

25 Wh-movement: Interrogatives, Exclamatives, and Relatives

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1 Introduction

Movement is a metaphor for a syntactic configuration in which a syntactic object surfaces in a position where it is not ultimately interpreted. There are a number of movement-related constructions that have generated a large base of descriptive and theoretical research on language in general, and Spanish in particular: left and right dislocation (Contreras 1976; Rivero 1980; Villalba 2000; López 2003), scrambling phenomena (Ordóñez 1998), focus movement (Zubizarreta 1998), etc. In this chapter I will focus on one type – Wh-movement – and provide a descriptive overview capturing the lexical, syntactic, and semantic variation across the syntax of Spanish. I will also review theoretical approaches addressing previous and ongoing research in the area.

The study of Wh-movement has primarily focused on Interrogatives (1) in the theoretical literature, where Spanish has offered key comparative linguistic data.

- (1) ¿Qué tienes?
'What do you have?'

However, in this chapter I will expand our exploration to include a discussion of Wh-movement in its broader sense, including Exclamatives (2) and Relative Clauses (3), in order to provide a more comprehensive look at the continuities and discontinuities that characterize Wh-movement in a range of syntactic contexts.

- (2) ¡Qué inteligente es Pedro!
'How inteligente Pedro is!'

- (3) Esos libros que me compraste ayer, los voy a vender.
'Those books that you bought me yesterday, I'm going to sell them.'

To begin this survey and in order to highlight Wh-movement and related syntactic phenomena, it will be important to reign in the empirical focus. There are various types of interrogatives, exclamatives, and relatives, each with their similarities and differences. As a class, interrogatives (4) function to query some unknown information of some type, exclamatives (5) provide an emotive evaluation of some presupposed information, and relatives relay truth-value information (6).

- (4) a. ¿Tienes las entradas para el concierto? *Yes/No question*
'Do you have the tickets for the concert?'
b. ¿Qué tienes? *Wh-interrogative*
'What do you have?'
- (5) a. ¡La de gente que vino! *Nominative exclamative*
'The (amount) of people that came!'
b. ¡Qué inteligente es Pedro! *Wh-exclamative*
'How intelligent Pedro is!'
- (6) a. Esos libros, que no me gustan, los voy a vender. *Appositive Relative*
'Those books, which I don't like, I'm going to sell them.'
b. Esos libros que me compraste ayer, los voy a vender. *Restrictive Relative*
'Those books that you bought me yesterday, I'm going to sell them.'

However, each of these classes varies internally in syntactic and semantic terms not relevant to Wh-movement. Therefore, the current discussion will only concern Wh-interrogatives (4b), Wh-exclamatives (5b), and Restrictive Relative Clauses (6b), given they share three particular lexical, syntactic, and semantic properties characteristic of Wh-movement: (1) the use of a common set of Wh-words; (2) the obligatory 'fronting' of these Wh-words to a clause-initial position; and (3) a strict relationship between the fronted Wh-word and its interpreted, or base, position.

As the data in (7–9) show, the set of Wh-words employed overlaps between each of these structures, but is not completely shared.

Wh-interrogatives

- (7) a. ¿Qué libro tienes en la mano?
'What book do you have in your hand?'
b. ¿A quiénes viste en la fiesta?
'Who did you see at the party?'
c. ¿Cuántos libros has comprado?
'How many books have you bought?'

Wh-exclamatives

- (8) a. ¡Qué cosas dice tu hermano!
 'What things your brother says!'
 b. ¡Cómo son de exagerados!
 'How dramatic you (all) are!'
 c. ¡Cuántos libros has comprado!
 'You've bought quite a number of books!'

Restrictive relatives

- (9) a. Esos libros que compré ayer no valen para nada.
 'Those books (that) I bought yesterday are worthless.'
 b. La mujer a quien le diste el sobre
 'The woman who you gave the letter to'
 c. El cuchillo con el cual cortamos el pastel
 'The knife with which we cut the cake'

Interrogatives demonstrate the widest variety of Wh-words and include: *qué* 'what,' *cuál(es)* 'which,' *cuánto/a(s)* 'how much/many' *cómo* 'how,' *cuándo* 'when,' *quién(es)* 'who,' *dónde* 'where,' *por qué* 'why,' and *por qué* 'for what'; relatives follow with the second largest set: *que* 'that' / 'which,' *cual(es)* 'which,' *cuanto/a(s)* 'how many,' *como* 'how,' *donde* 'where,' *quando* 'when,' *quien(es)* 'who,' *porque* 'because,' and *cuyo* 'whose'; and exclamatives appear with the most restricted set: *qué* 'what' / 'how), *cuánto* 'how much,' *cuánto/a(s)* 'how much/many,' *cómo* 'how.' Wh-words, named such given the common wh-string associated with the comparable English set of interrogative pronouns 'what,' 'where,' 'why,' and 'who' are inextricably linked to the lexical function they perform and to the semantic import and pragmatic force of the utterance in which they appear, and thus are restricted accordingly.

Fronting is also a fundamental feature of Wh-movement, as is illustrated in (7–9). As opposed to Wh-interrogatives, Wh-exclamatives (10a) and relatives (10b) disallow the Wh-phrase from remaining in its base position.

- (10) a. *¡Dice tu hermano qué cosas!
 'Your brother says what things!'
 b. *El cuchillo cortamos el pastel con el cual
 'The knife we cut the cake with which'

Simple interrogatives allow a Wh-pronoun to appear in-situ, but its interpretation is semantically and pragmatically marked (11) as distinct from the fronted version (12).

