Ellipsis in split questions*

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Abstract

Split questions such as *What tree did John plant, an oak?* contain a wh-question part and a tag. Drawing mostly on Spanish data, this article argues that these two parts of a split question are independent clauses. The tag is in fact an elliptical non-wh-question, where ellipsis is licensed in the same way as in other fragment sentences. I provide detailed argumentation that the tag involves both movement and ellipsis of a correlate of the wh-phrase in the first clause of the split question, thus contributing to the growing body of evidence that sentence fragments (sluicing, fragment answers, etc.) are syntactically full clauses. The syntax proposed provides a simple account of the intonation patterns found in split questions and of their semantics. Furthermore, it is argued that the only existing alternative analysis of split questions cannot account for many of the properties of this construction.

1 Introduction

In a *split question* (SQ), a *wh-part* is followed by a *tag*, as illustrated in the following Spanish example:[1,2]

*Acknowledgments.

[1]In the Spanish examples, I do not use the standard opening question mark '¿', in order to avoid confusion with markers of grammaticality judgments.

[2]Although SQs are also possible in several other languages, such as English and Basque, I concentrate on Spanish. Many of the Spanish judgments reported here can be replicated in English and Basque, but no systematic attempt has been made to check every claim made here for these languages. Both languages will be used whenever the relevant example cannot be constructed in Spanish.

(1) Qué árbol plantó Juan, un roble?
what tree planted Juan an oak
'What tree did Juan plant, an oak?'

The wh-part and the tag are separated by an intonation break, represented in the orthography with a coma. Intuitively, the wh-part in an SQ is a wh-question, and the tag provides a possible answer to that question. Example (1) could thus be understood as the question whether the answer to the question 'What tree did Juan plant?' is 'An oak.'

Except for Camacho (2002), who provides an analysis of the syntax of SQs, this type of question is only sporadically mentioned in the literature (Bäuerle 1979, Schwarzschild 1999, p. 162–163). In this article, I explain these and other properties of SQs by adopting an analysis in which the two parts of the question are separate sentences. For ease of exposition, I refer to this as the *biclausal analysis* of SQs. Under this approach, the wh-part is a wh-question, and the tag is the remnant of ellipsis in a non-wh-question. This analysis is exemplified in (2) for the question in (1):[3]

(2) $[_{CP}$ what tree$_i$ planted Juan t_i $]$ $[_{CP}$ an oak$_j$ ~~planted Juan t_j~~ $]$

In particular, I claim that the tag is derived by ellipsis from a non-wh-question in which some constituent undergoes focus-fronting and the rest of the clause is deleted.

This analysis is compared with the monoclausal account proposed in Camacho (2002), where the tag is a constituent embedded in the wh-part. Specifically, it is generated forming a constituent with the wh-phrase. The structure of (1) in this account is the following:

(3) $[_{CP}$ what tree$_i$ planted Juan $[$ t_i an oak $]$ $]$

As will be argued throughout this article, only the biclausal analysis provides a natural account of the main phonological, semantic and syntactic properties of SQs.

[3]For ease of exposition, I use only English glosses when illustrating analyses of Spanish split questions. The strikethrough in some of the examples represents ellipsis.

The basic problem posed by SQs is a familiar one in the literature on elliptical structures. In these questions, it is not clear what the tag contributes to the semantics of the whole question. If, as hypothesized in the monoclausal approach, the tag is embedded within the wh-part, we seem to need special mechanisms to account for the fact that both the wh-phrase and the tag have the same thematic role and grammatical function in the sentence. For instance, both *what tree* and *an oak* in (1) are, in some sense, the theme and the object of *plant*. This goes against a basic intuition behind virtually all modern linguistic theories, namely that there is a one-to-one mapping between arguments and thematic/grammatical roles. Although *plant* in (1) seems to have two themes/objects, we do not want to say that this is a general property of this verb. The same problem arises in a somewhat different way in the biclausal approach. If the tag is part of a separate clause, how can we account for the intuition that it is the theme/object of *plant* in the wh-part? The specific implementation of the biclausal approach proposed here hypothesizes that it is, in fact, *not* the theme/object of *plant* in the wh-part; the tag is the theme/object of a different instance of *plant* which is elided and whose antecedent is *plant* in the wh-part. This solution to the problem follows a long-standing generative tradition that accounts for the sentential properties of apparently nonsentential structures by positing additional covert structure (see Ross (1969); Morgan (1973); Sag (1976) and much subsequent work). The main conceptual advantage of this type of approach is that, while it complicates the grammar minimally by adding ellipsis rules, it allows us to maintain the same type of syntax-semantics mapping needed to account for nonelliptical structures.

This article is organized as follows. The biclausal approach is introduced in section 2, and initial evidence from intonation is given in section 3. Section 4 discusses the semantics of SQs, concentrating on the relation between the wh-part and the tag and their contribution to the semantic interpretation of the whole question. The rest of the article is dedicated to justifying the different details of the syntactic analysis proposed here. Section 5 provides arguments that the wh-part is a wh-question, and sections 6–7 discuss the details of the movement and ellipsis analysis of the tag.

In arguing for both aspects of the analysis, these sections provide several arguments against the monoclausal approach. Section 8 discusses the fact that the tag must be final in an SQ, arguing that it provides further evidence for the analysis proposed here, and section 9 concentrates on SQs with multiple wh-phrases, which can be used to strengthen some of the arguments presented in previous sections. The article concludes in section 10 with some conclusions.

2 Split questions

The main claims made by the biclausal analysis proposed here are the following. First, the wh-part is a wh-question, with fronting of a wh-phrase to the specifier of a wh-interrogative C. Second, the tag is the remnant of ellipsis in a non-wh-question. Within that question, a constituent undergoes movement to the specifier of C, whose TP complement undergoes ellipsis:

(4) $\underbrace{[_{CP1}\ \text{wh-phrase}_i\ C_{Q,wh}\ \ldots\ t_i\ ]}_{\text{wh-part}}\ [_{CP2}\ \underbrace{XP_j}_{\text{tag}}\ C_Q\ \sout{[_{TP}\ \ldots\ t_j\ \ldots\ ]}]$

For ease of exposition, within the second clause of a split question, I distinguish between the *source of the tag*, which is always a non-wh-question (CP2 in (4)), and the *tag* proper, which is the material that survives ellipsis in the non-wh-question. Note, furthermore, that the tag is typically understood as having the same grammatical function and thematic role as the wh-phrase. For instance, both the wh-phrase and the tag in (1) are understood as the object and theme argument of the verb *plant*. I refer to this fact in this article by calling the tag a *correlate* of the wh-phrase.[4]

The wh-part is a wh-question where a wh-phrase undergoes overt wh-movement to the specifier of a wh-interrogative C. As expected, SQs can be formed on the basis of any type of wh-question. (1) is an example with an object wh-phrase, and (5–6) illustrate SQs with subject and adjunct wh-phrases, respectively:

[4]In most examples discussed here the tag is a correlate of the wh-phrase. However, as shown in section 8, the tag can sometimes contain material other than the correlate.

(5) Quién plantó el roble, Juan?
who planted the oak Juan
'Who planted the oak, Juan?'

(6) a. Cuándo va Juan a Chicago, mañana?
when goes Juan to Chicago tomorrow
'When is Juan going to Chicago, tomorrow?'

b. Por qué está Pedro enfadado, porque has hablado con Juan?
why is Pedro angry because you.have talked with Juan
'Why is Pedro angry, because you've talked with Juan?'

On the other hand, the second clause in an SQ is a non-wh-question where everything but the tag (XP in (4)) is elided. Ellipsis is licensed in this question by an antecedent that is to be found in the wh-part. For instance, the tag *Juan* in (5) is the result of ellipsis in the question *Did Juan plant the oak?* Ellipsis in this case is licensed because the elided material has an antecedent in the wh-part (i.e. the VP *planted the oak*).

Another ingredient of the analysis is that the tag undergoes movement within the second clause. Specifically, it undergoes focus-fronting. As in other Romance languages, focus-fronting in Romance moves a focused phrase to the left periphery of the clause (Contreras 1976; Hernanz and Brucart 1987; Rizzi 1997; Zubizarreta 1998). For instance, the tag in (1) is the result of ellipsis in the yes/no-question with focus-fronting in (7):[5]

(7) Un ROBLE plantó Juan?
an OAK planted Juan
'Did Juan plant an OAK?'

For ease of exposition I assume a simplified left-periphery where both wh- and focused phrases move to the specifier of C. Alternatively, one could follow Rizzi (1997) in assuming that they move to the specifier of F, a head in a more articulated theory of the left-periphery. The analysis proposed here does not hinge in this detail.

[5]In Spanish examples with focus-fronting, one word must have focal stress. This word, and its English gloss, is represented in capitals. Focal stress is also represented in the English translation using capitals.

In summary, the basic idea of the biclausal approach is that an SQ is simply a sequence of two questions asked by the same speaker. Apart from whatever discourse constraints there are on such sequences, no other formal link is established between the two clauses. The main advantage of the analysis is that the existence of SQs simply follows from the fact that questions can follow one another in discourse, and from the independently motivated process of ellipsis.

The analysis of the tag outlined above parallels similar claims made about fragment answers in Merchant (2004) and Brunetti (2003):[6]

(8) a. Qué árbol plantó Juan?
what tree planted Juan
'What tree did Juan plant?'

b. Un roble.
an oak
'An oak.'

Merchant gives convincing evidence that fragment answers involve the two main mechanisms proposed for the tag above: (i) the fragment undergoes movement within a full sentence, and (ii) everything in that sentence but the fragment undergoes ellipsis. Furthermore, Brunetti (2003) claims that the movement involved in fragment answers in Italian is focus-fronting. As we will see, this parallelism between the two analyses is justified by striking similarities in the two constructions, and many of the arguments for this part of the analysis of SQs (see sections 6–7) are taken from the literature on fragment answers.

The basic rationale for these two claims is the following. Positing elliptical material in fragments and SQs allows us to simplify the syntax-semantics mapping by avoiding special rules of interpretation for fragments and SQs. Furthermore, positing movement in fragments and SQs al-

[6]Brunetti's analysis is based on a 2003 manuscript version of Merchant (2004). See also Morgan (1973); Hankamer (1979); van Riemsdijk (1978); Culicover and Jackendoff (2005), among others, for other relevant literature on fragments.

lows for a constrained theory of ellipsis where this operation can affect only constituents. For instance, if these constructions did not involve movement of the object in (1, 8b), ellipsis would operate on the string *planted Juan*, which is not a constituent. Under the movement approach, what is elided is a constituent (which also contains the trace of the moved item). To the extent that we are successful in substantiating these claims empirically, we will be justified in adopting this constrained view of syntax and the mapping to semantic interpretation.

3 Intonation

Initial evidence for the biclausal analysis comes from prosody. As discussed in Camacho (2002), both parts of an SQ have the predicted intonation contour if they are separate questions.[7] First, the wh-part has the intonation contour of a wh-question, with an initial pitch rise associated with the wh-word, followed by a gradual descent and ending with a sentence-final fall.[8] Second, the tag has the intonation contour of a non-wh-question, as expected. In all examples discussed so far, it is interpreted as a (matrix) yes/no question, whose main intonational correlate is upstep beginning on the word with nuclear or focal accent (see Beckman et al. (2002) for details and overview of the literature).[9]

Furthermore, the tag need not be interpreted as a yes/no-question. Examples in which the source of the tag is an alternative question are also possible:

(9) a. Quién plantó el roble, Juan o Pedro?
who planted the oak Juan or Pedro
'Who planted the oak, Juan or Pedro?'

