

# Anti-locality Allows a Unified Analysis of Spanish Failed Operator Movement

Erika Petersen

## 1. Introduction

Ross's (1967) seminal work on islands showed that syntactic movement of phrases is not unconstrained; rather, there are certain domains from which phrases cannot be moved. In this paper, I examine a series of configurations in Spanish where operator movement fails, because the operator is unable to reach the left edge of the clause where it originates. These configurations include P + CP and D + CP argument clauses, and P + CP adjunct clauses. As shown in (1a)-(1b), when an argument clause headed by *que* is introduced by a preposition (P) or a determiner (D), *wh*-movement across this clause is not possible. Likewise, assuming parasitic gap constructions involve movement of a null operator to the left edge of an adjunct clause (Chomsky 1986, Nissenbaum 2000), (1c) shows that parasitic gap movement is impossible within a P + CP (i.e. a finite) adjunct clause, but possible within a non-finite adjunct clause.

- (1) a. ¿Qué se olvidó Carmen (\*de) que María compró *t*?  
what REFL.3SG forgot Carmen of that Maria bought *t*  
'What did Carmen forget that Mary bought?'
- b. ¿Qué lamentó María (\*el) que Carmen reprobara *t*?  
what regretted Maria the that Carmen failed *t*  
'What did Mary regret that Carmen failed?'
- c. ¿Qué oferta rechazó él *t* { \*después de que examinó/ después de examinar } *pg*?  
what offer rejected he *t* after of that examined/ after of examine.INF *pg*  
'What proposal did he discard after he examined?'

To date, few studies have focused on these patterns, and those that do offer separate, construction-specific explanations for the data. For example, Martínez Vera (2020) suggests that for those speakers who disallow it, *wh*-movement from P + CP argument clauses is prohibited by the Phase-over-Phase constraint, which can be attributed to anti-locality. In contrast, the impossibility of parasitic gaps inside P + CP (i.e. finite) adjunct clauses has been attributed to the non-restructuring of finite adjunct clauses (Bordelois 1986); the specific binding properties of parasitic gaps (García Mayo 1993); or the conflicting interaction between the parasitic gap operator and a temporal operator in finite adjunct clauses (García Mayo & Kempchinsky 1994).

In this paper, I propose that the failed operator movement in (1a)-(1c) can be given a unified explanation in terms of the interaction between successive cyclicity, which requires movement to proceed through the specifier of intermediate phase heads, and anti-locality, a ban on movement dependencies that are too short. I argue that, because of the phasal status of P, D, and C, operator movement in P + CP and D + CP clauses incurs an anti-locality violation, giving rise to ungrammaticality.

This paper is organized as follows. First, in section 2, I present the anti-locality account of the unsuccessful operator movement in these Spanish argument and adjunct clauses. Second, in section 3, I describe the data in more detail and show how they can be accounted for under the proposed analysis. Section 4 explores some of the predictions of the analysis and, finally, section 5 concludes.

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## 2. Proposal

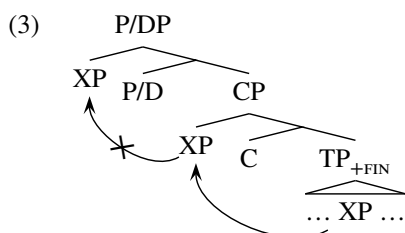
The unified analysis that I pursue here for the failed operator movement in P + CP and D + CP clauses in Spanish is based on three core assumptions: (i) the phasal status of P, D, and C; (ii) successive cyclicity; and (iii) anti-locality. It is standard to consider C to be a phase head (Chomsky 2000, 2001, 2008). Following Hiraiwa (2005) and Svenonius (2004), I assume that D is also a phase head. Likewise, building on Abels (2003), Citko (2014), Emonds (1985), and Martínez Vera (2020), I assume that at least some types of Ps, particularly functional Ps, are phase heads.