- (11) a. ¿Tienes qué? *Echo question*
 'You have what?'

- b. # Las entradas para el concierto.
'The concert tickets.'
- (12) a. ¿Qué tienes? *Wh-interrogative*
'What do you have?'
- b. Las entradas para el concierto.
'The concert tickets.'

Finally, the Wh-pronoun and its base position, often referred to as a 'trace' in Generative accounts, share a strict coreference relationship in which the Wh-pronoun acts as an operator binding the trace position, or variable.

- (13) a. ¿Qué libro_i tienes t_i en la mano?
b. ¡Cuántos libros_i has comprado t_i!
c. El cuchillo con el cual_i cortamos el pastel t_i.

At this point, it can be seen how the metaphor 'movement' has come to be used to describe this particular structural configuration. As seen in (14), a Wh-word cannot co-occur with an overt element in its interpreted position, suggesting that the Wh-pronoun is not a new syntactic object that has been inserted into the construction, but rather it is the pronominal form of the trace which has 'moved' from its base position to a clause-initial position.

- (14) a. ¿Qué libro_i tienes (*el libro azul)_i en la mano?
'What book do you have (*the blue book) in your hand?'
- b. ¡Cuántos libros_i has comprado (*cuatro libros)_i!
'You've bought quite a number of books (*four books)!'
- c. El cuchillo con el cual_i cortamos el pastel (*con el cuchillo)_i.
'The knife with which we cut the cake (*with the knife)'

In the following sections, I provide a more thorough review of the descriptive characteristics of Wh-movement that interrogatives (Section 2), exclamatives (Section 3), and relatives (Section 4) share, as well as key aspects where they diverge. These data will serve to complement (Section 5), where I turn to more nuanced data leveraged in the formal and applied literature to provide theoretical accounts for Wh-movement.

2 Interrogatives

Wh-interrogatives are also known as constituent questions. This title aptly makes reference to the fact that Wh-words in Wh-interrogatives can query information from a range of constituent types (NP, VP, AP) and functions (Subject, Object, and Adverbial and Adjectival modifiers), giving rise to a host of interrogative pronouns.

- (15) a. ¿Quién_{subject NP} quiere ir al parque hoy?
 ‘Who wants to go to the park today?’
 b. ¿Qué_{object VP} quiere Juan hoy?
 ‘What does John want today?’
 c. ¿A dónde_{object NP} quiere ir Juan hoy?
 ‘Where does John want to go today?’
 d. ¿Cuándo_{modifier AP} quiere ir al parque Juan?
 ‘When does John want to go to the park?’

As noted earlier, Wh-movement involves a dependency relationship between an overt Wh-pronoun and a nonovert antecedent in base position. In Spanish, if the antecedent is selected by a verb which requires a prepositional marker or selected directly by a preposition, that prepositional element must appear as part of the fronted Wh-phrase.

- (16) a. ¿[*(Con) quién] quieres ir?
 ‘Who do you want to go with?’
 b. ¿[*(A) cuál] libro te refieres?
 ‘Which book are you referring to?’

Some Wh-pronouns have the capability to absorb the prepositional marker given the lexical-semantics of the Wh-word, but only when the Wh-pronoun receives Oblique case (i.e., is not part of the verbal subcategory).

- (17) a. ¿Dónde comiste el bocadillo?
 ‘Where did you eat the sandwich?’
 b. Comí el bocadillo [_{oblique} en mi cuarto].
 ‘I ate the sandwich in my room.’
- (18) a. ¿*(A) dónde irás después de escribir el capítulo?
 ‘Where will you go after writing the chapter?’
 b. Iré [a Disneylandia].
 ‘I will go to Disneyland.’

Although there is a high level of freedom in word ordering in declaratives (see Chapter 28), in Wh-interrogatives it is typically observed that fronting of the Wh-phrase triggers a reordering of overt subjects and the verb, known as subject-verb inversion, or inversion, such that the verb precedes the subject (Rivero 1980; Torrego 1984; Contreras 1989; Goodall 1993; Baković 1998).

- (19) a. ¿Qué come María en la mañana?
 ‘What does Mary eat in the morning?’
 b. *¿Qué María come en la mañana?

Notice that inversion is not a direct property of interrogatives as preverbal subjects are allowed in yes/no questions (20a) and echo questions (20b), where no fronting occurs.

- (20) a. ¿María come manzanas en la mañana?
'Does Mary eat apples in the morning?'
b. ¿María come qué en la mañana?
'Mary eats what in the morning?'

Not only are subjects barred from appearing in the domain between the Wh-phrase and the verb, so are objects (21a) and many adverbial expressions (21b).

- (21) a. *¿Qué a Juan le dio María?
'What to John did Mary give?'
b. *¿Qué a tiempo le dio María a Juan?
'What on time did Mary give John?'

However, these elements are free to appear in absolute clause-initial position before Wh-phrase as Topic elements (Contreras 1976, Rivero 1978).

- (22) a. María, ¿qué le dio a Juan a tiempo?
'Mary, what did (she) give John on time?'
b. A Juan, ¿qué le dio María?
'To John, what did Mary give (him)?'
c. A tiempo, ¿qué le dio María a Juan?
'On time, what did Mary give John?'

Indirect questions in subordinate clauses also follow the matrix inversion pattern, a particular property of Spanish not found in many languages where subject–verb inversion is active in matrix clauses (Emonds 1976). Embedded interrogatives must be lexically selected by verbs such as *preguntar* 'to ask,' *saber* 'to know/find out,' *decir* 'to say/tell,' etc.

