in a certain sense included in the meaning of the verb. If this supposition is correct, reanalysis of *eat* + *raw* or *paint* + *red* is predictable to the extent to which *eating* means 'incorporating food prepared in a certain way' or *painting* means 'giving colour'. Neither *broken* nor *furious*, on the other hand, are part of the definition of *hide* or *lodge*, and this would be the reason reanalysis does not occur in (55) and similar cases. We will come back to this issue in 4.2.4.

4.2.2. The facts of contiguity described in 1.2.1 constitute a second argument in favor of the reanalysis hypothesis. Recall sentences (6a) and (6b). Assuming that the previous reasoning is correct, it is a plausible supposition that the oddity of sentences like (6c) and the similar sentence (56) (where an indirect object is interpolated between the object and the adjectival predicate) is due to the fact that reanalysis – like all lexically conditioned processes – applies under "sisterhood", i.e. given that the reanalyzed sequence will assign a theta-role to the direct object they must have this last constituent as a sister.

(56) a. ?Le devolví *el bolígrafo* a Juan *arreglado*
'I returned the ballpoint to Juan repaired'

b. Le devolví $\left\{ \begin{array}{l} \textit{el bolígrafo arreglado} \textit{ a Juan} \\ \textit{a Juan el bolígrafo arreglado} \end{array} \right\}$

4.2.3. Certain constituency effects characteristic of constructions with object-oriented predicates could also be considered a consequence of the analysis that we are suggesting, but could create problems for the hypothesis that the verb reanalyzes with the adjective.

Observe, first, that the sequence "direct object + adjectival predicate" appears to form a single constituent when found in certain configurations which are used in a standard way as an environment to test constituency. Such a sequence, for instance, occurs quite naturally as a right adjunct in right-node-raising (RNR) constructions:

- (57) a. ?/ok *Es fácil comprar – pero Juan encuentra difícil comer – el pescado crudo*
'It is easy to buy – but Juan finds difficult to eat – the fish raw'
b. ?/ok *Quiero cortar – pero Luisa se opone a podar – el árbol corto*
'I want to cut – but Luisa is opposed to pruning – the tree short'

Nevertheless, it has to be said that RNR gives the most perfect result when the order of the raised elements is reversed. Observe (57'), parallel to (57a):

- (57') *Es fácil comprar – pero Juan encuentra difícil comer – crudo el pescado*
'It is easy to buy – but Juan finds difficult to eat – raw the fish'

Moreover, in contrast with the data in (57), the above-mentioned sequence "direct object + adjectival predicate" cannot, for many speakers, appear easily as a topic in topicalization structures:

- (58) ?/?? *Las frutas maduras* come Juan
'The fruits ripe, Juan eats'

I hypothesize that the difference between (57) and (58) has to be traced back to the different nature of the movements involved in the two types of constructions. In fact, if RNR is adjunction to IP (and it is maybe a stylistic rule) while topicalization is a substitution process, the former will not be able to move something which is not an X-maximal, but the latter appears to be able to move also heads. The ungrammaticality of (58) follows from this last fact and from the supposition that there is reanalysis. The quasi-grammaticality of the sentences in (57), though, remains unexplained and seems to depend on the way constituents and subconstituents are computed in structures where adjunction to the right takes place.

Another interesting fact of constituency arises when object-oriented predicates are compared to standard adjuncts, for instance, to location adverbials. It appears that the former are more resistant to the absence of their subject in gapped structures:

- (59) a. ??Pedro comió las peras maduras y Enrique \emptyset verdes
'Pedro ate the pears ripe and Enrique \emptyset green'
b. Pedro comió las peras en el jardín y Enrique \emptyset en el comedor
'Pedro ate the pears in the garden and Enrique \emptyset in the dining room'

If we accept the hypothesis that gapping is a PF process, the unnaturalness of (59a) could come as a consequence of the assumption that one of the reanalyzed elements is lacking and, consequently, cannot be correctly interpreted.

