

Wh-in-Situ and the Spanish DP: Movement or No Movement?

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1 Introduction

Two main theories compete to analyze wh-in-situ constructions in the Spanish clause: The “movement approach” and the “in situ approach”. This paper examines in detail wh-in-situ constructions in the nominal domain and concludes that the “in situ approach” is superior.

The paper is organized as follows. In section 2, we provide a brief overview of wh-in-situ in Spanish and introduce the two main theories to analyze this phenomenon. Section 3 presents some previously unobserved data involving wh-in-situ constructions in the DP domain. Section 4 details a proposal based on the extension of the “in situ approach” to cover the data in the nominal domain. Finally, in section 5 we offer the main conclusions of the paper.

2 Two Theories of Wh-in-Situ

Spanish exhibits a mixed pattern of the French type in wh-movement constructions (Jiménez 1997): A wh-phrase can move overtly, as in (1a), or it can stay in situ, as in (1b).

- (1) a. ¿Qué compró Juan?
 what bought John
 b. ¿Juan compró **qué**?

One important property of wh-in-situ constructions in Spanish is that the wh-phrase needs to obey the Sentence Final Requirement (SFR), that is, the wh-phrase needs to appear in final position. The grammaticality contrast in (2) stems from the different positions of the wh-element in the sentence. (2b) is ungrammatical because ‘qué’ does not appear in a final position.

- (2) a. ¿Tú le diste a María (el) **qué**?
 you CL gave to Mary (the) what
 b. *¿Tú le diste (el) **qué** a María?

Note that the SFR can create non-neutral word orders, as in (2a) above. If we compare this example with its declarative counterpart in (3), we notice that the DO follows the verb and precedes the IO. This is different from (2a). Here, the DO appears after the verb and the IO.

- (3) Tú le diste un libro a María.
you CL gave a book to Mary

Two main approaches have been proposed to account for the properties of wh-in-situ constructions in Spanish: The “movement approach” and the “in situ approach”. In what follows we provide the main claims of each proposal.

2.1 The “Movement Approach”

According to Uribe-Etxebarria (2002) and Etxepare and Uribe-Etxebarria (2005), Spanish wh-in-situ questions have a complex syntax and involve two movement operations. First of all, the wh-word moves to Spec CP overtly. Then, the non-interrogative material (i.e. the remnant IP) moves over the displaced wh-word. The corresponding derivation for (2a) is provided below:

- 1) [_{IP} tú diste **qué** a María]
- 2) [_{CP} **qué** [_{IP} tú diste t_i a María]]
- 3) [_{XP} [_{IP} tú diste t_i a María]_k [_{CP} **qué**_i t_k]]

2.2 The “in situ” Approach

Reglero (2004, 2005) argues against massive overt movement. She proposes that the SFR is derived as a result of the interplay of the syntactic and phonological properties of in situ wh-phrases. More precisely, wh-phrases need to appear in final position to receive main stress via the Nuclear Stress Rule (NSR). In her analysis, Reglero assumes Zubizarreta’s (1998) formulation of the NSR, as in (4), and the Focus Prominence Rule (FPR), as in (5):

- (4) C(onstituent)-NSR:
Given nodes C_i and C_j, that are metrical sisters, the one lower in the syntactic asymmetric c-command ordering is more prominent.
- (5) Focus Prominence Rule (FPR):
Given two sister categories C_i (marked [+F]) and C_j (marked [-F]), C_i is more prominent than C_j.

3 Wh-phrases in the Spanish DP

The two theories presented above compete to analyze wh-in-situ in the clausal domain. As illustrated in (7), Spanish DPs can contain wh-phrases that can be extracted, as in (7a), or that remain in situ, as in (7b).

- (7) a. ¿De qué has leído [varios libros [t_{obj}]]?
of what (you) have read several books
b. ¿Has leído varios libros **de qué**?

3.1 Extraction out of the Spanish DP

Torrego (1987), Ormazabal (1991), and Ticio (2003, 2005), among others, have analyzed the extraction possibilities of wh-constructions out of Spanish DPs. The main descriptive generalization reported in the literature is the severe blocking effects with more than one PP argument in a Spanish DP. As illustrated in (8), the presence of a possessor blocks the extraction of agents and objects, although possessors can be extracted in the presence of agents and objects, as in (9).

