Wh-movement in Spanish: structural analysis and theoretical implications

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1. Introduction

Wh-movement has been motivated in standard theory by two different conditions: the Wh-criterion and the necessity of a wh-phrase to be assigned scope at LF (May 1985, Pesetsky 1987, Rizzi 1991). The Wh-criterion, as stated in (1), requires that a Q-morpheme must be in Spec-head configuration with a wh-phrase.

(1) A Q-morpheme must be in Spec-head configuration with a wh-phrase.

The second condition requires that a wh-phrase must move to an A'-position to take scope before or at LF. As noticed by Pesetsky (1987) this condition can be derived from a more general principle, as in (2), if we consider wh-phrases as quantifiers.

(2) Every quantifier must be assigned scope by movement to an
     A'- position at LF.

Under the standard analysis (Chomsky 1986), these two conditions are satisfied in CP, as (3) illustrates. The wh-phrase moves to Spec of CP, a non argument position, and the complex 'verb + Infl' moves to the head of CP to support the Q-morpheme, as required by Lasnik's Filter in (4).

(3) ¿[CP Qué$_i$ [C' hizo$_j$ [IP Pedro [I' t$_j$ [NP t$_i$]]]]]?
         what did Peter
     "What did Peter do?"

(4) A morphologically realized affix must be a syntactic dependent of a mor-
     phologically realized category at Surface Structure. (Lasnik 1981: 164)

The proposal in this paper is that wh-movement in Spanish is to Spec of the

lower AGRP, as (5) illustrates. This is based on the more articulated version of IP proposed by Roberts (1991).

(5) $[_{AGRP1}$ Subject position $[_{AGR'}$ case marker $[_{AGRP2}$ landing site for wh-phrases & n-phrases $[_{AGR2'}$ V°+AGR° $[_{VP}$]]]]]

Additionally, this paper attempts to show that the motivation for Wh-movement can be reduced to the second condition in (2), being the first one a consequence of a general condition on Spec-head agreement configurations and the way through which the second condition is accomplished.

2. The Wh-Criterion and the Scope Filter

Chomsky (1981) suggests that [+wh] can be considered as one of the φ-features of the Agreement system. This suggestion allows us to articulate the wh-criterion as the necessity for a Spec and its head to share the same wh-value, as expressed in (1).

Pesetsky (1989) proposes that, despite the overlapping between (1) and (2), (1) is necessarily based on the syntactic behavior of what he calls "D(iscourse) linked" wh-phrases. This type of wh-phrases does not show the indications of LF movement when they remain in situ in multiple questions contexts, since they are not subject to superiority or ECP effects as Pesetsky's examples under (6) illustrate.

(6) a. Mary asked which book$_i$ which man read e$_i$?
     b. Which book$_i$ did you persuade which man to read e$_i$?

Pesetsky proposes that D-linked wh-phrases need not undergo LF movement since a Question morpheme assigns scope to the wh-phrase through coindexation. The problem is why does a D-linked wh-phrase need to raise in non multiple questions contexts as in (7)?

(7) a. I wonder which book you read.   b. *I wonder you read which book.
     (Pesetsky 1989)

Pesetsky's answer is that the Q morpheme in Comp needs to be supported by a Wh-phrase as (1) states. However, a conceptual problem remains. Under Pesetsky's account, non-D-linked wh-phrases in situ, as (8), must undergo LF movement. In accordance with Aoun and Li's (1990) analysis,[1] there is no theoretical reason why the lower wh-phrase index in (8) cannot be absorbed in the same way as the D-linked one is in (6).

(8) John wonders who bought what.

As Higginbotham and May (1981) noticed, multiple questions have only a bijective reading or a single one-to-one pair interpretation. This fact suggests that a wh-phrase is allowed to remain in situ only when its interpretation has a strict

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(1) The notion of absorption for wh-phrases is due to Higginbotham and May (1981). I depart from the idea that its application is optional, following Aoun, Hornstein and Sportiche (1981) and van Riemsdijk and Williams (1981).

correspondence with a higher wh-phrase, in another way, when its abstract quantifier matches the higher one, as stated in (9). My proposal is that this abstract quantifier tells us how many instances of a verb we may have, and that this is the reason why a wh-phrase has to take scope over the predicate where it is projected, unless it complies with (9).