4.2.4. Final clear evidence in favor of our hypothesis is provided by the structures in (60). In Spanish, object-oriented predicates can appear in many cases immediately following the main verb:

- (60) a. ?No quiero *beber frío* el café
'I do not want to drink cold the coffee'
b. *Trágate disuelta* la píldora
'Swallow dissolved the pill'
c. A los pastores les gusta *comer caliente*
'Shepherds like eating hot'
d. Si *pintas rojo* el portal se enfadarán los vecinos
'If you paint red the gate, the neighbors will get annoyed'
e. ??Mi hija *escondió roto* el regalo nuevo
'My daughter hid broken the new present'
f. *Pedro *alojó furiosa* a su prima italiana
'Pedro lodged furious his Italian cousin'

What is relevant about the sentences in (60) is that this collapsing of the verb with the adjective is only available in those structures where extraction is also allowed. Observe that (60e) and (60f) correlate with (55) (i.e. with those structures where reanalysis is not possible); the preceding ones ((60a)–(60d)) pattern with the standard cases where reanalysis takes place. Furthermore, sentences like (60c) show that the semantic unity between the two theta-assigners is strong enough so that in certain cases a kind of compound word or idiomatic expression is obtained.

The empirical evidence in favor of the notion that there is a removing of the object-oriented predicate in such a way that it is placed under V' thus appears quite compelling. The technical problem of how this reanalysis proceeds and how the final reanalyzed string is built up, however, has not been addressed up until now, although it merits an independent discussion.

4.5. The formal way of reanalyzing

The evidence we introduced in 4.3 is intended to show that syntactic effects of constituency and structure reorganization arise in constructions with object-oriented secondary predicates. This evidence suggests also that the formal result of the reanalysis is a configuration in which the predicate forms a complex verb with the transitive main verb.

A crucial proof in favor of this formalism is provided by facts of extraction out of a complement of an adjectival predicate. As a matter of fact, an extraction of this type is ruled out by the Condition on Extraction Domains (CED) (Huang 1982), given that the predicate is a non-lexically governed constituent; this is the result that obtains in (61a) and (62a). The interesting thing, however, is that the grammaticality of these constructions improves radically when the predicate out of which the extraction is made appears adjacent to the matrix verb, as shown in (61b) and (62b):

- (61) a. ??En cuántas partes encontraste [el libro] [roto e]
'In how many parts did you find the book broken?'
b. En cuántas partes encontraste [roto e] [el libro]
'In how many parts did you find broken the book?'
- (62) a. *De qué faros compró [el coche] [desprovisto e]
'Of what lights did he buy the car deprived?'
b. ?De qué faros compró [desprovisto e] el coche
'Of what lights did he buy deprived the car?'

The situation is parallel to what happens in subcategorized small clauses. Observe the sentences in (63):

- (63) a. ??A qué deportes consideras [a María aficionada e]
'Of what sports do you consider María a fan?'
b. A qué deportes consideras [aficionada e a María]
'Of what sports do you consider a fan María?'

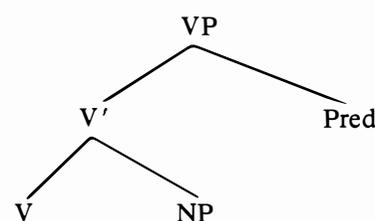
Again, this parallelism is not to be expected given the CED, since in the case of subcategorized small clauses the complement would be extracted out of a lexically governed constituent. To be more explicit, given the CED the oddness of (63a) is not predicted. This oddness would be explained only if we consider (as Longobardi 1985b in fact proves) that the predicate of the small clause is not properly governed and that its complement, consequently, only satisfies this requirement after reanalysis takes place. This reanalysis, in both cases, will make the complement an argument of the newly created complex verb.

Hornstein and Weinberg (1981) have formulated a reanalysis rule that could easily account for these government effects as well as for the facts of merging and constituency enumerated above. We want to assume this rule which, in the formalization (64), says that in the domain of VP a verb and any set of contiguous elements to its right can form a complex verb:

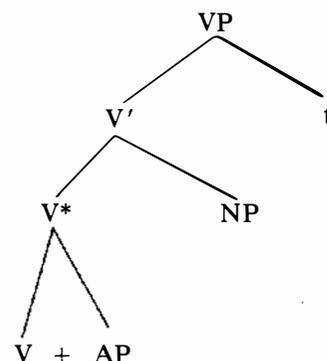
- (64) $V \rightarrow V^*$ (where V c-commands all elements in V*)

Following recent suggestions made by Baker (1987), we can propose that this reanalysis process is a subcase of the whole collection of "incorporation" processes taking place in natural languages. Actually, our reanalysis will be an incorporation without all the morphological effects that usually appear in structures of verb incorporation (although (60) is an exception), but it will share with them the property of coindexing two lexical nodes if and only if the first governs the second. If reanalysis is a subcase of verb incorporation, then the tree derived by rule (64) will be the same as that in (65b). In this configuration, the trace resulting from the movement of the secondary predicate will be legalized simply by adopting the extended definition of government related to the extended definition of c-command (in (22)).

