5. *Wh*-Interrogatives and word order

In the previous chapter, I have discussed the word order effects that result from the interaction between the constraints that derive the unmarked word order in Spanish and those related to information structure. In this final chapter I discuss the effects on word order that result from the interaction of these two sets of constraints with the constraints that govern the behavior of *wh*-interrogatives. My central claim about the word order of *wh*-interrogatives is that fronted *wh*-operators in Spanish have the Pole as their landing site, all else being equal. Accordingly, they satisfy the EPP and make fronting of a *agent* subject or a dative *experiencer* unnecessary. However, a conflict arises when there is both a topic and a *wh*-operator in the representation, since the Pole is also the landing site of topics, as discussed in §4. I argue that the relative word order of topics and *wh*-operators that is observed in this case can be understood as the result of the interaction between the TOPICFIRST constraint, the constraints that penalize vacuous structure, and the constraint that derives *wh*-movement in the first place.

5.1 *Wh*-interrogatives in Spanish[1]

In this section, I introduce the two issues that will be the subject of analysis in this final chapter, both of which are related to *wh*-movement in interrogative clauses. The

[1] In this chapter I consider only the interaction between *wh*-movement and structural markedness in interrogative clauses. Word order facts are somewhat different in relative clauses, presumably because they are uniformly CPs, and accordingly Spec-CP is always independently available as a landing site in the left periphery. I leave their analysis for future investigation.

first one concerns the relative word order of fronted *wh*-operators with respect to subjects that would occupy the preverbal position in the unmarked case. The second issue concerns the relative word order of fronted *wh*-operators with respect to fronted topics. The discussion of these issues in this section is essentially descriptive. I delay theoretical considerations until sections §5.2 and §5.3.

One of the most notable and amply studied characteristics of Spanish is that, in a number of dialects in this language, the preverbal position cannot be occupied by the subject when a *wh*-operator is fronted in interrogative clauses (Meyer 1972, Torrego 1984, *inter alia*). This is shown by the examples in (1-3) from Mexican Spanish.[2]

(1) a. Qué compró Juan?
what bought Juan
'What did Juan buy?'

b. *Qué Juan compró?
what Juan bought

(2) a. Cuándo compró Pedro el periódico?
when bought Pedro the newspaper
'When did Pedro buy the newspaper?'

b. *Cuándo Pedro compró el periódico?
when Pedro bought the newspaper

[2] There are no uniform judgments across speakers of Mexican Spanish for WH-Subj-V examples with *reason* operators in matrix clauses like (3). The double interrogation mark (??) is meant to indicate that judgments from most of the speakers consulted run from slightly deviant (?), to ungrammatical. However, some speakers do accept (3b). For reasons that will become clear in what follows, I assume that there are two different varieties of Mexican Spanish, which are minimally different in this respect. In this chapter I only provide an analysis of the variety illustrated in (1-3) since, as we shall see, *wh*-interrogatives in this variety display an interesting matrix-subordinate asymmetry. The analysis of the variety where (3b) is acceptable, which does not display this asymmetry, is included in Appendix A.

(3) a. Por qué compró Pedro el periódico?
why bought Pedro the newspaper
'Why did Pedro buy the newspaper?'

b. ??Por qué Pedro compró el periódico?
why Pedro bought the newspaper

However, it is also well-known that not every variety of Spanish behaves in this way. Torrego (1994) noted for Peninsular Spanish that preverbal subjects are not allowed when the *wh*-operator corresponds to an argument, as shown in (4), but they are permitted otherwise, as shown in (5). It is also well-known that the Caribbean varieties of Spanish allow preverbal subjects with any kind of *wh*-operator (see Suñer 1994), as shown in (6).

(4) PENINSULAR SPANISH: Torrego (1984)[3]
a. Qué querían esos dos?
what wanted thosetwo
'What did those two want?'

b. *Qué esos dos querían?
what thosetwo wanted

(5) a. Cuándo Juan consiguió por fin abrir la puerta ayer?
when Juan got at end open the door yesterday
'When did John finally get to open the door yesterday?'

b. Por qué Juan quiere salir antes que los demás?
why Juan wants leave before that the others
'Why does Juan want to leave before the others?'

[3] Glosses are my own.

(6) CARIBBEAN SPANISH (Puerto Rico): Suñer (1994)[4]
a. Qué Ivan dijo de eso?
what Ivan said of that
'What did Ivan say about that?'

b. Cuándo un implante dental es exitoso?
when an implant dental issuccessful
'When is a dental implant successful?'

In his cross-dialectal OT analysis of *wh*-questions in Spanish, Bakovic (1998) discovered that there is an intricate implicational relationship among the types of *wh*-phrases that can co-occur with preverbal subjects in any given variety of this language.[5] Given the scale in (7) (see §3.2), if preverbal subjects are allowed with a *wh*-operator with a semantic role X, then they are also allowed with *wh*-operators with every semantic role less prominent than X.

(7) Bakovic (1998: 37)
ARGUMENT > LOCATION > MANNER > REASON

In other words, if a variety of Spanish allows a direct object operator to co-occur with a preverbal subject, then it allows every kind of *wh*-operator to do so. This corresponds to the Caribbean variety illustrated in (6). Similarly, if a variety allows for preverbal subjects to co-occur with a *manner wh*-operator, then it also allows for preverbal subjects to co-occur with *reason* operators. Crucially, there is no

[4] Free translations are my own.
[5] Bakovic (1998) does not state his findings in relation to preverbal subjects, but rather with respect to *inversion*, following the analysis in Torrego (1984). I avoid the use of the term inversion, since there

variety that, say, allows preverbal subjects to co-occur with a *manner* *wh*-operators but not with *reason* operators.

Bakovic further discovered that some varieties display matrix-subordinate asymmetries in this respect. Descriptively, some varieties allow for preverbal subjects to co-occur with *wh*-operators in embedded interrogatives where this would not be allowed in matrix interrogatives. The cases where preverbal subjects co-occur with *wh*-operators in embedded interrogatives follow the same implicational relation discussed above, but there is a further implicational relationship at play here. If preverbal subjects are not allowed with *wh*-operators of type *x* in embedded interrogatives, then this pattern is also disallowed in matrix questions, but not vice versa. As noted by Bakovic, this means that there are varieties of Spanish where preverbal subjects in embedded interrogatives are allowed to co-occur with more kinds of *wh*-operators than in matrix interrogatives, but there is no variety in his survey where preverbal subjects in matrix interrogatives are allowed to co-occur with more kinds of *wh*-operators than in embedded interrogatives.

The variety of Mexican Spanish under consideration here is in fact a variety that displays such a matrix-subordinate asymmetry. In contrast with (3b), preverbal subjects are allowed to co-occur with a *reason* operator in embedded interrogatives, as shown in (8a).[6] However, when the *wh*-operator is a *manner* operator, there is no

is considerable evidence that an inversion (i.e., I-to-C) analysis of Spanish interrogatives is not adequate. I address this issue in detail in §5.3.

[6] It is important to note that this phenomenon is not dependent on the specific nature of the matrix verb. In Spanish the sentential complements of verbs of illocution, such as *preguntar* 'ask', allow CP

asymmetry. Co-occurrence of a preverbal subject and a *manner* *wh*-operator is disallowed altogether, as shown in (9) and (10).

(8) a. Yo quiero saber [por qué Pedro compró el periódico].
I want know why Pedro bought the newspaper
'I want to know why Pedro bought the newspaper.'

b. Yo quiero saber [por qué compró Pedro el periódico].
I want know why bought Pedro the newspaper
'I want to know why Pedro bought the newspaper.'

(9) a. Cómo arregló Pedro la tele?
how fixed Pedro the T.V.
'How did Pedro fix the T.V.?'

b. *Cómo Pedro arregló la tele?
how Pedro fixed the T.V.

(10) a. Yo quiero saber [cómo arregló Pedro la tele].
I want to.know how fixed Pedro the T.V.
'I want to know how Pedro fixed the T.V.'

b. *Yo quiero saber [cómo Pedro arregló la tele].
I want to.know how Pedro fixed the T.V.

The relevance of the contrasts in (8-10) for our analysis is straightforward. In an analysis where fronted *wh*-operators occupy the Pole (see §2.3.1) the pattern observed in Mexican Spanish in (1-3), (9) and (10) is unsurprising. Since the *wh*-operator occupies the Pole position, it also satisfies the EPP and fronting of the subject

recursion, as discussed in Plann (1992) and Suñer (1991); see also McCloskey (1992). Crucially, the pattern in (8a) is still observed in interrogative complements that do not allow CP recursion, such as the complements of *saber* 'know', and *acordarse* 'to remember'. To control for this variable, throughout I make use of data where the matrix verb is *saber* 'know'.

becomes unnecessary. However, the presence of both a preverbal subject and a *reason wh*-operator in (8a) now requires an explanation.

The second issue that I address in this chapter concerns the relative word order of fronted topics and *wh*-operators. In Spanish, topics precede *wh*-operators, as is well-known (see Meyer 1972, Fontana 1994, Zubizarreta 1998, *inter alia*). This is the case both when the topic corresponds to a subject and to a non-subject, as shown in (11).[7] The reverse order is not possible, as shown in (12) for a DO topic.

(11) a. Juan cuándo llegó? **Top - *Wh***
Juan when arrived
'When did Juan arrive?'

b. Los discos quién los compró?
the records who ACC-CL *bought*
'Who bought the records?'

(12) *Quién los discos los compró? ***Wh* -Top**
who the records ACC-CL *bought*

Within an analysis of the left periphery along the lines of Rizzi (1997), this fact would follow if in Spanish all Topic Phrases dominate the phrase whose specifer hosts the *wh*-operator (a Focus Phrase in Rizzi 1997). This would be in contrast with what is observed in Italian, where there are Topic Phrases both above and below the Focus Phrase.

[7] We have good reason to think that the subject in (11a) is a topic, since it corresponds to the subject of an unaccusative verb. Hence, it would not otherwise appear in the preverbal field, as discussed in §3 and §4.3.

(13) a. ITALIAN: [... [$_{TopP*}$ [$_{FocP}$ [$_{TopP*}$ [...]]]]] (Rizzi 1997)
b. SPANISH: [... [$_{TopP*}$ [$_{FocP}$ [...]]]]

However, the Spanish pattern cannot be reduced to (13b), since when the *reason* operator in embedded interrogatives is involved, we find exactly the order [$_{FocP}$ [$_{TopP}$ [...]]], which is not permitted under (13b). This is shown in the examples in (14). Notice that this is the reverse order from the one observed in (11).