(9) Condition on absorption of a wh-index.
   A wh-index A to be absorbed by a wh-index B must be c-commanded by B and must match the abstract number of B.

We need to make a further clarification with regard to Pesetsky's (1989) analysis. The fact that D-linked wh-phrases, in (6), are not subject to ECP effects, as non-D-linked wh-phrases in (10) are, needs to be explained.

(10) a. *Mary asked what who read.
    b. *What did you persuade who to read.

D-linked wh-phrases in situ seem to be referential since none of the elements in a set known by the speaker has been excluded. The only difference is that they become referential at LF, after a process of reordering with respect to the first set of elements. Cinque (1989) proposes that the possibility of long distance binding is subject to the nature not only of the theta position, but also of the intrinsic referential properties of the moved element. Following Cinque (1989), these elements are sensitive to D-linking in the sense of Pesetsky.

In this section, we have seen that the cases of wh-in-situ in multiple questions do not require LF movement and can be explained by absorption. This allows us to dispense with the Q-filter in (1) and with LF for nonreferential elements as stated in (11).

(11) Scope Filter for nonreferential elements.
    Every nonreferential quantifier must be assigned scope either by movement or by coindexation at S-structure.

3. The data

In this section, I will show that an analysis based on wh-movement to Spec-of-CP does not account for all the facts in Spanish. In particular, some word order and binding facts remain unexplained under the standard account.

3.1. Wh-movement

If we look at (12), we can observe that a subject can occupy the position previous to the one occupied by the wh-phrase. Since there is no pause, we cannot say that this is a case of left dislocation. This would present a problem for the standard analysis of wh-movement. Nevertheless, one might argue that the subject occupies a position adjoined to CP, thus rescuing the standard analysis.

(12)   ¿Y Juan qué sabe?
        "And what does John know?"

However, the CP adjunction solution seems to fail when binding phenomena play a role. If we look at (13) we can observe that a distributive reading of *quién* "who" bound to *cada estudiante* "every student" is ruled out, since the indirect object does not c-command the subject position either at D-structure or at S-structure.

(13)   ¿Quién$_{*i/j}$ le dejó un libro a cada estudiante$_i$?
        Who to-him lent a book to every student
        "Who lent a book to every student?"

We can observe the same type of facts in (14), where the indirect object c-commands the subject position, but from an A'-position, the topic position. In accordance with Higginbotham (1983), bound relations can only be established between A-positions, where A-positions are case-marked or theta-marked positions. Hence, there is no possible distributive reading in (14) since there is a cross-over violation.

(14)   A cada estudiante$_{*i/j}$, ¿quién$_i$ le dejó un libro?

However, when we do not have a pause after *a cada estudiante* "to every student" as in (15), we can have the distributive reading of *quién* "who" bound to *a cada estudiante*.

(15)   ¿A cada estudiante$_i$ quién$_i$ le dejó un libro?

The fact that linked relations can occur only between A-positions entails that *a cada estudiante* in (15) has been placed in an A-position at S-structure. I claim that this A-position is the subject position, and that this subject position is not bound to any thematic property, in a similar fashion to what was proposed by Saltarelli (1990) for the psych-verbs in Italian.

3.2. The Subject position

I will assume in this paper that the canonical subject position is Spec-of-VP, in accordance with the Internal Subject Hypothesis (Kuroda 1986). The mapping of other constituent than the traditional subject onto that preverbal A-position entails that the canonical scope relations at the lexical level of representation are subject to change at S-structure, as proposed by Mahajan (1990).