(65) a. (= (28b))



b.



CONCLUSIONS

In this paper I have made three major proposals, all of which are meant to contribute to the extension and clarification of the theory of predication established in Williams (1980) and Rothstein (1983).

The first claim is that the structural principle of c-command on which predication is based should be understood as incorporating a requirement of symmetry or mutual c-command between the subject and the predicate. The second proposal is that secondary predicates cannot be moved out at all for reasons which have to do with the barrier properties of the maximal projections in which they are generated, properties which, certainly, are different in the two canonical cases of secondary predication. Third, object predicates are submitted to a reanalysis process which is a subcase of the collection of verb incorporation processes taking place in natural languages.

NOTES

1. For reasons whose elaboration here would take us far afield from the purpose of this work, it appears that subject adjectival predicates can only be depictive, while the two previously mentioned subclasses are regular predicates of the object. An indication that this constraint may be of a thematic nature comes from the fact that not all subjects can be predicated upon; the possibility of predication appears to depend on their thematic nature (see 1.2.2 below). It might be, then, that resultative predicates can be linked only to themes, while depictive ones accept a wider range of subjects. As far as I know, the fact that resultatives can be predicated only of lexically internal arguments was first noticed by Simpson (1983).

2. Stative adjectives contrast with non-stative or imperfective adjectives (Lakoff 1970) which, unlike the former, cannot appear, for instance, in the context of imperative and progressive verbs:

- (i) Estáte *tranquilo/contento* [-stative]
'Be quiet/happy'
- (ii) Estando Juan *contento*, llegaron sus primos
'Juan being happy, his cousins arrived'
- (iii) *Sé mortal
'Be mortal'
- (iv) *Estando Juan mortal, llegaron sus primos
'Juan being mortal, his cousins arrived'

3. Contrary to what is normal in other languages, for instance English, resultative predicates form a very small set in Spanish. Consequently, typical English constructions like *They shot him dead* or *I cried my eyes red* must be translated using a long paraphrase: *Le dispararon hasta que se murió* ('He was shot until he was dead') or *Lloré hasta que los ojos se me pusieron rojos* ('I cried until my eyes became red'). The opposite of Spanish is Icelandic, where resultative predicates form a compound word with the verb.

4. The notion of contiguity is not a theoretical term defined by a given framework. The concept of adjacency articulated in Case theory (Stowell 1981; Chomsky 1981) as well as that of the immediate constituent of structural grammar have a "family resemblance" with our contiguity, but they have different ranges and implications.

5. A clarification regarding the data seems to be necessary at this point. First, when any of the two constituents of the predication relation is "heavy", its location in final position is obviously to be preferred, regardless of the argumental nature of closer constituents. Observe (i) and (ii):

- (i) Juan encontró roto en la terraza [el libro que le trajo su hermano de México]
'Juan found torn in the terrace the book that his brother brought (to) him from México'
- (ii) María encontró a Enrique en el parque [harto de esperar a la mujer con la que estaba citado]
'María found Enrique in the park tired of waiting for the woman with whom he had an appointment'

Second, all the constructions with the predicate in final position that are ruled out as ungrammatical, (6d) for instance, become grammatical when a strong comma intonation precedes such a predicate. The usual hypothesis is that these constructions should receive a different analysis.

6. Luján (1980), who introduces the first exhaustive analysis of this construction in Spanish,

observes also that there are certain subclasses of adjectives – those which denote the physical properties of color, shape, and size – that are not easily available in these structures.

7. I owe this observation to a TLR reviewer.

8. See Rogers (1971) for a similar observation regarding perception verbs. See also Demonte (1988), where this distinction is tested among two subclasses of psychological and perception verbs and where syntactic proofs are exhibited to show that this distinction is linguistically relevant.

9. Apart from this statement of similarity (to which we will briefly come back at the end of this work when justifying the rule or reanalysis) we will not pursue in this paper any systematic comparison between object secondary predicates and subcategorized small clauses, however interesting such a comparison could be. There is a basic theoretical reason for this departure from a comparative approach; in fact, given the Projection Principle, there is no principled way to collapse the two kinds of phenomena, since these small clauses are s-selected or subcategorized constituents while secondary predicates are adjuncts.

