



C-Command, Prepositions, and Predication

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C-COMMAND, PREPOSITIONS,
AND PREDICATION
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In his formulation of the theory of predication Williams (1980) argues that this basic grammatical relation is governed by very strict structural conditions, among them (crucially) the C-Command Condition. More specifically, Williams states (I) that the NP must c-command and be c-subjacent to the modifying AP, and (II) that if X is in the VP, then X is predicated of the theme of V.

The relevance of c-command for predication has been called into question. Bresnan (1982), for instance, argues that the functional condition of object and subject—and not the relation between their constituent structure positions—is the one that predicts the right configurations of control (predication among them). Moreover, Zubizarreta (1985) claims that it is the notion "semantically unrestricted" that is relevant in establishing predication relations. According to Zubizarreta, "a predicate adjective can be predicated of an NP if the NP is contained in a semantically unrestricted grammatical position" (p. 251).

At first, the structural and the functional-semantic hypotheses are empirically equivalent. In fact, both predict that subjects and objects will be the only NPs chosen to receive a predicative adjective. Under the c-command hypothesis this would hold because the NPs in those functions are not con-

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tained within a PP. Under Bresnan's and Zubizarreta's hypothesis the prediction follows because subject and object are the only two functional positions in which various θ -roles can be assigned. For this reason, a crucial test can be provided by languages with prepositional objects and/or prepositional agents. In seeking such evidence, Bresnan (and later Zubizarreta) makes an argument in favor of her hypothesis on the basis of the behavior of the dummy prepositions *a* 'to' and *por* 'by' of Spanish.

The aim of this squib is mainly to show that this argument against the C-Command Condition in predication cannot be regarded as decisive if we consider how the phrases with one of these dummy prepositions are treated by the Empty Category Principle (ECP). The discussion will also shed some light on the puzzling categorial nature of the preposition *a* 'to' of the indirect object and on certain properties of *por* 'by' in passive constructions.

The conclusion that c-command is superior to "semantically unrestricted" or to "functional position" does not imply that semantic constraints do not play any role in predication. Williams's condition (II) illustrates the relevance of semantic constraints, as do the facts that selectional restrictions hold between verbs and object-oriented predicates (Simpson (1983), Demonte (1985)) and that "affectedness" is a factor constraining resultative predicates in English (Simpson (1983)).

1. Dummy and True Prepositions

1.1. The Dummy Preposition *a*

The interesting piece of evidence introduced in Bresnan (1982) and Zubizarreta (1985) is the occurrence of predicative adjectives predicated of NPs preceded and governed by dummy prepositions. One of these prepositions is the *a* 'to' that precedes both animate direct objects in Spanish and the dative argument in the Romance causative construction. Bresnan (1982) states that in a sentence like (1) the animate object should not be a possible controller:

- (1) Juan la encontró a *María borracha*.
'Juan (her) found (to) Maria drunk.'

The reason would be that this NP, being the object of a preposition, does not c-command the predicate. However, the sentence is grammatical, and Bresnan claims that the functional notion OBJ predicts the right configuration. Actually, in (2) predication will not be possible because the subject of the predicative is OBL:

- (2) *Juan le habló a *María borracha*.
'Juan (her) spoke to Maria drunk.'

In a similar sense, Zubizarreta states that predication is ruled out in (2) and not in (1) because the former, but not the latter, is a semantically restricted position. She thus implies, again, that *c*-command cannot hold in these constructions.

My contention, however, is that such a claim and such an implication do not hold and that it can be shown that certain dummy prepositions, the *a* cases, do not count for *c*-command since they do not form true PPs in Spanish.

My argument will involve extraction of complements out of PPs and pseudo-PPs in Spanish. But before I introduce the relevant examples in (8) and (10), two observations are in order. The first concerns the nature of the data to be provided, the second the assumption that indirect objects are PPs in Spanish.

1.1.1. The Extraction Data. The extractions that I will present in (8) and (10) are allowed by the Condition on Extraction Domains (Huang (1982)) since the *wh*-element is moved out of a lexically governed constituent (where I take lexical government as belonging to the θ -grid of the verb). More specifically, the domains out of which extractions will be made are indirect objects (8a–b), subcategorized PPs (8c), and direct objects (10a–b)—in other words, arguments that are θ -marked by the main verb. I add to them the constituent θ -marked by the restructured complex Causative + V, (10c).