In Martín (1991), two pieces of evidence were given for this claim. The first one was similar to the one that (15) illustrates, and to the argument shift cases in Hindi presented by Mahajan (1990). A quantifier can bind a possessive pronoun in Spec-of-AGRP2 from that preverbal position, as (16) illustrates.

(16)   [$_{AGRP1}$ A cada$_i$ soldado [$_{AGRP2}$ su$_i$ madre [$_{AGR'2}$ le escribió]]].
            to every soldier   her mother   to-him wrote
        "Every soldier was written by his mother"

As (16) shows, the quantifier c-commands the pronoun, and, since it is able to

link the position occupied by the pronoun, the highest structural position in IP must be an A-position, in accordance with Higginbotham (1983).[2]

The second piece of evidence presented in Martín (1991) that supports the argument status of the above mentioned preverbal position was the minimality effect induced for an anaphor in raising structures, as (17) illustrates.

(17) a.   *Juan$_i$ parece que a Pedro$_j$ t$_i$ le$_j$ dio$_i$ un libro.
          John seems that to Peter to-him-gave a book.
          "It seems that John gave a book to Peter".

     b.   Juan$_i$ parece que t$_i$ le$_j$ di-ó$_i$ un libro a Pedro.
          John seems that to-him gave a book to Peter.

Rizzi's (1990) notion of relativized minimality accounts for this fact, since an intervening argument in an A-position would induce a minimality effect. Notice that (17)a is correct if *a Pedro* has a focus interpretation, but then the focused element would be in A'-position without intercepting the binding relation.

In summary, in this section I have claimed that the subject position of IP is the structurally highest A-position in IP at S-structure, and that this position can be occupied at S-structure by a constituent in complement position of VP at the lexical level of representation.

4. The AGR system

Under my account, (1) is one of the ways through which the Scope Filter is fulfilled, at least, for non referential elements. Non referential elements in Spanish, as wh-phrases and negation phrases, must move to an A'-position by S-structure to be in Spec-head relation with AGR or must be coindexed with a scope marker that c-commands the AGR node.

I claim that in Universal Grammar, in addition to the A-predication mechanism, there is an A'-predication mechanism. The first one determines a predicate in its referential aspect. The second one determines a predicate in its nonreferential aspect. The NP that occupies the preverbal A-position has undergone Referential predication in Zubizarreta's (1987) sense, and the NP that occupied the A'-position has not. A'-predication requires the transmission of the [+wh] feature to AGR through two possible mechanisms: a spec-head relation, as in English or Spanish, or a scope marker as in Japanese or Chinese.

In accordance with Rizzi (1991) there are two types of Spec-head relations: static and dynamic agreement. Following Martín (in progress), I assume that the phonological representation of [+wh] is phrasal stress, where to bear the [+wh] feature

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(2) I am assuming van Riemsdijk and Williams' (1981) model of grammar where NP-movement occurs before movement to A'-positions. NP-movement does not give rise to weak cross-over violations, while A'-movement does as showed by long distance fronting in (i).

   (i)   *A cada estudiante$_i$ dijo su$_i$ madre que el profesor no le$_i$ explica bien la lección.
         To each student said his mother that the professor not to-him explains well the lesson.
         "His mother said that the professor does not explain well the lesson to each student"

For a more detailed discussion of weak cross-over phenomena see Mahajan (1990).

means not to have undergone Referential Predication at S-structure. I claim that a wh-word and AGR are coindexed with the same phrasal stress. In the case where static wh-agreement occurs, AGR is selected to bear the phrasal stress. In (18a) the meaning of the wh-word depends on the predicate.

(18) a. ¿Quién HA venido (ya) (*hace un momento)?
     b. ¿QUIEN ha venido (hace un momento) (*ya)?
         "Who has come (one moment ago) (already)?"

In (18b), on the other hand, the wh-phrase holds the agreement feature and only a D-linked reading of the wh-word is available.

