Unconcealed Questions

Jon Ander Mendia [†]
mendia@hhu.de

OCTOBER 2018

Abstract

DPs that superficially resemble definite descriptions modified by a relative clause show the syntactic and semantic behavior of interrogatives in certain contexts. Drawing evidence from Spanish, I argue that unlike other nominal constructions that show similar semantic behavior, most notably concealed questions, these constructions may sometimes possess full interrogative syntax. I propose a syntactic and semantic analysis of these constructions on which they are garden-variety *wh*-constructions that are selected by a d D-head that is an overt exponent of an Answerhood operator.

1   Introduction

Subordinate questions come usually in two shapes: as run-of-the-mill *wh*-constructions headed by a *wh*-phrase and as ordinary DPs interpreted as concealed questions.

(1)   a.   *Embedded wh-construction*
            Liz knows what books Susan read.

      b.   *Concealed question*
            Liz knows the books that Susan read.   ↝ Liz knows *what* books she read

The embedded question in (1a) is fully interrogative in its syntax and semantics, and can serve as complement to any *wh*-embedding predicate. The concealed question in (1b) is a nominal complement, whose interpretation is nonetheless equivalent to the question in (1a), and can appear with a subset of *wh*-embedding predicates. Differences in the embeddability of the different complement-types under different predicates have given rise to a number of distributional and compositional puzzles that have kept linguists busy for the last forty years, at least since Baker (1968) and Grimshaw (1979) (for recent overviews, see Frana 2017 and Dayal 2017).

1.1 A third type of subordinate question

In this paper I focus on a third case of subordinate question found in Spanish, often called Emphatic Relative Constructions (Bosque 1983; Plann 1984; Torrego 1984; Bosque and Moreno 1990; Brucart 1999; Suñer 1999; Leonetti 2004 a.o.). Emphatic Relative Constructions, ERCs for short, are constructions that superficially resemble definite DPs modified by a restrictive relative clause, but differ from garden-variety restrictive relative clause constructions in two important respects: (*i*) they can be embedded under a great variety of attitude predicates, and (*ii*) they are not interpreted as definite descriptions, but as OBJECT ("what") or AMOUNT ("how many") questions. As an illustration, compare (2a) and (2b), both involving responsive predicates (in the sense of Lahiri 2002).

(2) **Subordinate question & responsive predicate**

    a. *OBJECT question*

        Yo sé   qué   manzanas trajo   Pedro.

        I   know what apples   brought Pedro

        'I know what apples Pedro brought'

    b. *AMOUNT question*

        Yo sé   cuántas   manzanas trajo   Pedro.

        I   know how many apples   brought Pedro

        'I know how many apples Pedro brought'

(3) **Emphatic Relative Construction & responsive predicate**

    Yo sé   las manzanas que trajo   Pedro.

    I   know the apples   that brought Pedro

    'I know {what/how many} apples Pedro brought'

In (2a) we have two ordinary subordinate questions, headed by the relative pronouns *qué* ("what") and *cuántas* ("how many"), respectively. The variant with the pronoun *qué* in (2a) is asking about the identity of some objects, hence the characterization as an OBJECT interpretation. The *cuántas* variant in (2b) is asking instead about the amount of apples that Pedro brought, and so I refer to it as an AMOUNT interpretation. The ERC in (3), can have the same interrogative meanings as the two questions in (2), despite there being no overt indicators of interrogative structure and despite the lack of relative pronouns altogether.

    The availability of the OBJECT interpretation in (2a) may not come as a surprise, given its resemblance to concealed questions. In fact, for all we know so far, the OBJECT-question interpretation of (2a) could be a concealed question. But the AMOUNT interpretation, on the other hand, cannot: as Nathan (2006) points out, concealed questions can only express questions

of OBJECT identity.[1] However, as shown in (4), adapted from Bosque (1983), even when an OBJECT interpretation is ruled out on pragmatic grounds, the AMOUNT interpretation remains. Thus, the first puzzle raised by ERCs is semantic: in the absence of any indication of quantificational or degree morphology, how does one derive an AMOUNT-like interpretation from a DP?

(4) a. Yo sé   los libros que lee   María al cabo del año.
         I   know the books that María reads at end of   year
         'I know how many books María reads in a year'

     b. Yo sé   las veces que María ha   suspendido matemáticas.
         I   know the times that María AUX failed   mathematics
         'I know how many times María has failed mathematics'

Responsive predicates are not the only *wh*-embedding attitude predicates that admit ERCs; they are also grammatical with rogative predicates like *ask* and *wonder*. As before, the ERC variant of (5a) in (5b) allows for an OBJECT as well as an AMOUNT interpretation.