- (8) a. He leído [varios libros [de Cervantes]_{ag} [de Juan]_{poss}]
(I) have read [several books [of Cervantes]_{ag} [of Juan]_{poss}]
b. *¿[De quién] has leído [varios libros t_{ag} [de Juan]_{poss}]?
of whom (you) have read [several books t_{ag} [of Juan]_{poss}]
c. He leído [varios libros [de Física]_{obj} [de Juan]_{poss}]
(I) have read [several books [of Physics]_{obj} [of Juan]_{poss}]
d. *¿[De qué] has leído [varios libros t_{obj} [de Juan]_{poss}]?
of what (you) have read [several books t_{obj} [of Juan]_{poss}]
- (9) a. ¿[De qué coleccionista] has comprado [varios ejemplares
of what collector (you) have bought [several copies
[de esa obra]_{obj} t_{poss}]?
[of that work]_{obj} t_{poss}]
b. ¿[De qué coleccionista] has comprado [varios retratos
of what collector (you) have bought [several portraits
[de Rembrandt]_{ag} t_{poss}]?
[of Rembrandt]_{ag} t_{poss}]

Similarly, the presence of an agent blocks the extraction of an object in (10b), although agents can be extracted in the presence of objects, cf. (10c).

- (10) a. Conozco [varias traducciones [de La Celestina]_{obj} [de Ana]_{ag}]
 (I) know [several translations [of La Celestina]_{obj} [of Ana]_{ag}]
 b. *¿[De qué obra] conoces [varias traducciones t_{obj} [de Ana]_{ag}]?
 of what work (you) know [several translations t_{obj} [of Ana]_{ag}]
 c. ¿[De quién] conoces [varias traducciones [de La Celestina]_{obj}
 of whom (you) know [several translations [of La Celestina]_{obj}
 t_{ag}]?
 t_{ag}]

These blocking effects illustrate that PP arguments display a strict hierarchical relation, with possessors higher than agents, and agents higher than objects.

In order to explain the severe movement restrictions noted above, previous analyses have assumed that movement of wh-elements out of the DP requires intermediate landing sites within DP. More precisely, most analyses have adopted the idea of a specifier position as an escape hatch for movement out of Spanish DPs. If that escape hatch is occupied by an argument, no other argument lower in the thematic hierarchy can be extracted.

3.2 Wh-in-Situ in the Spanish DP

Although there have been some proposals on how to analyze wh-extraction out of Spanish DPs, there are no more than a few mentions of the wh-in-situ data in the literature. Let us consider now the properties of wh-in-situ in the Spanish DP. As shown in (11), possessors, agents and objects can appear as wh-in-situ phrases whenever they are the only PP modifier in the DP.

- (11) a. He leído [varios libros [de Física]_{obj}]
 (I) have read several books of Physics
 a'. ¿Has leído [varios libros [**de qué**]_{obj}]?
 (you) have read several books of what
 b. He leído [varios libros [de Cervantes]_{agent}]
 (I) have read several books of Cervantes
 b'. ¿Has leído [varios libros [**de quién**]_{agent}]?
 (you) have read several books of whom
 c. He leído [varios libros [de Ana]_{poss}]
 (I) have read several books of Ana
 c'. ¿Has leído [varios libros [**de quién**]_{poss}]?
 (you) have read several books of whom

Surprisingly, the presence of a possessor does not block the presence of wh-in-situ agents and objects. Similarly, wh-in-situ possessors can appear in the presence of agents and objects, as in (12)-(13).

