

**ON THE INTERACTION BETWEEN TENSE AND COMP  
IN SPANISH: EVIDENCE FROM MATRIX, EMBEDDED,  
AND ATB WH-EXTRACTION\***

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**ABSTRACT**

In this paper I examine the relation between Tense and Comp in Spanish. While it is well established that matrix questions in English display T-to-C movement except in the case of subject wh-questions, the analysis in the case of Spanish is far from clear (see, e.g., Torrego 1984, Suñer 1994, Gallego 2007). I first discuss how data from Across-The-Board extraction present problems for a T-to-C movement analysis. As shown in Fernández-Salgueiro (2008), ATB extraction in Spanish need not display the same Tense interpretation in all conjuncts, which I argue is unexpected if T-to-C movement occurs. In order to account for this parametric difference, I argue that interrogative C is affixal and needs to lower and attach to T. This analysis will also account for certain other word order restrictions found in the language. I also explore the consequences of this analysis for a number of other phenomena including embedded wh-questions, exclamative sentences, and more specific cases of word order variation.

Key words: Spanish, T-to-C movement, PF merger, ATB extraction, wh-movement, parametric variation.

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\* I would like to thank the two anonymous TJL reviewers for their constructive feedback. All errors are mine.

## 1. INTRODUCTION: ACROSS-THE-BOARD AND T-TO-C MOVEMENT IN SPANISH

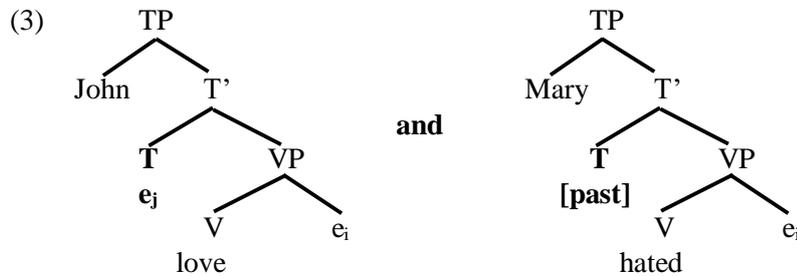
Across-The-Board (ATB) constructions have long puzzled syntacticians working within generative grammar. Their most striking property is that they constitute an exception to the Coordinate Structure Constraint (Ross 1967) in allowing movement from a position inside a coordinate structure to a position outside it. This is illustrated in the examples in (1) below, where *which book* must be interpreted as the object of both *love* and *hate*:

- (1) a. [Which book]<sub>i</sub> does<sub>j</sub> John e<sub>j</sub> love e<sub>i</sub> and Mary e<sub>j</sub> hate e<sub>i</sub>?  
b. [Which book]<sub>i</sub> did<sub>j</sub> John e<sub>j</sub> love e<sub>i</sub> and Mary e<sub>j</sub> hate e<sub>i</sub>?  
c. [Which book]<sub>i</sub> will<sub>j</sub> John e<sub>j</sub> love e<sub>i</sub> and Mary e<sub>j</sub> hate e<sub>i</sub>?

Of particular interest for the purposes of this paper is the fact that in matrix *wh*-questions that exhibit overt T-to-C movement, Tense features in non-first conjuncts must match the Tense features of the first conjunct as well, hence the ungrammaticality of (2) below:

- (2) \*[Which book]<sub>i</sub> does<sub>j</sub> John e<sub>j</sub> love e<sub>i</sub> and Mary hated e<sub>i</sub>?

These facts have led a number of researchers to propose a parallelism requirement in coordinate structures (see Hornstein and Nunes 2002 and references therein); once we observe overt (phrasal or head) movement in a first conjunct that leaves a trace/empty position, the same empty position must be found in all subsequent conjuncts. The tree below shows that parallelism does not obtain in the two TPs that are coordinated in (2) above (notice the two distinct T heads):



The exact mechanism by which this parallelism regarding movement of the *wh*-phrase and T-to-C is achieved is not directly relevant to the discussion here. Available options include the Null Operator analysis coupled with a semantic constraint (e.g., Munn 1994), the Sideward Movement analysis (Nunes 2004), the Parallel Merge analysis (Citko 2005), and the Ellipsis analysis (An 2007). For an overview of these analyses, see Fernández-Salgueiro (2008).

Besides their undeniable theoretical and empirical relevance, what is of significant importance for the purposes of the present paper is the fact that ATB constructions can be used as a reliable *diagnostic for movement*, given this strong parallelism requirement. If the features of an element inside a non-first conjunct are not parallel to its counterpart in the first conjunct then we can conclude that movement has not applied in the first conjunct; otherwise the parallelism requirement would be violated. The contrast between matrix and embedded ATB questions in English provides a simple way to illustrate this:

- (4) a. \*[Which book]<sub>i</sub> does<sub>j</sub> John <sub>T</sub>e<sub>j</sub> love e<sub>i</sub> and Mary <sub>T</sub>[past] hated e<sub>i</sub>?
- b. I wonder [which book]<sub>i</sub> John <sub>T</sub>[present] loves e<sub>i</sub> and Mary<sub>T</sub>[past] hated e<sub>i</sub>

As (4a) illustrates, in matrix *wh*-questions both the Tense head and the object DP are subject to the parallelism requirement, and so past Tense is disallowed in the second conjunct. In embedded *wh*-questions, however, only the object DP is subject to this requirement, so different Tense features ([present] vs. [past]) are allowed in the first and second conjuncts).

This of course correlates with the fact that wh-movement applies in both matrix and embedded wh-questions in standard English, while T-to-C movement only applies in matrix questions (cf. *\*I wonder which book will John buy*).