In minimalist terms, successive cyclic movement requires long-distance movement to proceed through the specifier of intermediate phase heads. Long-distance movement of *wh*-phrases and other operators therefore does not occur in one fell swoop, but is rather the result of a series of shorter movement steps, from the specifier of one phase head to the specifier of the next higher one. Successive cyclicity is a consequence of the spell-out properties of phase heads. Upon spell-out of a phase, the phase's domain (i.e. the complement of the phase head) is sent to the interfaces and any material within it becomes inaccessible to further operations (Chomsky 2000, 2001, 2008). Moved phrases must escape the phase before spell-out occurs. Movement to the specifier of the phase head, an escape hatch, ensures this.

Also at work in the derivation of clauses is an anti-locality constraint on movement, which bans movement dependencies that are too short or local (see e.g. Abels 2003, Boškovič 2015, Erlewine 2020, Grohmann 2003). The literature on the topic contains different, sometimes non-overlapping notions of anti-locality. In this paper, I consider anti-locality to be a constraint that requires a phrase to cross at least a certain number of maximal projections when it moves. I adopt Erlewine's (2020) Spec-to-Spec anti-locality constraint (2).

- (2) a. Spec-to-Spec anti-locality: Movement of a phrase from the Specifier of XP must cross a maximal projection other than XP.
- b. Movement from position  $\alpha$  to  $\beta$  crosses  $\gamma$  if and only if  $\gamma$  dominates  $\alpha$  but does not dominate  $\beta$ . (Erlewine 2020: 2)

The failed operator movement in Spanish P + CP and D + CP clauses is a result of the interaction of successive cyclicity with Spec-to-Spec anti-locality. P + CP and D + CP clauses instantiate what Boškovič (2015) calls a Phase-over-Phase configuration, where a phase head Y (in my cases, a P or D) takes an XP headed by a phase head (in my cases, a C) as its complement. Because of the phasal status of P, D, and C, *wh*-phrases and other operators that are being moved must stop at the specifier position of these heads on their way to their final landing site, in line with successive cyclicity. Derivationally then, there would be two  $\bar{A}$ -movement steps within P + CP and D + CP clauses: (i) movement of the operator from its base position to Spec,CP<sup>1</sup> followed by (ii) movement from Spec,CP to Spec,PP or Spec,DP. This latter movement step violates Spec-to-Spec anti-locality, since, as shown in (3), the moved phrase does not cross any maximal projection other than CP. Such failed derivations correspond to the ungrammatical sentences in (1a)-(1c).



## 3. Failed operator movement in Spanish

This section analyzes the failed operator movement in P + CP and D + CP clauses in terms of anti-locality. It focuses first on *wh*-movement from argument clauses and then on parasitic gap movement within adjunct clauses.

<sup>1</sup> Since it is not relevant for my argumentation, in this paper I do not consider the phasal status of *v* in the derivations.

### 3.1. Argument clauses

#### 3.1.1. P + CP complement clauses

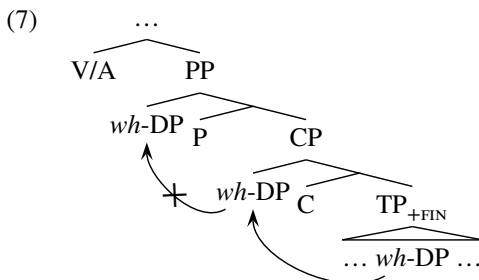
In Spanish, adjectives and some verbs that take a CP complement headed by *que* ‘that’ introduce their complement through the mediation of a preposition.<sup>2</sup> In most cases, the P that introduces the CP complement is the P *de* ‘of’, as shown in (4) for the adjective *feliz* ‘happy’ and the verb *olvidarse* ‘forget’. However, some verbs select for other prepositions: for example, *insistir* ‘insist’ takes the P *en* ‘in’.

- (4) a. Carmen está feliz [PP **de** [CP **que** María aprobó el examen]].  
 Carmen is happy of that Maria passed the exam  
 ‘Carmen is happy that Mary passed the exam.’
- b. Carmen se olvidó [PP **de** [CP **que** María se iba hoy]].  
 Carmen REFL.3SG forgot of that Maria REFL.3SG left today  
 ‘Carmen forgot that Mary was leaving today.’