- (12) a. He leído [varios libros [de Cervantes]_{ag} [de Juan]_{poss}]
 (I) have read [several books [of Cervantes]_{ag} [of Juan]_{poss}]
 b. ¿Has leído [varios libros [de Juan]_{poss} [de quién]_{ag}]?
 (you) have read [several books [of Juan]_{poss} [of whom]_{ag}]
 c. He leído [varios libros [de Física]_{obj} [de Juan]_{poss}]
 (I) have read [several books [of Physics]_{obj} [of Juan]_{poss}]
 d. ¿Has leído [varios libros [de Juan]_{poss} [de qué]_{obj}]?
 (you) have read [several books t_{obj} [of Juan]_{poss} [of what]_{obj}]
- (13) a. ¿Has comprado [varios ejemplares [de esa obra]_{obj} [de qué coleccionista]_{poss}]?
 (you) have bought [several copies [of that work]_{obj} [of what collector]_{poss}]
 b. ¿Has comprado [varios retratos [de Rembrandt]_{ag} [de qué coleccionista]_{poss}]?
 (you) have bought [several portraits [of Rembrandt]_{ag} [of what collector]_{poss}]

Furthermore, the presence of an agent does not block the presence of a wh-in-situ object. As illustrated in (14), wh-in-situ agents can appear in the presence of objects.

- (14) a. Conozco [varias traducciones [de La Celestina]_{obj} [de Ana]_{ag}]
 (I) know [several translations [of La Celestina]_{obj} [of Ana]_{ag}]
 b. ¿Conoces [varias traducciones [de Ana]_{ag} [de qué obra]_{obj}]?
 (you) know [several translations [of Ana]_{ag} [of what work]_{obj}]
 c. ¿Conoces [varias traducciones [de La Celestina]_{obj} [de quién]_{ag}]?
 (you) know [several translations [of La Celestina]_{obj} [of whom]_{ag}]

The unexpected conclusion is that there are no hierarchical constraints on wh-in-situ within the Spanish DP. Any PP argument can appear as a wh-in-situ phrase regardless of the presence of other arguments in the DP. More precisely, the data above point to the conclusion that wh-extraction and wh-in-situ are different. They are not affected by the same types of restrictions. Extraction obeys syntactic constraints that seem not to operate with wh-in-situ phrases. Note that a movement approach to wh-in-situ would not be able to explain the drastic differences between the two types of wh-elements within the DP (cf. (8) to (14)).

Moreover, the only restriction in wh-in-situ within the Spanish DP is a surface order restriction. Let us consider (15):

- (15) a. Leímos varios libros de lingüística de Chomsky de María.
 we-read several books of linguistics of Chomsky of Mary
 b. Leímos varios libros de Chomsky de lingüística de María.

(15) shows that there is free surface order among the PP arguments within the Spanish DP. Significantly, if one of the arguments is a wh-phrase, it must appear in the last position of the DP. This is illustrated for instance in the contrasts in (16).

- (16) a. ¿Has leído varios libros *[de qué]_{obj} [de Juan]_{poss}
 you-have read several books of what of John
 / [de Juan]_{poss} [de qué]_{obj} ?
 b. ¿Has leído varios libros *[de quién]_{ag} [de Juan]_{poss}
 you-have read several books by whom of John
 / [de Juan]_{poss} [de quién]_{ag} ?
 c. ¿Has leído varios ejemplares *[de qué autor]_{ag} [de esa obra]_{obj}
 you-have read several copies of what author of that work
 / [de esa obra]_{obj} [de qué autor]_{ag} ?
 d. ¿Has leído varios libros *[de quién]_{poss} [de lingüística]_{obj} /
 you-have read several books of whom of linguistics
 [de lingüística]_{obj} [de quién]_{poss} ?

Crucially, this constraint corresponds to the SFR regulating the distribution of wh-in-situ in the clausal domain we discussed earlier, that is, the wh-phrase must appear in the last position of the DP (SFR).

Based on the evidence presented above, we conclude that Reglero's non-movement approach is the most adequate theory to analyze wh-in-situ within the Spanish DP. We implement our analysis below.

4 Towards an Analysis of Wh-in-Situ within Spanish DPs

There are two main theoretical assumptions underlying our analysis. First, we adopt the structure in (17) to analyze the Spanish DP.