(14) a. Yo quiero saber [por qué ayer llegó tarde Juan]. ***Wh*- Top**
I want to.know why yesterday arrived late Juan
'I want to know why Juan arrived late yesterday.'

b. Yo quiero saber [por qué al presidente le toman
I want to.know why to-the president DAT-CL they.take
esa clase de fotos].
that class of photos
'I want to know why they take that kind of pictures of the president.'

This characteristic is not specific to Mexican Spanish. As noted in Suñer (1994), in Caribbean Spanish, where preverbal subjects can co-occur with all kinds of *wh*-operators, the position that corresponds to the subject can be alternatively occupied by a topic. This is shown in (15) (glosses are my own).

(15) PUERTO RICAN SPANISH (Suñer 1994)
a. A qué ahora/estos días se dedica?
to what now/these days CL *devote*
'To what does she devote herself now/these days?'

b. Qué al Rafo le han hecho?
what to-the Rafo DAT-CL *they.have done*
'What have they done to Rafo?'

Furthermore, when the *reason wh*-operator is involved in Mexican Spanish embedded interrogatives, the order [$_{TopP}$ [$_{FocP}$ [...]]] is disallowed, again contrary to (13b). This shown in (16), to be compared with (14).

(16) a. ??Yo quiero saber [ayer por qué llegó tarde Juan]. **Top - *Wh***
I want to.know yesterday why arrived late Juan

b. *Yo quiero saber [al presidente por qué le toman
I want to.know to-the president why DAT-CL they.take
esa clase de fotos].
that class of photos

In an exploded CP analysis like (13), the data in (14) and (16) cannot be accounted for straightforwardly. Such an analysis would need to stipulate a template of C-related projections ([$_{FocP}$ [$_{TopP}$ [...]]]) for embedded interrogatives with reason operators, and a different template altogether ([$_{TopP}$ [$_{FocP}$ [...]]]) for all other cases. Furthermore, even if this were a possibility such an analysis would still need to provide an explanation of why this asymmetry exists in the first place.[8]

[8] One may try to find a solution to this problem in the fact that *reason* adverbials behave differently from other kinds of adverbials in some languages. For instance, Rizzi (1990) suggests that *reason wh*-operators are base-generated in [Spec, C], in contrast with other kinds of operators. There are two reason why such an analysis is unattractive. First, this analysis would still not explain the matrix-subordinate asymmetry observed in Mexican Spanish. If we claim that (8) and (14) are possible because the *reason* operator can be base generated in a position above the position occupied by the subject or topic, we still need to explain why this is a possibility in embedded but not in matrix interrogatives. Notice that we cannot go around this problem by suggesting that only embedded clauses have a CP layer, since *wh*-operators and fronted topics in matrix clauses are equally hosted in C-related projections in an exploded CP analysis. Second, such an analysis would fail to capture the fact that the pattern of Mexican Spanish simply corresponds to a point in a larger continuum, as discussed in Bakovic (1998). In other words, in Mexican Spanish preverbal subjects can only co-occur with *reason* operators (in embedded interrogatives) but as we have seen, other varieties allow this pattern with a wider variety of operators, and Suñer's data in (15) suggests that this pattern extends to preverbal topics too.

My analysis of topicalization (§4.3) does not involve Topic Phrases, and so it avoids these problems altogether. However, the data in (11-12), (14) and (15) still requires an explanation. Clearly, simply stipulating that TOPICFIRST is undominated in Mexican Spanish, as assumed in §4.3, will not suffice. This is because the wrong result would be derived for (14) where the *wh*-operator precedes the topic.

In the remainder of this chapter, I provide an analysis of the facts from Mexican Spanish.[9] I argue that the sensitivity of [Spec, I] to the semantic role of the constituent that occupies it is crucial for understanding the matrix-subordinate asymmetry discussed above, which in turn provides further evidence for the notion of the Pole. Before developing the analysis, it is necessary to determine what exactly triggers the fronting of interrogative *wh*-operators in Spanish.

5.2 Deriving Wh-movement

For the purpose of analyzing the facts just discussed, I essentially adopt the analyses of *wh*-movement in interrogatives of Cheng (1991) and Ackema & Neeleman (1998a, 1998b). Cheng (1991) proposes that *wh*-fronting in interrogatives in languages like English takes place to type the clause as a *wh*-question. Other languages, like Chinese and Japanese, use *wh*-particles for this same purpose. This is expressed in the Clausal Typing Hypothesis in (17).

[9] A tentative analysis of the varieties in (4-6) is presented in Appendix A.

(17) Clausal Typing Hypothesis (Cheng 1991: 30)
Every clause needs to be typed. In the case of typing a *wh*-question, either a *wh*-particle in C^0 is used or else fronting of a *wh*-word to the Spec of C^0 is used, thereby typing the clause through Spec-head agreement.

Cheng thus develops a transformational analysis where the scope and absorption properties of *wh*-operators are universally satisfied at LF. The difference between languages that show overt *wh*-movement vs. those that do not ultimately corresponds to a difference between languages that do not have true interrogative complementizers (and which accordingly resort to *wh*-movement to signal the clause as an interrogative) and those that do.[10]

Cheng's analysis explains why in clauses with multiple *wh*-phrases like (18), one of the *wh*-phrases stays in-situ. In order to satisfy the typing requirement, it is only necessary to move on of them to Spec-CP; all other movement is ruled out by Economy of Movement.[11]

(18) $[_{CP}$ Who$_i$ $[_{IP}$ t_i bought what]]? (Cheng 1991: 30)

Ackema & Neeleman (1998a, 1998b) develop an OT analysis of *wh*-interrogatives closely related to Cheng's. They propose that in languages like English, interrogative

[10] I will not follow Cheng with respect to this last point, though, which brings with it the conclusion that English complementizers like *whether* and *if* are not inherently interrogative (see Cheng 1991 for discussion). Although I will have relatively little to say about the typology that emerges from the OT analysis that I develop building on Cheng (1991), we will see that in such an OT analysis we are not forced to conclude that languages can only have one of the two typing mechanisms in (17).

[11] This is in contrast with the *Wh*-Criterion of Rizzi (1996), for which examples like (18) are problematic. See Rizzi (1996) for discussion and for a possible solution.

operators are fronted to satisfy the Q-MARKING constraint in (19). This implies that in these languages Q-MARKING outranks STAY.

(19) Q-MARKING
A question must be overtly Q-Marked.
In a question, assign a [+Q] feature to the constituent corresponding to the proposition.
(Ackema & Neeleman 1998b: 16; 1998a:447)

Q-MARKING requires that in questions, the proposition that is immediately subjacent to CP (VP in Ackema & Neeleman 1998a) be assigned the feature [Q] by C through head-complement agreement. There are two ways in which this can occur. The first one is when C inherently bears the [Q] feature (*whether, if*), as in (20). In this respect Ackema & Neeleman's analysis departs from Cheng's.

(20) John wonders [if $[_{VP}$ you have seen the soccer match]].
[Q] ⇨ [Q]

The second way is when the [Q] feature is provided by a *wh*-phrase. In this case, the head of the phrase above VP first acquires the [Q] feature through Spec-head agreement with the *wh*-phrase. After this, the VP acquires the [Q] feature through head-complement agreement, as illustrated in (21).

(21) [What have [$_{VP}$ you seen]]?
[Q] ⇨ [Q] ⇨ [Q]

This proposal explains why adjunction of the *wh*-operator to IP (or VP in Ackema & Neeleman's terms) in English, as in (22), is not an option, since the appropriate Spec-head configuration is not established.

(22) *[$_{VP}$ What [$_{VP}$ you have seen]]?

As in Cheng (1991), a central characteristic of this proposal is that *wh*-movement (in some languages) is independent from scope considerations. However, in contrast with Cheng's proposal, in Ackema & Neeleman's analysis there are languages where overt *wh*-movement is related to scope, namely, the Slavic languages which show multiple *wh*-movement. They propose that besides Q-MARKING there is a constraint Q-SCOPE that requires *wh*-operators to c-command the constituent corresponding to the proposition. In languages like English, STAY outranks Q-SCOPE. As a result, once one *wh*-operator has been fronted to satisfy Q-MARKING in cases of multiple-*wh*, the other *wh*-operators remain in-situ. In contrast, the Slavic languages which show multiple *wh*-movement are characterized by a ranking where Q-SCOPE outranks

STAY. With this ranking, the optimal pattern is the one where all *wh*-operators move to a scope position in the left periphery in the surface representation.[12] [13]

There are two minor technical issues that are somewhat problematic for the Q-MARKING analysis, though. The first concerns subject *wh*-operators. Following standard OT assumptions, in this case the subject does not move beyond the position where it is assigned Case ([Spec, V]) in Ackema & Neeleman's proposal), as in (23). But now the VP that corresponds to the proposition is not assigned the [Q] feature in a head-complement configuration.

(23) [$_{VP}$ Who ate the bagels]?

[12] It is my sense, however, that Ackema & Neeleman's Q-MARKING analysis (where the scope of *wh*-operators is not specified in the input) is not incompatible with analyses where scope is specified in the input, as in Legendre et. al. (1995) and Legendre et. al. (1998). When contrasted with these analyses, the result would be that *wh*-movement in languages like English and Spanish is not the result of mapping the scope in the input to the surface representation (i.e., it is not a Faithfulness-to-scope issue). Crucially, it seems to me that the scope specifications in the input would still be relevant for deriving the interpretive properties of *wh*-operators. As a result, I believe that the most comprehensive analysis of *wh*-movement in languages like English and Spanish would be one that takes into account the interaction between Q-MARKING and constraints that require Faithfulness to the scope properties in the input. Here I will not attempt to develop such a proposal, though, since the interpretive properties associated with scope are not crucial for accounting the surface word order of *wh*-operators in Spanish.

[13] Further notice that the distinction between *wh*-fronting derived by clause typing and *wh*-fronting derived by scope opens the possibility for an alternative to the analysis of the partial *wh*-movement facts developed in McDaniel (1989) for German and Romani. In partial *wh*-movement, a *wh*-expletive is found in a higher specifier position than the one occupied by the *wh*-operator that it is associated with. However, as noted by McDaniel, this has the consequence that the *wh*-operator in partial *wh*-movement ends up in a Spec-CP position that is [-WH], in contrast with what is observed with full *wh*-movement. In other words, a fronted *wh*-operator marks the clause as interrogative in full *wh*-movement but not in partial *wh*-movement. Given Ackema & Neeleman's proposal, this is not entirely surprising. It is possible that in the former case the *wh*-operator simultaneously moves to take scope and to mark the clause as interrogative, whereas in the latter case it just moves to have scope over the open proposition. This is a possibility that I leave open for future investigation.