Spanish allows extraction of *wh*-phrases from CP complements of verbs (5). Nevertheless, *wh*-extraction from P + CP complements (i.e. CP complements introduced by a P) is impossible (Bošković 2015, Martínez Vera 2020), as shown in (6).<sup>3</sup>

- (5) ¿Qué lamentó María [CP que Carmen reprobara *t*]?  
 what regretted Maria that Carmen failed *t*  
 ‘What did Maria regret that Carmen failed?’
- (6)\* ¿Qué se acordó [PP **de** [CP **que** Pedro preparaba *t*]]?  
 what REFL.3SG (s)he.remembered of that Pedro prepared.IMPERF *t*  
 ‘What did (s)he remember that Pedro was preparing?’ (Bošković 2015: 613)

Following Bošković (2015) and Martínez Vera (2020), I propose that the failed movement of *wh*-phrases from P + CP complement clauses comes from the interaction of successive cyclic movement with anti-locality. As mentioned in section 2, I make the assumption that the C *que* ‘that’ and (at least) some types of Ps in Spanish – among them *de* ‘of’, *en* ‘in’, and *con* ‘with’ – are phase heads. Therefore, a *wh*-phrase being moved from a P + CP complement clause must pass through the specifier positions of P and C on its way to its final landing site (i.e. matrix Spec,CP). However, as shown in (7), movement from Spec,CP to Spec,PP violates anti-locality, as the moved phrase does not cross a maximal projection other than CP. This causes the derivation to crash.



<sup>2</sup> Some Spanish verbs that take a *que*-CP complement through the mediation of a preposition are *alegrarse (de)* ‘be happy’, *acordarse (de)* ‘remember’, *arrepentirse (de)* ‘be sorry’, *aspirar (a)* ‘aspire’, *convencer (de)* ‘convince’, *darse cuenta (de)* ‘realize’, *insistir (en)* ‘insist’, *lamentarse (de)* ‘regret’, *olvidarse (de)* ‘forget’, *preocuparse (de)* ‘be worried’, and *soñar (con)* ‘dream’.

<sup>3</sup> Martínez Vera (2020) reports that there is speaker variation regarding *wh*-extraction from P + CP complement clauses. Some speakers (among them my Mexican Spanish consultants) disallow *wh*-extraction from these complements altogether. Other speakers allow object extraction across P + CP clauses when the clause is introduced by the P *de* ‘of’; however, they disallow subject or adjunct extraction across these complements, regardless of the P that introduces the CP. For an analysis of the latter type of pattern, see Martínez Vera (2020).

### 3.1.2. *D + CP clauses*

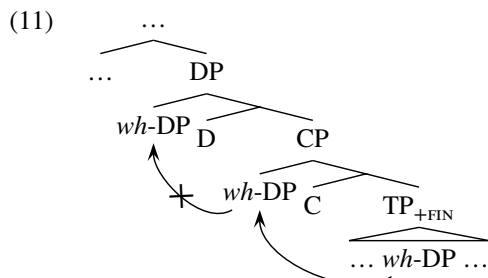
The subject and object clausal arguments of some Spanish verbs may optionally be introduced by the determiner *el* ‘the’, as shown in (8a) for a subject clause and in (8b) for a complement clause.<sup>4</sup>

- (8) a. ([<sub>DP</sub> **El**] [<sub>CP</sub> **que** Ana tenga trabajo](<sub>i</sub>)) nos alegra mucho.  
           the       that Ana has job       DAT.1PL make-happy a-lot  
           ‘That Ana has a job makes us very happy.’
- b. Carmen lamenta ([<sub>DP</sub> **el**] [<sub>CP</sub> **que** nadie protestara por aquel incidente](<sub>i</sub>)).  
       Carmen regrets       the       that no-one complained for that incident  
       ‘Carmen regrets that no one complained about that incident.’ (Serrano Pardo 2015: 1)

Spanish allows extraction from clausal objects (5) and postverbal clausal subjects of verbs (9).<sup>5</sup> However, when those same clauses are introduced by the D *el* ‘the’, *wh*-extraction becomes impossible, as shown in (10).