- (23) a. Quiero saber qué tiene de malo ese bar.
'I want to know what's so bad about that bar.'
b. *Quiero saber qué ese bar tiene de malo.

Despite the robust expression of subject–verb inversion in matrix and subordinate clauses, it is not obligatory in all Wh-movement in interrogatives. There are three main cases in which subjects intervene between Wh-words and the verb. The first concerns the thematic role of the Wh-pronoun. Wh-pronouns that are not selected by the verb; that is, adjuncts such as *por qué* 'why,' *cuándo* 'when,' *cómo* 'how,' and *en qué medida* 'in what way' allow subjects to intervene between the Wh-phrase and the verb (Torrego 1984; Suñer 1994; Goodall 1993).

- (24) a. *¿A quién Juan odia?
 'Who does John hate?'
 b. ¿Por qué Juan odia a Luis?
 'Why does John hate Luis?'

To highlight this contrast, when the Wh-word *por qué* 'for what' is an argument of the verb, it triggers obligatory inversion (Contreras 1989).

- (25) a. *¿Por qué Juan votó?
 'For what did John vote?'
 b. Juan votó por paz.
 'John voted for peace.'

The second case in which subject-verb inversion is not obligatory concerns the 'complexity' of the Wh-phrase. Complex Wh-phrases which make more specified discourse reference also tend to allow preverbal subjects (Goodall 2004; Ordóñez and Olarrea 2006)

- (26) a. *¿A quién María conoció en París?
 'Who did Mary meet in Paris?'
 b. ¿A cuál de estas chicas María conoció en París?
 'Which of these girls did Mary meet in Paris?'

The final case deals with dialect variation and does not apply to all varieties in Spanish. The fact that varieties of Caribbean Spanish allow preverbal subjects in Wh-interrogatives even in cases where the Wh-word is an argument and is not complex, as in (27), has attracted much attention in the descriptive and theoretical literature (Lipski 1977; Toribio 2000).

- (27) ¿Qué tú sabes?
 'What do you know?'

It appears, however, a matter of some debate to what extent subjects of all types are allowed preverbally in Wh-interrogatives in Caribbean dialects as a whole. The literature suggests that some particular Caribbean varieties only allow pronominal elements, as in (27) (Ordóñez and Olarrea 2006), where others allow full determiner phrases (DP), as in (28) (Suñer 1994).

- (28) ¿Qué Juan sabe?
 'What does John know?'

Extraction from subordinate clauses is also a key aspect of Wh-movement in interrogatives. As we have seen in this section, Spanish Wh-dependency relationships in interrogatives can be established in matrix and in subordinate contexts. It is

also the case that Wh-dependencies can be established between matrix and subordinate clauses as well.

- (29) ¿Qué_i quiere Juan [que le compre _{ti}]?
 'What does John want he/she to buy him/her?'

Notice that a long-distance dependence can apply in multiple embedded contexts, yet subject–verb inversion only applies to the matrix subject and verb (Contreras 1989).

- (30) ¿A quién_i dice María [que Juan no quiere [que su hijo no conozca _{ti}]]?
 'Who does Mary say that John doesn't want that his/her son doesn't meet?'

However, there are structural configurations that restrict Wh-movement in Spanish, as for a number of languages shown in work in the late 1960s and early 1970s (Chomsky 1973). Often referred to as Syntactic Islands (Ross 1967) in the theoretical literature, Spanish shows sensitivity to many (31) but not all of these Islands (32) (Perlmutter 1971; Suñer 1991).

- (31) a. *¿A quién_i habló José con Irma [después de ver _{ti}]? *Adjunct Island*
 'Who did Joseph speak with Irma after seeing?'
 b. *¿Cuántos_i compró María [_{ti} libros]? *Left branch Condition*
 'How many did Mary buy books?'
 c. *¿Qué_i tocas [el piano y _{ti}]? *Coordinate Constraint*
 'What do you play the piano and?'
 d. *¿Qué_i se pregunta Juan dónde María fue a comprar _{ti}? *Wh- Island*
 'What does John wonder where Mary went to buy?'
 e. *¿Qué_i defendió Juan [la propuesta de que se venda _{ti}]? *Complex NP Constraint*
 'What did John defend the proposal that be sold?'
 f. *¿De qué_i sabe Juan que [una botella _{ti}] se cayó de la mesa? *Subject Constraint*
 'What does John know that a bottle of fell off the table?'
- (32) a. ¿A quién_i se pregunta Juan [si María quiere _{ti}]? *Whether Islands*
 'Who does John wonder whether Mary loves?'
 b. ¿Quién_i cree Juan [que _{ti} votó por Clinton]? *That-trace Effect*
 'Who does John believe that voted for Clinton?'

3 Exclamatives

Turning to Wh-exclamatives, we see that they demonstrate many grammatical characteristics similar to those of Wh-interrogatives. Most obviously, Wh-

exclamatives share a set of Wh-words with Wh-interrogatives, albeit a smaller set. As in the case of Wh-interrogatives, these Wh-words provide evidence that they too undergo movement and are associated with an antecedent trace in base position.

- (33) a. ¡Qué_i cosas dice _{ti} tu hermano !
 'What things your brother says!'
 b. ¡Cuánto_i te quiero _{ti}!
 'I love you so much!'
 c. ¡Cuántos libros_i hay que leer _{ti}!
 'What a bunch of books there is to read!'

One notable difference in the Wh-word inventory is the fact that the Wh-pronoun *qué* 'what' is more productive in Wh-exclamatives than in Wh-interrogatives (Alonso-Cortés 1999).

