

OPERATORS, CLAUSE-BOUNDEDNESS AND FINITENESS IN ENGLISH VS. ROMANCE PARASITIC GAP CONSTRUCTIONS

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Abstract

Romance parasitic gaps constructions display a tensed/non-tensed asymmetry notably lacking in their English counterparts. Evidence from 'tough' and parasitic gap constructions shows that an analysis relying on the idea of movement of a null operator to the [Spec,CP] of the adjunct clause, as posited by Chomsky (1986) for English, must be rejected for Romance. In this paper I claim that the difference between English and Romance stems from the different nature of the null operator structure underlying the parasitic gap constructions and the interaction of a null and a temporal operator.

1. INTRODUCTION

The phenomenon of parasitic gaps has become one of the most discussed topics in generative grammar over the last decade. Their systematic distribution and the fact that they constitute a peripheral phenomenon makes them highly interesting. Because the language learner does not have any direct evidence of the existence of these gaps, their distribution is likely to reflect general principles of Universal Grammar.

The parasitic gap phenomenon may be illustrated by the well-known example in (1). Besides the gap created by wh-extraction, indicated by 't', there is a second gap, indicated by 'e' which is parasitic on the first one:

- (1) Which articles_i did you file t_i without reading e_i?

In (1) both 't' and 'e' are understood as being linked to 'which articles', and NP in a non-argument (A') position. The reason for calling 'e' parasitic on the trace is that its occurrence is indeed dependent on the trace. Consider the examples in (2)¹:

- (2) a. *Anne filed these reports without reading e
 b. *Which reports did Anne go home without reading e?

(2a) shows that 'e' is not licensed if its antecedent is in a non-moved argument position, whereas (2b) shows that extraction from the position of 'e' itself is not allowed.

Romance parasitic gap constructions display a tensed/non-tensed asymmetry notably lacking in their English counterparts, as illustrated by the Spanish/English contrasts in (3) and (4):²

- (3) a. ¿[Qué artículos]_i archivaste t_i después de leer e_i?
 b. *¿[Qué artículos]_i archivaste t_i después de que leíste e_i?

- (4) a. [Which articles]_i did you file t_i without reading e_i?
 b. [Which articles]_i did you file t_i after you read e_i?

I will claim in this paper that this difference between the two languages stems from the different nature of the null operator structure underlying the parasitic gap constructions and the interaction of the null operator (Op) with a second tensed operator in the adjunct clause where the parasitic gap appears.

2. CLAUSE-BOUNDEDNESS AND THE NATURE OF THE NULL OPERATOR

As is well-known, Chomsky (1986) proposed an analysis of parasitic gap constructions based on the idea of movement of a null operator within the adjunct clause to [Spec,CP] of that clause. This operator then enters into a composed chain with the overt licensing operator ('which articles' in (6) below). A similar null operator analysis is proposed by Chomsky (1981, 1986) for so-called 'tough' constructions. These analyses are illustrated in (5) and (6) for English:

- (5) This book is difficult to convince students to read.
 [This book]_i is difficult [_{CP} Op_i [PRO to convince students [_{CP} t'_i [PRO to read t_i]]]]

(6) Which articles did you put on reserve without convincing the students to read?

[Which articles]_i did you put [e]_i on reserve [without [_{CP} Op_i [PRO convincing the students [_{CP} t'_i [PRO to read t_i]]]]]

(5) and (6) illustrate successive movement of the null operator from a more deeply embedded clause to the highest [Spec,CP]. Now, as is well known, Romance 'tough' constructions are clause-bounded, a feature which carries over to parasitic gap constructions, as shown in (7):³

- (7) a. *Ese libro es difícil de convencer a los estudiantes de leer.
- b. *Qué artículos pusiste en reserva sin convencer a los estudiantes de leer?

If parasitic gap constructions and 'tough' constructions in Romance languages are analyzed as movement of a null operator, as in English, it is rather unexpected that the long-distance dependencies illustrated in (5) and (6) are ungrammatical in those languages.

In the light of the locality constraints evidenced in these constructions by the Romance languages, I propose that there is an important difference in the nature of the null operator in English and its counterpart in Romance. In Romance, the null operator is base-generated in [Spec,CP]. At D-S this operator lacks an index, given that it is generated in an A' rather than in an A-position. Assuming that the null operator, like other empty categories, must be licensed and identified, I posit the following condition on null operator indexing (along the lines of Stowell 1985):

(8) Condition on Null Operator Indexing (CNOI)

A null operator α receives an index if

- (i) α is head-governed by β , β a lexical head, and
- (ii) α is identified by a coindexed category XP, where XP is subjacent to α

Thus, the null operator is licensed by means of head-government and identified by a coindexed category. As for the empty category in object position bound by the null operator, I propose, following Cinque (1990), that it is *pro* (a pronominal variable). This *pro* must be identified in its own clause, since in all cases identification obeys subadjacency, hence the clause-boundedness effect. This analysis is illustrated in (9):⁴

(9) a. [Este libro]_i es [_{AP} difícil de [_{CP} Op_i [PRO leer pro_i]]]

 b. [Qué artículos]_i archivaste t_i ^{base-generated} después de [_{CP} Op_i [_{IP} PRO leer pro_i]]]]

base-generated

The essential insight behind this analysis is that languages which otherwise license *pro* in object position, as do Romance languages, will also have *pro* in parasitic gap and ‘tough’ constructions and hence display clause-boundedness. English, which does not have recourse to this empty category, can only use a strategy based on movement of a null operator base-generated in an A-position, and so has cases of long-distance dependencies as in (5) and (6).