- (9) ¿Quién te sorprendió [<sub>CP</sub> que se retresara una hora]?  
       who ACC.2SG surprised that REFL.3SG delay one hour  
       ‘Who did it surprise you that came late by an hour?’ (Leonetti 1999: 826)
- (10) a. \*¿Qué lamentó María [<sub>DP</sub> **el**] [<sub>CP</sub> **que** Carmen reprobara *t*]?  
           what regretted Maria the that Carmen failed *t*  
           ‘What did Mary regret that Carmen failed?’
- b. \*¿Quién te sorprendió [<sub>DP</sub> **el**] [<sub>CP</sub> **que** se retresara una hora]]]?  
       who ACC.2SG surprised the that REFL.3SG delay one hour  
       ‘Who did it surprise you that came late by an hour?’ (Leonetti 1999: 826)

The impossibility of *wh*-movement from D + CP clauses follows from the interaction of successive cyclic movement with anti-locality, if we consider that D is also a phase head. Given the phasal status of D and C, *wh*-movement from a D + CP clause has to proceed through the specifier positions of D and C. Nevertheless, as shown in (11), movement from Spec,CP to Spec,DP is banned by Spec-to-Spec anti-locality, as no other projection in addition to CP is crossed in the movement. The derivation crashes as a consequence of this.



### 3.2. *Adjunct clauses: P + CP adjunct clauses*

Spanish disallows extraction of *wh*-phrases from adjunct clauses, as shown in (12). Though operator extraction out of an adjunct clause is impossible, operator movement within the adjunct clause is in

<sup>4</sup> See Serrano Pardo (2015) for a study of under which conditions clausal arguments of verbs may be introduced by the D *el*.

<sup>5</sup> The Subject Condition bans subextraction from subjects. However, as shown in (9), Spanish allows extraction from postverbal subjects. See Gallego & Uriagereka (2007) and Stepanov (2007) for explanations of this pattern.

principle possible. Parasitic gap constructions (13) are a case in point;<sup>6</sup> they have been argued to involve such movement.

- (12) \* ¿Qué galletas decoró Carmen el pastel [<sub>PP</sub> después de hornear *t*]?  
 what cookies decorated Carmen the cake after of bake.INF *t*  
 ‘What cookies did Carmen decorate the cake after baking?’
- (13) ¿Qué propuesta desechó el Presidente *t* [<sub>PP</sub> después de examinar *pg*]?  
 what proposal discarded the President *t* after of examine.INF *pg*  
 ‘What proposal did the President discard after examining?’

Following Chomsky (1986) and Nissenbaum (2000), I assume that the parasitic gap is a null operator that must move to the left edge of the adjunct clause (Spec,PP in (13)) for interpretation reasons, be it for Chain Composition (Chomsky 1986: 56) or predicate modification (Nissenbaum 2000: 49). Evidence that the parasitic gap undergoes this movement is that it shows island effects (Chomsky 1986: 55–56). First, it is sensitive to adjunct islands: a parasitic gap inside an adjunct clause that is itself embedded in another adjunct clause is unacceptable (14a).<sup>7</sup> Second, it is sensitive to complex NP islands: a parasitic gap inside the complement of a complex NP is unacceptable (14b).

- (14) a. \* ¿Qué carta escribió Ana *t* [<sub>PP</sub> antes de comprar el sello [<sub>PP</sub> para enviar *pg*] ]?  
 what letter wrote Ana *t* before of buy.INF the stamp to send.INF *pg*  
 ‘What letter did Ana write before buying the stamp to sell?’
- b. \* ¿Qué propuesta alabó el Presidente *t* [<sub>PP</sub> antes de anunciar [<sub>DP</sub> el plan de implementar *pg*] ]?  
 what proposal praised the President *t* before of announce.INF the plan of implement.INF *pg*  
 ‘What proposal did the President praise before announcing the plan to implement?’