Interestingly, as I showed in Fernández-Salgueiro (2008), this contrast between matrix and embedded questions does not apply in Spanish (and the same is also true in the case of other closely-related languages like Italian, Catalan, European Portuguese, and Galician):

- (5) a. Qué libro adora Juan y odiaba María?<sup>1</sup>  
which book loves Juan and hated María  
'Which is the x, x a book, such that Juan adores x and María hated x?'
- b. Qué libro compró Juan y leerá María?  
which book bought Juan and will.read María  
'Which is the x, x a book, such that Juan bought x and María will read x?'
- c. Me pregunto qué libro adora Juan y odiaba  
self-wonder.1sg which book loves Juan and hated  
María  
María  
'I wonder which book Juan loves and María hated.'
- d. Me pregunto qué libro compró Juan y leerá  
self-wonder.1sg which book bought Juan and will.read  
María  
María  
'I wonder which book Juan bought and María will read.'

Notice that while the examples of embedded questions in (5c and 5d) pattern with the English example in (4b) above, (5a) and (5b) differ from English matrix questions in that the two Tense heads can indeed display different features. If the parallelism requirement is correct we are led to conclude, in the light of the examples in (5a) and (5b), that neither matrix nor embedded wh-questions in Spanish display T-to-C movement. This is

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<sup>1</sup> For clarity, I am not including the initial question mark (¿) in the Spanish examples.

then another piece of evidence to add to the on-going discussion of whether T-to-C movement applies in Spanish (see section 2).

However, if T-to-C movement does not apply in wh-questions in Spanish, we are left with a mystery regarding subject and (inflected) verb inversion. As is well known, overt subjects appear postverbally in wh-questions in standard Spanish (see section 4 for discussion on exceptions to this restriction):

- (6) Qué libro compró Juan? (cf. \*qué libro Juan compró?)  
Which book bought.3sg John  
'Which book did John buy?'

This led Torrego (1984) to claim that (6) involves T-to-C movement, in a structure in which the subject DP is located in Spec-TP. With the advent of the VP-internal subject hypothesis, a new analysis (see, e.g., Suñer 1994; Ordóñez 1998a) became possible, namely one in which the subject DP does not raise to Spec-TP and T-to-C movement does not take place either. This non-movement analysis of course needs to assume that subject raising to Spec-TP does not apply in Spanish, which has been shown to be too strong of a claim to make, as will be shown in section 2.3 below.

I am going to propose here that interrogative Comp in Spanish indeed does not trigger T-to-C movement, but is instead an affix that needs to attach to T in the PF component.<sup>2</sup> As one of the reviewers points out, this analysis resembles Bošković's (2001, 2004) account of similar restrictions in Bulgarian wh-questions (see section 3 below). The analysis readily accounts for the fact that the inflected verb has to be adjacent to the fronted wh-phrase (cf. (6) above) without invoking T-to-C movement, and thus does not force parallelism in a second conjunct in ATB questions (recall (5)). It also accounts for why preverbal subjects are generally disallowed in wh-questions without necessarily claiming, like Ordóñez (1998a) and others, that preverbal subjects cannot occupy the Spec-TP position in

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<sup>2</sup> As is well known, C and T are also taken to be connected under the feature inheritance hypothesis (see Chomsky 2008 and Miyagawa 2010, among many others), which claims that the syntactic features that T displays are inherited from C.

Spanish (see section 2.3 for evidence that preverbal subjects can indeed move to Spec-TP).

The rest of this paper is organized as follows. In section 2, I review the main pieces of evidence that have been provided in the literature for and against T-to-C movement in Spanish and the analyses that have been proposed. In section 3, I provide the details of the analysis of C as an affix as I outlined in the previous paragraph. Section 4 explores further consequences of this analysis.

## 2. T-TO-C MOVEMENT IN SPANISH?

### 2.1 Torrego's (1984) T-to-C Movement Analysis

As already mentioned, the question of whether matrix questions in Spanish display T-to-C movement is far from settled. Torrego (1984) first observed that *wh*-movement in standard Spanish correlates with inversion of subject and verb, as shown in (6) above. Since the assumption at the time was that DP subjects were base-generated in Spec-TP, it seemed correct to claim that T-to-C movement takes place in very much the same way that it takes place in English *wh*-questions (with the exception of matrix subject *wh*-questions). Spanish inflected verbs, then, would behave much like auxiliary verbs in English, as illustrated below:

- (7) a. Qué            dirá            Juan?  
          What        say-FUT.3s    Juan  
          [<sub>CP</sub> qué    [<sub>C</sub>dirá<sub>i</sub>    [<sub>TP</sub>Juan [<sub>T</sub>e<sub>i</sub> [<sub>VP</sub> e<sub>i</sub> ...]]]]]
- b. What will John say?  
          [<sub>CP</sub> what    [<sub>C</sub>will<sub>i</sub>    [<sub>TP</sub>John [<sub>T</sub>e<sub>i</sub> [<sub>VP</sub> say...]]]]]

Torrego (1984) argued, moreover, that Spanish displays T-to-C movement in embedded contexts as well, given that they display the same word order facts:<sup>3</sup>

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<sup>3</sup> Torrego (1984) also claims that inversion takes place in intermediate sites in successive cyclic *wh*-movement (see below).

- (8) Me pregunto qué compró María  
 wonder.1s what bought María  
 ‘I wonder what María bought.’  
 (cf. \*me pregunto qué María compró)

## 2.2 Problems for Torrego’s Analysis

Torrego’s analysis was later challenged on both theoretical and empirical grounds. On the one hand, the introduction of the VP-internal subject hypothesis implied that T-to-C movement was no longer required to account for the word order facts. If it is true that subjects originate in Spec-VP, another theoretical possibility arises, one in which the inflected verb stays in T and subject movement to Spec-TP does not take place. On the other hand, evidence from adverb placement and imperative clauses also suggested that the T-to-C movement analysis was incorrect.

Suñer (1994) observes that adverbial elements like *nunca* ‘never’ can appear between the wh-phrase and the verb, suggesting that the raised verb in Spanish is in a lower position than the auxiliary verb is in English:

- (9) A quién nunca pudo conocer María?  
 To who never could meet María  
 ‘Who could María never meet?’  
 (cf. \*who never could María meet?)