3. FINITENESS IN PARASITIC GAP CONSTRUCTIONS

To answer the question as to why Romance and English display the contrast seen in (3) vs. (4), let us turn first to the Romance data. The relevant structures for the data in (3) are given in (10):

- (10) a. [Qué artículos]_i archivaste [e]_i [_{pp} después de [_{CP} Op_i [PRO leer *pro*]]]]
 b. *[Qué artículos]_i archivaste [e]_i [_{pp} después de [_{CP} Op_i que [leiste *pro*]]]]

At first, it would seem that the contrast between (10a) and (10b) can be explained in terms of the number of barriers separating the null operator and the identifying XP in the matrix [Spec,CP] position. In both (10a) and (10b) the adjunct PP, as a non L-marked category, is a blocking category and a barrier. We assume that this PP, as an adjunct, is adjoined to VP. Now in (10a) only the PP is a barrier; the VP does not dominate PP, since not all segments of VP dominate PP. Further, the matrix IP, although a blocking category, is not a barrier because it is not an inherent barrier and it does not directly dominate a blocking category, since a segment of VP intervenes between the IP and the PP. Thus, in (10a) there is one barrier between the null operator and the overt operator; subjacency is respected and identification proceeds without problem. What about (10b)? Suppose, following *Barriers*, that tensed CP is an inherent barrier.⁵ Then in (10b) there are two barriers between the null operator and its potential identifier, so the condition in (8) is not met and the structure is ruled out. The problem with this account, of course, is that it incorrectly predicts that the English equivalent of (10b) should also be ungrammatical.

Note that in all examples of English tensed adjunct clauses with parasitic gaps, the adjuncts are headed by temporal prepositions such as ‘before’ and ‘after’. Larson (1990), following work by Geis (1970), has proposed that such clauses contain a null temporal operator which binds a variable within the adjunct clause. Thus, a sentence such as (11) is ambiguous, with the two possible readings corresponding to the representations in (12):

- (11) Liz left before you said she had (example from Johnson 1988)

- a. Liz left before the time of your saying she left
 b. Liz left before the time which you said she had left at

- (12) a. Liz left [_{pp} before [_{cp} Op_i [_{ip} you said [_{cp} she had] e_i]]] (= 11a)
 b. Liz left [_{pp} before [_{cp} Op_i [_{ip} you said [_{cp} she had e_i]]]] (= 11b)

In (12a) the temporal operator binds a variable in the 'said' clause whereas in (12b) the operator binds a variable in the more deeply embedded clause. Larson points out that these null operators are subject to island effects, suggesting that they move to the highest [Spec,CP] of the adjunct clause between D-Structure and S-Structure. In (13), for example, it is not possible for the temporal preposition to be construed with the clause occurring inside the complex noun phrase. The only possible interpretation is that where 'before' picks out times prior to the moment when Mary made her claim; (13) cannot be interpreted with 'before' picking out times prior to her arrival (cf. Johnson 1988):

- (13) I saw Mary in New York [before [she made [the claim [that she had arrived]]]]

Suppose now that in all adjuncts headed by temporal prepositions, there is such a temporal operator, which I will informally call a Geis operator (cf. Johnson 1988). (It can be noted that the Spanish equivalent of (11) has the same ambiguities as its English counterpart). Recall further that the parasitic gap null operator in Romance, but not in English, is base-generated in [Spec,CP]. In Romance, then, when the Geis operator moves between D-S and S-S, it will not be able to move to [Spec,CP], since this position is already occupied, and so it only has the option of adjoining to CP. This is illustrated in (14), where Op_G is the Geis operator:

- (14) [Qué artículos]_i archivaste [después de [_{cp} Op_G [_{cp} Op_i que [leíste pro_i [e]_G]]]]

Assuming, as I did before, that tensed CP is a barrier, the parasitic gap null operator is still separated from its potential binder by two barriers, and so the structure is ruled out. Now, if an English sentence such as (4b) had the same structure, it would also be ruled out. However, in English but not in Romance, there is an alternative derivation. Suppose that the Geis operator moves first to the [Spec,CP] position. Then the parasitic gap operator will have to adjoin to CP, since the position it would otherwise move to is filled. This alternative is illustrated in (15):

- (15) [Which articles]_i did you file [after [_{cp} Op_i [_{cp} Op_G [you read [e]_i [e]_G]]]]

In (15) the parasitic gap operator, having adjoined to CP, is not dominated by CP since not all segments of CP dominate it. Thus, the only barrier between the null operator and its identifier, as in the case of tenseless clauses, is the adjunct PP. Thus, adjunction to CP is in a sense an escape hatch for the English null operator. This option is unavailable in Romance because the null operator does not move between D-S and S-S but is, rather, base-generated in [Spec,CP], leaving the structure in (14) as the only option.