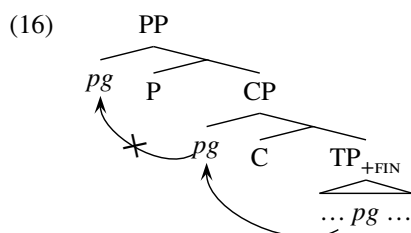
As shown in (13), in Spanish parasitic gaps inside non-finite clauses are acceptable, but they are unacceptable within finite adjunct clauses (15). This suggests that movement to the left edge of the adjunct clause is possible in the former case, but not in the latter.

- (15) \* ¿Qué propuesta desechó el Presidente *t* [<sub>PP</sub> después de [<sub>CP</sub> que examinó *pg*] ]?  
 what proposal discarded the President *t* after of that examined *pg*  
 ‘What proposal did the President discard after he examined?’

Finite versus non-finite adjunct clauses differ with respect to the presence vs. absence of a CP. In contrast to non-finite adjunct clauses, finite adjunct clauses consist of a P that takes a *que*-headed CP complement. This CP is the reason that the derivation fails. As shown in (16), because of the phasal status of C, the parasitic gap must move through Spec,CP on its way to Spec,PP. However, this latter movement is impeded by anti-locality: when moving from Spec,CP to Spec,PP, the parasitic gap does not cross any maximal projection other than CP. The derivation cannot be saved by leaving the parasitic gap in Spec,CP either, because if it stayed, the structural conditions for the interpretation of the parasitic gap would not be met.

<sup>6</sup> The literature on parasitic gaps is extensive. As an introduction to the topic, see Culicover & Postal (2001) and Engdahl (1983).

<sup>7</sup> See Nunes (2004: 116–127) for an alternative analysis of this data point based on the timing of spell-out of adjunct clauses.



Operator movement in P + CP and D + CP clauses is unsuccessful because it involves a movement step that violates anti-locality: the movement from Spec,CP to either Spec,PP or Spec,DP. The parasitic gap construction emphasizes that the problematic movement occurs within these clauses, not across them. Even though the failed operator movement from argument clauses could be attributed to the operator crossing an island boundary, this explanation does not extend to parasitic gap constructions, where the parasitic gap does not move across the adjunct clause, but only to its left edge.

#### 4. Predictions

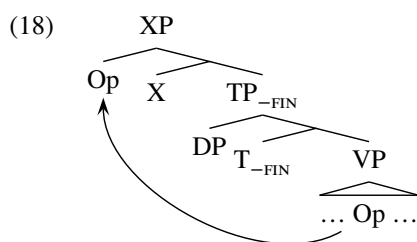
The analysis leads to the prediction that if the anti-local movement step can be eliminated, operator movement in these configurations should be possible. The anti-local movement step can be preempted, if we remove either the low (i.e. C) or the high phase head (i.e. P or D).<sup>8</sup> First, I show that operator movement is possible when the C head is not present. Next, I show that it is also possible when the high head is absent.

##### 4.1. The low phase head (i.e. C) is absent

In line with the Minimal Structure Principle (Barbosa 2001, Boškovič 1996, Grimshaw 1993, Law 1991), I consider non-finite clauses to be TPs rather than CPs. They are therefore not phases.

- (17) Minimal Structure Principle: Provided that lexical requirements of relevant elements are satisfied, if two representations have the same lexical structure, and serve the same function, then the representation that has fewer projections is to be chosen as the syntactic representation serving that function. (Boškovič 1996: 291)

In contrast to operator movement in P + CP and D + CP clauses, operator movement in a non-finite clause (i.e. a TP<sub>-FIN</sub>) c-commanded by a phase head X (either P or D) should be possible, as in this case, the operator moves directly from its base position to the specifier of the phase head, incurring no anti-locality violation, as shown in (18).