To solve this problem Ackema & Neeleman (1998a) propose that feature percolation is an alternative way of Q-marking. The subject *wh*-operator in (23) provides the verb with the [Q] feature, which then percolates to the VP, satisfying Q-MARKING. Although this is not a serious problem, ideally the effects in (20), (21) and (23) should all be derived by the same mechanism.[14]

The second problem is somewhat more delicate. Ackema & Neeleman (1998a) note that their analysis predicts that (24) should be a possible output in English (with a non-echo reading), contrary to fact. This is because the interrogative complementizer is all that is needed to Q-mark the VP, so the *wh*-operator does not need to be fronted.

(24) *Mary wonders [if John loves who].

To solve this problem, Ackema & Neeleman (1998a) propose the redefinition of Q-MARKING in (25). This redefinition implies that every *wh*-operator in a clause must "discharge" (i.e. transfer) its own [Q] feature on the VP. For this to happen, every *wh*-operator must be in the appropriate Spec-Head configuration in the output. This condition is not met in (24), where *who* stays in-situ. Its [Q] feature is not "discharged" on the VP and so Q-MARKING is violated.

[14] Alternatively, if the analysis developed in §2.1.2 is adopted, this problem does not arise in the first place. This is because in this analysis the minimal matrix clause is IP and not VP, so the subject in (23) would be in [Spec, I] and not in [Spec, V] to begin with.

(25) Q-MARKING
Mark the constituent corresponding to the proposition for every [Q] feature that it has present.

The new definition still rules out multiple *wh*-fronting in English. This is because only one *wh*-operator can be in the appropriate Spec-Head configuration to transfer its [Q] feature to the head that will ultimately Q-mark the VP.[15] Fronting of more than one *wh*-operator thus results in extra violations of STAY that cannot improve the structure with respect to Q-MARKING.[16] However, it seems to me that this new definition dilutes too much the distinction between *wh*-movement driven by clause typing and *wh*-movement driven by scope considerations. In both cases, every *wh*-operator must be fronted, but in languages where *wh*-movement is driven by clause typing, multiple *wh*-fronting happens to be ruled by the fact that only one *wh*-operator can be in the appropriate Spec-Head configuration that will allow it to transfer its [Q] feature to the VP.

To tackle these issues I propose that the effects of Q-MARKING can be reduced to a condition that requires the head of the highest phrase in the Extended Projection to bear the feature [Q] (without the need to Q-Mark VP or any other maximal projection). This is closer in spirit to Cheng's original proposal and avoids the two complications of the Q-MARKING analysis. I formalize this condition as in (26).

[15] Under the assumption that multiple specifiers are not allowed in languages like English. Ackema & Neeleman (1998a) do not explicitly make this assumption, but it is clearly necessary for their analysis to go through.

[16] Notice that once (25) is adopted, constructions with *wh*-in situ violate Q-MARKING once for every *wh*-operator that stays in situ, which is not the case with the first definition of this constraint. See Ackema & Neeleman (1998a) for details.

(26) INTERROGATIVE CLAUSE CONDITION (ICC)
A clausal Extended Projection is interrogative iff the head of the highest phrase in the Extended Projection bears the feature [Q].

I follow Ackema & Neeleman in assuming that this constraint can be satisfied in two different ways. The first is when the head of the highest phrase in the extended projection inherently bears the [Q] feature (i.e. by *whether* or *if* in English).[17] The second is by Spec-head agreement between a *wh*-operator and the highest head in the extended projection.[18] However, like Cheng (1991) and Rizzi (1996), and *contra* Ackema & Neeleman (1998a), I assume that the head involved can be either overt or null.[19] Specifically, I follow Cheng (1991) in assuming that in English subordinate interrogatives the appropriate Spec-head configuration is established between the fronted *wh*-operator and a null functional head, as in (27).

[17] In this I depart from analyses like Kayne (1990) where *whether* is analyzed as an XP. This assumption will have no consequences in the discussion that follows.

[18] Ultimately this implies that there must be two different sets of *wh*-operators, those that bear the feature [Q] and relative operators, which do not. This is indeed the case in German, as reported in McDaniel (1989:598), and it is also partly confirmed in Spanish, where there are interrogative operators like *por qué* 'why' which cannot be used in relative clauses and relative operators that cannot be used in interrogative clauses, such as *por el cúal* 'why', *al que* '(to)whom', *cuyo* 'whose', etc. The important point is that nothing in principle rules out a language with partial or total homophony among the operators in both sets.

[19] In Ackema & Neeleman's analysis, the appropriate Spec-head configuration can only be established with an overt head. I-to-C movement in English matrix interrogatives then becomes necessary to establish the required Spec-Head configuration between a fronted *wh*-operator and an overt head. For English subordinate interrogatives Ackema & Neeleman (1998a) propose that the Spec-head configuration is established between the fronted *wh*-operator and an overt complementizer that is part of the input. The complementizer is then deleted in order to satisfy the OT-constraint that corresponds to the Doubly Filled Comp Filter (Pesetsky 1998). Instead I follow the analysis in Grimshaw (1997), where I-to-C in English matrix interrogatives is instead the result of the high ranking of the Ob-HD constraint, and its absence in subordinate interrogatives is the result of the high-ranking PURE-EP constraint (which penalizes movement into the highest head position of a subordinate extended projection). See also §5.4.

(27) I don't know [what ∅ [$_{IP}$ you should wear to the party]].
[Q] ⇨ [Q]

The analysis of *wh*-interrogatives that results from the ICC captures Grimshaw's (1997, 2000) observations about Economy of Projection and is compatible with the analysis of *wh*-movement in English in Grimshaw (1997). Following Grimshaw (1997), when the *wh*-operator has to land in Spec-IP for independent considerations (i.e. Case for a subject *wh*-operator), it does not need to move any further (see (28a) below). In terms of my proposal this is because the ICC can be met without the need to project another phrase above IP. I^0 acquires the [Q] feature through Spec-head agreement with the *wh*-operator in Spec-IP and the ICC is satisfied. When Spec-IP is already occupied, CP is projected to host the *wh*-operator in its specifier, as in (28b). I-to-C movement follows from the high ranking of OBLIGATORY-HEAD (Ob-HD) in English, as in Grimshaw (1997). The necessary Spec-head configuration is now established between the *wh*-operator and the inflectional head in C^0. In this way, (28a) and (28b) are both signaled as interrogatives by the same property (the [Q] feature in the highest head of the extended projection), in contrast with the Q-MARKING analysis.

(28) a. [$_{IP}$ Who ate the bagels]?
b. [$_{CP}$ What did [$_{IP}$ John eat *t*]]?

Notice that another consequence of this analysis is that selection is no longer a problem (cf. Grimshaw 1997). A verb like *wonder* simply selects a [Q] sentential

complement, as defined by the ICC. As long as the head of the highest phrase in the extended projection bears the feature [Q], it does not matter if the sentential complement is CP or IP. In both cases the result is head-to-head selection, as illustrated in (29).

(29) a. I wonder [$_{CP}$ which coat [$_{C}$ Ø]$_{[Q]}$ [$_{IP}$ you should wear]].
b. I wonder [$_{CP}$ if$_{[Q]}$ [$_{IP}$ he saw her]].
c. I wonder [$_{IP}$ who$_{[Q]}$ can bring the bagels]].

To address the problem presented by (24) (**Mary wonders if John loves who*), we need to consider how the ICC relates to the input. I assume that the interrogative value of a clause is specified in the input by an abstract morpheme [Q] (Baker 1970). The input of a *wh*-question like (30a) thus corresponds to (30b).

(30) a. What did you buy?
b. < [Q] buy (x, y), x=[2nd.Sing], y= [+wh] >

It is important not to confuse the abstract morpheme [Q] with the operator *Q* of Legendre et. al. (1998), who also build on Baker's (1970) analysis. In my proposal [Q] is just an abstract morpheme that specifies an interrogative value, as in Baker's original analysis (it can be thought of as the shorthand notation of [+interrogative]). It does not represent a given scope, and I have only included it as the leftmost element

of the input for illustration.[20] Under these assumptions, the ICC is a well-formedness condition on expressing the [Q] specification of the input in the syntactic representation.

Consider now the following. In an OT analysis, it is possible to assume that complementizers are never part of the input, as in Grimshaw (1997) (see also Asudeh 2001). This is a reasonable assumption, since the input is nothing more than a predicate-argument structure plus tense/aspect specifications, plus scope specifications for certain kinds of elements.[21] Accordingly, I assume that the presence of a complementizer in the output representation violates FULL-INTERPRETATION. Now we can analyze English (and Spanish) as languages characterized by the ranking ICC >> FULL-INTERPRETATION >> STAY. As shown in the tableau in (32) this ranking explains why (24) (repeated here as (31)) is ungrammatical. For the sake of exposition, I only include in the tableau the part of the input that corresponds to the embedded clause.

(31) *Mary wonders [if John loves who].

[20] As discussed in footnote 12, a proposal along these lines is still compatible with an analysis where an operator in the input determines the scope of *wh*-operators.

[21] This is in contrast with Bakovic & Keer (2001), where complementizers are proposed to be part of the input in order to account for the optionality of *that* in English subordinate clauses. Although I cannot address Bakovic & Keer's analysis in detail, two observations are relevant here. First, Bakovic & Keer's proposal is devised to avoid the numerous problems that result from the analyses of optionality in Grimshaw (1997) and Pesetsky (1998). However, more recent analyses of optionality, such as Boersma & Hayes (2001), equally avoid the problems of the earlier analyses and do so without the need to make special assumptions about the input. Second, in any event it is not immediately clear if Bakovic & Keer's analysis of *that* (and the issues of optionality that engendered it) is relevant for interrogative complementizers, since these are essentially obligatory.

(32) INPUT: < [Q](love (x, y)), x=John, y= [wh] >

	ICC	FULL-INTER	STAY
☞a. Mary wonders [who$_i$ John loves t_i].			*
b. Mary wonders [if John loves who].		*!	
c. Mary wonders [John loves who].	*!		

With the ranking FULL-INTERPRETATION >> STAY, the optimal candidate is the one that moves the *wh*-phrase to Spec-CP (candidate 32a), since this is less costly than to insert a complementizer in the representation. Candidate (32b), which does insert a complementizer, is ruled out by its fatal violation of FULL-INTERPRETATION. Trivially, candidate (32c) loses because of its violation of ICC, since in this case there is neither a *wh*-phrase nor a [Q] complementizer to signal the clause as an interrogative.