- (34) a. ¡Qué increíble_{ADJ}!
 'How incredible!'
 b. ¡Qué bien_{ADV} que lo viste!
 'How great that you saw it!'
 c. ¡Qué en forma_{PP} estás!
 'How in shape you are!'
 d. ¡Qué de gasolina_{PP} come ese carro!
 'This car uses so much gasoline!'

The more productive behavior of *qué* and general restriction on the Wh-word inventory in exclamatives, however, is semantically conditioned: Wh-exclamatives convey an emotive, evaluative response that exceeds expectation to a presupposed proposition (Gutiérrez-Rexach 1996, 2008). Wh-exclamatives only occur with elements compatible with a degree or scalar interpretation (35a) and not with non-degree based elements (35b) or categorical elements (35c).

- (35) a. ¡Qué extraordinariamente feo es Pedro!
 'How extraordinarily ugly Pedro is!'
 b. *¡Qué prácticamente feo es Pedro!
 'How practically ugly Pedro is!'
 c. *¡Qué soltero está Pedro!
 'How single (not married) Pedro is!'

The modifier *tan* 'so' is optional in exclamatives, but obligatory in degree or scalar Wh-interrogatives. Given that exclamatives by their nature provide an evaluative reading, optionality is motivated (36a). Yet interrogatives do not inherently inquire into the evaluative status of a proposition, and therefore require overt marking, as seen in (36b).

- (36) a. ¡Qué (tan) inteligente es tu amigo!
'How intelligent your friend is!'
b. ¿Qué *(tan) inteligente es tu amigo?
'How intelligent is your friend?'

In contrast with Wh-interrogatives which request unknown information, Wh-exclamatives refer to presupposed information. This is highlighted by the observation that Wh-exclamatives are selected by factive predicates in embedded contexts (37a) (Elliott 1974; Grimshaw 1979) (37), that negation is standardly blocked in exclamatives due to the conflict of denying a fact that one supposes to be true (38), and that exclamatives are sensitive to specificity; the Wh-pronoun must be related to a specified, presupposed antecedent (39).

- (37) a. Me parece horroroso qué torpes son los políticos. (exclamative reading)
'I think it's horrible how clumsy politicians are.'
b. Me pregunto qué torpes son los políticos. (interrogative reading)
'I wonder how clumsy politicians are.'
- (38) a. ¡Qué barbaridades cometería alguien así!
'What atrocities would someone like that commit!'
b. *¡Qué barbaridades no cometería nadie así!
'What atrocities wouldn't anyone like that commit!'

(Villalba 2004)

- (39) a. ¡Cuánto cuesta el vino!
'The wine is so expensive!'
b. *¡Cuánto cuesta un vino!
'A wine is so expensive!'

(Villalba 2008)

Exclamatives also show similar fronting and inversion patterns to interrogatives. Indeed, the surface word order of exclamatives can be indistinguishable from Wh-interrogatives (40) (Bosque 1984). Furthermore, word order patterns are limited in similar ways in for Wh-movement in Wh-exclamatives as was described for Wh-interrogatives (41–42) (i.e., subject–verb inversion is active in matrix and embedded clauses).

- (40) a. ¿Cuántos idiomas hablas?
'How many languages do you speak?'
b. ¡Cuántos idiomas hablas!
'You speak quite a number of languages!'
- (41) a. ¡Qué inteligente es tu amigo!
'How intelligent you friend is!'
b. *¡Qué inteligente tu amigo es!

- (42) a. ¡Me olvido qué inteligente es tu amigo!
 'I forget how intelligente you friend is!'
 b. *¡Me olvido qué inteligente tu amigo es!

Dislocated elements can also appear in clause-initial position before Wh-pronouns, as in Wh-interrogatives (43). And, much like Wh-interrogatives, subject–verb inversion is optional with Wh-adverbial expressions such as *cómo* 'how' (44), and where complex Wh-phrases appear with preverbal subjects (45).

- (43) a. María, ¡qué alta (que) es!
 'Mary, how tall she (Mary) is!'
 b. María, ¿qué quiere?
 'Mary, what does she (Mary) want?'
- (44) a. ¡Mira cómo reluce el cuchillo!
 'Look how the knife shines!'
 b. ¡Mira cómo el cuchillo reluce!
- (45) ¡Qué libros más difíciles Juan nos asignó leer!
 'What difficult books John assigned us to read!'

One salient difference between Wh-exclamatives and Wh-interrogatives is the fact that exclamative Wh-phrases are strongly clause-bound and cannot be extracted outside of the originating clause where an antecedent trace is found (Villalba 2008).

- (46) a. ¡Qué forrado estás!
 'How loaded you are!'
 b. *¡Qué forrado dice Juan que estás!
 'How loaded John says you are!'
- (47) a. ¿Cuántos libros dice Juan que tiene la biblioteca?
 'How many books does John say that the library has?'
 b. *¡Cuántos libros dice Juan que tiene la biblioteca!
 'There are so many books that John says that the library has!'

Another particular feature of Wh-exclamatives concerns optional elements in matrix clauses. Exclamatives allow relativization (48a) and the elision of copular verbs (49a) (*ser* 'to be,' *estar* 'to be,' *hay* 'there is/are,' and *parecer* 'to seem') in matrix clauses but not in indirect exclamatives, as in (48b) and (49b) (Alonso-Cortés 1999).

- (48) a. ¡Cuánto (que) te quiere!
 'He/she loves you so much!'
 b. Me impresiona cuánto (*que) te quiere.
 'It impresses me how much she loves you!'