[7]For relevant literature on Spanish intonation patterns, see Beckman et al. (2002) and references cited there.

[8]This is the default intonation contour of wh-questions. There are other possibilities, all of which share the initial rise. See Navarro Tomás (1968); Quilis (1993) and Sosa (2003) for discussion.

[9]Depending on factors that are not very well understood, yes/no-questions can also have a final rise. As expected, the tag in an SQ can also have this final rise.

b. Qué árbol plantó Juan, un olmo o un haya?
what tree planted Juan an elm or a beech
'What tree did Juan plant, an elm or a beech?'

The main difference between these and earlier examples is that the tag contains a disjunction. As expected, the tag in this type of SQ shows the characteristic intonation contour of an alternative question, with a final fall. Furthermore, the sentences in (9) need not be interpreted as alternative questions. If they are pronounced with the intonation pattern characteristic of a yes/no-question, they are interpreted as such. In other words, these sentences have the same ambiguity that the corresponding non-wh-questions have. For instance, (9b) has the same ambiguity as its non-wh-question counterpart:

(10) Juan plantó un olmo o un haya?
Juan planted an elm or a beech
'Did Juan plant an elm or a beech?'

The intonation patterns found in SQs are a straightforward prediction of the biclausal approach. As acknowledged in Camacho (2002), these facts contradict the main hypothesis in the monoclausal approach, namely, that the tag is embedded in the wh-part. Although that work does not provide an analysis of the intonation patterns in SQs, it seems that the monoclausal approach would need to posit ad hoc mechanisms to account for them. In the following sections, I provide further arguments for the biclausal approach by looking at both their semantics and syntax.

4 Semantics

In the biclausal analysis of SQs, the wh-part is interpreted as a wh-question, and the source of the tag as a non-wh-question. In this section, I show how this central aspect of the analysis explains the peculiar semantic properties of this construction. First, subsection 4.1 concentrates on the role of the non-wh-question in determining possible answers to SQs. Second, subsection 4.2 discusses

the relation between the two clauses in an SQ, and the contribution of the wh-part to the semantics of the whole construction.

4.1 Answers to split questions

One of the most salient properties of an SQ is that it is interpreted as a non-wh-question. In particular, the form of the source of the tag determines the possible felicitous answers to an SQ. First, if the source of the tag is a yes/no question, the answer must be *yes* or *no*. In the following examples, the source of the tag in the SQ in (11b) is the yes/no question in (11a),[10] and the alternatives in (11c) provide felicitous and unfelicitous answers to both (11a) and (11b).[11]

(11) a. Plantó Juan el roble?
planted Juan the oak
'Did Juan plant the oak?'

b. Quién plantó el roble, Juan?
who planted the oak Juan
'Who planted the oak, Juan?'

c. Sí. / No. / %Juan. / %Pedro.
yes / no / Juan / Pedro

Second, when the source of the tag is an alternative question, the answer must be one of the alternatives given in the tag itself:[12]

(12) a. Juan plantó un olmo o un haya?
Juan planted an elm or a beech
'Did Juan plant an elm or a beech?'

[10]For the purposes of this subsection, I ignore the fact that the tag undergoes focus-fronting within the source. This aspect of the analysis will become relevant in the following subsection.

[11]As expected, yes/no SQs can also be answered with *I don't know*, *Maybe*, etc.

[12]As expected, the alternative and split questions in (12) can also be interpreted as yes/no questions, given the right intonation (see section 3). The felicitous answers listed in (12c) do not exhaust all possible answers, which can also include *Neither*, *Both*, etc.

b. Qué árbol plantó Juan, un olmo o un haya?
what tree planted Juan an elm or a beech
'What tree did Juan plant, an elm or a beech?'

c. Un olmo. / Un haya. / %Sí. / %No.
an elm / a beech / yes / no

Thus, the tag in an SQs determines the possible answers to the SQ in a straightforward manner, once we assume the ellipsis analysis. In the following subsection, I explore the semantics of SQs further, concentrating on the relation between the two clauses and the licensing of ellipsis.

4.2 Ellipsis and the relation between the two clauses

In an SQ, the tag is the focused remnant of ellipsis in a non-wh-question. For instance, the source of the tag in (13a) is (13b):

(13) a. Quién plantó el roble, Juan?
who planted the oak Juan
'Who planted the oak, Juan?'

b. JUAN plantó el roble?
JUAN planted the oak
'Did JUAN plant the oak?'

The tag (13a) is the result of deleting everything in (13b) but the focus-fronted constituent *Juan*. Intuitively, ellipsis in this example is licensed because in the wh-part, the constituent *planted the oak* provides a suitable antecedent. In this section, I elaborate this part of the analysis further, drawing on Merchant's (2004) analysis of fragments.

Following Merchant (2001), I adopt the following condition on ellipsis (see, among others, Rooth (1992a); Romero (1997b); Fox (2000)):

(14) *Focus condition on ellipsis*: A constituent α can be deleted iff α is e-GIVEN.[13]

[13]This theory of the licensing of ellipsis is formulated within Schwarzschild's (1999) framework for focus based on GIVENness. As shown in Merchant (2001), the basic predictions of the theory are the same under the Alternative Semantics theory of focus (Rooth, 1985, 1992b, 1996).

In this analysis, elliptical structures are generated as full sentences, e.g. the tag *Juan* in (13a) is generated with the same structure as its nonelliptical counterpart in (13b). Ellipsis is accounted for in terms of deletion of constituents at PF. The Focus Condition imposes certain requirements on the relation between the deleted constituent and its antecedent.

The Focus Condition (14) is based on the notion of e-GIVENness, which in turn is based on Schwarzschild's (1999) GIVENness:

(15) An expression *E* counts as e-GIVEN iff *E* has a salient antecedent *A* and, modulo ∃-type shifting, *A* entails F-clo(*E*), and *E* entails F-clo(*A*).

∃-type shifting is an operation that raises expressions to type t, by existentially binding unfilled arguments, and F-closure (F-clo) is defined as follows (Schwarzschild, 1999):

(16) The F-closure of α, written F-clo(α), is the result of replacing F-marked parts of α with ∃-bound variables of the appropriate type (modulo ∃-type shifting).

F-marking in this definition refers to an F feature assigned to constituents in the syntax, and the reader is referred to Schwarzschild (1999) for the details of its semantics.

Following Merchant (2001, 2004), I assume that the Focus Condition is sufficient to account for the relation between the elided constituent and its antecedent. It is essentially a semantic identity condition, and no additional syntactic identity requirement is necessary. This is crucial in accounting for some of the facts discussed in section 6 below.

Ellipsis in SQs is licensed as follows. The structure of the second clause in the SQ in (13a) is the following, where the focused subject *Juan* undergoes focus-fronting:[14]

[14]For ease of exposition, I assume that the finite verb remains within TP in focus-fronting. This might turn out to be wrong, since focus-fronted constituents tend to be left-adjacent to the finite verb, a fact that might be captured by T-to-C movement (Contreras, 1976; Torrego, 1984; Hernanz and Brucart, 1987; Rizzi, 1997). If that were the case, there should be some way of preventing this movement in ellipsis cases like (17), where, by hypothesis, TP is

(17) $[_{\text{CP}}$ Juan$_{\text{F}}$ $[\sout{_{\text{TP}}\ t_{Juan}\ \text{planted the oak}}\ ]\ ]$

Furthermore, the structure of the wh-part is the following:[15]

(18) $[_{\text{CP}}$ who [planted$_i$ $[_{\text{TP}}\ t_{who}\ t_i$ the oak]]]

The basic idea is that ellipsis of *planted the oak* in the second clause is possible because a constituent in the wh-part, namely *planted the oak*, is a suitable antecedent. For ease of exposition, I refer to the elided constituent as 'E', and to the antecedent as 'A'. Both constituents denote the function [$\lambda x.x$ planted the oak]. The result of applying $\exists$-type shifting to these constituents is therefore the same (α' is the result of applying $\exists$-type shifting to the denotation of α):

(19) $\text{A}' = \text{E}' = \exists x[x \text{ planted the oak}]$

Since neither constituent contains F-marked parts, their F-closure is the same:

(20) $\text{F-clo}(\text{A}) = \text{F-clo}(\text{E}) = \text{A}' = \text{E}' = \exists x[x \text{ planted the oak}]$

E is e-GIVEN with A as antecedent, since A$'$ entails F-clo(E), and E$'$ entails F-clo(A). Thus, ellipsis of E is licensed by the Focus Condition on ellipsis (14).

Consider next an SQ where the wh-phrase (and the tag) is an object:

(21) Qué árbol plantó Juan, un roble?
what tree planted Juan an oak
'What tree did Juan plant, an oak?'

In this example, the source of the tag is the following yes/no question:

deleted. Similar problems arise in sluicing, discussed in Merchant (2001, p. 62–75) and pseudogapping in English, which Lasnik (1999) analyzes as involving a VP ellipsis structure where the main verb does not raise to the V heading the projection where the external argument is generated (a movement that is obligatory outside pseudogapping). The basic idea in both works is that ellipsis voids the need for head movement.

[15] I assume that the finite verb in wh-questions moves to C (see Torrego (1984) and Suñer (1994) for different views). This assumption is not crucial to the analysis.

(22) Un ROBLE plantó Juan?
an OAK planted Juan
'Did Juan plant an OAK?'

Ellipsis in this case affects everything in this question except the F-marked constituent *an oak*:[16]

(23) $[_{\text{CP}}$ an oak$_{\text{F}}$ $[_{\text{TP}}$ ~~Juan planted t_{oak}~~ $]$ $]$

The structure of the wh-part is the following:

(24) $[_{\text{CP}}$ what tree planted$_i$ $[_{\text{TP}}$ Juan t_i $[_{\text{VP}}$ t_i t_{tree} $]]]$

The constituent *Juan planted* is deleted in the second clause, with *planted Juan* in the wh-part serving as antecedent. The interpretation of both constituents is $[\lambda x$.Juan planted $x]$. In a way similar to the previous example, we can easily see that:

(25) F-clo(A) = F-clo(E) = A′ = E′ = $\exists x$[Juan planted x]

Thus, ellipsis of *Juan planted* in the second clause of the SQ is licensed because it is e-GIVEN, since both clauses of (15) are met.

This analysis of ellipsis in the tag can also explain an important constraint on the form of the tag: the tag must be correlate of the wh-phrase. For instance, the tag in a subject SQ must be understood as a subject, and the tag in an object SQ, as an object:

(26) a. Quién plantó el árbol, Juan?
who planted the tree Juan
'Who planted the tree, Juan?

b. *Quién plantó el árbol, un roble?
who planted the tree an oak
'Who planted the tree, an oak?

[16]Note that the finite verb precedes the subject in (22) (see footnote 14). Since this detail is not important for the analysis, I have abstracted away from inversion in the account of ellipsis in (23).