However, a crucial characteristic of my proposal is that in the absence of a *wh*-phrase, the ranking ICC >> FULL-INTERPRETATION does force the insertion of an interrogative C^0, because otherwise the ICC would be violated.[22] This is shown in tableau (33).

[22] This analysis raises the question of why a [+Q] C^0 is not inserted in matrix yes-no interrogatives. There are two (possibly overlapping) solutions to this question. The first one is to suggest that, following standard analyses, matrix questions have the option of making use of a null [Q] operator. The second one is to suggest that complementizers in matrix clauses in English are banned altogether by an independent (and high-ranked) constraint. Addressing this issue goes beyond the scope of this dissertation. However, my analysis does predict that there should be languages where [+Q] complementizers are found in matrix yes-no interrogatives. According to Cheng (1991) Korean, Japanese, Mandarin, and a number of other languages indeed behave in this way (see Cheng 1991:21 for a full list of languages of this type).

(33) INPUT: < [Q](love (x, y)), x=John, y= Catherine >

	ICC	FULL-INTER
☞a. Mary wonders [if John loves Catherine].		*
b. Mary wonders [John loves Catherine].	*!	

Having characterized my assumptions about the conditions responsible for the fronting of *wh*-operators in languages like English and Spanish, I now proceed to provide an account of the word order facts observed in *wh*-interogatives in Mexican Spanish.

5.3 Matrix interrogatives in Mexican Spanish

5.3.1 Basics of the analysis

Consider again matrix *wh*-interrogatives in Mexican Spanish. As discussed in §5.1, preverbal subjects cannot co-occur with *wh*-operators of any kind in this environment. The relevant examples are repeated in (34).

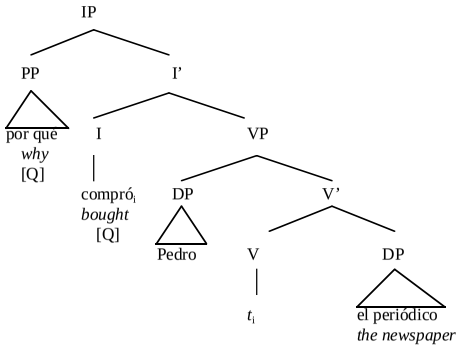
(34) a. Por qué compró Pedro el periódico?
why bought Pedro the newspaper
'Why did Pedro buy the newspaper?'

b. ??Por qué Pedro compró el periódico?
why Pedro bought the newspaper

Following the analysis developed in chapters §2-4 and the characterization of *wh*-interrogatives in §5.2, my proposal is that *wh*-operators in Spanish move into the Pole to satisfy the ICC. The structure of (34a) under this analysis is presented in (35).

Here the fronted *wh*-operator is in the appropriate Spec-Head configuration. Accordingly, the verb in I^0 acquires the [Q] feature and the ICC is satisfied, since the highest head in the extended projection is specified for the feature [Q].

(35)



We have already seen in §2.3.1 that evidence from ellipsis supports an analysis where *wh*-operators occupy the Pole position, since they have the same distribution as preverbal subjects and fronted topics in elliptical constructions. The relevant paradigm is illustrated in (36).

(36) a. Luis reprobó a Ernesto, pero [Juan no___].
Luis failed ACC *Ernesto but Juan not*
'Luis failed Ernesto, but Juan didn't.'

b. En ese café cobran carísimo, pero [en el otro no___].
in that coffee.shop they.charge very.expensive but in the other not
'In that coffee shop they charge a lot, but in the other one they don't.'

c. En ese café cobran carísimo, pero [en dónde no ___]?
in that coffee.shop they-charge very.expensive but in where not
'In that coffee shop they charge a lot, but where don't they?'
(=That coffee shop is very expensive, but (then again) which one isn't?)

A further argument can be found in EPP effects. If a fronted *wh*-operator occupies the Pole, it automatically satisfies the EPP. Accordingly, *wh*-movement should be able to "rescue" constructions that would otherwise be ruled out because of a violation of the EPP. This is indeed what is observed. I argued in §3 that VSO sentences in Mexican Spanish are not tolerated because of their violation of the EPP. However, *Wh*-VSO is clearly an acceptable word order, as shown by the contrast in (37).

(37) MEXICAN SPANISH
a. ??Compró Juan el periódico. **V S O**
bought Juan the newspaper
'Juan bought the newspaper.'

b. Por qué compró Pedro el periódico? ***Wh*-V S O**
why bought Pedro the newspaper
'Why did Pedro buy the newspaper?'

5.3.2 Against inversion analyses

At this point it is worth comparing the analysis in (35) with alternative analyses that derive the corresponding surface word order by means of a movement operation akin to Subj-Aux inversion in English, a proposal first developed in Torrego (1984).

Translating Torrego's proposal into contemporary terms,[23] in example (34a) the subject does occupy the preverbal "subject" position, but movement of the verb from I to C derives the observed surface order, as illustrated in (38).

(38) $[_{CP}$ Por qué compró$_j$ $[_{IP}$ Juan$_i$ t$_j$ $[_{VP}$ t$_i$ t$_j$ el periódico]]]?
why bought Juan the newspaper

From this perspective, (34b) and similar examples (examples (1b) and (1c) in §5.1) are ungrammatical because the verb has failed to move from I to C. This analysis is adopted in its essentials in the OT analysis of Spanish *wh*-interrogatives in Bakovic (1998), which I now discuss in more detail, since it is directly relevant to our analysis. Recall Bakovic's observation that the possibility of having a preverbal subject co-occur with a *wh*-operator obeys an implicational relationship along the scale in (7), repeated here as (39):

(39) ARGUMENT > LOCATION > MANNER > REASON

As discussed in §5.1, if a variety of Spanish allows a direct object operator to co-occur with a preverbal subject, then it allows every kind of *wh*-operator to do so. If a variety allows for preverbal subjects to co-occur with a *manner wh*-operator, then

[23] In Torrego's (1984) pre-CP analysis the subject is base-generated as the NP sister of VP, and the inversion transformation adjoins the verb to S when there is a *wh*-operator in COMP. Torrego's inversion rule is further specified to apply only when the *wh*-operator corresponds to an argument, since adjunct *wh*-operators do not trigger "inversion" in the variety of Spanish she considers.

it also allows for preverbal subjects to co-occur with *reason* operators. But there is no variety that, say, allows for preverbal subjects to co-occur with a *manner wh*-operators but not with *reason* operators.

Consider now matrix interrogatives in one of the dialects in Bakovic's survey, Dialect-F. In this dialect, *location wh*-operators can co-occur with a preverbal subject, but argument *wh*-operators cannot. This is shown in (40).

(40) SPANISH DIALECT-F (Bakovic 1998):
a. Dónde Miguel se fue?
where Miguel went.3s
'Where did Miguel go?'

b. *Qué Miguel se comió?
what Miguel ate.3s

c. Qué se comió Miguel?
what ate.3s Miguel
'What did Miguel eat?'

In Bakovic's Extended Projection analysis (see §2.1.1), as in Torrego's original analysis, the subject in the examples (40) is found in the position where it is base generated, namely [Spec, V].[24] In the inversion case (40c), a second VP is projected to host the operator in its specifier. Since Bakovic assumes (*contra* Grimshaw 1997) that GEN does not generate projections with a null head, the verb obligatorily moves into the head position of the second VP. The resulting structure is illustrated in (41a).

[24] *Wh*-fronting in Bakovic's analysis is derived by a high-ranking OPERATOR-SCOPE constraint similar to the Q-SCOPE constraint of Ackema & Neeleman (1998b).

In contrast, Bakovic suggests that when there is no inversion, as in (40a), the fronted *wh*-operator is adjoined to the VP that immediately dominates the subject, as in (41b). Although Bakovic's analysis is different from Torrego's on this point, what is common to both analyses is that the verb occupies a different position in *wh*-interrogatives with inversion than it does in declaratives, just like the highest inflectional head does in English.

(41) a. $[_{VP2}$ qué$_i$ se comió$_k$ $[_{VP1}$ Miguel t_k t_i]].
what *ate.3s* *Miguel*

b. $[_{VP1}$ dónde$_i$ $[_{VP1}$ Miguel se fue t_i]].
where *Miguel* *went.3s*

To account for the contrast in (40), Bakovic proposes that the OP-SPEC constraint of Grimshaw (1997), which requires operators to occupy a specifier position, be decomposed into the markedness hierarchy in (43). In this hierarchy each operator type has a separate OP-SPEC constraint referring to it. Each of these constraints states that the corresponding operator must be in a specifier position:

(42) OPERATOR IN SPECIFIER (OP-SPEC)
Syntactic Operators must be in specifier position. (Grimshaw 1997)

(43) ArgumentOP-SPEC >> LocationOP-SPEC >> MannerOP-SPEC >> ReasonOP-SPEC.

The hierachical relation in (43) states that even though all kinds of operators must be in a specifier position, it is more important for operators that correspond to

arguments to occupy such a position than for all other kinds of operators. Descending the hierarchy, it is more important for *location* operators to be in a specifier position than for *manner* and *reason* operators to do so, etc.

Given Bakovic's assumptions about sentential structure in Spanish (i.e., that an SVO sentence, for instance, corresponds to the VP in which every argument is generated) the presence of a *wh*-phrase requires that a second VP be projected in order to satisfy the constraints in (43), all else being equal. However, given Bakovic's assumption that GEN does not generate projections with a null head, a conflict now emerges between the constraints in (43) and STAY. This is because after projecting a second VP (VP2 in (41a)) the verb must move into the head position of VP2, which results in a violation of STAY that is not incurred when there is only one VP (as in (41b)). Under these assumptions, embedding STAY along the hierarchy in (43) will determine when and whether inversion is observed.

Bakovic's analysis of Dialect-F in (40) then runs as follows. This is a dialect that displays the ranking ArgumentOP-SPEC >> STAY >> LocativeOP-SPEC. When the *wh*-operator is an argument as in (41a), the high-ranking ArgumentOP-SPEC forces the projection of a second VP to host the operator in its specifier. The verb moves into the head position of the second VP and the inversion candidate (44a) in the tableau below wins. Candidate (44b), which instead adjoins the operator to VP, loses because of its violation of ArgumentOP-SPEC.

(44) (=41a) 'What did Miguel eat?.'