- (49) a. ¡Qué difícil (es) la jardinería!
 ‘How difficult gardening is!’
 b. Me asombra qué difícil *(es) la jardinería.
 ‘It amazes me how difficult gardening is.’

4 Relatives

A relative clause is a subordinate clause headed by a pronoun, adjective, or adverbial relative element. Relatives are included in the present discussion as they show a similar Wh-word inventory, fronting of Wh-words to the head of the clause (subordinate in this case), and an operator/variable relationship between a Wh-pronoun and a trace position, as illustrated in (50).

- (50) a. El hombre [que_i te debe _{ti} dinero] está aquí.
 ‘The man that owes you is here.’
 b. Ese es el libro [del cual_i te hablé _{ti}].
 ‘This is the book that I talked to you about.’
 c. Los miembros del comité [con quienes_i tienes que hablar _{ti}] se fueron.
 ‘The members of the committee with whom you have to speak left.’

A key difference between the Wh-movement in Wh-interrogatives and Wh-exclamatives is that there are three elements to be coindexed: an antecedent, a relative pronoun, and a trace in the antecedent’s base thematic position. Furthermore, antecedents in relatives are often overt (51a) given the declarative, descriptive nature of the grammatical construction plays, but can also be nonovert (51b) (Plann 1980).

- (51) a. No saben la hora_{antecedent i} [_{RC} cuando_i van a partir _{ti}].
 ‘They don’t know the hour (time) when they are going to embark.’
 b. Juan es _{non-overt antecedent i} [_{RC} el que_i repara las televisiones.]
 ‘John is the one who repairs televisions.’

When the relative pronoun is the object of a preposition (oblique), in many cases the definite article is combined with the pronoun. This article agrees in number and gender with the antecedent.

- (52) Es la persona a la que le mandé la carta de recomendación.
 ‘He/she is the person to whom I sent the letter of recommendation.’
 (53) Es el candidato por el que voté en las elecciones pasadas.
 ‘He is the candidate for whom I voted in the past elections.’

Word ordering also behaves distinctly in relatives. On the one hand, the subject position is more flexible than in Wh-interrogatives and Wh-exclamatives in that

relatives allow preverbal (54a) and postverbal (54b) subjects much in the same way as in simple declarative sentences.

- (54) a. Me compré el libro que María quería.
 'I bought the book that Mary wanted.'
 b. Me compré el libro que quería María.
 'I bought the book that Mary wanted.'

On the other hand, relatives show a more strict linear ordering. Antecedents must precede the relative pronoun in left-to-right linear order.

- (55) a. La persona a la cual le di el regalo no ha llegado todavía.
 'The person to which I gave the gift hasn't arrived yet.'
 b. *A la cual le di el regalo la persona no ha llegado todavía.
 'To which I gave the gift the person hasn't arrived yet.'

However, antecedents need not be adjacent, as is clear if we consider a preposition and/or article interveners; but, more interestingly, full constituents can intervene in Heavy NP shift contexts (Larson 1988).

- (56) a. Le entregué una [lista_{antecedent} [que_{RC} contenía los nombres de todos los profesores]] a María.
 'I provided a list that contained all the professors' names to Mary.'
 b. Le entregué una [lista_{antecedent}] a María [que_{RC} contenía los nombres de todos los profesores.]]
 'I provided Mary a list that contained all the professors' names.'

As in other Wh-movement constructions, Topical elements can appear. Note that in contrast to Topicalization in Wh-interrogatives and Wh-exclamatives, the preposed topical phrase appears after the relative pronoun (57a), and is ungrammatical before the relative pronoun (57b) (Arregi 1998).

- (57) a. La habitación en la que, a la hora del asesinato, estaba Juan ya no se usa.
 'The room in which at the time of the assassination John was, is no longer used.'
 b. *La habitación a la hora del asesinato, en la que estaba Juan ya no se usa.
 'The room at the time of the assassination, in which John was, is no longer used.'

Long-distance dependencies are also allowed in relative clauses, as in Wh-interrogatives. The antecedent can be extracted out of the clause where it is thematically selected, as in (58a). However, as the distance between antecedent and the trace increases, interpretability decreases (58b).

- (58) a. Ojalá que me regale la pulsera_i [que sabe que me gusta_{ti}].

'I hope (that) he/she gives me the bracelet (that) he/she knows (that) I like.'

- b. Ojalá que me regale la pulsera_i [que creo [que dijeron [que sabe [que me gusta _{ti}]]]].

'I hope (that) he/she gives me the bracelet that I think they said that he/she knows that I like.'

5 Accounts

Turning to the theoretical discussions concerning Wh-movement, there are three main questions driving research: (1) where do Wh-words appear in the clause structure?; (2) what formal properties do matrix and embedded complementizer phrases share?; and (3) what is the nature of the relationship between Wh-operators and antecedent trace positions across clause boundaries?

5.1 *Landing site of Wh-phrases and inversion patterns*

Many accounts for the position of Wh-words in Spanish Wh-movement have focused on Wh-interrogatives. Early accounts responded to analyses proposed for English, and other so-called V2 languages, in which subject-verb (auxiliary) inversion is active.

- (59) a. Who is John?
b. *Who John is?

The Wh-criterion of Rizzi (1996) capitalizes on the apparent adjacency requirement between the verb and Wh-phrases to account for the restriction of intervening syntactic objects in matrix clauses. Rizzi (1996) proposes that Wh-words raise to the Specifier position of the [+wh]-marked Complementizer Phrase (CP) ([Spec, CP]) and the verb moves to the head of this phrase (C') to license Wh-movement.