(27) a. Qué árbol plantó Juan, un roble?
what tree planted Juan an oak
'What tree did Juan plant, an oak?'

b. *Qué árbol plantó Juan, Pedro?
what tree planted Juan Pedro
'What tree did Juan plant, Pedro?'

Consider, for instance, the subject SQ in (26b). In order to explain its ungrammatical status, we must rule out all possible sources for the tag *un roble*.[17] The following seems the most plausible one, together with the corresponding choice of E′ and F-clo(E):

(28) a. an oak $[_{\mathrm{E}}$ ~~Juan planted t_{oak}~~ $]$

b. $\mathrm{E}' = \text{F-clo}(\mathrm{E}) = \exists x[\text{Juan planted } x]$

E in this example cannot find a suitable antecedent A in the wh-part in (26b). In particular, A cannot be *planted the tree*:

(29) $\mathrm{A}' = \text{F-clo}(\mathrm{A}) = \exists x[x \text{ planted the tree}]$

A′ does not entail F-clo(E), and E′ does not entail F-clo(A). The same is true for any other constituent of the wh-part that we take to be A. In particular, if A is the whole wh-part, then $\mathrm{A}' = \text{F-clo}(\mathrm{A}) = \exists x[x \text{ planted the tree}]$ (see Schwarzschild (1999) on the F-closure of wh-questions). As in the previous case, the Focus Condition is not satisfied. If on the other hand, A is simply *planted*, then $\mathrm{A}' = \text{F-clo}(\mathrm{A}) = \exists x \exists y[x \text{ planted } y]$. In this case, E′ entails F-clo(A), but A′ does not entail F-clo(E). Finally, any other choice for the source of the tag, such as *Did Pedro plant an OAK?* or *Did Juan burn an OAK?* would also fail to meet e-GIVENness. Hence the ungrammaticality of (26b).

[17] Of course, this SQ is grammatical if understood as the (pragmatically odd) question whether an oak planted the tree. The interpretation we need to rule out is one where *an oak* is understood as anything but the subject of *planted*.

The ellipsis analysis also explains the following fact about SQs where the tag is a yes/no-question. As with normal yes/no-questions, a negative answer to a yes/no SQ can be followed by a correction, but the latter must contain a focused constituent that provides an alternative to the tag; if the correction is a fragment, then it must be an alternative to the tag:

(30) a. Quién plantó el roble, Juan?
who planted the oak Juan
'Who planted the oak, Juan?'

b. No. (Lo plantó) PEDRO.
no (it planted) PEDRO
'No. PEDRO (planted it).'

c. %No. (Plantó) el OLMO.
no (planted) the ELM
'No. (He planted) the ELM.'

In the elliptical continuation, ellipsis must be licensed by the Focus Condition. In the felicitous reply, $\mathrm{E}' = \text{F-clo}(\mathrm{E}) = \exists x[x \text{ planted the oak}]$. Its antecedent A in the SQ is *plantó el roble*, where $\mathrm{A}' = \text{F-clo}(\mathrm{A}) = \exists x[x \text{ planted the oak}]$. On the other hand, in the infelicitous reply, $\mathrm{E}' = \text{F-clo}(\mathrm{E}) = \exists x[\text{Juan planted } x]$, and there is no suitable antecedent in the SQ.[18]

To conclude this section, the biclausal analysis explains certain basic properties of SQs. The hypothesis that the tag is a non-wh-question explains the constraints on possible answers to SQs. Furthermore, the hypothesis that the tag is the result of ellipsis licensed by an antecedent in the wh-part accounts for the fact that the tag must be a correlate of the wh-phrase. Thus, both the wh-part and the tag contribute to the semantics of the whole SQ. The syntax of SQs proposed here accounts for these semantic facts in a straightforward way. The rest of the article is dedicated to justifying this syntax.

[18] In the non-elliptical continuation, only the alternative to the tag is F-marked, as shown by the fact that it must have focal accent. In Schwarzschild's (1999) framework, this is because everything but the alternative is GIVEN.

5 Wh-movement

SQs involve wh-movement. In the biclausal analysis, a wh-phrase is fronted to the specifier of CP in the wh-part. Camacho (2002), who proposes a monoclausal analysis, provides evidence for this claim by showing that the posited movement must obey some island constraints. In this section, I extend this argument to cover other island constraints, and provide further evidence from Weak and Strong Crossover.

Camacho provides evidence from the Complex NP Constraint and the Sentential Subject Condition. Examples (32) and (33) below illustrate this, and should be compared with the grammatical extraction from an embedded noninterrogative complement clause in (31).

(31) Con qué crees [que EEUU atacó a Iran *t*], con tanques?
with what you.think [that US attacked to Iran *t*] with tanks
'What do you think the US attacked Iran with, tanks?'

(32) *Complex NP Constraint*

a. *Con qué oíste [la noticia de que EEUU atacó a Iran *t*], con tanques?
with what you.heard [the news of that US attacked to Iran *t*] with tanks
'What have you head the news that the US attacked Iran with, tanks?'

b. *De qué tema viste [al político que habló *t*], del paro?
of what topic you.saw [to.the politician that spoke *t*] of.the unemployment
'What topic did you see the politician who spoke about, unemployment?'

(33) *Subject Condition*

*A qué deporte crees que [jugar *t*] es peligroso, al rugby?
at what sport you.believe that [to.play *t*] is dangerous to.the rugby
'What sport do you believe that playing is dangerous, rugby?'

The following examples illustrate the point further with other types of island constraints:

(34) *Coordinate Structure Constraint*

a. *Qué comiste [*t* y patatas], alubias?
what you.ate [*t* and potatos] beans
'What did you eat and potatos, beans?'

b. *Qué [[comiste alubias] y [bebiste *t*]], vino?
what [[you.ate beans] and [you.drank *t*]] wine
'What did you eat beans and drink, beans?'

(35) *Adjunct Condition*

*De quién te enfadaste [porque Juan habló *t*], de Pedro?
of who you.got.upset [because Juan talked *t*] of Pedro
'Who did you get upset because Juan talked about, Pedro?'

(36) *Wh-island Constraint*

*Con qué te preguntas [quién atacó a Iran *t*], con tanques?
with what you.wonder [who attacked to Iran *t*] with tanks
'What do you wonder who attacked Iran with, tanks?'

The hypothesis that the wh-part involves wh-movement is also confirmed by sensitivity to Weak and Strong Crossover:

(37) *Weak Crossover*

*A quién$_i$ cree su$_i$ madre que Juan vio t_i en el parque, a Pedro?
to who$_i$ believes his$_i$ mother that Juan saw t_i in the park, to Pedro?
'Who$_i$ does his$_i$ mother believe Juan saw in the park, Pedro?'

(38) *Strong Crossover*

*A quién$_i$ cree *pro*$_i$ que Juan vio t_i en el parque, a Pedro?
to who$_i$ believes *pro*$_i$ that Juan saw t_i in the park, to Pedro?
'Who$_i$ does he$_i$ believe Juan saw in the park, Pedro?'

The data in this section confirm what seems to be the most obvious fact about the syntax of SQs: the wh-part involves wh-movement. Both approaches discussed here agree on this point. The following sections discuss the much more opaque syntax of the tag, arguing that it involves ellipsis and movement.

6 Ellipsis in the tag

In Camacho's (2002) monoclausal approach, the wh-phrase and the tag form a constituent before wh-movement of the former. After movement, the tag is stranded in the base position of the wh-phrase. For instance, (1), repeated below, is derived as in (40) in this analysis:

(39) Qué árbol plantó Juan, un roble?
what tree planted Juan an oak
'What tree did Juan plant, an oak?'

(40) $[_{CP}\ [_{TP}$ Juan planted $[_{DP}$ [what tree] [an oak]]]] →

$[_{CP}$ [what tree] planted $[_{TP}$ Juan $t_{planted}$ $[_{DP}$ t [an oak]]]]

The biclausal and the monoclausal analysis make different predictions. In the monoclausal approach, the tag is embedded in the wh-part, and it should thus behave as such. The prediction of the biclausal approach is somewhat more complicated. The tag is not embedded in the wh-part, but in a separate clause containing elided material. Since the antecedent of the elided material is in the wh-part, the biclausal approach in fact also predicts that the tag behaves, at least partly, as if it were embedded in the wh-part. Adopting standard terminology in the literature, we can refer to this property of the tag as *connectivity*.

In this section, I present data illustrating connectivity between the tag and the wh-part, drawing heavily from the existing literature on ellipsis in sluicing and sentential fragments. In most cases, connectivity can be explained under either analysis of SQs discussed here (subsection 6.1). However, certain instances of connectivity discussed in 6.2 find a more principled account in the biclausal approach. Finally, the strongest argument for this approach presented in this section comes from the *absence* of certain connectivity effects discussed in 6.3. For ease of exposition, connectivity effects are illustrated in this section by comparing tags to nonelliptical counterparts where the correlate of the tag does not undergo movement to the left periphery. The effect that

movement has on connectivity effects is discussed in 7.1 below, where it is shown that the predictions of the biclausal analysis with respect to connectivity are preserved once we incorporate the hypothesis that the tag undergoes movement.

6.1 C-command connectivity

The tag behaves as if it were embedded in the wh-part with respect to several c-command tests. The first set of tests has to do with Binding Theory (see Morgan (1973) and Merchant (2004) for similar data in fragment answers). The tag behaves as if it were embedded in the wh-part with respect to Condition A of Binding Theory. In (41a) the reflexive in the tag must be interpreted as bound by *Juan* in the wh-part:

(41) a. Con quién dice Pedro$_j$ que está hablando Juan$_i$, consigo mismo$_{i/*j}$?
with who says Pedro$_j$ that is talking Juan$_i$ with himself$_{i/*j}$
'Who does Pedro$_j$ say Juan$_i$ is talking with, himself$_{i/*j}$?'

b. Dice Pedro$_j$ que Juan$_i$ está hablando consigo mismo$_{i/*j}$?
says Pedro$_j$ that Juan$_i$ is talking with himself$_{i/*j}$
'Does Pedro$_j$ say that Juan$_i$ is talking with himself$_{i/*j}$?'

In the monoclausal approach, this is as expected: the DP *Juan* (but not *Pedro*) c-commands and is in the local binding domain of the reflexive. Under the biclausal approach, the reflexive is the remnant of ellipsis in a non-wh-question (41b). It satisfies Condition A by virtue of being locally bound by a DP in the elided part with the same reference as *Juan* in the wh-part.

Similar connectivity effects can be observed with Conditions B and C, and receive a parallel explanation:

(42) *Condition B*

a. Con quién dice Pedro$_j$ que está hablando Juan$_i$, con él$_{j/*i}$?
with who says Pedro$_j$ that is talking Juan$_i$ with him$_{j/*i}$
'Who does Pedro$_j$ say Juan$_i$ is talking with, him$_{j/*i}$?'

b. Dice Pedro$_j$ que Juan$_i$ está hablando con él$_{j/*i}$?
says Pedro$_j$ that Juan$_i$ is talking with him$_{j/*i}$
'Does Pedro$_j$ say that Juan$_i$ is talking with him$_{j/*i}$?'