All extractions will be out of single sentences. Extraction of complete direct objects, indirect objects, subcategorized PPs, and complements of the restructured causative complex gives grammatical results:

- (3) a. *¿Qué libro_i le regalaste e_i a mi hija?*
 ‘What book did you give to my daughter?’
 b. *¿A qué hija_i viste e_i en la Feria de Sevilla?*
 ‘(To) what daughter did you see at Seville’s Fair?’
 c. *¿A qué hija_i le regalaste un libro e_i?*
 ‘(To) what daughter did you give a book?’
 d. *¿En qué garaje_i metió Juan el coche e_i?*
 ‘In what garage did Juan keep the car?’
 e. *¿A qué tenor_i hizo cantar el director e_i?*
 ‘(To) what tenor did the conductor make sing?’

The *wh*-PPs fronted in (8) and (10) are all complements of N and are governed by it, but it is not clear whether they receive a θ -role or not. Actually, nouns like *garaje* ‘garage’, *hija* ‘daughter’, *libro* ‘book’, *tenor* ‘tenor’ do not assign θ -roles. But it is also true that these NPs are in a certain sense analogous to those NPs in which a subject is assumed to occur (such as *la invención de Edison* ‘Edison’s invention’) in the sense that a relation of agentivity or possession is implied in structures like *la hija de mi amigo* ‘the daughter of my friend’ or *el garaje de mi primo* ‘the garage of my cousin’.

1.1.2. Indirect Objects. Crucial for the main point of this squib is the assumption that indirect objects in Spanish are PPs or, more strictly, that the *a* of the dative argument counts as a true preposition and not as a mere Case marker devoid of semantic and structural import. If the first idea is correct, then, the *a* of the dative prepositional phrase will be equivalent to *con* 'with', *sobre* 'on', and all semantically full prepositions that assign inherent Case and θ -role. If the second is correct, then this *a* will be equivalent to the *a* preceding the animate direct object, which is a mere structural Case marker. The first idea is defended by Jaeggli (1982), following Vergnaud (1974). The second is suggested by Grimshaw (1982) and is argued for with regard to Italian by Giorgi (1984). In all cases the controversial nature of the point is also attested.

Given the evidence and analyses available at present, I believe the correct generalization to be that this element has a mixed and problematic status and that it can act both as a true preposition and as a mere Case marker, depending on still ill-understood constraints. However, certain consistent patterns of behavior do appear to emerge, allowing us to reach a first tentative generalization.

To prove this, I will consider three arguments: a test of a categorial nature, binding theory effects, and predicational behavior. In all cases I will compare the *a* of the indirect object with that of animate direct objects and with true prepositions.

The conjunction test used by Vergnaud and Jaeggli (whose implication is that structural Case markers cannot be omitted whereas elements assigning inherent Case can) gives a systematic result. In fact, the *a* preceding the animate direct object cannot be omitted at all, (4a), the *a* of the indirect object can, depending on lexical factors, (4b–c), and true prepositions are totally optional, (4d):

- (4) a. **Visité a mi hermana y la tía Enriqueta.*
'I visited my sister and aunt Enriqueta.'
- b. ??*Les compraron una casa a María y el director.*
'They bought a house for Maria and the director.'
- c. *Regalé los cuadros de la herencia a mi hermana y tía Enriqueta.*
'I gave the inherited pictures to my sister and aunt Enriqueta.'
- d. *Visité la exposición con mi hermana y (la) tía Enriqueta.*
'I visited the exhibition with my sister and aunt Enriqueta.'

If we consider binding theory effects, a homogeneous pattern also appears. In fact, the *a* of the indirect object does not block

c-command in relevant cases. Neither in (5a), the case of a direct object antecedent of the anaphor, nor in (5b), where the c-commanding element is in the indirect object, is the lexical NP restrained from c-commanding the anaphor:

- (5) a. El tratamiento psiquiátrico reintegró a *María_i* a *sí misma_i*.
 ‘The psychiatric treatment brought back Maria to herself.’
 b. ?El tratamiento psiquiátrico reintegró a *sí misma_i* a *María_i*.¹
 ‘The psychiatric treatment brought back herself to Maria.’