	ARGUMENT-OP-SPEC	STAY	LOCATION-OP-SPEC
☞a. [$_{VP}$ qué$_i$ se comió$_k$ [$_{VP}$ Miguel t_k t_i]].		**	
b. [$_{VP}$ qué$_i$ [$_{VP}$ Miguel se comió t_i]].	*!	*	

But when a *locative* operator is involved, then the adjunction candidate wins, since the extra violation of STAY that would result from projecting a second VP and having the verb move into its head position proves fatal:

(45) (=41b) 'Where did Miguel go?.'

	ARGUMENT-SPEC	STAY	LOCATION-SPEC
a. [$_{VP}$ dónde$_i$ se fue$_k$ [$_{VP}$ Miguel t_k t_i]].		**!	
☞ b. [$_{VP}$ dónde$_i$ [$_{VP}$ Miguel se fue t_i]].		*	*

In dialects of Spanish which show obligatory inversion in matrix clauses for all kinds of operators, like Mexican Spanish, STAY will be ranked below all of the hierarchy in (43).[25] In this way, a notable characteristic of Bakovic's analysis when compared with previous analyses of these facts is that it does not need to stipulate for each different dialect of Spanish when preverbal subjects are allowed to co-occur with a fronted *wh*-operator.[26]

[25] Bakovic also develops an analysis of the matrix-subordinate asymmetries discussed in §5.1. I refer the reader to Bakovic (1998) for details.

[26] This is in contrast with both the inversion analysis in Torrego (1984), and with more contemporary analyses which reject the inversion analysis of Spanish interrogatives, such as Goodall (1991a, 1991b) and Suñer (1994).

However, a considerable number of works, most notably Goodall (1991a, 1991b), Suñer (1994) and Ordóñez (1997), have argued that the inversion analysis of Spanish *wh*-interrogatives is not adequate. These analyses have provided extensive evidence that the verb is in the same position in both declaratives and *wh*-interrogatives, and that this position corresponds to I^0. For the sake of exposition, here I reproduce only some of the arguments provided in these works.

Goodall (1991a) and Suñer (1994) note that Spanish has a class of adverbs like *apenas* 'barely', *regularmente* 'usually', etc. (highlighted in boldface below), which behave exactly like their English counterparts in that they can precede the highest inflected element when there is no *wh*-movement, as in (46). The crucial assumption necessary here is that these adverbs are adjoined to the I' level.[27]

(46) a. [$_{IP}$ John [$_{I'}$ **barely** [$_{I'}$ could see the screen from that seat]]].

b. [$_{IP}$ Juan [$_{I'}$ **apenas** [$_{I'}$ veía la pantalla desde ese asiento]]].
Juan barely saw the screen from that seat
'Juan could barely see the screen from that seat.' (Goodall 1991a)

These authors note that in English, where I-to-C movement is attested, *wh*-fronting modifies the relative order of the adverb with respect to the highest inflected element. This can be seen in (47), where the adverb now appears after both the subject and the modal. But as noted by these authors, in Spanish *wh*-fronting does not modify the relative order of the adverbial with respect to the inflected verb, as

[27] The bracketing in these examples is my own.

shown in (48). This shows that the verb is in the same position in declaratives and interrogatives.[28]

(47) a. From which seat could John **barely** see the screen?
b. *From which seat **barely** could John see the screen?

(48) Desde cuál asiento **apenas** veía Juan la pantalla?
from which seat barely saw Juan the screen
'From which seat could Juan barely see the screen? (Goodall 1991a)

Suñer (1994) further notes that it is unlikely that this is the result of adverbs like *apenas* 'barely', being head-adjoined to the verb, since the same pattern is observed in sequences with more than one adverb and/or with the sentential negation *no*. This is shown in (49), from Suñer (1994: 346).

(49) A quién ya casi no le escribes tú cartas?
to whom already almost not DAT-CL *write you letters*
'To whom do you write letters hardly at all anymore?'

Suñer further points out that, contrary to what inversion analyses assume, the post-verbal position of subjects in *wh*-interrogatives in Spanish does not provide evidence that the verb has moved beyond the position it occupies in declaratives. This is most clearly seen in the fact that in the varieties that allow *wh*-operators and preverbal subjects to co-occur, the position occupied by the subject can alternatively

[28] Notice that, in contrast with the inversion analyses, my proposal that in Spanish *wh*-operators occupy the Pole of the clause is compatible with these facts.

be occupied by a topic (see §5.1). As shown in (50), in this case the subject indeed occupies a post-verbal position. However, it is clear that the verb has not moved into the head position of the phrase that hosts the *wh*-operator in its specifier, (C^0), because the verb is to the immediate right of the topic and not to the immediate right of the *wh*-operator.

(50) Suñer (1994: 351)[29]
Por qué a Paco ya no lo aguanta nadie?
why ACC *Paco already not* ACC-CL *can.stand no-one*
'Why can't anybody stand Paco anymore?'

Lastly, my own data from ellipsis (example (36c), repeated here as (51)) presents a further argument against the inversion analysis. Concretely, the fact that the presence of a polarity head to the right of the fronted *wh*-operator is required, and, more importantly, that the presence of the verb is not tolerated in Spanish elliptical constructions (see §2.1.3) is hard to reconcile with the inversion analysis, where the central claim is that the verb moves into the head position of the phrase that hosts the *wh*-operator in its specifier.[30]

(51) En ese café cobran carísimo, pero [en dónde no ___]?
in that coffee.shop they-charge very.expensive but in where not
'In that coffee shop they charge a lot, but where don't they?'
(=That coffee shop is very expensive, but (then again) which one isn't?)

[29] Gloss and free translation are my own.
[30] See Suñer (1994) for a similar argument that relies instead on data from sluicing.

Summing up, the evidence presented above points to the conclusion that the verb occupies the same position in Spanish *wh*-interrogatives that it does in declaratives, which disconfirms an inversion analysis of *wh*-interrogatives. My analysis in (35) is consistent with this conclusion, since the verb is located in I^0 and the *wh*-operator in [Spec, I] (i.e. the Pole). Crucially, since the Pole is the landing site of *wh*-operators and since the Pole is sensitive to the semantic role of the constituent that occupies it, the facts discovered by Bakovic can now be accounted for by the markedness constraints in the Pole hierarchy instead. This is a welcome result, since the constraints in the Pole hierarchy also account for unmarked word order and multiple topicalization. Analyzing the word order facts in *wh*-interrogatives with these constraints thus provides a unified account of these three phenomena.[31]

5.3.3 Interrogative *wh*-operators in the Pole

Consider now how the interaction between the INTERROGATIVE CLAUSE CONDITION (ICC) and the constraints developed in §3 and §4 accounts for the word order facts observed in matrix *wh*-interrogatives in Mexican Spanish. Recall that pre-verbal subjects are not tolerated in this context with any kind of *wh*-operators.

(52) a. Por qué compró Pedro el periódico?
why bought Pedro the newspaper
'Why did Pedro buy the newspaper?'

[31] In contrast, this possibility is not available with the markedness constraints developed in Bakovic (1998), since these constraints are specific to operators.

b. ??Por qué Pedro compró el periódico?
why Pedro bought the newspaper

Since a *reason* operator in Mexican Spanish can move into the Pole to satisfy the ICC (see (35)), this indicates that ICC outranks *Pole/Reason. As shown in tableau (53), the candidate that avoids a violation of *Pole/Reason by leaving the *wh*-phrase in-situ loses because of its violation of the ICC, since the clause's interrogative specification in the input is not signaled in the output representation.

(53) 'Why did Pedro buy the newspaper?'
INPUT: <[Q] buy (x, y; z), x=Pedro (Ag), y=the newspaper (Th); z= [wh] (Reason) >

	ICC	*Pole/ Reason
☞a. [$_{IP}$ por qué compró Pedro el periódico].		*
b. [$_{IP}$ Pedro compró el periódico por qué].	*!	

The contrast between (52a) and (52b) in turn is explained by Economy of Structure. Moving the subject into the Pole *and* also fronting the *wh*-operator requires projecting extra structure. In order to arrive at (52b), where the subject occupies the Pole position, there are two different possibilities. In one, the *wh*-operator is left-adjoined to IP; this violates *ADJUNCTION and also the ICC, because the *wh*-operator is not in a Spec-Head configuration with the highest head of the extended projection. In the other, an extra (vacuous) XP is projected in order to host the operator in its specifier, which satisfies the ICC but violates *VACUOUS-XP. Both alternatives are suboptimal when compared with the candidate where the *wh*-operator

in the Pole simultaneously satisfies the ICC and the EPP without projecting any extra structure. The analysis is presented in tableau (54). Recall that the evidence from topicalization in §4.3 already determined that *VACUOUS-XP and *ADJUNCTION outrank *Pole/Reason. We cannot yet determine the ranking of ICC with respect to the constraints that penalize vacuous structure, since any ranking of these three constraints will give the right result in this case. Accordingly, for the sake of exposition, ICC is kept separate from these constraints in the tableau.

(54) 'Why did Pedro buy the newspaper?'
INPUT: <[Q] buy (x, y; z), x=Pedro (Ag), y=the newspaper (Th); z= [wh] (Reason) >

	ICC	*VAC XP	*ADJ	*Pole/ Reason
☞a. [$_{IP}$ por qué compró [$_{VP}$ Pedro el periódico]].				*
b. [$_{IP}$ por qué [$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].	*!		*	
c. [$_{XP}$ por qué [ø][$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].		*!		

The analysis gives the same result for *wh*-operators with other semantic roles, since *Pole/Reason is the highest ranked of the constraints in the Pole Hierarchy. In all these cases the most harmonious candidate is the one where the *wh*-operator occupies the Pole, satisfying the ICC (and the EPP) and avoiding any violations of *VACUOUS-XP and *ADJUNCTION.

Consider now the relative word order of *wh*-operators and fronted topics. As discussed in §5.1, topics invariably precede *wh*-operators in Mexican Spanish matrix clauses. Examples are presented in (55).

(55) a. Pedro por qué se fue?
Pedro why CL *leave*
'Why did Pedro leave?'

b. ??Por qué Pedro se fue?
why Pedro CL *leave*

c. Los discos quién los compró?
the records who ACC-CL *bought*
'Who bought the records?'

d. *Quién los discos los compró?
who the records ACC-CL *bought*

The analysis developed so far, where fronting of topics is triggered by TOPICFIRST and fronting of *wh*-operators is triggered by the ICC, derives these word order effects without the need for any extra machinery. This is shown for (55c-d) in tableau (56). Recall from §4.3 that we had already determined that TOPICFIRST outranks *ADJUNCTION.