(43) *Condition C*

a. A quién cree *pro*$_{j/*i}$ que Juan vio en el parque, a Pedro$_i$?
to who believes *pro*$_{j/*i}$ that Juan saw in the park, to Pedro$_i$?
'Who does he$_{j/*i}$ believe Juan saw in the park, Pedro$_i$?'

b. *pro*$_{j/*i}$ cree que Juan vio en el parque a Pedro$_i$?
pro$_{j/*i}$ believes that Juan saw in the park to Pedro$_i$?
'Does he$_{j/*i}$ believe Juan saw Pedro$_i$ in the park?'

The relevant interpretation in (43a) is one where the null pronoun *pro* is coindexed with *Pedro* in the tag. As expected, this interpretation is not possible. This case should be compared with the evidence for Strong Crossover presented in section 5, repeated here:

(44) *A quién$_i$ cree *pro*$_i$ que Juan vio t_i en el parque, a Pedro?
to who$_i$ believes *pro*$_i$ that Juan saw t_i in the park, to Pedro?
'Who$_i$ does he$_i$ believe Juan saw in the park, Pedro?'

The two sentences in (43a, 44) are identical except for the indices used, indicating two separate (ungrammatical) readings. In (43a) the pronoun in the wh-part is coreferential with the name in the tag; this reading can be paraphrased as *who does Pedro believe that Juan saw in the park, Pedro?* This is a Condition C violation, a case of connectivity between the wh-part and the tag. On the other hand, the pronoun in the wh-part in (44) is bound by the wh-phrase; this reading can be paraphrased as *Who is the person* x *such that* x *believes that Juan saw* x *in the park, Pedro?* This is a Strong Crossover violation, which argues for movement in the wh-part.

Connectivity can also be observed with respect to scope phenomena (the tests are adapted from Merchant (2004), who finds similar effects in fragment answers). In the following example, the pronoun in the tag is interpreted as if bound by the quantified subject in the wh-part:

(45) a. A quién llevó [cada mujer]$_i$ a la escuela, a su$_i$ hijo?
to who took [each woman]$_i$ to the school to her$_i$ son
'Who did each woman$_i$ take to school, her$_i$ son?'

b. Llevó [cada mujer]$_i$ a su$_i$ hijo a la escuela?
took [each woman]$_i$ to her$_i$ son to the school
'Did each woman$_i$ take her$_i$ son to school?'

In the monoclausal approach the pronoun *his* is c-commanded by *each woman*; in the biclausal approach, it is bound by an elided DP whose antecedent is *each woman*.

SQs also display scope connectivity with respect to quantifier-quantifier interactions:

(46) A quién golpeó cada policía con su porra, a un manifestante?
to who hit each policeman with his club to a demonstrator
'Who did each policeman hit with his club, a demonstrator?'

This SQ has two readings. In the monoclausal approach, this fact can be captured by assigning two different relative scopes to universal *each policeman* and existential *a demonstrator*. If the universal has scope over the existential, the reading can be understood as asking the question whether for each policeman *x* there is a (possibly different) protester *y* such that *x* hit *y*. If the existential has wide scope, the reading can be paraphrased as the question whether there is a protester *x* such that every policeman hit that same protester *x*. In the biclausal approach, the source of the tag contains an elided universal DP whose antecedent is the universal in the wh-part:

(47) Golpeó cada policía a un manifestante con su porra?
hit each policeman to a demonstrator with his club
'Did each policeman hit a demonstrator with his club?'

Thus, the biclausal approach predicts the scope ambiguity in a way similar to the monoclausal approach.

Finally, connectivity is also manifested in opacity effects. The tag can be interpreted as if in the scope of an intensional verb in the wh-part, as long as the former is understood as the object of

the latter (the test is adapted from den Dikken et al. (2000)):[19]

(48) a. Qué busca Juan, un unicornio?
what seeks Juan a unicorn
'What does Juan seek, a unicorn?'

b. Busca Juan un unicornio?
seeks Juan a unicorn
'Does Juan seek a unicorn?'

The SQ does not entail that unicorns exist, indicating that the tag *a unicorn* is interpreted in the scope of an intensional verb. In the monoclausal approach, *a unicorn* is in the scope of *seek* in the wh-part; in the biclausal approach, it is in the scope of the elided verb.

To conclude, all connectivity tests based on c-command relations can be accounted for under both the monoclausal and the biclausal approach. In the following subsection, I discuss connectivity effects related to local dependencies, arguing that they receive a better account in the biclausal approach.

6.2 Selection and connectivity

In this section, I discuss examples of SQs where the tag seems to be in some sort of local dependency relation with an element in the wh-part. For instance, in 4.2 we saw that the tag in the following SQ must be understood as the object of the verb in the wh-part:

(49) Qué árbol plantó Juan, un roble?
what tree planted Juan an oak
'What tree did Juan plant, an oak?'

Furthermore, the wh-phrase must be in the exact same local dependency relation to the verb. The biclausal approach advocated here explains the dependency between the tag and the element in the

[19]These authors apply this connectivity test to (specificational) pseudoclefts, where, they argue, the predicate is the remnant of ellipsis (see also Ross (1972) and Schlenker (2003)).

wh-part as a case of connectivity: the tag is in a local dependency relation with an elided element whose antecedent is in the wh-part. In the example above, the tag is the object of elided *planted*. In addition, the local dependency between the wh-phrase and the element within the wh-part is direct: in the example above, the wh-phrase is generated as the object of the verb.

This type of connectivity between the tag and elements in the wh-part can be confirmed by two related connectivity tests. The first type of example has to do with case-matching effects; the wh-phrase and the tag must have the same grammatical case when they are DPs (see Ross (1969); Hankamer (1979); Morgan (1989); Merchant (2001, 2004) for similar effects in sluicing and fragment answers):

(50) a. Quién limpió la habitación, { tú / *a tí }?
who cleaned the room { you.NOM / you.ACC }
'Who cleaned the room, you?'

b. A quién vio Juan en el parque, { a mí / *yo }?
to who saw Juan in the park { me.ACC / I.NOM }
'Who did Juan see in the park, me?'

The wh-phrase in (50a) is the subject of finite *wants*; the tag is the subject of elided *wants*, and must therefore be nominative. Similarly, the wh-phrase in (50b) is the object of *saw*, and, accordingly, the tag must be accusative.[20]

Similar effects can be observed in cases where the wh-part contains a verb that selects a complement headed by a lexically specific preposition. For instance, *pensar* 'think' selects for *en*, and *soñar* 'dream' selects for *con*:

[20]I assume that the so-called 'personal *a*' in Spanish direct objects is an accusative case morpheme. Alternatively, it could be taken to be an animacy marker, or a preposition (see Jaeggli (1982); Suñer (1988); Torrego (1998) for discussion). These details do not affect the basic point in the text: in object (not subject) position, personal pronouns (among other types of DPs) must be preceded by *a* in Spanish. By hypothesis, the tag in (50a) is a subject, so *a* is not possible; in (50b) the tag is a direct object, so *a* is obligatory.

(51) a. En qué piensas, { en / *con } el perro?
in what you.think { in / with } the dog
'What are you thinking about, the dog?'

b. Con qué soñaste, { con / *en } el perro?
with what you.dreamed { with / in } the dog
'What did you dream about, the dog?'

Both the wh-phrase and the tag must be headed by *en* in (51a), and by *con* in (51b).

On the other hand, it is not clear how the monoclausal approach can explain these dependencies. In order to see why, we must first go into further details of the analysis proposed in Camacho (2002). The main claim is that the tag and the (trace of the) wh-phrase form a constituent. Camacho suggests two different ways of implementing this hypothesis. The first possibility is that the tag is adjoined to the wh-phrase:

(52) Qué compraste, un libro?
what you.bought a book
'What did you buy, a book?'

(53) $[_{VP}$ bought $[_{DP1}$ what$_1$ $[_{DP}$ a book $]]]$

The second possibility is that (part of) the tag is the subject of a small clause whose predicate is the wh-phrase:

(54) $[_{VP}$ bought $[_{DP1}$ a $[_{XP}$ book [X what$_1$ $]]]]$

What we need to capture is the fact that both the wh-phrase *what* and the tag *a book* are understood as objects of *bought*. The tag and the wh-phrase form a constituent, and it is this constituent that is in object position. Strictly speaking, neither the wh-phrase nor the tag are in object position. Since, under both implementations sketched above, the wh-phrase is, in some sense, the head of the larger constituent, we might take this to mean that the wh-phrase is the object of the verb. This predicts that the tag does not behave as the object of the verb. This prediction is not borne out, as shown by the case and preposition selection facts discussed above (50–51). Similarly, an implementation of

the monoclausal approach that would make the tag the head instead of the wh-phrase would make the wrong prediction that the wh-phrase would not behave as the object of the verb. For instance, the initial preposition in (51a) must be *en*, not *con*.

Nevertheless, we could imagine mechanisms that would ensure that both the tag and the wh-phrase are in some sense the object of the verb. For instance, one could propose something similar to what is needed in coordinate structures:

(55) El piensa { en / *con } perros y { en / *con } gatos.
he thinks { in / with } dogs and { in / with } cats
'He is thinking about dogs and cat.'

Both conjoined PPs must satisfy the selectional restrictions of the verb, since both are in some sense objects of the verb. However, there is no independent reason to suggest that SQs are similar to coordinate structures in terms of structure or interpretation. For instance, SQs do not involve a coordinating particle, and they always involve extraction of a constituent, the wh-phrase, which would violate the Coordinate Structure Constraint if it formed some kind of coordinate structure with the tag.

It seems, then, that whatever mechanism were invoked by the monoclausal approach to represent these local dependency relations would be highly ad hoc. Therefore, we can see the data presented here as further evidence for the biclausal approach.

6.3 Nonconnectivity effects

A further argument for ellipsis comes from a case of *lack* of connectivity standardly referred to as *Vehicle Change* since Fiengo and May (1994). In elliptical constructions, an elided name does not cause a Condition C violation when c-commanded by a coreferential pronoun. The following illustrates the phenomenon with a Spanish fragment answer (see Merchant (2004) for similar examples in English):

(56) Quién leyó el libro de Juan$_i$?
who read the book of Juan$_i$
'Who read Juan's$_i$ book?'

a. El$_i$.
he$_i$
'Him$_i$.'

b. *El$_i$ leyó el libro de Juan$_i$.
he$_i$ read the book of Juan$_i$
'He$_i$ read Juan's$_i$ book.'

Under an ellipsis approach to fragment answers, the answer in (a) and the sentential answer in (b) might be expected to have the same structure. However, the full sentential answer is ungrammatical due to a Condition C violation, but the fragment answer is not. Several accounts of this phenomenon have been proposed in the literature (see Fiengo and May (1994); Merchant (2001) and references cited there). The gist of these proposals is that conditions on ellipsis allow the unpronounced material in the fragment answer to contain a pronoun instead of the name:

(57) he$_i$ ~~read his$_i$ book~~

In Merchant's account of ellipsis, which is the one adopted here, this is due to the lack of a syntactic identity requirement. Ellipsis of *read his book* is licensed because it is e-GIVEN with *read the book of Juan* as antecedent (see section 4.2).

Given this, it is not surprising that a parallel SQ is grammatical:

(58) Quién leyó el libro de Juan$_i$, él$_i$?
who read the book of Juan$_i$ he$_i$
'Who read Juan's$_i$ book, him$_i$?'