10. The symbol # indicates that the sentence is grammatical in the interpretation that takes the first adjective as a modifier of N.

11. The co-occurrence of the two types of predicates causes ungrammaticality in passive sentences. Observe:

- (i) **La carne_i debe ser servida_j pasada_i [por el vecino_j] contrariado_j*
 'The meat must be served overcooked by the neighbor disturbed'
 (ii) **El coche_i debe ser devuelto_j arreglado_i [por el mecánico_j] tranquilo_j*
 'The car must be returned repaired by the mechanic calm'

The reason for this ungrammaticality can be traced back to properties of passive morphology (Demonte 1986, 1987).

12. Rothstein (1983) observes that sequences of two depictive predicates are possible in English: *They eat the meat raw tender*; as well as those of a resultative followed by a depictive: *We hammered the metal flat hot*. Constructions with a depictive followed by a resultative are not possible, though: **We hammered the metal hot flat*. Based on this formal contrast, and in a hypothetical closer relation between verb and adjective in resultative constructions, she claims that two different underlying structures for the two subclasses of predicates should be postulated.

13. Rothstein (1983) and Schein (1982) also assume mutual c-command between subjects and predicates. Nevertheless, the general framework and the premises on which the two works are based are different. More important, in footnote 1 of his 1980 work, Williams suggests that c-command could be interpreted as mutual for predication. Since he does not seem to take a clear position on this matter and, moreover, in the formulation of his predication rule (see (7) and (8) in Williams 1980:205) he refers only to c-command of the NP over its predicate, I talk of an "alternative" to his analysis. Obviously, this work is within the spirit of Williams' approach, although I add crucial linguistic material which allows me to clarify the issue.

14. In Demonte (1987), it is thoroughly argued that the structural notion of c-command is empirically superior to an alternative functional-semantic notion in order to predict possible configurations of adjectival predicates. The argument in that work is based on the wayphrases with dummy and true prepositions are treated by the ECP.

15. Another pending problem is whether manner and instrumental adverbials are VP adverbials. Some authors, based on ECP effects, characterize them also as S-adverbials.

16. Recall that α dominates β iff every segment of α dominates β .

17. I prefer to use a determined NP instead of a determinerless one, because in this last context predication is not possible:

- (i) a. #*Comió frutas maduras*
 'He ate ripe fruits'
 b. #*Compró coches viejos*
 'He bought old cars'

An explanation for this lack of predication can be found in Belletti (1986).

18. But see Demonte (1987) for further details.

19. In Demonte (1986), it is argued, in fact, that this argument holds only if a strategy of case assignment through "transmission" from *pro* is established for passive sentences with inverted subjects. This strategy will be alternative to nominative case assignment after movement of the internal argument to the external position, and it will apply in pro-drop languages (Demonte 1986: section 3.2).

20. I owe this observation to N. Chomsky (personal communication).

21. This observation, however, needs thorough investigation. In fact, Reinhart (1983) sets out different structures for VP and sentential adverbs. In some of them a c-command requirement does hold. Longobardi (1985a), on the other hand, assumes all the adverbials to be immediately dominated by S.

22. Actually, Jackendoff (1972) and Zubizarreta (1982) distinguish between speaker-oriented adverbs, (like (37a) and that in 'Evidently, Frank is avoiding us') and subject-oriented adverbs (like that in 'Carefully, John poured the milk into the pan'). I treat both subclasses as a single one mainly because they share the syntactic property of not being extractable, unless one interprets the subject-oriented adverbs as a manner adverbial.

23. I owe this example to G. Longobardi (personal communication).

24. Van Riemsdijk (1978) is, to my knowledge, the first who proposed restricting the rule of reanalysis to elements which could be analyzed as semantically possible although actually unrealized words. (See Hornstein and Weinberg 1981 for an interesting new articulation of this idea.)

Belletti (1986) suggests that the semantic constraint which allows reanalysis is based on the way in which the compositional assignment of the external theta-role is affected by the reanalyzed sequence. If this were the case, it might be expected that reanalyzed structures select different subjects than the non-reanalyzed ones. We have not found relevant data to corroborate this suggestion, however.

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