(56) 'Who bought the [records]$_{TOP}$?'
INPUT: <[Q] buy (x, y), x=[wh] (Ag), y=the records (Th), y= *topic* >

	ICC	*VAC XP	TOPIC FIRST	*ADJ
☞a. [$_{IP}$ Los discos [$_{IP}$ quién los compró [$_{VP}$]]].				*
b. [$_{IP}$ Los discos los compró [$_{VP}$ quién]].	*!			
c. [$_{IP}$ quién compró [$_{VP}$ los discos]].			*!*	
d. [$_{IP}$ quién [$_{IP}$ los discos los compró [$_{VP}$]]].	*!		*	*
e. [$_{XP}$ quién [ø][$_{IP}$ los discos los compró [$_{VP}$]]].		*!	*	
f. [$_{XP}$ Los discos [ø] [$_{IP}$ quién los compró [$_{VP}$]]].	*!	*		

The optimal candidate (56a) satisfies ICC by placing the *wh*-operator in the Pole, and TOPICFIRST by adjoining the topic to IP. All other candidates are less harmonious. Candidate (56b) satisfies TOPICFIRST by placing the topic in the Pole, and leaves the *wh*-XP in-situ, thus avoiding any violations of *VACUOUS-XP and *ADJUNCTION. However, the clause is not signaled as an interrogative in this case, in discrepancy with the input, and so ICC is fatally violated.[32] Candidate (56c) instead satisfies ICC by having the *wh*-operator in the Pole and avoids any violations of *VACUOUS-XP and *ADJUNCTION by leaving the topic in its base position, but now the violation of TOPICFIRST is fatal. Consider candidates (56d) and (56e), where the *wh*-operator precedes the topic. Candidate (56d) achieves this by placing the topic in the Pole and adjoining the *wh*-phrase to IP. This violates both ICC, since the highest head of the extended projection is not in a Spec-Head configuration with the *wh*-phrase, and TOPICFIRST, since the *wh*-phrase c-commands the topic. Candidate (56e) is similar, but it satisfies ICC by projecting a vacuous XP and placing the *wh*-phrase in its specifier. However, TOPICFIRST is still violated and a violation of *VACUOUS-XP is also incurred. Lastly, candidate (56f) shows the attested word order, but in contrast to the winning candidate (56a) it does so by projecting a vacuous XP to host the topic in its specifier. The resulting representation violates *VACUOUS-XP and ICC, since the highest head of the extended projection (X^0) is not

[32] Notice in support of this analysis that (56b) is a possible sentence in Spanish under an echo reading. Crucially, echo questions are not true interrogatives. My analysis predicts that an input like (56) without the [Q] morpheme would have (56b) as its output (since the ICC would not be at stake in this case), and the existence of (56b) with a echo reading confirms this prediction.

in a Spec-Head configuration with the *wh*-phrase, and so this candidate loses to (56a).

Notice that the relevant word order effects are derived without resorting to a constraint that specifies the position of fronted *wh*-operators in terms of linear order or Left-Alignment. Instead, the conditions under which ICC is satisfied play a crucial role in determining the surface word order. This will be crucial in the analysis of subordinate interrogatives. Further notice that (56) also provides a ranking argument for ICC >> *ADJUNCTION. Under the reverse ranking candidate (56b) would emerge as the winner, since it would be better not to signal the clause as an interrogative than to have a structure that resorts to adjunction, such as (56d). However, (56) still does not allow us to determine the relative ranking of ICC, *VACUOUS-XP, and TOPICFIRST because the winning candidate does not violate any of these constraints. The evidence that will allow us to determine the relevant ranking is found in the word order observed in subordinate interrogatives, which I address in the following section.

5.4 Embedded interrogatives

Recall from §5.1 that in subordinate interrogatives in Mexican Spanish a preverbal subject is allowed when the *wh*-operator is a *reason* operator, but not with other operators. The relevant contrast is repeated in (57).

(57) a. Yo quiero saber [por qué Pedro compró el periódico].
I want to.know why Pedro bought the newspaper
'I want to know why Pedro bought the newspaper.'

b. *Yo quiero saber [cómo Pedro arregló la tele].
I want to.know how Pedro fixed the T.V.

We have also seen in §5.1 why these facts are problematic for an analysis of the left-periphery in Spanish based on an exploded CP. Following the analysis developed so far, in which left-peripheral phenomena in Spanish are associated with the inflectional layer instead, I suggest an account of these facts that relies instead on the Pole and its relation to structural markedness.

In order to address this problem I assume first of all that, in accordance with the Extended Projection analysis, embedded interrogatives are IPs and not CPs, all else being equal (see Doherty 1993 and Grimshaw 1997: also our discussion in §5.2). Now, there are two observations that are crucial for understanding the contrast between (57a) and (57b). The first one is that the word order in (57a) is not the only option for embedded interrogatives with *reason* operators. The subject can alternatively appear in the post-verbal field, as in (58). Notice that the alternation between (57a) and (58) is reminiscent of to the XP-VSO / XP-SVO alternation discussed in §4.3, where the subject is a topic in XP-SVO.

(58) Yo quiero saber [por qué compró Pedro el periódico].
I want to.know why bought Pedro the newspaper
'I want to know why Pedro bought the newspaper.'

The second relevant observation is that, as mentioned in §5.1, the position occupied by the subject in (57a) can alternatively be occupied by a fronted topic.

(59) a. Yo quiero saber [por qué ayer llegó tarde Juan].
I want to.know why yesterday arrived late Juan
'I want to know why Juan arrived late yesterday.'

b. Yo quiero saber [por qué al presidente le toman
I want to.know why to-the president DAT-CL *they.take*
esa clase de fotos].
that class of photos
'I want to know why they take that kind of pictures of the president.'

All this points to the conclusion that (57a) corresponds to a case where the subject is a topic, which therefore must be fronted to a left-peripheral position to comply with TOPICFIRST.[33] When the subject is not specified as a topic (i.e., example (58)), it surfaces in the post-verbal field, just like in the Topic-VSO sentences analyzed in §4.3, and in the *Wh*-VSO matrix interrogatives from the previous section.

Recall now from the previous sub-section that when there is both topicalization and *wh*-movement in interrogatives, the *wh*-operator is fronted to the Pole position and the topic is adjoined to IP. This same pattern is observed in embedded interrogatives, although in many cases speakers find it degraded to some degree (as opposed to (57a) and (59)).[34] Some examples are presented in (60). However,

[33] In fact, some of the speakers consulted readily note that (57a) and (58) (and analogous examples) are not equivalent, and that the preverbal subject in (57a) has an "emphasis" that the post-verbal subject in (58) lacks altogether.

[34] One of the speakers consulted does not accept this pattern at all. For other speakers these constructions are acceptable but generally slightly degraded, and in some cases strongly degraded (??). For other speakers still, some of these constructions are perfect and others are slightly degraded. None

with one exception all speakers consulted reject this possibility when the *wh*-operator is a *reason* operator, as shown in (61) (compare with the examples in (59)).

(60) a. ?Yo quiero saber [al presidente, cómo le van a hacer
I want know to-the president how DAT-CL *they.go to make*
llegar esa carta].
arrive that letter
'I want to know how they are going to get that letter to the president.'

b. ?Yo quiero saber [ayer, cómo llegó Pedro].
I want to.know yesterday how arrived Pedro
'I what to know how Pedro got here yesterday.'

(61) a. *Yo quiero saber [Pedro por qué compró el periódico].
I want to.know Pedro why bought the newspaper

b. *Yo quiero saber [al presidente por qué le toman
I want to.know to-the president why DAT-CL they.take
esa clase de fotos].
that class of photos

We can now begin to understand the pattern observed in (57-61) as follows. The structures in (60) and (61), where the topic is adjoined to the IP complement of the matrix verb, violate the prohibition against adjunction to complements (Chomsky 1986, McCloskey 1992, Grimshaw 1997). In this sense, these structures are more marked than the corresponding matrix interrogatives where a topic is adjoined to IP.[35] Consider now the examples in (61). These structures further have a *reason* operator as the Pole, and expressions with a *reason* semantic role constitute the most marked

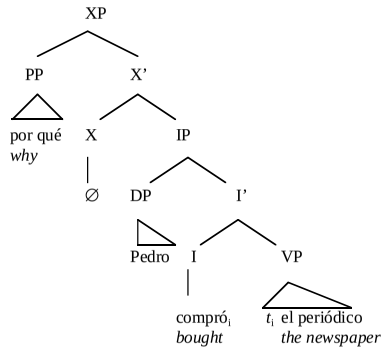
of the speakers in my survey finds every instance of this pattern perfect. At present, I have no explanation for this fact.

[35] This might help explain why the examples in (60) are generally less than perfect.

instance of a Pole, in accordance with the Pole hierarchy. Taking these considerations into account, my suggestion is that the embedded interrogatives in (61) correspond to the "worst of the worse" in terms of structural markedness.

My proposal is that the degree of structural markedness of this instance of the "worst of the worse" is such that an extra XP is projected above IP in order to avoid it. Once this extra XP is projected, there is no need to resort to adjunction. Instead there are now two different specifiers in the representation to host the two fronted constituents. I illustrate this analysis in (62), which corresponds to (57a). Notice that this is one of the structures ruled out in (56) for matrix clauses.[36]

(62)



[36] The structure in (62) might seem strange given the analysis of the syntax of Mexican Spanish developed up to this point. However, there is nothing inherently exotic about this structure, which is in essence identical to the structure of English embedded interrogatives. Notice that this structure further indicates that Ob-HD is a low ranking constraint in Spanish. Otherwise, the verb in I^0 would move to C^0. This is an important point, because it provides evidence that verb raising (V-to-I) in Spanish is not the result of the high ranking of Ob-HD (cf. Bakovic 1998). Rather, it seems that V-to-I in Spanish is derived by a high-ranking constraint related to the feature content and the morphology associated with I^0, as in standard transformational accounts of this language and in the analysis of French V-to-I in Grimshaw (1997: 381-382).

In §2 I proposed as a working hypothesis that in structures with vacuous XPs like (62), it is the specifier of IP which corresponds to the Pole, not specifier of XP.[37] Consequently, a property of (62) is that the *wh*-operator is not in the Pole. Embedded interrogatives like (63), where a negative XP occupies the immediate preverbal position, corroborate this hypothesis, since the Negative Pole Condition (§2.3.2) targets the Pole and not the highest specifier of the Extended Projection.

(63) Yo quiero saber [$_{XP}$ por qué Ø [$_{IP}$ nadie dijo nada].
I want to.know why nobody said nothing
'I want to know why nobody said anything.'