- (17) [_{DP} D [_{AgP} Agr [_{nP} n [_{NP} N]]]]

(17) follows Ticio's previous proposals on the structure of Spanish DPs and contains only two functional categories, apart from the DP itself. The

structure contains an Agreement Phrase where all the agreement-based relations are established. Additionally, the structure has a functional category *nP* which is the equivalent to *vP* in the verb phrase. Making a complete parallelism between the verbal and the nominal domain, we assume that the existence of a position to host agents in the verb phrase must correspond to a position where we can host agents in the nominal phrase, when they happen to be present. Thus, *nP* is the locus of agentivity. Second, we assume Reglero's non-movement approach to *wh*-in-situ under which stress assignment and the Copy Theory interact to derive the SFR.

4.1 The Analysis

Let us consider how our analysis derives a grammatical example such as (16d), repeated as (18).

- (18) ¿Has leído varios libros [de lingüística]_{obj} [**de quién**]_{poss} ?
 you-have read several books of linguistics of whom (=16d)

First, the Lexical Domain is derived via application of External Merge, as illustrated in (19).

- (19) [_{NP} de lingüística [_{N'} [_N libros [**de quién**]]]]

At some point of the derivation, the insertion of functional categories in the structure triggers the use of internal merge to satisfy the requirements of the derivation. The presence of Agr in structure (20) is going to probe the possessor, due to the standard assumption that possessors always undergo an internal movement from a position internal to the NP (i.e., they are derived arguments; cf. Den Dikken 1997, Coene and D'hulst 2003). Then, 'de quién' moves to the Specifier of AgrP, where it can receive its Case and Phi-features, as in (20).

- (20) [_{AgrP} **de quién** [_{Agr'} [_{Agr} libros [_{NP} de lingüística [_{N'} [_N libros **de quién**]]]]]]

The last step of the derivation illustrated in (21) is the insertion of the functional category D right before the derivation is sent to PF to be pronounced.

- (21) [_{DP}[_{D'}[_D varios [_{AgrP} **de quién** [_{Agr'} [_{Agr} libros [_{NP} de lingüística [_{N'} [_N libros **de quién**]]]]]]]]]]

The current analysis predicts the desired result regardless of the type of in situ wh-argument, since the relevant operation must apply post-syntactically. (26) shows a grammatical example with an agent and an object. The relevant steps of the derivation are given in (27) through (31).

- (26) ¿Has leído varios ejemplares [de esa obra]_{obj} [de qué autor]_{ag} ?
 you-have read several copies of that work of what author (= (16c))
- (27) [NP de esa obra [N' [N ejemplares [de qué autor]]]] (Lexical Domain)
- (28) [_{nP} de qué autor [_{n'} [_n ejemplares [NP de esa obra [N' [N ejemplares [de qué autor]]]]]]]] (higher domains)
- (29) [DP[D' [D varios [AgrP[Agr' [Agr [_{nP} de qué autor [_{n'} [_n ejemplares [NP de esa obra [N' [N ejemplares [de qué autor]]]]]]]]]]]]]]]]]]]] (complete derivation)
- (30) [DP[D' [D varios [AgrP[Agr' [Agr [_{nP} de qué autor [_{n'} [_n ejemp. [NP de esa obra
 [-F] [-F] [-F] [-F]
 [_{n'} [_n ejemplares [de qué autor]]]]]]]]]]]]]]]]]]]] (Derivation sent to PF)
 [-F] [+F]
- (31) [DP[D' [D varios [AgrP[Agr' [Agr [_{nP} de qué autor [_{n'} [_n ejemp. [NP de esa obra
 [-F] [+F] [-F] [-F]
 [_{n'} [_n ejemplares [de qué autor]]]]]]]]]]]]]]]]]]]] (Copy deletion)
 [-F] [+F]

Under the assumption that only agents can be the goal of the probe *nP* (i.e. only these arguments can satisfy *nP*'s agentivity requirement), the only noticeable difference in this new derivation is the insertion of the functional category *nP*, due to the presence of the agent. Note that the ungrammaticality of (32) is again explained as the result of a violation of the SFR (cf. (33)).

- (32) *¿Has leído varios ejemplares de qué autor de esa obra? (= (16c))
 you-have read several copies of what author of that work
- (33) [DP[D' [D varios [AgrP[Agr' [Agr [_{nP} de qué autor [_{n'} [_n ejemp. [NP de esa obra
 [-F] [+F] [-F] [-F]
 [_{n'} [_n ejemplares [de qué autor]]]]]]]]]]]]]]]]]]]] (violation of the SFR)
 [-F] [+F]

4.2 Additional Evidence

In this section we present three additional pieces of evidence to show that the proposed analysis is on the right track.