Negative adverbs like *nunca*, however, might not provide the most conclusive evidence as they often seem to interact with verb movement and negation in complex ways in Romance.<sup>4</sup> Interestingly, however, an adverb like *siempre* ‘always’ behaves in an identical way:

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<sup>4</sup> In the case of (9), for example, if negation is added, the adverb must occupy a different position, as shown below:

- (i) A quién no pudo nunca conocer María?  
 To who not could never meet María  
 ‘Who could María never meet?’

- (10) Con qué chica siempre baila Juan?  
With what girl always dances John  
'Which girl does John always dance with?'  
(cf. \*which girl always does John dance with?)

Moreover, Rivero and Terzi (1995) argue that T-to-C movement does not apply in *wh*-questions, based on the comparison with imperative sentences, which do display T-to-C movement. Imperative sentences block negation (11) and force clitics to necessarily appear after the inflected verb (12), neither of which conditions apply to declarative sentences:

- (11) a. Ven            b. \*No ven            c. No vengas<sup>5</sup>  
      come.IMP        Not come.IMP        Not come.SUBJ  
      'Come.'            'Don't come.'        'Don't come.'
- (12) a. Mírala        b. La miro            c. \*Mírola  
      look.IMP-it     it look.1sg            look.1sg-it  
      'Look at it.'    'I look at it.'        'I look at it.'

Rivero and Terzi argue that these restrictions follow from the fact that the verb has moved to C in imperatives. It should also be noted that the use of the adverb *siempre* 'always' provides further evidence for this. Compare the order adverb-verb in (9) with the order verb-adverb order below:

- (13) Quiéreme siempre (cf. \*siempre quiéreme)  
      Love.IMP-me always  
      'Love me forever.'

*Wh*-questions, however, pattern with declarative sentences in this respect, as they are indeed compatible with both negation and preverbal clitics:

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<sup>5</sup> As can be seen, negative commands in Spanish have to be expressed with a subjunctive form of the verb.

- (14) Context: “Yesterday, I saw Mary at school, in the library, and in the coffee shop...”

Dónde no la viste entonces?  
 Where not her saw.2s then  
 ‘Where didn’t you see her, then?’

As one of the reviewers points out, it should be noted that focus interacts with clitics in complex ways in these languages, and negation itself may display focal properties (see Rizzi 1990; Villa-García 2016). Hence, the position of the clitic could be the result of attraction by the negative element. Recall, however, that imperatives, as seen in (11) and (12), provide evidence that negation does not seem to be able to move past the verb in C. Moreover, there is cross-linguistic evidence that the focus occupies positions lower than C (see, e.g., Bošković’s 2002 analysis of multiple wh-fronting in Slavic languages).

Another important question that Torrego’s analysis raises is why T-to-C movement applies in embedded wh-questions in Spanish but not in English, or to put the matter more generally, why T-to-C movement is a main clause phenomenon in English but not in Spanish. In respect to this point, the fact that the inverted word order is also found in embedded wh-questions in Spanish suggests that it might not be the result of the same mechanism that is responsible for it in English. The analysis I develop here claims precisely that the fact that English and Spanish do show a similar inverted word order is a coincidence.<sup>6</sup>

As I mentioned in the introduction, in Fernández-Salgueiro (2008) I showed that ATB questions in Spanish can display different Tense interpretations in each of the TPs. Given the well-known parallelism requirement on ATB extraction, which ensures that conjuncts be parallel with respect to traces left by movement operations, I take this to be robust

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<sup>6</sup> An even more interesting phenomenon is the case of what McCloskey (1992) calls “embedded I-to-C fronting” in Irish English, as in *Ask your father when he gets home does he want his dinner*. The main reason to think that examples like this one are different from the ones being discussed here is that, according to McCloskey, Irish English also allows a fronted adverbial (*when he gets home* above) to be interpreted as part of the embedded clause. This embedded V2-like pattern is impossible in Spanish. See Villa-García (2015), however, for examples with similar fronted adverbials with an extra complementizer, though without T-to-C movement.

evidence that T-to-C movement does not apply. Consider (15), repeated from (5a) above, and (16):

- (15) Qué libro adora Juan y odió María?  
Which book loves Juan and hated María  
'Which is the x, x a book, such that Juan loves x and María hated x?'
- (16) \*Qué libro compró Juan y alquiló María una  
Which book bought.3s Juan and rented.3s María a  
película?  
movie  
'Which is the x, x a book, such that Juan bought x and María rented a movie?'

Just by considering (15), one could argue that the parallelism requirement in ATB just does not apply in languages like Spanish, in which case (15) would not constitute evidence for or against T-to-C movement (although questions would of course arise regarding why it does apply in English and other languages). However, the example in (16), in which the first conjunct displays a trace/copy of the moved wh-phrase but the second conjunct does not display a parallel trace/copy, is clearly ungrammatical in Spanish, which shows that ATB structures are indeed subject to the parallelism requirement.<sup>7</sup>

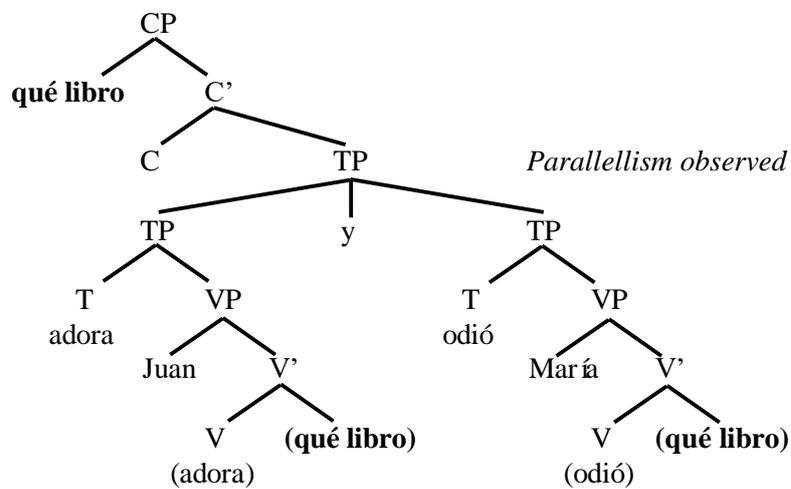
Consider now (17a) below, which shows that the parallelism requirement is not violated if T-to-C movement does not apply (in the next section I claim that this is not enough in itself to account for the properties of wh-questions in Spanish because subject movement to Spec-TP is possible, contra Alexiadou and Anagnostopoulou 1998 and others). Note that if *adora* were to raise to C, then the trace of *adora* in T in the first