The proposal in this paper is that wh-movement in Spanish is to Spec of the lower AGRP. This is based on Roberts' (1991) more articulated version of IP. Under my account, $AGR°1$ licenses a case marked position on its Spec, hence, an A-position, while $AGR°2$, the head that bears the ϕ-features, licenses an A'-position.[3] Therefore, in Spanish, AGRP1 cannot assign case under government, probably, because the clitic that, in accordance with Roberts, licenses AGRP1, has undergone lowering to fulfill Lasnik's Filter in (4), and, therefore, violates the Principle of PF interpretation in (19).

(19)   Principle of PF interpretation.
        No case-indexing relationship is allowed that cannot be interpreted
        at PF (Baker 1988: 115-124).

Spanish AGRP1 is licensed by an accusative clitic, a dative clitic, or a default nominative case-marker. This gives rise to the distinction between Spanish and English. English lacks clitics, so it has only syntactic agreement, in Roberts' (1985) sense. Additionally, as pointed out by Roberts (1991) it lacks AGRP1, as a consequence of a parametric change in the late Middle English, when the subjunctive and the morphological verbal system were lost and *do*-support appeared. As suggested by Mahajan (1990), languages that lack V-to-AGR lack also argument shift.

This proposal has another interesting consequence. If we accept that infinitives

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(3) Suñer has pointed out to me that this proposal might have some undesirable consequences for IP deletion, given that in (i) we would be deleting from AGR'2.

   (i) Juan se pregunta por qué afectó la guerra a su país y yo me pregunto [CP en qué medida [AGRP1 e]].
        "Juan wonders why the war affected his country and I wonder why".

   (ii) Juan se pregunta en qué medida a cada ejército lo llevó a la derrota su general y yo me pregunto por qué.
        Juan wonders in what way to each army it-CLIT led to the defeat its general and I wonder why.
        "Juan wonders in what way each army was led to defeat and I wonder why".

I claim that the deletion in (i) occurs from AGRP1. (ii) supports this claim since we can have also IP deletion with an intervening NP in between the wh-word and the verb. This intervening NP would be in Spec-of-AGRP1. Notice that a distributive reading of the wh-word and a wide scope reading are available in (ii). In the first case the wh-phrase moves from Spec-of-AGRP2 to Spec-of-CP; in the second case, the wh-phrase is probably generated in CP. My account entails that when we have wh-words that require obligatory inversion, IP deletion would be ruled out, as (iii) illustrates, since we are deleting from AGR'2. Therefore, IP deletion is not a problem for my analysis but rather a piece of evidence.

   (iii) *Pedro se pregunta qué ha regalado Juan y yo me pregunto a quién.
         "Peter wonders what John has given and I wonder to whom".

raise to AGRP1, as suggested by Ouhalla (1990) for Italian based on adverbial placement, we can propose that enclisis is the result of verb movement, while proclisis is the result of clitic lowering.

Therefore, the configurational representation of (15) would be as in (20).

(20)   [$_{AGRP1}$ A cada$_i$ estudiante [$_{AGRP2}$ quién$_i$ [$_{AGR'2}$ le dejó un libro]]].

Negative phrases may move also to Spec of AGR2 to comply with the scope filter through dynamic agreement, as in (21).

(21)   Juan a nadie hace caso.
        Juan to nobody listens
        "John doesn't listen to anybody"

We can observe that *a nadie* does not need to be licensed by a clitic in that preverbal position. My hypothesis is that wh-phrases and n-phrases take scope to quantify a predicate in an indefinite way, hence, they modify the aspectual dimension of the predicate, in particular, the aorist-imperfect dichotomy.

With regard to the choice of the mechanism to assign scope to the wh-phrase, we can observe a tendency in Universal Grammar. Once more the differences in the AGR system among languages appear to give rise to different syntactic behaviors. Chinese, which lacks AGR, does not have wh-movement and needs a scope marker to transmit the [+wh] feature to the predicate. English and Spanish have AGR, which allows a wh-phrase to transmit its [+ wh] feature under Spec-head agreement.

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