However, a straight-forward analysis of this type for Spanish is complicated by two pieces of evidence. First, the Wh-criterion only targets matrix clauses capturing the matrix/embedded asymmetry in languages like English (60). Yet Spanish displays obligatory inversion patterns in matrix and embedded clauses (61).

- (60) a. Mary wonders who John is.
b. *Mary wonders who is John.
- (61) a. *¿María se pregunta quién Juan es?
b. ¿María se pregunta quién es Juan?
'Mary wonders who John is?'

Second, Spanish allows intervening elements between the Wh-phrase and the verb depending on the nature of the Wh-phrase. These particular cases include non-thematic Wh-phrases (62a) and complex Wh-phrases (62b).

- (62) a. ¿Cómo (que) Juan no quiere ir al parque?
 ‘Why Juan doesn’t want to go to the park?’
 b. ¿Cuál de estos libros Juan devolvió a la biblioteca?
 ‘Which of these books did John return to the library?’

Furthermore, in Caribbean varieties of Spanish, non-inversion is allowed much more robustly (63), as intervening elements may appear regardless of the status of the Wh-phrase.

- (63) ¿Qué tú sabes?
 ‘What do you know?’

Following the assumption that Wh-phrases surface in [Spec, CP], accounts for Spanish inversion patterns take two primary forms, on the one hand focusing on the nature of the Wh-phrase and/or verb’s relationship to the Wh-phrase, and on the other hand emphasizing the nature of the intervener phrase. Considering the Wh-phrase, Contreras (1989) argues that when the Wh-phrase is nonthematic, it serves as a sentential operator and does not bind a variable in base position. As a base-generated Wh-phrase, syntactic elements are allowed to surface preverbally. Suñer (1994), on the other hand, suggests that the (non)inversion in (non)thematic Wh-phrases is primarily based on the verb. Her approach includes a refinement of the Wh-criterion in which two processes are delimited: one that holds for all Wh-phrases and a second that is required for thematic arguments in which the verb requires strict locality with the Wh-operator.

A key advantage to Suñer’s approach is that it can be used to leverage a principled account for non-inversion patterns in Caribbean Spanish. Suñer proposes that strict locality restrictions on Wh-phrases are language-specific and are the cross-linguistically marked case. From this angle, she suggests that standard varieties of Spanish (and perhaps English) display the more marked Wh-movement condition and Caribbean Spanish only applies the more general condition.

Despite the apparent gains from this insight, two issues remain: one concerns the empirical evidence from Caribbean Spanish. In Suñer’s approach, cases of non-inversion include all subject types, pronominal (64a) and full DPs (64b and 64c).

- (64) a. ¿Quién tú eres?
 ‘Who you are?’
 b. ¿Qué Juan dijo de eso?
 ‘What John did say about that?’
 c. Yo no sé qué la muchacha quería.
 ‘I don’t know what the girl wanted.’

This appears to be the case in Puerto Rican Spanish, the focus of her investigation – yet reports suggest other Caribbean varieties only allow interveners of a particular subset of subject types (Lipski 1977; Baković 1998; Ordóñez and Olarrea 2001). And two, a dual-component system based on thematic licensing does not account for cases of noninversion in complex Wh-phrases.

Addressing the first issue, we return to the second approach to Wh- non-inversion patterns: a focus on the intervener phrase. Ordóñez and Olarrea (2006) provide evidence that in Dominican Spanish, preverbal subjects in Wh-interrogatives are generally limited to particular pronominal elements *tú* ‘you,’ *usted* ‘you’ (formal), *ustedes* ‘you’ (plural), *él* ‘he,’ and *ella* ‘she,’ with the second person singular *tú* ‘you’ as the most common. Their account points to a tripartite pronominal system made up by tonic pronouns, ‘weak’ pronouns, and clitics. In Dominican Spanish, subject pronouns have become ‘weak’ pronouns which, according to their analysis, are contained within the Inflectional Phrase (IP) and therefore are not true structural interveners.

- (65) ¿[_{CP} Qué [_{IP} tú quieres]]?
 ‘What do you want?’

In order to account for the broader variation of intervener subject types in Caribbean Spanish, Ordóñez and Olarrea conjecture that the ‘weak’ pronominal system may be extending from pronouns to DPs in some speakers [and therefore some varieties].

In sum, the approaches discussed to this point underline the difficulties involved in proposing a unified syntactic account for Spanish Wh-movement. However, recent applied research has made claims that non-inversion patterns for adjunct Wh-phrases, complex Wh-phrases, and Caribbean dialects should be attributed to differential costs on working memory, and not be considered fundamentally syntactic. Goodall (2004), building on well-known evidence that a syntactic object can be well-formed but perceived as unacceptable (66) (Chomsky and Miller 1963; Bever 1970), argues that preverbal subjects in Wh-interrogatives are syntactically licit, but are perceived as ungrammatical due to processing mechanisms.

- (66) The woman_i the man_j the host_k knew_k brought_i left_i early.

In this framework, acceptability hinges on the degree to which the relationship between the ‘filler’ (Wh-phrase) and the ‘gap’ (trace) can be recovered. Two dynamics lead to graded performance: (1) the structural distance between the filler and gap; and (2) the referential status of Wh-phrase and/or intervener DPs (Gibson 1998; Frazier and Clifton 2002). Through Experimental Syntax procedures (Cowart 1997; Sprouse 2007), Goodall provides data from non-Caribbean Spanish speakers showing expected acceptability contrasts for (non)thematic Wh-phrases (67) and contrasts in the referential status of Wh-phrases (68), as well as degraded acceptability based on the nature of the intervener (pronominal/non-pronominal) (69).