The examples in (62) and (63) further highlight the importance of the distinction between the Pole and the highest specifier of the extended projection. As we have seen in the analysis so far, the two coincide in many cases, but crucially not in the ones here. This is most clearly observed in the way in which (62) and (63) comply with the ICC. Previously we had seen cases where a fronted *wh*-operator satisfies the ICC by landing in the Pole, which also happened to be the highest specifier in the extended projection. In the structures in (62) and (63), the *wh*-operator is also in the highest specifier of the extended projection, and the ICC is satisfied because the *wh*-operator is in a Spec-Head configuration with the highest head of the extended Projection. But crucially, this specifier no longer corresponds to the Pole.

[37] At present I have no evidence that would allow us determine unequivocally if XP in (62) corresponds to a fully vacuous XP or to a recursion of IP. Settling this matter will not be crucial for the analysis, though.

Consider now how we can account for the facts above in an OT analysis. We have seen that the constructions in (61) violate *Pole/Reason. They also violate the prohibition against adjunction to complements. This prohibition has been defined in Grimshaw (1997) as the PURE-EP constraint in (64).

(64) PURITY OF EXTENDED PROJECTION (PURE-EP)
No adjunction takes place to the highest node in a subordinate extended projection; and no movement takes place into the highest head of a subordinate extended projection. (Grimshaw 1997:374)

I depart slightly from Grimshaw's definition by assuming that PURE-EP only penalizes adjunction to subordinate extended projections and not head movement. In this respect, the definition of PURE-EP that I assume is closer to the proposals of Chomsky (1986) and McCloskey (1992).[38]

At this point we need to formalize the fact that the degree of structural markedness in (61) corresponds to the worst of the worse. Following Aissen (1999a), I suggest that this can be achieved through Local Conjunction (Smolensky 1995) of the Pole Hierarchy with PURE-EP. Local Conjunction is the operation that conjoins constraints in accordance with the definition in (65).

[38] Grimshaw (1997) in fact notes that PURE-EP can possibly be understood as two different constraints for subordinate clauses, one on adjunction and one on head movement, although in her analysis of English there is no reason to separate them. However, this is not the case in Spanish. Under the assumption that most Mexican Spanish embedded interrogatives are IPs, PURE-EP as defined in (64) would always be violated, since the verb always moves to I^0 in finite clauses in this language. This is the reason why I only consider the prohibition on adjunction here.

(65) The local conjunction of C_1 and C_2 in domain *D*, C_1 & C_2, is violated when there is some domain *D* in which both C_1 and C_2 are violated.
(Smolensky 1995)

The logic behind Local conjunction is that "two constraint violations are worse when they occur in the same location" (Smolensky 1995). Smolensky formalizes this by suggesting that there is a universally fixed ranking of C_1 & C_2 with respect to each of its conjuncts, as in (66).

(66) Universally, C_1 & C_2 dominates C_1, C_2.

Aissen (1999a) further proposes that the conjunction of a constraint C_1 with a subhierarchy of constraints (call it S_1) yields a subhierarchy of conjoined constraints (call it S_2) such that the hierarchical relations of S_1 are held constant in S_2. This is formalized as in (67).

(67) The local conjunction of C_1 with the subhierarchy [C_2 >> C_3 >> ... >> C_n] yields the subhierarchy [C_1 & C_2 >> C_1 & C_3 >> ... >> C_1 & C_n]
(Aissen 1999a)

Following these definitions, the local conjunction of PURE-EP with the Pole Hierarchy yields the markedness subhierarchy in (68). I assume that the domain relevant for evaluation corresponds to the clause.

(68) PURE-EP & *Pole/Reason >> PURE-EP & *Manner >> ... >> PURE-EP & *Pole/Agent

Introducing the constraints in (68) into the analysis has no effect on the account of word order in matrix interrogatives, because PURE-EP only targets subordinate clauses. Consider now how we can account for the facts in (57-61) with these constraints. I have suggested that when a *reason wh*-operator and a topic co-occur, an extra functional XP is projected above IP. This result is achieved by ranking [PURE-EP&*Pole/Reason] over *VACUOUS-XP. This is shown in tableau (69), which corresponds to example (57a) . For simplicity, in the tableaux that follow only the part of the input that corresponds to the embedded interrogative is represented.

(69) (=57a)'I want to know [why Pedro bought the newspaper].'
INPUT: < [Q](buy (x, y; z)), x=Pedro (Ag), *x=topic*, y=the newspaper (Th); z= [wh] (Reason) >

	PURE-EP & *Pole/Reason	*VAC XP
☞a. . [$_{XP}$ por qué [ø][$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].		*
b. [$_{IP}$ Pedro [$_{IP}$ por qué compró [$_{VP}$ el periódico]]].	*!	

Candidate (69b) loses because it violates both components of the conjoined constraint. PURE-EP is violated because the topic is adjoined to IP and *Pole/Reason is violated because the *reason wh*-operator corresponds to [Spec, I]. Candidate (69a), which corresponds to the structure in (62), emerges as the winner.

This ranking still does not explain by itself why the relative order of the topic and the *wh*-operator is the reverse of the one observed in other kinds of interrogatives.

This is because a candidate where the topic is in the specifier of XP also avoids a violation of [PURE-EP&*Pole/Reason], (even if the *reason* operator is the Pole in this case) since there is no adjunction and so PURE-EP is satisfied, as shown in (70).

(70) 'I want to know [why Pedro bought the newspaper].'
INPUT: < [Q] (buy (x, y; z)), x=Pedro (Ag), x=*topic*, y=the newspaper (Th); z=[wh] (Reason) >

	PURE-EP & *Pole/Reason	*VAC XP
a. . [$_{XP}$ por qué [ø][$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].		*
b. [$_{XP}$ Pedro [ø][$_{IP}$ por qué compró [$_{VP}$ el periódico]]].		*

With these elements in mind we can already determine that ICC outranks TOPIC-FIRST in Spanish. Otherwise the candidate where the topic precedes the *wh*-operator, candidate (70b) would surface as the winner.[39] The analysis is presented in tableau (71). Further notice these facts indicate that [Pure-EP&*Pole/Reason] also outranks TOPIC-FIRST. Otherwise the adjunction structure where the topic is the first constituent in the subordinate clause, candidate (71c), would emerge as the winner.[40]

[39] With this ranking, the optimal candidate in matrix interrogatives is still the one where the fronted topic precedes the *wh*-operator, because ICC is not a constraint on linear order. The reader can verify this result by substituting the double line that separates ICC from the other constraints in tableau (56) for a single solid line indicating a strict ranking.
[40] This constraint conjunction analysis might appear to be somewhat *ad hoc*, but this mostly has to do with the specifics of the formalism. If the scale of structural markedness that we are considering in OT terms could be formalized in some other way, the conjoined constraint [PURE-EP&*Pole/Reason] would simply correspond to the point in the scale at which it is better to project a vacuous XP than to abide by Economy of Structure.

(71) 'I want to know [why Pedro bought the newspaper].'
INPUT: <[Q] buy (x, y; z), x=Pedro (Ag), x=*topic*, y=the newspaper (Th); z=[wh] (Reason) >

	ICC	PURE-EP & *Pole/Reason	TOPIC FIRST
☞a. . [$_{XP}$ por qué [ø][$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].			*
b. [$_{XP}$ Pedro [ø][$_{IP}$ por qué compró [$_{VP}$ el periódico]]].	*!		
c. [$_{IP}$ Pedro [$_{IP}$ por qué compró [$_{VP}$ el periódico]]].		*!	

Consider now embedded interrogatives with topics and other kinds of *wh*-operators, such as *manner wh*-operators. As discussed in §5.1 neither topics nor subjects can occupy the immediate preverbal position in these cases. The examples in (72) illustrate this for a non-subject topic.

(72) a. ?Yo quiero saber [ayer, cómo llegó Pedro].
I want to.know yesterday how arrived Pedro
'I want to know how Pedro arrived yesterday.'

b. *Yo quiero saber [cómo ayer llegó Pedro].
I want to.know how yesterday arrived Pedro

The embedded interrogative in (72a) shows the same word order as the corresponding matrix interrogative. In terms of our analysis, this means that the degree of structural markedness of a subordinate structure displaying adjunction plus a *manner wh*-operator functioning as the Pole is not high enough to warrant the projection of a vacuous XP above IP. This can be accounted for with a ranking where *VACUOUS-XP outranks the conjoined constraint [Pure-EP&*Pole/Manner] and the

rest of the conjoined constraints in the subhierarchy in (68). The analysis is presented in (73).

(73) INPUT: < [Q](arrive (x; y, z)), x=Pedro (Th); y=yesterday (Temp), y=*topic*, z=[wh] (Manner) >

	ICC	*VAC-XP	TOPIC FIRST	PURE-EP & *Pole/Manner
a. [$_{XP}$ cómo [ø][$_{IP}$ [ayer]$_{TOP}$ llegó [$_{VP}$ Pedro]]].		*!	*	
b. [$_{XP}$ [ayer]$_{TOP}$ [ø] [$_{IP}$ cómo llegó [$_{VP}$ Pedro]]].	*!	*		
☞c. [$_{IP}$ [ayer]$_{TOP}$ [$_{IP}$ cómo llegó [$_{VP}$ Pedro]]].				*

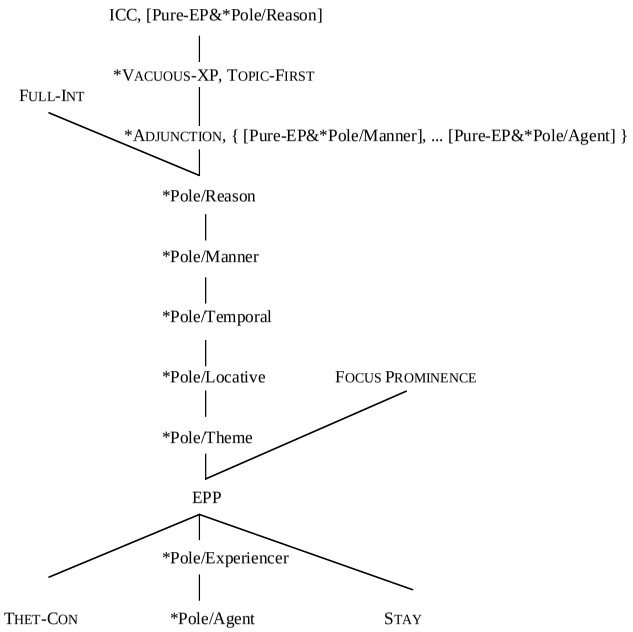
In this case, the candidate that projects an XP above IP, candidate (73a), loses to the candidate displaying adjunction, candidate (73c), because the former's violation of *VACUOUS-XP proves fatal.[41] The optimal candidate violates the conjoined constraint [PURE-EP&*Pole/Manner], but given the constraint ranking of Mexican Spanish, this is better than projecting a vacuous XP above IP. Trivially, candidate (73b), which projects a vacuous XP and displays the attested word order by placing the topic in [Spec, X], violates both ICC and *VACUOUS-XP.