The tag does not cause a Condition C violation, since the coindexed DP in the ellipsis site can be a pronoun instead of a name.

On the other hand, the monoclausal approach does not predict lack of Condition C effects in SQs. According to this analysis, the tag and the trace of the wh-phrase in (58) form a constituent in sentence-final subject position:

(59) $[_{CP}$ who read [the book of Juan$_i$] [*t* he$_i$]]

Thus, (58) must be compared with a parallel declarative VOS sentence:

(60) *Leyó el libro de Juan$_i$ el$_i$?
read the book of Juan$_i$ he$_i$
'He$_i$ read Juan's$_i$ book?'

The VOS order in Spanish triggers a Condition C violation. Under the assumption that VOS is derived by movement of the object to the left of the subject, the Condition C effect can be seen as the result of reconstruction:

(61) read [the book of Juan$_i$] he$_i$ *t*

The pronominal subject c-commands the name in the object in its reconstructed position, which causes the Condition C violation in (60). Since the SQ in (58) and (60) have parallel structures in the monoclausal approach, the lack of Condition C effects in the SQ is unexpected.

Note, however, that the tag does not strictly c-command the trace of the moved object in (58), since it is contained in a constituent that also contains the trace of the wh-phrase:

(62) $[_{CP}$ who read $[_{Obj}$ the book of Juan$_i$] [t_{wh} he$_i$] t_{Obj}]

One might argue that this is enough to prevent the Condition C violation in the SQ. Unfortunately, this explanation is not available to the monoclausal approach. There are examples that show that material inside the constituent containing the tag and the trace of the wh-phrase c-commands outside that constituent:

(63) a. Quién visitó a su$_i$ madre, cada senador$_i$?
who visited to his$_i$ mother each senator$_i$
'Who did each senator$_i$ visit, his$_i$ mother?'

b. [$_{CP}$ who visited [$_{Obj}$ his mother] [t_{wh} each senator] t_{Obj}]

Since the bound variable interpretation is possible for the pronoun in the object, something within the subject position (either the tag or the trace of the wh-phrase) must c-command the trace of the object.[21] Thus, the monoclausal approach cannot blame the lack of Condition C effects in (58) on the absence of the relevant c-command relation.

Another nonconnectivity effect in SQs can be observed in cases where the tag is an object pronoun. Direct objects cannot be doubled by a clitic in most dialects of Spanish. This applies both to objects in their base position and to wh-moved objects:[22]

(64) a. Juan (*lo) mató a Pedro.
Juan (him) killed to Pedro
'Juan killed Pedro.'

b. A quién (*lo) mató Juan?
to who (him) killed Juan
'Who did Juan kill?'

One of the exceptions to this generalization is strong pronouns; when in object position, they must be clitic doubled:

(65) Juan *(lo) mató a él.
Juan (him) killed to him
'Juan killed him.'

In SQs with an object pronoun as the tag, doubling is not possible:

[21]Note that the bound reading cannot arise from simply coindexing the wh-phrase and the pronoun. Crossover effects show that a pronoun can only be interpreted as bound by a wh-phrase if the trace of the latter c-commands the former.

[22]This is a highly simplified description of the facts, which is sufficient for the argument presented in the text (see Jaeggli (1982); Suñer (1988); Torrego (1998), among others).

(66) A quién (*lo) mató Juan, a él?
to who (him) killed Juan, to him
'Who did Juan kill, him?'

In the biclausal analysis, this is as expected. The strong accusative pronoun is the tag, and thus not embedded in the wh-part. The object of the verb *killed* is the wh-phrase, which disallows clitic doubling. The second clause must contain a clitic doubling the strong object pronoun, but it is part of the ellipsis site and does not surface.[23]

As in the case of lack of Condition C effects, the monoclausal approach cannot explain the impossibility of clitic doubling in (66). Since the pronoun is in the object position of *killed*, it should trigger obligatory doubling. As in the previous argument, one might consider saving the monoclausal approach relying on the fact that the tag forms a constituent with (the trace of) the wh-phrase. The pronoun is not in object position; it is embedded inside the object. However, this does not make the correct prediction, as far as we can test it. Recall that there are two ways to implement the claim that the tag and the wh-phrase form a constituent (see 6.2): either (i) the tag is adjoined to the wh-phrase, or (ii) the tag is the subject of a small clause whose predicate is the wh-phrase. Under the first possibility, we would expect a pronoun adjoined to an object to not allow clitic doubling. Since there are no constructions in Spanish that have this general structure, the prediction cannot be tested under this implementation of the monoclausal approach.

Under the second implementation, where the tag is the subject of a small clause, the prediction is that an accusative pronoun that is the subject of a small clause cannot be clitic doubled. This prediction is not borne out:

[23]Recall that the analysis of ellipsis adopted here does not assume a syntactic identity requirement. Thus, there is no problem with the fact the elided constituent in the source of the tag in (66) contains a clitic, but its antecedent in the wh-part does not. The presence of the clitic in the elided material is irrelevant, since it is irrelevant for the Focus Condition.

(67) Juan *(lo) considera a él un idiota.
Juan (him) considers to him an idiot
'Juan considers him an idiot.'

Therefore, the monoclausal approach cannot explain the impossibility of clitic doubling in SQs with pronominal tags.

To conclude this section, there are a number of connectivity tests that argue for the biclausal approach to SQs. Although the monoclausal approach can account for some connectivity effects, it has no straightforward explanation for all of them, and it fails to account for the lack of connectivity effects discussed in the last subsection.

7 Movement of the tag

In the biclausal analysis, the tag undergoes movement to the left periphery of the second clause, followed by ellipsis of the rest of the sentence. In particular, I identify this movement with focus-fronting. The claim that the tag undergoes movement is intimately tied with the claim that it involves ellipsis. Under the assumption that ellipsis can only target constituents, movement is crucial in deriving the constituent to be elided. In this section, I present a number of arguments that the tag does undergo movement within the second clause of an SQ. Many of the arguments are familiar from the literature on ellipsis (see especially Ross (1969); Morgan (1973); Merchant (2001, 2004)), although one of them is, as far as I know, new (see subsection 7.3). Before presenting the evidence for movement, subsection 7.1 discusses the relation between movement and the connectivity effects described in the previous section.

7.1 Connectivity and movement

In the previous section, we saw several arguments for ellipsis in SQs by showing that there were connectivity effects. However, I explicitly sidestepped the issue of movement of the tag. For

instance, the Condition A argument in 6.1 was based on the assumption that the reflexive tag in (41a), repeated below, is c-commanded by *Juan* in its binding domain in the elliptical structure:

(68) a. Con quién dice Pedro$_j$ que está hablando Juan$_i$, consigo mismo$_{i/*j}$?
with who says Pedro$_j$ that is talking Juan$_i$ with himself$_{i/*j}$
'Who does Pedro$_j$ say Juan$_i$ is talking with, himself$_{i/*j}$?'

b. Dice Pedro$_j$ que Juan$_i$ está hablando consigo mismo$_{i/*j}$?
says Pedro$_j$ that Juan$_i$ is talking with himself$_{i/*j}$
'Does Pedro$_j$ say that Juan$_i$ is talking with himself$_{i/*j}$?'

However, the structure assigned by the biclausal approach to the SQ involves movement of the tag to a clause-initial position. More specifically, the claim is that the source of the tag in these examples is a yes/no-question where the tag undergoes focus fronting:

(69) Consigo MISMO$_{i/*j}$ dice Pedro$_j$ que está hablando Juan$_i$?
with himself$_{i/*j}$ says Pedro$_i$ that is talking Juan$_i$
'Does Pedro$_j$ say that Juan$_i$ is talking with HIMSELF$_{i/*j}$?'

This examples shows that the explanation in terms of ellipsis holds even under the assumption that the tag undergoes movement. Movement in (69) does not alter the binding possibilities of the reflexive: the sentence is grammatical, and the only reading possible is one where the reflexive is bound by the local subject. Of course, this is the phenomenon commonly know as *reconstruction* (for recent work on reconstruction, see, among many others, Heycock (1995); Romero (1997a); Fox (2000); Sharvit (1999)). As shown by Merchant (2004) for fragment answers, whatever mechanism accounts for reconstruction phenomena in movement constructions can be used to account for connectivity effects in the biclausal approach to SQs.

All other cases of connectivity discussed in the previous section receive the same explanation. The easiest cases to explain are those in 6.2. That case and selectional restrictions are preserved under A′movement is a well-known fact. The following sentences with focus-fronting show that all other arguments based on connectivity can be translated into an account in terms of movement:

(70) *Condition B*

Con EL$_{j/*i}$ dice Pedro$_j$ que habló Juan$_i$?
with HIM$_{j/*i}$ says Pedro that talked Juan$_i$
'Did Pedro say that Juan$_i$ talked with HIM$_{j/*i}$?'

(71) *Condition C*

A PEDRO$_i$ cree *pro*$_{j/*i}$ que Juan vio en el parque?
to PEDRO$_i$ believes *pro*$_{j/*i}$ that Juan saw in the park?
'Does he$_{j/*i}$ believe Juan saw PEDRO$_i$ in the park?'

(72) *Bound interpretation of pronouns*

A su$_i$ HIJO llevó cada mujer$_i$ a la escuela?
to her$_i$ SON brought each woman$_i$ to the school
'Did each woman$_i$ bring her$_i$ SON to school?'

(73) *Scope ambiguities*

A un MANIFESTANTE golpeó cada policía con su porra?
to a DEMONSTRATOR hit each policeman with his club
'Did each policeman hit a DEMONSTRATOR with his club?'

(Both surface and inverse scope are possible.)

(74) *Opacity*

Un UNICORNIO busca Juan?
a UNICORN seeks Juan
'Does Juan seek a UNICORN'?

(No presupposition that unicorns exist.)

7.2 Preposition stranding

The first argument for movement of the tag comes from preposition stranding facts. This argument is adapted from Merchant's (2001, 2004) discussion of sluicing and fragments.

Preposition stranding in Spanish is not possible. If a wh-phrase that is the complement of a preposition is fronted, it must pied-pipe the preposition:

(75) a. *JUAN hablaron los médicos con?
JUAN talked the doctors with

b. Con JUAN hablaron los médicos?
with JUAN talked the doctors
'Did the doctors talk with JUAN?'

In an SQ with a wh-phrase headed by a preposition, the tag must be headed by the same preposition, which cannot be elided:

(76) Con quién hablaron los médicos, *(con) Juan?
with who talked the doctors (with) Juan
'Who did the doctors talk with, Juan?'

In English, stranding is possible, and, accordingly, the tag does not have to contain the preposition:

(77) Who did the doctors talk with yesterday, (with) Juan?

Under a biclausal analysis, this correlation is expected, since the tag must undergo movement within the second clause. As discussed in the next subsections, a further argument for movement (and against the monoclausal approach to SQs) can be devised once we take into account both pied-piping and stranding facts.

7.3 Islands and pied-piping

If the tag undergoes movement within the second clause, this movement is expected to be sensitive to islands.[24] Testing this prediction is not a straightforward matter, since the wh-phrase also undergoes movement:

(78) *Por quién has leído el libro escrito, por Pedro?
by who you.have read the book written by Pedro
'Who have you read the book written by?'