Moreover, the same preposition appears not to block c-command in bound pronoun constructions, contrasting in this sense with true prepositions.² Compare (6a) to (6b):

- (6) a. El profesor le entregó *su_i* dibujo preferido a *cada niño_i*.
 ‘The teacher gave his preferred picture to each child.’
 b. *El profesor pegó *su_i* dibujo preferido con *cada niño_i*.
 ‘The teacher posted his preferred picture with each child.’

As for predication, sentences (1) and (2) can be used to show that there is a contrast between the *a* of the direct object and the *a* of the indirect object with regard to their capacity to block c-command. However, they also provide the basis for an argument in favor of an alternative semantic or functional approach. More crucial, then, are those sentences in which the same affected theme NP can appear either as a direct object of a transitive verb or as a dative complement. The second option shows up when the idea transmitted by the transitive verb is expressed through a predicate formed with a “support” verb followed by an object noun: *azotar* ← *dar azotes* ‘to beat’, *apalelear* ← *pegar palos* ‘to thrash’. Observe now how predication is realized in both types of structures:

- (7) a. Pedro no (*la*) azota a *su mujer sobria*, *la* azota *borracha*.
 ‘Pedro does not beat his wife sober, he beats her drunk.’
 (cf. Pedro no *la* azota sobria, *la* azota *borracha*.)

¹ Similar sentences are provided by Giorgi (1984).

² These sentences were brought to my attention by an anonymous LI reviewer.

- b. ??Pedro no *le* da azotes *a su mujer sobria*, se los da *borracha*.
 ‘Pedro does not give lashes to his wife sober, he gives (to her) them drunk.’
 (cf. *Pedro no *le* da azotes *sobria*, se los da *borracha*.)

The fact that predication is avoided in the construction in which the affected NP becomes a dative, (7b), could suggest, first, that the constraint that underlies this process is of a structural nature and, second, that the categorial condition of the constituent in which the affected NP is located is probably not the same.

In short, different kinds of data provide contradictory results with regard to the prepositional nature of the *a* in the dative complement. Obviously, these results call for a thorough explanation, which would take us far beyond the purpose of this squib. Nevertheless, I propose as a provisional hypothesis that in those constructions in which semantic constraints act together with formal ones the speaker will interpret *a* as a true preposition with θ -marking and Case-assigning properties.³ This is the case of the predication and conjunction structures. When the process is independent of thematic factors, as in binding configurations, *a* can act as a bare Case marker.

Now, if the preceding idea is tenable, we can maintain Jaeggli’s assumption that dative complements in Spanish are PPs. And we can return to the core of the discussion in which another thematically related process, the ECP, is taken into consideration.

1.2. The ECP

Consider now (8a–c), which show that extraction of PPs out of dative complements and subcategorized PPs gives rise to unacceptability:

- (8) a. *¿De qué amiga_i le regalaste un libro [a la hija e_i]?
 ‘Of what friend did you give a book to her daughter?’
 b. *¿De qué tienda_i le compraste un piano [al dueño e_i]?
 ‘Of what store did you buy a piano from the owner?’
 c. *¿De qué primo_i metió Juan el coche [en el garaje e_i]?
 ‘Of what cousin did Juan keep the car in the garage?’

³ As far as I know, Giorgi (1984) is the first to connect the properties of θ -marking with those of being a barrier for c-command.

This ungrammaticality might be attributed to what at a given period of generative grammar was established as the A-over-A Condition. Namely, these constructions might be ruled out because a PP is extracted out of another PP (Kayne (1975)).