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<sup>7</sup> As noted by one of the reviewers, in Fernández-Salgueiro (2008) I showed that it is possible that the parallelism in Spanish is computed at PF, since a moved wh-phrase can relate to different grammatical functions in the two conjuncts, as long as “the non-extracted elements in the two conjuncts display the same order in the PF representation.” (Fernández-Salgueiro 2008:51). What is relevant for our purposes is that the verb in the first conjunct needs to be adjacent to the C head, regardless of any more specific parametric variation between Spanish and English regarding the application of the parallelism requirement.

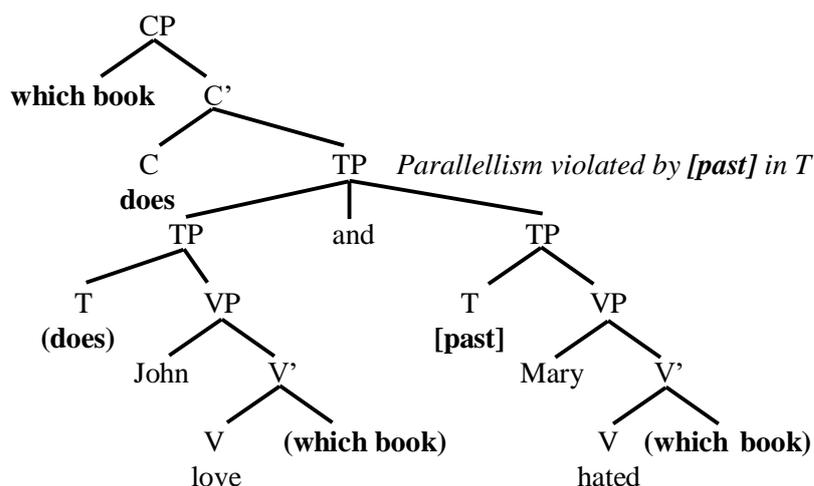
conjunct would not be related to a parallel trace in the second conjunct, thus clearly violating the requirement (as can be seen in (17b) for the English counterpart). As mentioned in the introduction, matrix wh-questions in Spanish pattern with embedded wh-questions in English in this respect, as they do not display T-to-C movement and thus are not subject to the parallelism requirement.<sup>8</sup>

(17) a. Qué libro adora Juan y odió María? (Spanish)



<sup>8</sup> A flat analysis of coordination is adopted here for convenience. Copies left by movement are in brackets; elements that have moved outside of TP (thus subject to the parallelism requirement) are in bold.

- b. \*Which book does John love and Mary hated? (English)



### 2.3 Word Order Restrictions and Spec-TPs in Spanish

As we have just seen, there is robust syntactic evidence that T-to-C movement in wh-questions in Spanish does not apply, which means that the word order facts first observed by Torrego (1984) need to be accounted for in some other way. If T-to-C movement does not apply we need to ensure that there be no overt material between C and T (e.g., an overt DP subject in Spec-TP); otherwise we would be predicting the order subject-verb to be possible, contrary to fact (cf. (7) and (8) above).

It comes as no surprise then that proponents of the non-T-to-C movement approach tend to adopt a version of Alexiadou and Anagnostopoulou's (1998) approach to preverbal subjects, under which preverbal DPs in pro-drop languages always sit in A'-positions like Topic or Focus positions, rather than in Spec-TP. Ordóñez (1998a) and Barbosa (2001) are clear examples of this tendency to argue that there is no Spec-TP in the pro-drop Romance languages (recall (17)), an analysis that does account for the word order facts.

However, there is good evidence that preverbal subjects in a language like Spanish may indeed occupy the Spec-TP position (see, e.g., Holmberg

2005; Sheehan 2006; Fernández-Salgueiro 2011; Villa-García 2012, 2015). These authors have argued that, although it is true that preverbal subjects in pro-drop languages can indeed appear in A' positions, that does not necessarily mean that they *always* do so. In this respect, Sheehan (2006), for example, provides abundant evidence from non-referential QPs, non-topic-like subjects, agreement, null subjects, and topic islands in pro-drop Romance languages that challenge Alexiadou and Anagnostopoulou's approach.<sup>9</sup>

A question that arises, however, is how the EPP (or whatever feature causes subject movement to Spec-TP) is satisfied in the cases in wh-movement takes place. This is definitely a more general question about the syntax of the pro-drop Romance languages, and two main solutions have been offered in the literature to account for this apparent optionality. One possibility is that the empty subject *pro* is involved in these cases; the other one is that V-to-T movement can satisfy the EPP in these languages (at least in the Romance languages, V-to-T seems to be a prerequisite for *pro*-drop), as argued by Alexiadou and Anagnostopoulou.<sup>10</sup>

Since it seems that subject movement to Spec-TP is indeed possible in these languages, an independent explanation must be found in order to account for the inverted order of inflected verb and subject. In the next section I propose that this word order is the result of a PF requirement: the need for the C head to attach to T.

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<sup>9</sup> Moreover, Guasti (1996) and Ordóñez (1998b) suggest that postverbal subjects in wh-questions have different properties from those found in declarative clauses. See Gallego (2007) for discussion.