- | | | | |
|------|----|---|-------|
| (67) | a. | ¿Por qué Miguel trabaja tanto? | 4.8/5 |
| | | ‘Why does Michael work so much?’ | |
| | b. | ¿Qué Juan leyó en la biblioteca? | 2.1/5 |
| | | ‘What did John read in the library?’ | |
| | | | N=26 |
| (68) | a. | ¿Cuáles de esos libros Ana leyó? | 3.9/5 |
| | | ‘Which of those books did Ana read?’ | |
| | b. | ¿Qué Ana leyó? | 2.2/5 |
| | | ‘What did Ana read?’ | |
| | | | N=26 |
| (69) | a. | ¿Qué tú leíste en la biblioteca? | 2.2/5 |
| | | ‘What did you read in the library?’ | |
| | b. | ¿Qué el niño leyó en la biblioteca? | 1.9/5 |
| | | ‘What did the boy read in the library?’ | |
| | | | N=23 |

In this light, Spanish inter-dialectal variation in inversion patterns can be seen as a matter of degree (processing-based), not category (syntactic-based). Yet Goodall (2011) suggests that inversion patterns in English are syntactic. In a Satiation study (Synder 2000; Francom 2009) contrasting Spanish versus English inversion, data reveal that under repeated exposure, mean acceptability ratings increase for Spanish noninversion sentences over the course of the experiment but not for English noninversion, pointing to a categorical source of inversion patterns in English.

5.2 *The nature of CP in matrix and embedded clauses*

A second line of inquiry on Wh-movement deals with the properties that matrix and embedded CP share. Early analyses of the structure of CP made the assumption that there was a single, basic complementizer phrase type for interrogatives, exclamatives, and relatives.

- (70)
- | | |
|----|---|
| a. | [_{CP} [_{spec} Cómo [_{C'}]] te fue? |
| | ‘How did it go?’ |
| b. | ! [_{CP} [_{spec} Qué grande [_{C'}]] está tu niño! |
| | ‘Your son is getting so big!’ |
| c. | Esa es la película [_{CP} [_{spec} [_{C'} que]] quería ver. |
| | ‘That is the film that I wanted to see.’ |

However, there are problematic cases that challenge this assumption in which a simple CP does not appear to be adequate, given that multiple Wh-phrases appear within the same finite clause.

- (71) a. Me pregunto (que) quién vendrá esta noche.
 'I wonder who will come tonight.'
 b. ¡Cuántos libros (que) tiene!
 'He has so many books!'
 c. Dice Mamá que a tu hermana (que) no la dejes salir.
 'Mother says that your sister, don't let her go outside.'

Rizzi (1997) argues that the CP is a multi-faceted syntactic layer which incorporates phrasal projections into the computational system dedicated to discourse mechanisms, such as Topic and Focus, which were once understood to be 'periphery' features (Chomsky 2004; Demonte and Fernández-Soriano 2009).

- (72) CP Layer
 [_{CP layer} Force Phrase > Topic Phrase > Focus Phrase > Finite Phrase] >
 Tense Phrase > ...

A fleshed-out CP provides projections for multiple Wh-phrases within the same clause, addressing the issues posed by doubly-filled complementizers (73a), relativized Wh-exclamatives (73b), and dislocation in subordinate clauses (73c) by taking advantage of the host of discourse projections contained within the CP layer.

- (73) a. Me pregunto [_{CP} [_{ForceP} (que) ... [_{FocusP} quién ...]]] vendrá esta noche ...
 b. ¡[_{CP} [_{FocusP} Cuántos libros [_{FiniteP} (que) ...]]] tiene!
 c. Dice Mamá [_{CP} [_{ForceP} que [_{TopicP} a tu hermana [_{FiniteP} (que) ...]]]] no la dejes salir.

However, there are questions still to be addressed. First, a unified syntactic account for the Wh-phrase in Wh-exclamatives and Wh-interrogatives is questionable given that relativization is possible in Wh-exclamatives (74) but not in Wh-interrogatives, and Wh-exclamatives allow Wh-phrases in both cardinal number and quantifier readings (75), while Wh-interrogatives only allow cardinal number readings (76) (Bosque 1984).

- (74) a. ¡Cuántas historias (que) tienes!
 'You have a lot of stories!'
 b. ¿Cuántas historias (*que) tienes?
 'How many stories do you have?'
- (75) a. ¡Cuántos libros más leerías si tuvieras tiempo! *Cardinal*
 'You could read so many books if you had the time!'
 b. ¡Cuántos más libros leerías si tuvieras tiempo! *Quantifier*
 'You could read so many more books if you had the time!'
- (76) a. ¿Cuántos libros más leerías si tuvieras tiempo? *Cardinal*

- 'How many more books would you read
if you had the time?'
b. *¿Cuántos más libros leerías si tuvieras tiempo? *Quantifier*
'How many books more would you read
if you had the time?'

Second, whereas embedded clauses can take an optional *que* 'that' in (73c), relative pronouns are not optional.

- (77) Esta no es la lección con la *(que) quieres comenzar el semestre.
'This is not the lesson with which you want to start the semester.'