[24]Even though, as argued below, movement of the tag in SQs is subject to island constraints, this is not always the case in other elliptical structures. Wh-movement in sluicing is a well-known case. See Ross (1969); Chung et al. (1995); Merchant (2001, 2004); Fox and Lasnik (2003) for different solutions to this puzzle.

(79) a. *Wh-part*: *[$_{CP}$ by who$_i$ you.have read [the book written t_i]]

b. *Tag*: *[$_{CP}$ by Pedro$_j$ you.have read [the book written t_j]]

In this example, both the wh-phrase and the tag are extracted from a reduced relative clause island. Therefore, the sentence could be ungrammatical simply by the illegal extraction in the wh-part.

Merchant (2004) discusses the same problem with fragment answers. Since fragment answers are typically answers to wh-questions, the reason why an island violating fragment answer is not felicitous could be attributed to the fact that the corresponding wh-question is ungrammatical. Merchant uses two tests that circumvent this problem. The first test, first used in Morgan (1973), involves using fragments that are answers to non-wh-questions. This test is not translatable to the present case, since SQs, by definition, involve a first clause that is a wh-question. The second test involves multiple questions, where at least one wh-phrase does not undergo overt movement. I leave this island test for section 9, which contains a fuller discussion of SQs with multiple wh-phrases.

There is another possible test for island sensitivity in the tag, inspired by some observations made in Morgan (1973, p. 737–738), and by Murasugi's (1991) analysis of wh-in situ. Although SQs involve wh-movement in both the tag and the wh-part, the biclausal analysis does not predict that that the two movements have to be identical. Merchant (2004, fn. 8, p. 685) makes this point with respect to pied-piping vs. stranding in English fragment answers. As illustrated in (77) above, an SQ with a stranded preposition in the wh-part is compatible with a tag that is either a full PP or a bare DP. Similarly, pied-piping in the wh-part is compatible with either tag:

(80) With whom did the doctors talk yesterday, (with) Juan?

Unlike Spanish, stranding is possible in English. This correctly predicts that the tag in this SQ can lack the preposition, regardless of whether the wh-part involves pied-piping or stranding.

If pied-piping of the relative clause island in (78) were possible, we should be able to test for island sensitivity in the tag by simply applying pied-piping in the wh-part but not in the tag. However, pied-piping of the relevant type of island is at best marginal in Spanish wh-questions:

(81) ??[El libro escrito por quién] has leído?
[the book written by who] you.have read
'The book written by whom have you read?'

This test is best applied in a language that freely allows pied-piping of embedded island clauses. In Basque, clausal pied-piping is possible (Ortiz de Urbina, 1989, 1993; Echepare, 1997; Arregi, 2002, 2003). This is illustrated in the following examples from Ondarru Basque, where an embedded non-finite clause is optionally pied-piped by a wh-phrase:

(82) a. Sein juti esa sendun nai sendule?
who.ABS go.NF said you.had want you.had.COMP
'Who did you say you wanted to go?'

b. $[_{CP}$ who.ABS go.NF$]$ said you.had.COMP $[_{CP}$ want you.had $t]$

(83) a. Sein esa sendun nai sendule juti?
who.ABS said you.had want you.had.COMP go.NF
'Who did you say you wanted to go?'

b. who.ABS$_i$ said you.had $[_{CP}$ want you.had.COMP $[_{CP}$ t_i go.NF$]]$

Pied-piping of non-finite relative clause islands is possible, but the stranding option is not available in this case, as expected:

(84) a. Señek idatzitako liburu esa sendun irakurri sendule?
who.ERG write.NF book.ABS said you.had read you.had.COMP
'Who did you say you read the book written by?'

b. $[_{DP}$ who.ERG write.NF book.ABS $]$ said you.had $[_{CP}$ read you.had.COMP t $]$

(85) a. *Señek esa sendun irakurri sendule idatzitako liburu?
who.ERG said you.had read you.had.COMP write.NF book.ABS
'Who did you say you read the book written by?'

b. *who.ERG said you.had [$_{CP}$ read you.had.COMP [$_{DP}$ *t* write.NF book.ABS]]

We can thus use Basque to test for island sensitivity in the tag by using an SQ with pied-piping of an island in the wh-part; the following contrast shows that the tag must involve pied-piping as well:

(86) Señek idatzitako liburu esa sendun irakurri sendule ...
who.ERG write.NF book.ABS said you.had read you.had.COMP ...

a. *... Jonek?
... Jon.ERG

b. ... Jonek idatzitako liburu?
... Jon.ERG write.NF book.ABS

'Who did you say you read the book written by, (the book written by) Jon?'

Movement of the tag in the second clause involves extraction from an island in (a) but not in (b), which explains the contrast in grammaticality:

(87) a. *Jon.ERG said.NF you.had [$_{CP}$ read you.had.COMP [$_{DP}$ *t* written.NF book.ABS]]

b. [$_{DP}$ Jon.ERG written.NF book.ABS] said you.had [$_{CP}$ read you.had.COMP *t*]

Therefore, the contrast in (86) provides a further argument that SQs involve movement of the tag within the second clause.

Note, finally, that the contrast cannot be explained in terms of some sort of syntactic parallelism requirement between the wh-phrase and the tag. This point was made with English (80): where pied-piping is optional, pied-piping in the wh-part does not entail pied-piping in the tag. The same point can be made with pied-piping of non-island clauses in Basque. The wh-question in (82a) involves pied-piping of a complement clause, and can be turned into an SQ with either a bare or a

pied-piped tag:[25]

(88) Sein juti esa sendun nai sendule, …
who.ABS go.NF said you.had want you.had.COMP …

a. … Jon?
… Jon.ABS

b. … Jon juti?
… Jon.ABS go.NF

'Who did you say you wanted to go, Jon?'

The contrast between (86) and (88) strongly argues for the hypothesis that the tag undergoes movement within the second clause of an SQ. Neither sentence involves extraction from an island in the wh-part, so the contrast must be due to movement of the tag.

7.4 Pied-piping and stranding in the monoclausal approach

The monoclausal approach to SQs cannot explain all the pied-piping and stranding facts discussed so far in this section. Consider first (76) (repeated below), which shows that a bare DP tag is not possible if the wh-phrase is a PP in Spanish:

(89) Con quién hablaron los médicos, *(con) Juan?
with who talked the doctors (with) Juan
'Who did the doctors talk with, Juan?'

It is not clear whether the monoclausal analysis can explain this fact, since the tag does not undergo movement:

(90) with who talked the doctors [*t* [(with) Juan]]

[25]There is in fact a preference for the bare tag, presumably due to the presence of repeated material in the pied-piping option.

The tag in this example is embedded in the complement of *talked*, but is not the complement itself. Thus, subcategorization does not require that it be a PP. A possible explanation could be based on the assumption that the tag is, in some sense, the head of the constituent that also contains the trace of the wh-phrase (see the discussion in 6.2 above). In that case, it would seem natural that the tag, as head of a PP, be a PP as well. However, unless additional constraints were imposed, this would wrongly predict that the wh-phrase could be a DP instead of a PP:

(91) *Quién hablaron los médicos, con Juan?
who talked the doctors with Juan
'Who did the doctors talk with, Juan?'

This argument against the monoclausal analysis is very similar to the one based on selection in 6.2. The basic issue discussed there is that this analysis embeds both the tag and the wh-phrase within a larger constituent, and thus has no straightforward way of explaining why they share certain identical selectional requirements.

A solution was suggested in that subsection by drawing a parallel with coordinate structures: we could propose some kind of constraint requiring that the tag and wh-phrase meet the same selectional restrictions. Even if this solution were viable for the facts discussed there, it would make wrong predictions with respect to the pied-piping and stranding facts. As discussed in the previous subsection, whenever pied-piping is optional, SQs can be constructed were the wh-phrase pied-pipes material but the tag does not. This was illustrated with clausal pied-piping in Basque in (88), and with PP pied-piping in English in (80).

In summary, the pied-piping and stranding facts are not due to some parallelism requirement between the wh-phrase and the tag. The correct generalization has to do with movement: the constraints on the form of the tag have to do with constraints on pied-piping and stranding in movement, independently of how these constraints apply to the moved wh-phrase. This provides a strong argument for a biclausal analysis where the tag involves movement and ellipsis.

7.5 English complement clauses

Merchant (2004), based on data first discussed in Morgan (1973), develops a further argument for movement in fragment answers based on complementizer deletion facts in English. A similar argument can be applied to SQs. In English, the complementizer *that* is typically optional in declarative complement clauses:

(92) No one believes (that) I'm taller than I really am.

However, it becomes obligatory whenever the clause is fronted:

(93) *(That) I'm taller than I really am, no one believes.

As predicted in the biclausal approach, *that* is also obligatory if the embedded clause is the tag in an SQ:[26]

(94) What does no one believe, *(that) I'm taller than I am?

Morgan (1973) and Merchant (2004) discuss another difference between in situ and moved complement clauses, which Merchant uses to construct a further argument for movement in fragment answers. As is well-known, a declarative CP cannot be the complement of a preposition; this restriction, however, is lifted if the clause is fronted:

(95) a. *I'm ashamed of that I ignored you.

b. That I ignored you, I'm ashamed of.

As expected, the tag in an SQ can be a clause that is interpreted as the complement of a preposition:

(96) What are you ashamed of, that you ignored me?

[26]For reasons discussed in Morgan (1973) and Merchant (2004), this test must be made with complement clauses whose content the speaker is not responsible for.

On the other hand, it is not clear what the predictions of the monoclausal approach are. In this analysis, the tag is essentially in situ, but we have just seen that CPs that are tags have properties of moved CPs. As with previous arguments, one might think of ways around this problem. For instance, one might want to exploit the fact that the tag is not, strictly speaking, in the relevant complement position, since it is embedded in a constituent that also contains (the trace of) the wh-phrase. However, it is hard to see how this would explain the correlation between moved CPs and CP tags discussed above.

7.6 Negative polarity

Spanish n-words can appear both postverbally and preverbally. When postverbal, they must be c-commanded by negation; when preverbal, they are incompatible with negation (see, among others, Bosque (1980); Laka (1990); Zanuttini (1991); Ladusaw (1992); Herburger (2001); Giannakidou (2006)). For instance, *nada* 'nothing' must be c-commanded by negation when appears in object position, but is incompatible with negation when it is fronted :

(97) a. Juan *(no) ha comprado nada.
Juan (not) has bought nothing
'John has bought nothing.'

b. Nada (*no) ha comprado Juan.
nothing (not) has bought Juan
'John has bought nothing.'

Furthermore, n-words can also be used as fragment answers (Zanuttini, 1991):

(98) a. Qué ha comprado Juan?
what has bought Juan
'What has John bought?'

b. Nada.
nothing

Interestingly, an n-word can also appear as the tag in an SQ that does not contain negation:

(99) Qué ha comprado Juan, nada?
what has bought Juan nothing
'What has John bought, nothing?'

In the biclausal approach, the tag is a sentential fragment. Thus, whatever licenses an n-word in fragments can also license an n-word in the tag of an SQ in this analysis.

However, the tag is embedded in the wh-part in the monoclausal approach. Specifically, the n-word in (99) is in postverbal position in the wh-part. If that were the case, we would expect the SQ to have sentential negation (see (97a)), contrary to fact. Note that this argument is independent of the particular details of the biclausal approach. Even if the tag did not involve ellipsis, we would expect n-words to be possible tags to nonnegative SQs, since n-words are licensed in sentential fragments in general.