<sup>10</sup> In principle, following Alexiadou and Anagnostopoulou's approach would go against assuming a preverbal A-position in these languages. Notice, however, that if Matushansky (2006) is right in that head movement is movement to a specifier followed by morphological merger, this aspect of their approach could be adopted without committing to an A' treatment of all preverbal subjects. Moreover, it is also possible that the EPP can be satisfied in two ways in these languages, by A-movement of a DP to Spec-TP, which is obligatory in most cases in English or French, or by V-to-T movement. Interestingly, in cases in which A-movement does not apply (which are very common in the pro-drop Romance languages), V-to-T movement would still necessarily apply in the PF component to fulfil a morphological requirement, thus yielding the inverted order that is typically found in these languages. See Fernández-Salgueiro (in preparation) for an explanation of the optionality of inversion in these languages along these lines.

### 3. C AS A VERBAL AFFIX IN SPANISH: A PF ANALYSIS

In the previous section we reached the conclusion that the word order that *wh*-questions display in Spanish cannot be due to T-to-C movement, as evidenced by ATB parallelism facts, adverb placement, negation, and clitics. One possibility that arises is that these word order restrictions may not be syntactic in nature, but a PF matter.

As I mentioned in the introduction, I would like to propose that in these languages interrogative C is affixal in nature and has to attach to the inflected verb in the PF component. This type of PF merger analysis, reviving in a way Chomsky's (1957) classic affix hopping analysis, has been proposed more generally to account for similar word order restrictions that seem to resist a purely syntactic explanation (see, e.g., Lasnik 1995; Bobaljik and Thráinsson 1998; Bošković 2001, 2004). Bošković (2004), for example, uses a very similar analysis to account for the properties of stylistic fronting in Icelandic and word order restrictions in Bulgarian *wh*-questions similar to the ones found in Spanish. In Bošković's (2004:39) words, "in the recent instantiations, the mechanism is treated as a morphophonological rule that involves merger between an affix and its host in PF under adjacency." Moreover, the idea that C may be affixal is not new at all, as it has been claimed for English null C (see Bošković and Lasnik 2003 and references therein) as well, although under their analysis C attaches to a higher head.

For C to attach to the inflected verb, C and T must then be adjacent when the morphological operation takes place in the PF component, as is also the case in Chomsky's affix hopping analyses of English. The comparison with English T is especially interesting because T still needs to find a verbal host even when it is phonologically null, as present forms (other than third person singular) trigger *do*-support in non-adjacent contexts (*how do you know?*).

The comparison with T has implications for parametric variation regarding the relation between C, T, and *v/V*. In the same way that there is a relation between T and V that can be materialized in the syntax through syntactic V-to-T movement (Spanish) or through PF merger of a T affix onto the V head (English), we could also claim that there is a relation between C and T that can be materialized in the syntax through

T-to-C movement (English) or through PF merger of a C affix onto the T head, the position to which the verbal host moves in the syntax (Spanish).<sup>11</sup> If this account is on the right track, we may thus expect similarities between the T affix and the C affix.

First, just as PF merger in the case of T can be blocked in English by intervening overt material (such as negation, for example), PF merger in the case of C can be blocked as well; for instance, by an overt subject in Spec-TP. This alone, sketched in (18) below, would account for the general word order facts regarding subjects and inflected verbs that we are trying to explain here:

(18) *PF merger allowed*

John [T-s [v like Mary]]  
 Qué C [T dice [v Juan ...]]  
 What say.3s Juan  
 ('What does John say?')

*PF merger blocked*

John [T-s [not [v like Mary]]]  
 ... C [TP Juan [T dice [v Juan...]]]

Interestingly, just as questions arise regarding which elements can and cannot block PF merger in English, similar questions arise regarding C in Spanish. We have already seen that adverbial elements such as *nunca* 'never' and *siempre* 'always' are allowed between C and T (cf. (9) and (10) above), which is also the case for T in English, as is well known (cf. *John never does that*).<sup>12</sup>

<sup>11</sup> For ease of exposition, I am abstracting away here from the V/v distinction and also the T/Agr distinction presumably present in Spanish.

<sup>12</sup> One of the reviewers points out that *nunca* 'never' and *siempre* 'always' are allowed in this position only with certain wh-phrases. In principle, it would seem as if D-linking is enforced when these adverbs are used before the verb:

- (i) \*Qué siempre me dices?  
 What always to.me say.2sg  
 'What do you always tell me?'

As one of the reviewers notes, however, the fact that adverbial elements do not block PF merger seems to be at odds with Cinque's (1999) influential analysis of adverbs as specifiers of functional heads. The question that arises then is why adverbs seem to not disrupt the adjacency that PF merger requires. Interestingly, Bobaljik (1999) has argued independently, based on adverb placement and floating quantifier order facts, that we need to assume "a multi-dimensional theory of phrase-structure in which the principles ordering adverbs occupy a different plane than those ordering verbal elements and arguments." (Bobaljik 1999:5). If this approach is on the right track, we can argue that PF merger operations refer to the dimension in phrase structure that relates to the order of verbal elements and arguments. Bošković (2001, 2004) argues against this view, however, and instead claims (following Lasnik 2005) that those adverbial elements that seem to appear between T and V in English should actually be analyzed as occupying a position higher than T.<sup>13</sup>

We have also seen that pronominal clitics can occur between C and T (12), which can be easily explained by saying that these clitics and the verb in T constitute a phonological word at PF. In this sense, it is worth noticing that negation blocks PF merger in the case of T in English but does not block PF merger of C in Spanish. Again, this follows from the fact that negation in Spanish forms a verbal cluster with the inflected verb (and any clitics that may be attached to it), while it is an independent lexical element in English.<sup>14</sup>

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- (ii) Con qué chica siempre baila Juan? (repeated from (10) above)  
With what girl always dances John  
'Which girl does John always dance with?'