4.2.1 Adverbial PPs

Chomsky (1986) and Culicover and Rochemont (1992) noted that NPs allow extraction of an argument wh-phrase, but disallow extraction of an adjunct wh-phrase. This is illustrated in the grammaticality contrasts in (34).

- (34) a. [Who]_i do you like [a picture of t_i]?
 b. *[Which table]_i did you like [NP a book [PP on t_i]]?
 c. *[On which table]_i did you like [NP a book t_i]?

Spanish DPs obey the same restriction. As shown in (35a), an adverbial PP such as ‘para quién’, cannot be extracted out of the DP. In contrast, it is possible to have wh-in-situ with adverbial PPs, as in (35b).

- (35) a. *¿Para quién rompimos un regalo?
 for whom we-broke a present
 b. ¿Rompimos un regalo **para quién**?

The grammaticality of (35b) remains without an explanation under a movement approach to wh-in-situ. The proposed analysis explains the contrasts in a straightforward manner as the result of the absence of movement in the wh-in-situ examples.

4.2.2 Specificity

Another piece of evidence for our analysis comes from the Specificity Effect, cf. (36).

- (36) a. Who_i did you see pictures/a picture of t_i?
 b. *Who_i did you see the/these pictures of t_i?

The Specificity Effect (Chomsky 1986, Fiengo and Higginbotham 1980) claims that wh-movement out of specific DPs is impossible in English. The same facts obtain in Spanish, as in (37a). However, no Specificity Effect is observed with wh-in-situ, as shown in (37b).

- (37) a. *¿De qué compramos los tres libros?
 of what we-bought the three books
 b. ¿Compramos los tres libros **de qué**?

Once again, the absence of specificity effects with *wh*-in-situ calls into question the accuracy of the “movement approach” to *wh*-in-situ, while it points to a non-movement approach to the phenomenon.

4.2.3 Additional Wh-Phrase in Spec CP

Finally, another phenomenon explained under our analysis is the one illustrated in (38) and (39) (examples from Zubizarreta 1998).

- (38) a. *¿*Quién* puso **qué cosa** sobre la mesa?
 who put what thing on the table
 b. ¿*Quién* puso sobre la mesa **qué cosa**?

(38) shows that the SFR is also active when there are two *wh*-phrases in a sentence. That is, (38a) is ungrammatical because it violates the SFR.

The contrast in (38) is problematic for the “movement approach” because it predicts overt *wh*-movement of ‘*qué cosa*’. This creates a problem since there is already a *wh*-phrase in SpecCP. To solve this issue, the “movement approach” must assume a different explanation for this type of example. Note that our analysis can account for the data because there is no movement involved and the same exact analysis can be applied to *wh*-in-situ with or without an additional *wh*-phrase in SpecCP.

Under our analysis, the following grammaticality contrasts in the nominal domain are also predicted. (39a) is ungrammatical because it violates the SFR.

- (39) a. *¿*Quién* robó [el retrato [**de quién**]_{obj} [de Picasso]_{ag}]?
 who stole the portrait of whom by Picasso
 b. ¿*Quién* robó [el retrato [de Picasso]_{ag} [**de quién**]_{obj}]?

In sum, our non-movement approach allows us to offer a unified analysis of *wh*-in-situ in the nominal and clausal domains.

5 Conclusion

This paper has provided a detailed description of *wh*-elements in the Spanish DP. The descriptive generalization is that *wh*-extraction is different from *wh*-in-situ in Spanish DPs, and it is not possible to analyze *wh*-in-situ as the result of movement. Crucially, the only requirement for *wh*-in-situ in the clausal and the nominal domains is the Sentence Final Requirement. That is, the presence of a *wh*-in-situ alters the neutral word order possibilities in both

domains. According to the evidence presented, the paper argues that a unified analysis of Spanish wh-in-situ is possible by appealing to Reglero's non-movement approach.

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