Nevertheless, the argument for the biclausal analysis may be strengthened. Giannakidou (1998, 2000) argues that an account in terms of ellipsis explains why n-words are possible in fragment answers. Further support for this view is given in Merchant (2004), where it is shown that the cross-linguistic distribution of n-words (and NPIs in general) in fragments is best accounted for under the movement and ellipsis approach.[27] In the reminder of this section, I summarize Merchant's argument, and replicate it with Spanish SQs.

As noted above, n-words in Spanish (and Romance in general) can both be fronted and appear as fragment answers. This contrasts with the behavior of NPIs in English, which cannot be fronted or be used as fragment answers (the examples are Merchant's (2004) (105–106)):

(100) a. Max didn't read anything.

b. *Anything, Max didn't read.

[27]The argument was first developed in a 2002 version of Merchant (2004). A similar argument is presented in Alonso-Ovalle and Guerzoni (2004). See Zanuttini (1991); Herburger (2001); Watanabe (2004); Giannakidou (2006) for further discussion on n-words in fragments.

(101) a. What didn't Max read?

b. *Anything.

Merchant (2004) uses this contrast between frontable and unfrontable polarity items as an argument for a movement and ellipsis analysis of fragment answers. In languages where polarity items can be fronted, they can be used as fragments; in languages where they cannot be fronted, they cannot be used as fragments. This correlation is expected in a theory where fragments are moved elements.

The same argument can be applied to SQs. First, as in declarative clauses, n-words can be fronted in Spanish yes/no-questions, but NPIs cannot in English:

(102) a. No ha comprado Juan nada?
not has bought Juan nothing
'Has John bought nothing?'

b. Nada ha comprado Juan?
nothing not has bought Juan
'Has John bought nothing?'

(103) a. Didn't Max read anything?

b. *Anything, didn't Max read?

By hypothesis, the tag in an SQ is a fronted constituent in a non-wh-question. This predicts that n-words can be used as tags in Spanish SQs, but that NPIs in English cannot. This prediction is borne out, as illustrated in (99) above for Spanish and in the following example for English:

(104) *What didn't Max read, anything?

There is, however, a problem with the preceding argument. English NPIs seem to be licensed in the tag position in affirmative SQs, even though they cannot be fronted in affirmative yes/no questions:

(105) a. *Anything, did Max read?

b. What did Max read, anything?

This contrast is surprising, especially considering the fact that the correlation does hold in negative questions.

In summary, the fact that n-words can appear as tags in SQs provides a strong argument for the biclausal approach. However, it is not clear to what extent the data can be used to support the movement component of the analysis. This is a question that I leave for future research.

To conclude this section, several pieces of evidence argue for a movement and ellipsis analysis of the tag in SQs, as proposed in the biclausal approach.

8 The position of the tag

The main difference between the two approaches to SQs discussed here is that the tag is embedded in the wh-part in the monoclausal approach, but they are separate clauses in the biclausal approach:

(106) *Monoclausal approach*: $[_{\text{CP}}$ wh-phrase ... $[\ t_{wh}\ \text{tag}\ ]$ ... $]$

(107) *Biclausal approach*: $[_{\text{CP}}$ wh-phrase ... t_{wh} ... $]\ [_{\text{CP}}$ tag $]$

Both approaches make clearly differing predictions about word order in SQs. The monoclausal approach predicts that material belonging to the wh-part may follow the tag. On the other hand, the biclausal approach predicts that the tag must follow the entire wh-part.

These predictions can be easily tested in English. For instance, a subject tag in this language is final:

(108) Who read this book, Juan?

In the monoclausal approach, this is not expected. Since subjects must be preverbal in this language, it is wrongly predicted that the tag cannot be final in this SQ. The biclausal approach

explains this contrast in a natural way: the tag is a separate clause, so it must follow the entire wh-part.

However, several complicating factors make these predictions hard to test in Spanish. The main difficulty is that word order is relatively free in this language. As in English, subject tags are final:

(109) Quién leyó el libro ayer, Juan?
who read the book yesterday Juan
'Who read the book yesterday, Juan?'

If Spanish had a fixed TP-initial position for subjects, this might seem like a counterexample to the monoclausal approach. However, it is well-known that sentence-final (VP-internal) subjects are possible in Spanish:

(110) Cuando leyó el libro Juan?
when read the book Juan
'When did Juan read the book?'

Thus, the final position of subject tags in SQs cannot be used as an argument against the monoclausal approach.

Nevertheless, word order is not completely free in Spanish. Word order can be fixed in several ways, and these can be used to test the predictions of the two approaches. In 8.1, I provide two such tests that show that the tag must follow the entire wh-part in cases where the monoclausal approach would predict it does not. In 8.2, I discuss apparent counterexamples to the claim that the tag must be final in the SQ, and argue that the biclausal approach can account for them in a natural way.

8.1 The tag is final

In Spanish, the order of direct and clitic-doubled indirect objects (DO and IO respectively) is free within the VP.

(111) Juan le regaló { a Pedro este libro / este libro a Pedro }.
Juan him gave { to Pedro this book / this book to Pedro }
'Juan gave this book to Pedro.'

However, scope possibilities are somewhat restricted depending on word order. A quantified IO can bind a pronoun in a DO in either order, but a quantified DO can bind a pronoun in an IO only in the DO IO order (Demonte 1995; Bleam 2003; Cuervo 2003; de Pedro Munilla 2004):[28]

(112) *IO DO order: only IO can be a binder*

a. Juan le devolvió a cada estudiante$_i$ su$_i$ libro.
Juan him returned to each student$_i$ his$_i$ book
'Juan returned each student$_i$ his$_i$ book.'

b. *Juan le devolvió a su$_i$ dueño cada libro$_i$.
Juan him returned to his$_i$ owner each book$_i$
'Juan returned each book$_i$ to its$_i$ owner.'

(113) *DO IO order: both objects can bind*

a. Juan le devolvió su$_i$ libro a cada estudiante$_i$.
Juan him returned his$_i$ book to each student$_i$
'Juan returned each student$_i$ his$_i$ book.'

b. Juan le devolvió cada libro$_i$ a su$_i$ dueño.
Juan him returned each book$_i$ to his$_i$ owner
'Juan returned each book$_i$ to its$_i$ owner.'

Most work on this topic agrees that these and other facts point to an analysis where the basic order is IO DO. For the purposes of this article, I follow de Pedro Munilla's (2004) analysis, in which the clitic doubled IO is generated higher than the DO within the VP:

(114) $[_{vP}$ Sbj v $[_{VP}$ IO [V DO]]]]

[28]Although clitic doubling of IOs is optional, it is preferred to nondoubling. The binding patterns discussed here apply only to sentences with doubled IOs. The facts in sentences without doubling are much less clear. See the references cited above and Perpiñán and Montrul (2006).

If neither object undergoes movement, this results in the IO DO order, and accounts for the fact that the IO can bind a pronoun in the DO in this order (112a). The DO cannot bind a pronoun in the IO (112b) even under QR, since the latter operation is subject to Weak Crossover.

de Pedro Munilla accounts for the DO IO order by proposing an A-movement operation she calls *accusative scrambling*:

(115) $[_{vP}$ Sbj v DO $[_{VP}$ IO V t_{DO}]]

This movement has typical properties of A-movement: (i) it can undergo scope reconstruction (see, among others, May (1977, 1985); Barss (1986); Fox (2000); Sauerland and Elbourne (2002)), and (ii) it is not subject to Weak Crossover. The possibility of reconstruction explains why the IO can bind a pronoun in the DO (113a); and (ii) explains why the DO can also bind a pronoun in the IO (113b).

This analysis also explains why a wh-moved DO can bind a pronoun in the IO:

(116) Qué libro$_i$ devolvió Juan a su$_i$ dueño?
what book$_i$ returned Juan to its$_i$ owner
'Which book$_i$ did Juan return to its$_i$ owner?'

Given the facts above, the wh-phrase must have moved from a position derived by accusative scrambling:

(117) $[_{CP}$ wh$_{DO}$ … $[_{vP}$ … t_{DO} $[_{VP}$ IO … t'_{DO}]]]

If the wh-phrase moved directly from its base position in t'_{DO}, binding of the pronoun in the IO would not be possible due to Weak Crossover.

Interestingly, this gives us a way to fix the position of the trace of wh-movement. In the wh-question in (116–117), the trace of the wh-moved DO precedes the IO. However, if we form an SQ from this wh-question by adding the appropriate tag, the latter is final in the SQ:

(118) Qué libro$_i$ devolvió Juan a su$_i$ dueño, este?
what book$_i$ returned Juan to its$_i$ owner this
'Which book$_i$ did Juan return to its$_i$ owner, this one?'

In the monoclausal approach, the tag must be in the position of the trace of the wh-movement (t_{DO} in (117)). Since the trace in this example precedes de IO, this analysis wrongly predicts that the tag must precede the IO as well. The tag forms an independent clause in the biclausal analysis, which correctly predicts its final position in this example.[29]

Another way of fixing the position of the trace of wh-movement is by taking advantage of the Right Roof Constraint (RRC; see Ross (1967), and Baltin (2006) for an overview of the literature). As in other languages, an object generated in an embedded clause cannot be shifted to the right of matrix material in Spanish:

[29]In defense of the monoclausal approach, one might argue that (118) has the following structure, where the tag remains in the base position of the DO and only the wh-phrase undergoes accusative scrambling (and further wh-movement):

(i) $[_{CP}$ What book$_i$ returned Juan $[_{vP} \ldots t_i [_{VP}$ to its owner … $[t_i'$ this $]]]]$

The problem with this structure is that it amounts to the claim that the wh-phrase and the tag can be separated by movement processes other than wh-movement. In this example, they are separated by accusative scrambling. This extension of the monoclausal approach would be highly problematic, since there is no independent motivation that this is possible. This can be tested in SQs with multiple wh-phrases (see section 9), where only one wh-phrase undergoes overt movement. If a wh-phrase could be separated from the tag by accusative scrambling, the monoclausal approach would wrongly predict this to be possible even if the wh-phrase did not undergo overt wh-movement:

(ii) *Quién devolvió qué libro a su dueño este, Juan?
who returned what book to its owner this Juan

(ii) would essentially have the same structure as (i), but is ungrammatical. It shows that the monoclausal approach cannot claim that the wh-phrase can be separated from the tag by accusative scrambling. Thus, (118) remains a problem for this approach.

(119) Juan le dijo $[_{CP}$ que vería todos los partidos de su equipo] a Pedro.
Juan him told $[_{CP}$ that he.would.see all the games of his team] to Pedro
'Juan told Pedro that he would see all his team's games.'

(120) a. *Juan le dijo que vería a Pedro todos los partidos de su equipo.
Juan him told that he.would.see to Pedro all the games of his team
b. *Juan him told $[_{CP}$ that he.would.see t_i] to Pedro [all the games of his team $]_i$

Given this, the following SQ is expected to be ungrammatical under the monoclausal analysis, contrary to fact:

(121) Qué le dijo Juan que vería a Pedro, todos los partidos de su equipo?
what him told Juan that he.would.see to Pedro all the games of his team
'What did he tell Pedro he would see, all his team's games?'