However, the correctness of this account is doubtful given (9a–b), which show that extracting even an NP out of the complement to a preposition results in ungrammaticality:

- (9) a. ?*Who did you give a book to a friend of t?
 b. ?*Who did you put a frame on a picture of t?⁴

Next compare (8a–c) to (10a–c). (10) shows that the sequence *a* + NP of causative sentences, (10c), forms a natural class (with regard to extractions) with bare direct objects, (10a), and with the animate direct objects preceded by the dummy preposition *a* in Spanish, (10b):

- (10) a. *¿De qué escritora_i le regalaste [un libro e_i] a mi hija?*
 ‘Of what writer did you give a book to my daughter?’
 b. *¿De qué amigo_i entregaste [a la hija e_i] a la policía?*
 ‘Of what friend did you give away his daughter to the police?’
 c. *¿De qué coro_i el director hizo cantar [al mejor tenor e_i]?*
 ‘Of what chorus did the conductor have the best tenor sing?’

Without resorting to the A-over-A Condition, various accounts of the contrast between (8) and (10) might now be conceived. They will depend to a certain extent on the answer to the open question of the relation between the NP and its complements and the nature of certain heads as proper governors.

Suppose that the extracted PPs are not lexically governed and that the ungrammatical sentences are ruled out by the ECP. If their traces are not lexically governed, they would have to be antecedent-governed to form a licit configuration. Since extractions out of NPs are licit in Romance languages (Cinque (1980)), we could attribute the contrast between (8) and (10) to the fact that NPs are not absolute barriers to antecedent government but that PPs are. The traces of (10), then, would be licit because they would be governed by an antecedent, but those in (8) would not. A similar way in which the ECP can rule out (8a–c) but not (10a–c) is based on the assumption (Kayne (1981)) that prepositions are not proper governors. This assumption again predicts a difference between PPs within NPs

⁴ This point was suggested to me by an anonymous LI reviewer.

and PPs within PPs independently of whether the Ns in (10) θ -mark their complements or not.

To return to my central point, then, the contrast between (8) and (10) seems to suggest that a distinction between true PPs and pseudo-PPs (= NPs) should be made in the grammar of Romance languages. If my reasoning is appropriate and if, consequently, the *a* + NP sequences of (10) are NPs, the notion of c-command will explain why predication is possible in (11), a causative construction, whereas it is impossible with indirect objects, as in (12) (and (2)):

- (11) Juan (la) hizo bailar a *María desnuda*.
 Juan her had dance to Maria naked
 'Juan had Maria dance naked.'
 (12) *Joaquín le regaló un reloj a *Carmen enfadada*.
 'Joaquín gave a clock to Carmen angry.'

The correlation between the possibility of extraction and the possibility of predication also holds quite strictly in the causative sentences in which the insertion of a preposition is obligatory in all the Romance languages, namely, in those constructions in which the restructured verb takes a direct object and the underlying subject appears after the object preceded by a (Rouveret and Vergnaud (1980)):

- (13) a. ??¿*De qué escuela_i* la maestra les hizo pintar casitas [a los niños *e_i*]?
 'Of what school did the teacher make the children paint little houses?'
 b. ?El director le hizo cantar canciones a *la soprano borracha*.
 'The conductor had the soprano sing songs drunk.'

These sentences are not totally acceptable, but they are slightly better than the similar ones with indirect objects (see (14)), suggesting that it is the presence of a preposition blocking a structural relation and not the semantic value of the position that is relevant for predication:

- (14) a. *¿*De qué escuela_i* el director les regaló libros [a los niños *e_i*]?
 'Of what school did the director give books to the children?'
 b. *El director le regaló libros a *mi prima contenta*.
 'The director gave books to my cousin happy.'

Up to this point, then, the functional-semantic notion seems to be simply an additional notion that, although apparently covering the same range of data, is clearly not superior to the c-command account of this grammatical relation.

2. Predication and *por*

Finally, Bresnan and Zubizarreta refer to another semantically unrestricted preposition that appears in constructions with secondary predicates, the *by* (*por* (Spanish), *par* (French)) of passive *by*-phrases. Example (15) is from Zubizarreta (1985):

- (15) Ces vers ont été recités par Marie complètement sôule.
 ‘These poems have been recited by Marie completely drunk.’

The argument against the use of sentences like (15) as counterexamples to the use of *c-command* in predication is complex. But I will attempt to summarize it in a few lines.