However, grammatical examples like (9) above (repeated below) suggest that these adverbs can occupy the same position with non-D-linked *wh*-phrases as well. I leave this question open here.

- (iii) A quién nunca pudo conocer María?  
To who never could meet María  
'Who could María never meet?'

<sup>13</sup> See Villa-García (2018) for more specific discussion of this issue in connection with imperatives in different dialects in Spanish.

<sup>14</sup> French provides a good illustration of both kinds of negation, instantiated by *ne* and *pas*.

Second, it is obvious that the trace of a DP subject does not block PF merger of T; otherwise, this operation would be blocked in virtually all clauses in English, since DP subjects raise from the specifier position between the T and the V heads.<sup>15</sup> In this respect, it is worth noting that in GB case-marked empty categories were observed to behave differently from caseless empty categories with respect to contraction, which is of course another PF operation. This is illustrated in (19) below:

- (19) a. **Who<sub>i</sub>** do you want **e<sub>i</sub>** to go?  
           (*wanna* contraction blocked: \**who do you wanna go*)  
       b. I want **PRO** to go<sup>16</sup>  
           (*wanna* contraction possible: *I wanna go*)

Turning now to C in Spanish, an interesting connection is observed between the evidence just presented and the fact that matrix wh-questions in Spanish are perfectly compatible with null subjects, which have been claimed to be possible only in Spec-TP, as shown in (20):<sup>17</sup>

- (20) A   quién       [<sub>TP</sub> pro [<sub>TV</sub> *viste<sub>i</sub>* [<sub>VP</sub> *e<sub>i</sub>* ayer?  
           to whom                   saw.2sg     yesterday  
           ‘Who did you see yesterday?’

Null subjects thus seem to behave like GB caseless DP traces with respect to PF phenomena like contraction and PF merger (since they do not block contraction).<sup>18</sup> This is not surprising at all if we think that null subjects are generated as empty categories (as in GB). In minimalism, however, null subjects have been analyzed as overt subjects whose phonological features are deleted at PF (see, e.g., Holmberg 2005;

<sup>15</sup> In this respect, it has been proposed that A-movement does not leave a trace (see, e.g., Lasnik 1999), although, as one of the reviewers mentions, whether A-movement traces are subject to reconstruction remains unclear (see Ausín 2001 for evidence that A-movement does reconstruct).

<sup>16</sup> Notice that if the movement analysis of PRO (Hornstein 2001) is right, PRO would actually be a caseless trace, yielding an even sharper contrast with (19a).

<sup>17</sup> See Sheehan (2006) and Fernández-Salgueiro (2011) for discussion.

<sup>18</sup> In this respect, one of the reviewers mentions work by Bošković (2011), where it is argued independently that null elements do not intervene.

Fernández-Salgueiro 2011). If this is correct, the question that arises is why null subjects do not block PF merger of C, that is, why they behave the same way that *caseless* DP traces behave in English.

One possibility is that null subjects are actually caseless DPs, as I proposed in Fernández-Salgueiro (2008, 2011). The main argument for this approach is that in pro-drop languages the syntactic contexts that allow a null subject also allow movement to an A-position in a higher clause (a phenomenon that in previous work I have called ‘further-raising’), that is, there seems to be evidence that Spec-TP in these languages is not necessarily a freezing position in the sense of Chomsky (2000), Rizzi (2006) and others. Under this approach, a DP undergoing A-Movement to Spec-TP in a language like Spanish can indeed fail to check its Case feature, which will make it available for further movement. Questions arise regarding whether this approach can be maintained under the more recent labeling approach to freezing effects (Rizzi 2015) since my proposal in Fernández-Salgueiro (2008) predates Chomsky’s (2013) labeling algorithm framework, but exploring the implications of these questions would lead us far afield from our current concerns.

As one of the reviewers points out, if interrogative C is an affix, a question that arises is whether the verb-subject order is also enforced in yes/no questions. While this order is definitely possible, the subject-verb order is also allowed, which in principle would seem to be at odds with the present analysis. However, this uninverted order could also be the result of a structure without C. A similar analysis has been proposed to account for the optionality of wh-movement in French matrix wh-questions and superiority effects (or lack thereof) in Serbo-Croatian (see Bošković 2002). Interestingly, Catalan may display an explicit complementizer in yes/no questions that could be considered the overt counterpart of Spanish interrogative C. In this case, Catalan speakers tend to avoid the subject-verb order.<sup>19</sup>

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<sup>19</sup> Àngel Gallego (pc) provides the following contrast in Catalan:

- (i) Que ha vingut en Joan? (cf. \*Que en Joan ha vingut?)  
that has come the Joan  
‘Has John come?’

Given that it has been proposed that head movement is a PF operation, questions arise with respect to the relative timing of these operations. In the case of Spanish, for example, is there a way to tell whether PF merger of C applies before or after, say, V-to-T movement? One could argue that since in principle PF merger requires an overt host, the T head should already include phonological material. However, this also depends on what is present in T prior to movement and what exactly moves to T. Does V contain the root of the verb only and attach to the overt tense affix in T? Is T an empty category attracting the whole verb form? These are all interesting questions, but discussing them in detail would lead us beyond the scope of the present article.<sup>20</sup>

More general questions regarding the relation between T and C and parametric variation are worth discussing. It is possible that this connection is a property of UG that may be instantiated by either head movement or PF merger. In this respect, the idea that the same elements can be affected by operations applying in different components of the grammar is by no means a new one (see, e.g., Huang's 1982 approach to wh-movement in Chinese and Bouchard's 1984 analysis of null subjects, where Case assignment takes place at LF). One needs to be cautious about this kind of claim, however, since the two operations do not apply in the exact same contexts in the different languages. As I show in section 4 below, exclamative C and embedded interrogative C disallow T-to-C movement in English, but require PF merger of C in Spanish.

#### **4. EXTENSIONS OF THE PRESENT ANALYSIS**

In this section I explore the consequences of the PF merger analysis for the word order patterns found in other syntactic contexts in which C is directly involved, as well as examples of dialectal variation.