Since the tag is understood as the object of the embedded verb, a monoclausal analysis of this SQ would involve an RRC violation:

(122) what$_i$ him told Juan $[_{CP}$ that he.would.see t_i t_j] to Pedro [all the games of his team]$_j$

On the other hand, the final position of the tag in this example is as predicted in the biclausal analysis. In particular, the second clause in the SQ would involve *leftward* movement of the tag, and ellipsis of everything but the tag:

(123) [all the games of his team]$_i$ ~~him told Juan $[_{CP}$ that he.would.see t_i] to Pedro~~

Since this is leftward movement, the fact that it crosses a clausal boundary is irrelevant. In particular, focus-fronting that crosses a clausal boundary is possible:

(124) Todos los partidos de su EQUIPO le dijo Juan que vería a Pedro?
all the games of his team him told Juan that he.would.see to Pedro
'Did he tell Pedro he would see all his team's GAMES?'

To summarize so far, the tag is final in SQs even in cases in which we can ensure that the position of the trace of wh-movement is not final in the wh-part. This provides a further argument for the biclausal analysis.

8.2 Apparent counterexamples

In Spanish, there are certain apparent counterexamples to the generalization that the tag must be final in an SQ:

(125) a. Quién llegó tarde ayer, Juan?
who arrived late yesterday Juan
'Who arrived late yesterday, Juan?'

b. Quién llegó tarde, Juan ayer?
who arrived late Juan yesterday

(126) a. Quién habló con Pedro, Juan?
who talked with Pedro Juan
'Who talked with Pedro, Juan?'

b. Quién habló, Juan con Pedro?
who talked Juan with Pedro

The (a) examples, as expected, contain a final tag *Juan* that is a correlate of the wh-phrase. However, this correlate is followed by other material in the (b) examples.[30] Examples of this sort are not judged as perfect by native speakers, and there is some variability in judgments. Assuming that they are grammatical, they might be seen as a challenge to the prediction that the tag must be final in an SQ.

Specifically, in all previous examples, the tag always contains only a correlate of the wh-phrase. Thus, we might take *Juan* in the (b) examples above as the tags in their respective SQs, just as in the parallel (a) examples. This would entail that non-tag material can follow the tag in SQs. I claim that this is the wrong interpretation of these examples: the tag contains not only the correlate of the wh-phrase, but also whatever follows it. In the (b) examples above:

(127) a. $\underbrace{\text{who arrived late}}_{\textit{wh-part}}$ $\underbrace{\text{Juan yesterday}}_{\textit{tag}}$ (125b)

[30] As suggested by the placement of the coma, the intonation break must occur before the subject *Juan* in the (b) examples. This is crucial in the analysis of these cases below.

b. $\underbrace{\text{who talked}}_{\textit{wh-part}}$ $\underbrace{\text{Juan with Pedro}}_{\textit{tag}}$ (126b)

If this is the correct parse, these examples have the following analysis in the biclausal approach:

(128) a. $[_{\text{CP1}}$ who$_i$ t_i arrived late $]$ $[_{\text{CP2}}$ J$_{\text{F}}$ yesterday ~~arrived late~~ $]$

b. $[_{\text{CP1}}$ who$_i$ t_i talked $]$ $[_{\text{CP2}}$ J$_{\text{F},i}$ with Pedro$_j$ ~~t_i talked t_j~~ $]$

The intonation pattern of these sentences constitutes an argument for this interpretation of the facts. As suggested by the placement of the comma, the intonation break in these examples is right before the correlate of the wh-phrase *Juan*: this marks the break between the wh-question CP1, and the yes/no-question with ellipsis CP2. CP1 has the intonation pattern of a wh-question, with a final fall. On the other hand, CP2 has the characteristic intonation pattern of a yes/no-question whose initial constituent is F-marked:

(129) JUAN ayer llego tarde?
JUAN yesterday arrived late
'Did JUAN arrive late yesterday?'

In both this example and the tags in (125b, 126b) focal accent on *Juan* introduces upstep, which results in a rise in pitch that is maintained to the end of the sentence. This is precisely as expected in the biclausal analysis.

Furthermore, ellipsis in the second clause in these cases is straightforward. In (125b, 128a), ellipsis of *arrived late* is licensed with *arrived late* in the wh-part as antecedent. Ellipsis in (126b, 128b) is licensed in a similar way, although it is not so evident in this case. The elided constituent E is t_i *talked* t_j, and its antecedent A is t_i *talked*. Then:

(130) a. $\text{E}' = \text{F-clo(E)} = \exists x \exists y[x \text{ talked with } y]$

b. $\text{A}' = \text{F-clo(A)} = \exists x[x \text{ talked}]$

Since talking entails talking with someone, and vice versa, A′ entails F-clo(E), and E′ entails F-clo(A).

In sum, these apparent counterexamples turn out to confirm the prediction made by the biclausal analysis that the tag must be final in an SQ. What distinguishes these SQs from others is not the position of the tag, but the fact that the tag can contain material other than the correlate of the wh-phrase. As discussed in section 3, it is not clear what the predictions of the monoclausal analysis are regarding intonation in SQs, so it is not clear whether this analysis can account for these examples.

9 Split questions with multiple wh-phrases

SQs can be formed from wh-questions with multiple wh-phrases:

(131) Quién habló con quién, Juan con Pedro?
who talked with who Juan with Pedro
'Who talked with who Juan with Pedro?'

(132) A quién le regalaste qué libro ayer, a Juan El Quijote?
to who him you.gave what book yesterday to Juan Don Quixote?
'Who did you give what book yesterday, Juan Don Quixote?'

These multiple SQs have the structure expected in the biclausal analysis. For instance, the wh-part in (132) contains two wh-phrases, and as in the corresponding wh-question, only one of them can be fronted:

(133) *A quién qué libro le regalaste ayer, a Juan El Quijote?
to who what book him you.gave yesterday to Juan Don Quixote?
'Who what book did you give yesterday, Juan Don Quixote?'

In addition, the tag contains the correlates of both wh-phrases. In the biclausal analysis, they both move leftward, and everything else in the second clause is elided:

(134) to Juan$_i$ Don Quixote$_j$ ~~[$_{TP}$ you.gave t_i t_j yesterday]~~

Note, however, that this must not be a case of multiple focus-fronting, since this is in general not allowed in Spanish:

(135) *A JUAN El QUIJOTE le regalaste ayer?
to JUAN Don QUIXOTE him you.gave yesterday
'Did you give JUAN Don QUIXOTE?'

Instead, it must involve Clitic Left Dislocation (CLLD) of the first correlate, and focus-fronting of the second one. Both operations are permitted in the same sentence, as illustrated in the following example without ellipsis):

(136) A Juan, El QUIJOTE le regalaste ayer?
to JUAN Don QUIXOTE him you.gave yesterday
'Did you give Juan Don QUIXOTE?'

The fact that multiple SQs are possible is not surprising. However, they have certain interesting properties that allow us to develop further arguments for the biclausal analysis proposed here. In particular, they can be used to provide further arguments for movement in the tag and for the claim that the tag must be final. I discuss these two arguments in the following subsections.

9.1 Island effects in multiple split questions

In section 7, it was argued that the tag in SQs undergoes movement within the second clause. One of the problems that we encountered in providing island evidence for this was the interference of the fact that the wh-part also involves movement. An argument was provided based on pied-piping in 7.3 that circumvented that problem. Merchant (2004) provides an additional argument for movement in fragment answers from answers to multiple questions. This argument can be applied to SQs with equal success.

As discussed above, only one wh-phrase undergoes movement in the wh-part of a multiple SQ; others remain in situ. However, the correlates of all wh-phrases must undergo movement in the

tag. This predicts that multiple SQs are not possible if the in situ wh-phrases are inside islands. This prediction is borne out, as illustrated by the contrast between grammatical (137), where the in situ wh-phrase is not inside an island, and ungrammatical (138–139), where the in situ wh-phrases are inside a relative clause and an adjunct clause, respectively.

(137) Quién cree haber matado a quién, Juan a Pedro?
who thinks have killed to who Juan to Pedro
'Who thinks he killed who, Juan Pedro?'

(138) *Quién quiere contratar a un lingüista que hable qué idioma, Juan inglés?
who wants hire to a linguist that speaks what language Juan English
'Who wants to hire a linguist that speaks what language, Juan English?'

(139) *Quién desheredó a Jaimito por haber matado a quién, Juan a Pedro?
who disinherited to Jaimito for have killed to who Juan to Pedro
'Who disinherited Jaimito for having killed who, Juan Pedro?'

The ungrammaticality of (138–139) cannot be due to the fact that the in situ wh-phrases are inside islands. The corresponding multiple wh-questions are grammatical (Huang (1982) and much subsequent work):

(140) Quién quiere contratar a un lingüista que hable qué idioma?
who wants hire to a linguist that speaks what language
'Who wants to hire a linguist that speaks what language?'

(141) Quién desheredó a Jaimito por haber matado a quién?
who disinherited to Juan for have killed to who
'Who disinherited Juan for having killed who?'

In the biclausal analysis, the correlate of the in situ wh-phrase does undergo movement crossing an island boundary, which explains why the examples are ungrammatical:

(142) *Juan$_i$ English$_j$ t_i wants to hire $[_{DP}$ a linguist that speaks t_j $]$

(143) *Juan$_i$ to Pedro$_j$ t_i disinherited to Juan $[_{Adj}$ for have killed t_j $]$

On the other hand, no such movement is posited in the monoclausal approach. Therefore, these examples provide a further argument for the biclausal approach to SQs.

9.2 The position of the tag in multiple split questions

The correlates of all wh-phrases in multiple SQs are clustered together in the tag at the end of the SQ. This illustrated in (132), repeated here:

(144) A quién le regalaste qué libro ayer, a Juan El Quijote?
to who him you.gave what book yesterday to Juan Don Quixote?
'Who did you give what book yesterday, Juan Don Quixote?'

As discussed above, this is predicted in the biclausal approach. However, the monoclausal approach does not make this prediction. Since the wh-phrase and its correlate are generated forming a constituent in the monoclausal approach, in situ wh-phrases in multiple SQs are predicted to remain adjacent to their correlates:

(145) a. *A quién le regalaste qué libro El Quijote ayer a Juan?
to who him you.gave what book Don Quixote yesterday to Juan?
'Who did you give what book Don Quixote yesterday Juan?'

b. *to who$_i$ him you.gave [$_{DP}$ what book Don Quixote] yesterday [$_{PP}$ t_i to Juan]

The monoclausal approach wrongly predicts this example to be grammatical with the structure shown.

To conclude, multiple SQs provide a further argument for the claim that the tag must be final in an SQ, thereby giving further support for the biclausal analysis.

10 Conclusion

The present article provides an analysis of SQs that supports the view that elliptical structures involve base-generation of fully fledged syntactic structures, with subsequent deletion of phonological material. This approach to SQs is supported by several arguments, and provides a simple account of many of their syntactic, semantic and phonological properties. Furthermore, a number

of arguments were presented against a monoclausal analysis in which the tag is embedded in the wh-part, thereby providing evidence for the hypothesis that SQs are elliptical structures.

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