Against the proposal that [article + *que*] and [article + *cual*] are stylistic equivalents (Rivero 1982), Brucart (1992) suggests that *que* is always a subordinating clause marker, and not a 'true' relative. Building on this proposal, Arregi (1998) argues that relative operators (*cual*, *quien*) appear overtly only to recover reference and that *que* appears as a Last Resort, in terms of Chomsky (1991), to mark subordination. Given the distinction between overt and non-overt wh-operators, a single projection (FiniteP) for subordination and relative pronouns may not be adequate.

5.3 Wh-phrase extraction across clause boundaries

Wh-movement shows that the Wh-operator can bind a variable that is selected in a multiply-embedded clause in Wh-interrogatives (78a) and relatives (78b) but not in Wh-exclamatives (78c).

- (78) a. ¿Qué_i dice María [que Juan sabe [que Inés comió_{ti}]]?
'What does Mary say that John knows that Agnes ate?'
b. Espero que me de el chocolate [que dijeron [que sabe [que me gusta_{ti}]]].
'I hope that he/she gives me the chocolate that they said that he/she knows that I like.'
c. *¿Qué_i inteligente_i dice Juan [que estás_{ti}]!
'How intelligent John says you are!'

Although it does not appear to be the case that there are restrictions on the absolute distance between operator and variable in Wh-exclamatives and relatives, there appear to be limitations on the type of structural configurations in which this relationship can hold.

- (79) *¿Qué_i tocas el piano y_{ti}?
'What do you play the piano and?'

As was the case for formal accounts of inversion, much of the early theoretical work on Wh-extraction restrictions was based on English. Ross's (1967) influential

survey of English Wh-movement identified a set of configurations, referred to as Islands, that disallow extraction from certain modifier (80), noun phrase (81), and clausal (82) types.

- (80) a. *Who_i did John talk with Mary [after seeing _{ti}]? *Adjunct Island*
 b. *How many_i did John buy [_{ti} books]? *Left Branch Condition*
- (81) a. *Who_i does Mary believe [the claim that John likes _{ti}]? *Complex NP Constraint*
 b. *What_i does John know that [a bottle of _{ti}] fell on the floor? *Subject Island*
- (82) a. *Who_i does John wonder [whether Mary likes _{ti}]? *Whether Island*
 b. *Who_i does Mary think [that _{ti} likes John]? *Comp-trace Effect*

There are a number of formal accounts for these restrictions (Subjacency (Chomsky 1977); Parasitic Gaps (Chomsky 1982); Relativized Minimality (Rizzi 1990), etc.) that span various frameworks (Chomsky 1973, 1981, 1995). Equivalent structural limitations appear to apply in Spanish as well for many of these Islands, suggesting common grammatical underpinnings explaining their ungrammaticality.

- (83) a. *¿A quién_i habló Juan con María [después de ver_{ti}]? *Adjunct Island*
 b. *¿Cuántos_i compró Juan [_{ti} libros]? *Left Branch Condition*
- (84) a. *¿Quién_i cree María [la propuesta de que Juan quiera _{ti}]? *Complex NP Constraint*
 b. *¿Qué_i sabe Juan que [una botella de _{ti}] se cayó al suelo? *Subject Island*

One key area where English and Spanish data diverge concerns the nature of embedded complementizer phrases. Islands for Wh-movement in English, Whether Islands (85), and Comp-trace violations (86) are grammatical in Spanish.

- (85) ¿Qué libro no sabías si Juan había comprado ya?
 'Which book didn't you know if John had bought yet?'
- (86) a. ¿Who did John say (*that) saw Mary?
 b. ¿Quién dijo Juan *(que) vio a María?

These data, in conjunction with contrasts with English inversion in embedded clauses and the fact that verbally selected complementizers are not optional in Spanish, lead to the conclusion that embedded CPs in the two languages are not syntactic equivalents (Torrego 1983, 1984).

Other important differences between Spanish and English regarding Wh-movement restrictions also may be found in evidence from applied investigations. Recent investigation has suggested that the acceptability contrasts in Complex

NP (87) (Sag et al. 2007) and Subject Condition (88) (Kluender 2004) structures reflect processing difficulty, not syntactic restriction.

- (87) a. *What does Mary believe the claim that John likes?
 b. ?Which restaurant does Mary believe claims that Mary likes?
- (88) a. *Who_i did Mark say a fight with _{ti} started a national scandal?
 b. ?Who_i did Mark say fighting with _{ti} started a national scandal?

In general, little work has been done to investigate possible processing sources for Islands in Spanish. But in a Satiation study investigating anomalous structures in Spanish and English, Goodall (2011) observes corroboration for English processing effects in CNPC and Subject Islands, but not for equivalent Spanish structures. Although no explanation for the Subject Island contrast is given, it is noted that a key difference between English and Spanish Complex NPs is found in the extraction site of Wh-phrase: in Spanish the Wh-phrase is extracted out of a PP (89a) and in English an NP (89b) – suggesting these may not be comparable structural configurations.

- (89) a. *¿Quién_i cree María [la propuesta de que Juan quiera _{ti}]?
 b. *What_i does Mary believe [the claim that John likes _{ti}]?

6 Concluding remarks

In this chapter, it has been shown that Wh-movement displays a series of very similar effects in three semantically and pragmatically diverse constructions: interrogatives, exclamatives, and relatives. There are also a number of aspects in which Wh-movement is not uniform across these three structures. Given this descriptive variation, I have addressed some of the major themes that have characterized past research and continue to shape ongoing investigation. Although much of the theoretical research on Wh-movement has been based on Wh-interrogatives, recent integration of formal and applied research has opened fresh avenues for interdisciplinary investigation and has encouraged more comprehensive study of Wh-movement in exclamatives and relatives.

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