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<sup>20</sup> See Bobaljik and Thráinsson (1998) for further discussion on which elements block affix hopping.

#### 4.1 Embedded Wh-questions and Long-distance Wh-questions

Assuming that interrogative C has this affixal property readily accounts for the fact that the inverted order is enforced in both matrix and embedded wh-questions. As already mentioned, Torrego (1984) was compelled, given her original analysis, to argue that Spanish displays T-to-C movement in embedded contexts as well, as shown in (21), repeated from (8) above:

- (21) Me pregunto    qué compró    María  
         wonder.1s    what bought    María  
         ‘I wonder what María bought’ (cf. \*me pregunto qué María compró)

As mentioned before, under Torrego’s analysis the question that arises is why T-to-C movement should have different restrictions in Spanish than in English. If the current proposal is on the right track, there is no need to explain why English differs from Romance in that it displays T-to-C movement only in matrix clauses; T-to C movement is a matrix clause phenomenon, while PF merger of C is a requirement on any interrogative C, be it matrix or embedded, and thus always forces the inverted word order.<sup>21</sup>

The case of long-distance wh-questions is less straightforward. In principle, it would seem as though an embedded declarative C head also requires adjacency with the raised verb. Consider (22):

- (22) Qué dice Juan **que compró** **María**    ayer?  
         what says John that bought    Mary    yesterday  
         ‘What does John say that Mary bought yesterday?’

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<sup>21</sup> Subjunctive mood appears to make no difference in this respect. When interrogative C is subjunctive, the inverted order is required as well:

- (i) No me importa    a    qué hora llegue    Juan  
         not SELF matter    to    what time arrives.SUBJ    John  
         ‘I don’t care what time John arrives’ (cf. \*Juan llegue)

Although this is the most common and natural word order for long-distance questions, the subject can also appear between C and the verb (cf. ... *que María compro ayer?*).<sup>22</sup> This is expected if we assume that adjacency between C and the verb is required for interrogative C but not for declarative C. The analysis developed here then accounts for this difference, though it does raise the question of why interrogative C should differ from declarative C. In the next section I argue that exclamative C patterns with interrogative C as well.

#### 4.2 Exclamative Sentences

As is well known, phrases involving a wh-word can also be fronted in exclamative sentences. In some varieties of Spanish, an overt complementizer can be added in these, as shown in (23) (see, e.g., Villa-García 2018):

- (23) Qué guapa (que)es María!  
       what pretty that is Mary  
       ‘How pretty Mary is!’

Interestingly, regardless of whether the C head is overt or covert, adjacency between C and the verb is also required, as evidenced by the ungrammaticality of \*¿*qué guapa (que) María es!*

A natural extension of the approach developed here would be to say that exclamative C also needs to undergo PF merger. It seems then that exclamative C patterns with interrogative C and not with declarative C in requiring adjacency with the T head, which raises two main questions. The first one concerns the fact that the overt/covert distinction is not relevant at all, as both overt and covert exclamative C seems to pattern with *covert* interrogative C. In this respect, recall that in Catalan yes/no questions, C may be overt, in which case adjacency with the T head still seems to be required (see fn. 19 above). The second question that arises concerns the

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<sup>22</sup> The same is true of the C head in relative clauses. Again, this raises the question of the apparent optionality of subject movement in these languages. Further research is indeed needed to fully understand why the postverbal subject seems to be more natural in these cases. See also section 2.3 for discussion.

property that is shared by exclamative and interrogative C so that they both need to undergo PF merger while other instances of C do not. One possible candidate is the feature that attracts a wh-phrase to their specifier position (presumably an Operator kind of feature).<sup>23</sup>

Notice, finally, that exclamative sentences in English do not display the inverted (auxiliary-subject) order, since they obviously do not involve T-to-C movement.<sup>24</sup> Again, this provides further support for the claim that the similar (inverted) word order pattern is just a coincidence and is not the consequence of the same grammatical principle.

### 4.3 Optional Inversion in Wh-questions in Standard Spanish

Inversion in Spanish was first claimed to be optional for adjuncts (see, e.g., Torrego 1984; Suñer 1994), a claim that has been challenged in more recent research. Ausín and Martí (2001); Buesa-García (2008); Villa-García (2015) have claimed that inversion is optional with D-linked wh-phrases, while Goodall (2010) argues that the main factor that correlates with the optionality is the complexity of the wh-phrases. One of the best examples of this optionality comes from questions with *por qué* ‘why’, as illustrated in (24):

- (24) a. Por qué mencionó Juan ese tema?  
For what mentioned Juan that issue  
b. Por qué Juan mencionó ese tema?  
For what Juan mentioned that issue  
‘Why did John mention that issue?’  
(see below for a possible difference in meaning)

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<sup>23</sup> It could be argued that declarative C can also host a wh-phrase, for example(,) when successive wh-movement applies. In this respect, however, Bošković (2007) has argued that intermediate landing sites for movement do not involve feature checking. Evidence for this comes from ellipsis facts; a feature-checking relation between a head and its specifier allows for the complement to be elided, something that is not possible in the case of an intermediate C (\*John met someone but I don’t know who Peter said (who) that <John met (who)>). See Villa-García (2016), however, for examples in Spanish that challenge this feature-checking requirement view of ellipsis.

<sup>24</sup> As pointed out by one of the reviewers, exclamatives displayed the inverted order in older stages of the English language.