Compare the following Spanish sentences:

- (16) a. Esa carrera puede ser ganada incluso borracho.
 ‘This race can be won even drunk.’
 b. *La carrera puede ser ganada por Eddy Merckx exhausto.⁵
 ‘The race can be won by Eddy Merckx exhausted.’
 c. La carrera puede ser ganada por Eddy Merckx(.) completamente exhausto.
 ‘The race can be won by Eddy Merckx completely exhausted.’

First, note that *por*-phrases pattern like true PPs with re-

⁵ As observed in Demonte (forthcoming) (and pointed out by an anonymous LI reviewer), agent-oriented predicatives appear only in passives with a modal verb, or in clauses with generic interpretation. Actually, predication does not seem to be possible in bare passives in Spanish (and the same appears to be true for English):

- (i) a. *La carrera fue ganada borracho. (cf. (16a))
 *The race was won drunk.
 b. *La carrera fue ganada por Eddy Merckx exhausto. (cf. (16b))
 *The race was won by Eddy Merckx exhausted.

There are two possible explanations for the ungrammaticality of (ia–b). It might be that passive morphology itself bears a generic interpretation—that it is equivalent to *one* and that it consequently selects a modal context (this was suggested to me by N. Chomsky). A second possibility is to propose (in line with Rizzi’s (1986) analysis of empty objects in Italian) that passive morphology identifies a small *pro* with a generic interpretation, licensed by a modal verb, inside the VP. The English equivalents of the Spanish examples (ia–b) can be improved by changing the modality or adding generic NPs as in (iia–b):

- (ii) a. ?That race could even be won by someone exhausted.
 b. ?That race could even be won exhausted.

But ‘genericity’ is not enough to explain predication in passives, at least not in Spanish. Sentences like ??*La carrera puede ser ganada por alguien borracho* ‘The race can be won by someone drunk’, where the generic is expressed in the *por*-phrase, are slightly worse than (16a).

gard to extraction; that is, questions like *¿De qué amigo_i fue cantada la canción [por la hija e_i]? ‘Of what friend was sung the song by the daughter?’ are completely ungrammatical. Given this, the relevant contrast is that between (16a) and (16b). (16a) shows that predication is possible in certain passive configurations and (16b) that it is impossible in others. The explanation proceeds smoothly if we assume—in line with the analyses of Baker, Johnson, and Roberts (1985) and Jaeggli (1984)—that the passive morpheme is an explicit argument that c-commands the predicate adjective in (16a). If we also assume that argumenthood is transmitted to the NP in the *by*-phrase (Demonte (forthcoming)), it will be clear why predication is ruled out in this case: the NP is protected by a maximal projection and does not c-command an adjective outside its maximal projection. From this reasoning, it follows that the final constituent of (16c) is not a predicate adjective but probably an adverbial or appositive phrase. (Evidence for this analysis will be provided by the fact that the adjective phrase must be a heavy constituent and by the speaker’s preference for an intonational break before such a phrase.)

An alternative to this analysis—which will account for the dialects with the predication reading and at the same time for the requirement of heaviness—will be to assume that in (16c) the c-commanding element for the predicate adjective is the head of the [-en_i by NP_i] \bar{A} -chain, which as a whole will bear argumenthood. The processing difficulty and the heaviness requirement will follow from the fact that something is interpolated between a subject and a predicate, thus violating a “contiguity” requirement that seems to be characteristic of this construction (Demonte (1985)).

Now, if my reasoning is correct, it would imply that the structural notion of c-command is not only empirically equivalent but in fact probably superior to functional-semantic notions in its capacity to predict possible configurations of predicate adjectives.

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*THEY HELD EACH OTHER'S BREATH
AND OTHER PUZZLES FOR THE
BINDING THEORY*

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In this squib I will present data that pose numerous puzzles for the binding theory if one assumes that indices must simultaneously express the relation of "binding" in a particular domain and the relations of "coreference," "disjoint reference," and "overlapping reference." Some of these data are well known, namely, cases involving so-called split antecedents and overlapping reference (Higginbotham (1983), Lasnik (1980), Chomsky (1981), Farmer and Harnish (to appear), Farmer (1984)). However, other examples do not have such a high profile in the literature. These cases strongly suggest that the binding theory needs to be changed along various lines; in particular, the role of indices needs to be refined. This conclusion is neither novel nor surprising, but the data presented here provide cogent evi-

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