Consider finally the case of tensed adjunct clauses without a temporal operator, as in (16):

(16) a. ¿Qué artículos archivaste sin leer detenidamente?

Which articles did you file without reading carefully?

b.* ¿Qué artículos archivaste sin que los estudiantes leyeran detenidamente?

*Which articles did you file without the students reading carefully?

The structure in (16) is essentially that of (10b), as shown in (17), with two barriers between the null operator and its identifier:

(17) [Qué artículos]_i archivaste [e]_i [_{PP} sin [_{CP} Op_i que [los estudiantes leyeran pro_i]]]

The English equivalent of (16b) is simply unavailable, since for independent reasons English disallows clause complements to prepositions if the clause lacks a temporal operator (cf. Kempchinsky 1992).

4. CONCLUSION

In summary, then, I have shown that the analysis extending the standard movement of a null operator to [Spec,CP] in parasitic gap and 'tough' constructions in English to the same constructions in Romance must be rejected. By claiming that Romance languages have a base-generated null operator binding *pro*, I correctly predict the clause-boundedness found in both parasitic gap and 'tough' constructions. I have also shown that the base-generated vs. movement analysis interacts in a very interesting way with the temporal properties of the adjunct clause and I have provided a solution to the difference in finiteness between English and Spanish in parasitic gap constructions.

Footnotes

1. The use of an asterisk indicates that the sentence is ungrammatical.
2. Researchers do not agree on the effect of tense on English parasitic gaps. Stowell (1985) argues that parasitic gaps show no tense effect, while Frampton (1990) claims that parasitic gaps in tensed clauses are more marginal than those in infinitival clauses. Nevertheless, the effect of tense on Romance parasitic gaps seems much more marked.
3. Relevant data of 'tough' and parasitic gap constructions in other Romance languages:

'Tough' Constructions

- | | | |
|-------|------------|--|
| (i) | French | Ce livre est facile á lire.
*Ce livre est facile á persuader les jeunes de lire. |
| (ii) | Italian | Il libro é facile da leggere.
*Il libro é facile da convincere la gente da leggere. |
| (iii) | Portuguese | O livro é facil de ler.
*O livro é facil de convencer as pessoas de ler. |
| (iv) | Romanian | Cartea este usor de citit.
*Cartea este usor sa convingi oamenii de citit. |

Parasitic Gap Constructions

- | | | |
|-------|------------|--|
| (i) | French | Quel article avez-vous classé sans lire?
*Quel article avez-vous classé sans convaincre le jens du lire? |
| (ii) | Italian | Quale articolo hai catalogato senza leggere?
*Quale articolo hai catalogato dopo haber convinto la gente a leggere? |
| (iii) | Portuguese | Que artigos voce arquivou sem ler?
*Que artigos voce arquivou depois de convencer as pessoas a ler? |
| (iv) | Romanian | Ce articole ai clasificat fara sa le citesti?
*Ce articole ai clasificat dupa ce ai convius oamenii sa citeasca? |

4. It might appear that the clause-bounded effect can be 'subverted' by subsequent movement of the base-generated operator to a higher CP, resulting in a structure such as (i):

(i) ... [_{CP} Op_i [_{IP} ... [_{CP} t_i [_{IP} ... pro_i ...]]]]]

This structure can be ruled out by a parallelism condition on operator binding, along the lines of Safir (1984) Parallelism Constraint on Operator Binding. The condition is as follows:

(ii) If O is an operator and x is an empty category bound by O, then for any y, y an empty category bound by O, x and y are [α pronominal]

5. The idea that a tensed CP is always an inherent barrier seems too strong, in that it predicts that any extraction from a tensed clause complement, whether L-marked or not, crosses more barriers than extraction from an infinitival clause, a result which seems undesirable in the light of the lack of tense effects in extraction from a governed complement. It might be the case that the reason tensed CP is a barrier is because the tense specifications in C° cause this C° to block government of the CP from an outside head. Now in the case of a clausal complement, such tense specifications will have some indexing relation with the matrix V, following Enç (1987). Thus, we could suppose

that the temporal coindexing between the matrix V and the subordinate C° voids the barrierhood of the tensed CP. Since there is no such temporal relationship between an adjunct CP and the P, the barrierhood of the CP remains in effect.

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