What is really interesting about this phenomenon is that this optionality is only possible when the *wh*-phrase relates to the verb in the same clause (short-distance reading); if *C* and the verb are not adjacent, the long-distance reading of the *wh*-phrase is blocked (see Uriagereka 1988, among others). Consider the examples in (25), which involve *hasta qué punto* ‘to what extent’:

- (25) a. Hasta qué punto **dijo Juan** que aquello  
 Until what point said Juan that that  
 era cierto?  
 was true  
 ‘To what extent did John say that that was true?’  
 (long-distance reading)
- b. \*Hasta qué punto **Juan dijo** que aquello era cierto?  
 (long-distance reading)  
 (cf. # on the short-distance reading as in English *#to what extent did John say that?*)

If the analysis I entertain here is on the right track, this phenomenon regarding (restricted) optionality of inversion suggests that the *C* head in cases like (24b) is not interrogative. In this respect, Gallego (2007) claims that a question like (24b) has a rhetorical character and would more accurately be paraphrased as “why was it that John mentioned that issue?” or even “how come John mentioned that issue?” (the lack of T-to-C movement in these English examples suggests that there is no true interrogative *C*). Moreover, D-linked *wh*-phrases have long been shown to behave differently from regular *wh*-phrases in that they do not necessarily induce superiority effects (see Pesetsky 1987 among many others). In this respect, Bošković (2002) provides independent evidence that superiority effects arise from a strong *wh*-feature in *C* that attracts the closest *wh*-phrase to Spec-CP. If Bošković’s analysis is on the right track, we expect D-linked *wh*-phrases to be possible in the absence of a true interrogative head. This in turn would explain why inversion is not obligatory in Spanish.

Moreover, the fact that the long-distance reading is unavailable seems to suggest that these cases may not really involve movement to Spec-CP.

If they did it would be hard to explain why movement is not allowed across a clause boundary (since there is no element that could induce island effects). Interestingly, Rizzi (2001) has analyzed comparable cases like *how come* in English or *perché* and *come mai* in Italian as involving direct merger with an interrogative head.

It should also be noted that European Portuguese exhibits slightly more complex patterns from those found in Spanish or Italian with respect to word order. As noted by Barbosa (2001) among others, overt subjects are sometimes possible between the *wh*-phrase and the inflected verb, especially in the case of D-linked *wh*-phrases as well. This may correlate with the fact that European Portuguese and Italian display more complex word order patterns in the case of other kinds of A'-Movement, such as focus movement and topicalization. Exploration of these patterns in more detail and trying to understand the full range of variation is left for further research.

#### 4.4 Lack of Inversion in Caribbean Spanish

A final important phenomenon that should be considered and which also has received some attention in the literature is the fact that speakers of Caribbean Spanish do allow intervening material between the *wh*-phrase and the raised verb (see, e.g., Ordóñez and Olarrea (2006)), which of course seems to be unexpected if the analysis that I am proposing here is correct. An example is given in (26) below:

- (26) Qué            tú    dices? (\*in standard Spanish)  
      What        you say.2sg  
      'What are you saying?'

Interesting questions regarding the data arise in this domain. On the one hand, Ordóñez and Olarrea (2006) show that only pronouns are allowed in this position, and Goodall (2010) has conducted experimental work that reveals that participants only accept heads in this non-inverted word order. On the other hand, Villa-García *et al.* (2009) claim that full DPs can indeed be possible in natural speech in these dialects, and Gutiérrez Bravo (2008) has shown that for some speakers there can be

even more material between the *wh*-phrase and the verb, like a topic, as shown in (27) below:

- (27) Qué a Juan le han hecho? (\*in standard Spanish)  
What to John him have.3pl done  
'To John, what have they done to him?'

To make things more complicated, the kind of head involved may also affect the judgments. Some speakers who find (26) grammatical do not seem to accept a kinship term in that position, which is unexpected if Ledgeway (2000) is right in that kinship terms are syntactic heads, as one of the reviewers points out.

It seems then that there are two different groups of speakers: those who accept only D heads and those who accept DPs more generally. For the first group, there is a way to make this phenomenon compatible with my proposal. The difference between standard Spanish and their dialect of Spanish is not about the properties of C as the data would seem to suggest in principle, but about the fact that Caribbean Spanish allows pronouns to head-adjoin to T, probably in a way similar to that found in the case of regular clitics in Spanish. The case of the second group of speakers is indeed problematic for my proposal since a full DP would disrupt the required adjacency in the PF component. I leave more careful investigation of this microvariation, which is also found in other Romance varieties, for future research.<sup>25</sup>

## 5. CONCLUSIONS

In this paper I have argued that data from Across-The-Board extraction present problems for a T-to-C movement analysis of *wh*-questions. In order to account for the word order restrictions found in questions in Spanish I have proposed that interrogative C is affixal and needs to attach to the verbal host, thus requiring adjacency in the PF component. Finally,

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<sup>25</sup> Some varieties of Portuguese allow this pattern as well (see, e.g., Duarte 1998 and Barbosa 2009, among others). As one of the reviewers points out, the Romanian spoken in Moldova also allows the subject-verb order in *wh*-questions.

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I have also explored the consequences of this analysis for a number of phenomena, including embedded wh-questions, exclamative sentences, and variation in word order patterns in standard and Caribbean Spanish.

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從主句、蘊含句及橫跨式的 *wh*-提取  
看西班牙語時式與補語詞的互動

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我於本文中檢視西班牙語時式與補語詞的關係。雖然在英語中，主詞 *wh*-疑問句除外，主句疑問句有時往補移位已廣為所知，但此分析是否合用於西班牙語則有待商榷（參見如：Torrego 1984、Suñer 1994、Gallego 2007 對西班牙語的探討）。我於是先點出，西班牙語中橫跨式提取與時往補移位的扞格。如 Fernández-Salgueiro（2008）所示，假若西班牙語有時往補移位，則歷經橫跨式提取的所有連接成分的時式詮釋無須一致，實屬費解。為照顧此一參數差異，我提出疑問補語詞為詞綴，因而下連至時式詞；同此分析也能解釋西語中其他詞序限制。也探究該分析對後述現象的啟示為何：蘊含 *wh*-疑問句、感嘆句、更多詞序變化的明確實例。

關鍵字：西班牙語、時往補移位、音韻合併、橫跨式提取、*wh*-移位、參數變化