The prediction is borne out. First, extraction of a *wh*-phrase from a P + TP<sub>-FIN</sub> or a D + TP<sub>-FIN</sub> argument clause is possible (19a)-(19b).<sup>9</sup> Second, the acceptability of example (13) above shows that a parasitic gap can move from its base position to Spec,PP in a P + TP<sub>-FIN</sub> (i.e. a non-finite) adjunct clause, as expected under the analysis.

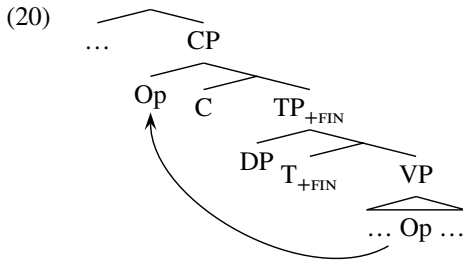
<sup>8</sup> Another possibility to eliminate the anti-local movement between Spec,CP and Spec,PP or Spec,DP would be through the addition of a projection between CP and PP or DP (see e.g. Erlewine 2020). However, Spanish does not allow the introduction of material between P or D and the *C* *que*.

<sup>9</sup> Sentence (19b) is not considered fully acceptable by some speakers; however, even these speakers judge it to be more acceptable than sentence (10a), with extraction from a D + CP clause.

- (19) a. ¿Qué se acordó Carmen [PP **de** [TP<sub>-FIN</sub> preparar t]]?  
 what REFL.3SG remembered Carmen of prepare.INF t  
 ‘What did Carmen remember to prepare?’
- b. ? ¿Qué lamentó Carmen [DP **el** [TP<sub>-FIN</sub> haber reprobado t]]?  
 what regretted Carmen the have.INF failed t  
 ‘What did Carmen regret to have failed?’

#### 4.2. The high phase head is absent

The anti-local movement from Spec,CP to either Spec,PP or Spec,DP is also preempted if we remove the high phase head, i.e. the P or the D. In this case, movement of the operator occurs directly from its base position to Spec,CP. Further movement may occur from this position. Since no anti-locality violation is incurred, as shown in (20), operator movement should be possible.



The prediction is borne out. First, for some speakers, verbs that take P + CP complements may also select directly for a CP complement, as shown in (21a) for the verb *acordarse* ‘remember’. As noted by Bošković (2015: 613), *wh*-extraction in this case is possible (21b). Second, as shown in (5) and (9), in comparison with (10a) and (10b), respectively, when the high phase head D *el* ‘the’ is absent, extraction from a complement or a (postverbal) subject *que*-headed clause is possible. This prediction cannot be tested for parasitic gap movement within P + CP adjunct clauses, as in this case removing the P that introduces the adjunct clause (e.g. *después de* ‘after’ in (15)) is not an option.<sup>10</sup>

- (21) a. Carmen se acordó (de) que Pedro preparaba la comida.  
 Carmen REFL.3SG remembered of that Pedro prepared the food  
 ‘Carmen remembered that Pedro was preparing the food.’
- b. ¿Qué se acordó Carmen que Pedro preparaba t?  
 what REFL.3SG (s)he.remembered Carmen that Pedro prepared t  
 ‘What did (s)he remember that Pedro was preparing?’

## 5. Concluding remarks

In this paper, I argued for a unified analysis of the failed operator movement in a series of Spanish configurations: P + CP and D + CP argument clauses, and P + CP adjunct clauses, which has heretofore received a different explanation per configuration. On this analysis, the failed operator movement in these configurations is a result of the interaction between successive cyclic movement and anti-locality. Because of the phasal status of C, P, and D, the derivation of these clauses involves a movement step that is too local: the movement from Spec,CP to Spec,PP or Spec,DP. The analysis makes several predictions which were shown to be verified, providing it with further support. The availability of a unified explanation of a range of phenomena in Spanish in terms of anti-locality suggests that it is as important for future work to investigate movements that are too short as those that are too long.

<sup>10</sup> Moving beyond Spanish, the analysis predicts that operator movement should be impossible in P + CP clauses and D + CP clauses of any languages which allow these configurations. The investigation of this prediction is left for future research.

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