With this I conclude the analysis of the word order facts observed in *wh*-interrogatives in Mexican Spanish. As a summary of the analysis developed in this and in the preceding two chapters, the known rankings of the constraints involved are presented in the Hasse diagram in (74). In this diagram the notation {[PURE-EP&*Pole/Manner] ... [PURE-EP&*Pole/Agent]} encapsulates all the

[41] This is somewhat obscured by the fact that candidate (73a) also violates TOPIC-FIRST, though.

markedness constraints that result from the conjunction of PURE-EP with the constraint in the Pole Hierarchy below *Pole/Reason.

(74) Final Ranking of constraints for Mexican Spanish.



5.5 Conclusions

In this chapter I have extended the analysis developed in chapters 2-4 to account for the word order facts observed in *wh*-interrogatives in Mexican Spanish. This

analysis follows the analyses where *wh*-movement in languages like English and Spanish is derived by the need to signal the clause as an interrogative, and defines such a requirement as the ICC constraint. In this analysis, the optimal way to comply with the ICC and with Economy of Structure consists of placing a fronted *wh*-operator in the Pole, which in turn satisfies the EPP. This explains the cases where *wh*-operators are not allowed to co-occur with preverbal subjects. The relative word order of fronted topics and *wh*-operators in matrix interrogatives is derived by this analysis without the need for any extra machinery. With respect to subordinate interrogatives, the sensitivity of the Pole to the semantic role of the constituent that occupies it is appealed to for explaining the matrix/subordinate asymmetry in word order displayed by Mexican Spanish. The analysis makes use of Local Conjunction in order to explain why beyond a certain degree of structural markedness, the optimal structure is one that projects a vacuous XP above IP to host the *wh*-operator in [Spec, X] instead of in the Pole. The resulting analysis, which links *wh*-fronting to the inflectional layer in Spanish, avoids the problems that would result in an exploded CP analysis of the relevant facts.

Appendix A

In §5 it was mentioned that there are varieties of Spanish that do not show matrix-subordinate asymmetries with respect to the kinds of *wh*-operators that are allowed to co-occur with preverbal subjects (Bakovic 1998). Some speakers of Mexican Spanish in fact display a variety of this kind. For these speakers, preverbal subjects and *reason* *wh*-operators are allowed to co-occur both in matrix and in subordinate interrogatives. Examples are presented below.

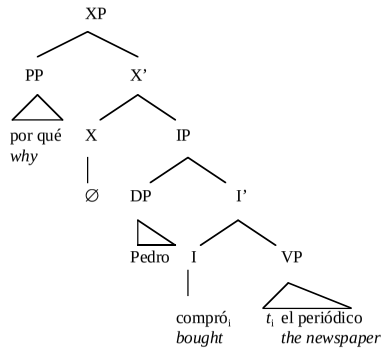
(1) MEXICAN SPANISH: VARIETY B

a. Por qué Pedro compró el periódico?
why Pedro bought the newspaper
'Why did Pedro buy the newspaper?'

b. Yo quiero saber [por qué Pedro compró el periódico].
I want know why Pedro bought the newspaper
'I want to know why Pedro bought the newspaper.'

Here again it is possible to develop a straightforward account of these varieties by appealing to the sensitivity of the Pole position to the semantic role of the constituent that occupies it. I suggest that in Variety B of Mexican Spanish, a vacuous XP is projected in both subordinate and matrix interrogatives to host the *reason wh*-operator in its specifier (recall that in the variety of Mexican Spanish analyzed in §5 this only happens in subordinate interrogatives). The structure of the interrogatives in (1) thus corresponds to (2).

(2)



In the varieties that show a matrix-subordinate asymmetry, the relevant effects were captured through local constraint conjunction (§5.4). However, when there is no such asymmetry, the relevant facts can be accounted by embedding *VACUOUS-XP among the constraints of the Pole Hierarchy. Concretely, Variety B of Mexican Spanish is characterized by the ranking in (3), where *Pole/Reason outranks *VACUOUS-XP.

(3) ICC >> ... >> *Pole/Reason >> * VACUOUS-XP >> *Pole/Manner ...

As in the analysis in §5, undominated ICC ensures that fronted *wh*-operators have to land in the highest specifier of the extended projection, which rules out the possibility that the word order of the interrogatives in (1) is the result of adjunction of the *wh*-operator to IP. However, the ranking *Pole/Reason >> * VACUOUS-XP now

determines that the most harmonious structure is no longer one where the *reason wh*-operator lands in the Pole, but rather the structure illustrated in (2), for both matrix and subordinate interrogatives. In other words, under this ranking it is better to project a vacuous XP than to have a *reason wh*-operator as the Pole (i.e. structural markedness overrides Economy of Structure). The analysis is presented in tableau (4) (cf. with tableau (56) in §5.3.3).

(4) 'Why did Pedro buy the newspaper?'
INPUT: <[Q] buy (x, y; z), x=Pedro (Ag), y=the newspaper (Th); z= [wh] (Reason) >

	ICC	*Pole/ Reason	*VAC XP
a. [$_{IP}$ por qué compró [$_{VP}$ Pedro el periódico]].		*!	
b. [$_{IP}$ por qué [$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].	*!		
☞ c. [$_{XP}$ por qué [ø][$_{IP}$ Pedro compró [$_{VP}$ el periódico]]].			*

Preverbal subjects are not allowed to co-occur with *manner* and other *wh*-operators though, since *VACUOUS-XP still outranks *Pole/Manner and the rest of the constraints in the Pole Hierarchy, as I leave for the reader to verify.

All the symmetric varieties discussed in Bakovic (1998) can be accounted for in the same way. Consider Variety-G in Bakovic (1995, 1998). In this variety, preverbal subjects are allowed to co-occur with *reason*, *manner*, and *location wh*-operators, but not with direct object operators. This is illustrated in the examples in (5), adapted from Bakovic (1995).

(5) Bakovic (1995:20): SPANISH VARIETY G

a. (Me pregunto)[dónde Miguel se fue][42] **Wh-S-V**
I-wonder where Miguel CL *went*
'Where did Miguel go?/I wonder where Miguel left.'

b. *(Me pregunto) [qué Miguel se comió] **Wh-S-V**
I-wonder what Miguel CL *ate*

c. (Me pregunto) [qué se comió Miguel] **Wh-V-S**
I-wonder what CL *ate Miguel*
'What did Miguel eat?/I wonder what Miguel ate.'

In my analysis this pattern is derived by further demoting *VACUOUS-XP on the Pole Hierarchy, yielding the ranking *Pole/Location >> *VACUOUS-XP >> *Pole/Theme. Under this ranking, it is better project a vacuous XP than to have a *location wh*-operator in the Pole position. The analysis is presented in (6).

(6) 'Where did Miguel go?'
INPUT: <[Q] go (x; y), x=Miguel (Ag); y= [wh] (Loc) >

	*Pole/ Location	*VAC XP
☞ a. [$_{XP}$ dónde [ø][$_{IP}$ Miguel se fue [$_{VP}$]]].		*
b. [$_{IP}$ dónde se fue [$_{VP}$ Miguel]].	*!	

However, since *VACUOUS-XP outranks *Pole/Theme, when the *wh*-operator corresponds to the direct object, the optimal structure is the one where the

[42] It needs to be pointed out that, as noted in Bakovic (1995), in all these varieties, the corresponding construction where the subject remains in the post-verbal field (i.e. *wh*-V-Subj, candidate (b) in tableau (6)) is equally grammatical, which has resulted in this phenomenon being termed *free subject inversion* (see Torrego 1984). However, as argued in Bakovic (1995), this is actually not an instance of optionality or free variation. Rather, the *wh*-V-Subj order corresponds to the case where the subject is in focus, and as such it must appear in a right-peripheral position (in order to be signaled with the nuclear accent, in terms of the analysis of focus-driven subject inversion in §4.2.2).

wh-operator lands in the Pole and no vacuous XP is projected, in compliance with Economy of Structure. This is shown in (7).

(7) 'What did Miguel eat?'
INPUT: <[Q] eat (x, y), x=Miguel (Ag), y= [wh] (Th) >

	*VAC XP	*Pole/ Theme
a. [$_{XP}$ qué [ø][$_{IP}$ Miguel se comió [$_{VP}$]]].	*!	
☞ b. [$_{IP}$ qué se comió [$_{VP}$ Miguel]].		*

Furthermore, since *Pole/Reason and *Pole/Manner outrank *Pole/Locative, preverbal subjects will also be allowed to co-occur with *reason* and *manner wh*-operators. In this way, an analysis based on the notion of the Pole captures the same generalization discovered in Bakovic (1995, 1998), namely, that if a variety of Spanish allows preverbal subjects to co-occur with *wh*-operators with semantic role X, then it also allows them to co-occur with all other *wh*-operators whose semantic role is less prominent than X.

A prediction that this analysis makes is that topics should behave differently depending on their semantic role in the symmetric varieties discussed here. Consider the ranking of Variety B of Mexican Spanish in (3). Given that *Pole/Reason outranks *VACUOUS-XP, which in turn outranks *ADJUNCTION (§4.3.2), it is predicted that topicalized *reason* adverbials will not land in the Pole in this variety of Mexican Spanish, but rather will be adjoined to IP, in contrast with the variety analyzed in §4.3. Since [Spec, I] is not occupied in this case, an *agent* or an

experiencer, if present, is expected to move to [Spec, I] to satisfy the EPP, all else being equal. In other words, the analysis predicts that XP-VSO sentences should not be possible in this variety of Spanish when XP is a *reason* adverbial, but they should be possible when XP corresponds to any other kind of topic. One should be careful to note that this analysis, however, does not predict that XP-VSO with *reason* topics will be entirely unattested in every variety of Spanish where *Pole/Reason outranks *VACUOUS-XP. This is because the VSO order will still emerge as the winner when the input is specified as [thetic] (§4.3.4) in those varieties where (in contrast with Mexican Spanish), THET-CON outranks EPP. This prediction will need to be tested in future research.

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