(5) **Responsive predicates**

     a. *Subordinate question*
         Me pregunto { qué / cuántas   } manzanas trajo.
         me wonder   what how many   apples   brought
         'I wonder {what/how many} apples Pedro brought'

     b. *Emphatic Relative Construction*
         Me pregunto las manzanas que trajo   Pedro.
         me wonder   the apples   that brought Pedro
         'I wonder {what/how many} apples Pedro brought'

Importantly, ordinary concealed questions are not usually compatible with rogative predicates like *wonder*, a fact often been attributed to the c-selectional restrictions of *wonder* (cf. Grimshaw 1979), though see the qualifications and discussion in Frana (2017). In this way, *wonder* contrasts with *know* and *ask*, which do admit concealed questions.

(6) a. { Me sé   / Le he   preguntado } las capitales de Europa.
             me know   him AUX asked   the capitals of Europe
         'I {know / asked him } the capital cities of Europe'

---

1 The observation only pertains to object (token)-denoting nouns; it is still possible to form concealed questions of the form *I know the amount that…* and *I know the place where…*, but these are nevertheless interpreted as identity questions (about an amount, a place, etc.).

b. * Me pregunto las capitales de Europa.
   me wonder the capitals of Europe
   Int.: 'I wonder what are the capital cities of Europe'

Thus, in addition to the semantic puzzle mentioned earlier, ERCs raise also a syntactic question: why are ERCs which look like DPs licensed as complements of rogative predicates like *wonder*?

1.2   Overview of the paper

The present paper aims at providing an answer to the following two questions mentioned above, and summarized below in (7).

(7) a. *Semantic question*
        How do we account for the range of interpretations ERCs can (and cannot) receive?

    b. *Syntactic question*
        What accounts for the distribution of ERCs in environments that otherwise resist DPs?

The core explanandum involves understanding the "mixed" nature of ERCs, a construction that looks like a run-of-the-mill DP modified by a relative clause, yet seems to have the external distribution and semantic interpretation of ordinary embedded identity and quantity *wh*-questions.

From a syntactic standpoint, I take seriously ERCs' syntactic and semantic parallels with interrogatives and suggest that they start their lives out as full-fledged *wh* interrogative constructions. The availability of OBJECT and AMOUNT interpretations is derived by means of two phonologically null *wh*-operators, which are the covert variants of the independently attested *wh*-operators *qué* and *cuánto*. Semantically, I argue that ERCs contain a question nucleus in C°, *à la* Karttunen (1977). The DP-layer in ERCs is then derived by merging a special variant of the definite article, which I call D_{ANS}, that combines with a question denotation and returns the maximally informative proposition. The semantic contribution of D_{ANS} is therefore identical to Dayal's (1996) Answerhood operator. With these pieces, not only does this account explain the puzzling syntactic behavior of ERCs, it also offers insight into why other languages do not have analogous constructions.

The rest of the paper is organized as follows. In Section 2, I present a series of arguments demonstrating that ERCs pattern with interrogative constructions and unlike ordinary nominals, including concealed questions, in Spanish. Given this evidence, I propose a syntactic analysis in Section 3, which treats them as underlyingly interrogative. In Section 4, I build on the proposed syntax and present a semantic compositional analysis of ERCs that derives the available interpretations.

2   Syntactic properties

The goal of this section is to show that ERCs do not share the properties and syntactic distribution of ordinary DPs–including those that may be interpreted as concealed questions. Before we get to those arguments, however, it is worth noting that ERCs are subject to two general syntactic constraints. The first one involves a restriction on the form of the determiner: ERCs are only possible with the definite article. Any attempt to construct an ERC with a determiner other than the definite article results in ungrammaticality.

(8) *{ Me pregunto / sé   } { éstas / algunas / muchas / dos } manzanas que
        me wonder   know   these   some   many   two   apples   that
        trajo.
        brought
      Lit.: 'I {wonder / know} {these / some / many / two} apples that he brought'

This is true even of cases like (9), where the definite article is present, but further modified by the universal quantifier *all*.

(9) *{ Me pregunto / sé   } todas   las   manzanas que trajo   Pedro.
        me wonder   know   all.FM.PL   D.FM.PL   apples   that brought Pedro
      Lit.: 'I {wonder/know} all the apples that Juan brought'

The second general syntactic constraint on ERCs pertains to the obligatoriness of the *que*-clause. Unmodified definite DPs are not usually grammatical as complements of rogative predicates (10a).[2] Under responsive predicates some speakers may allow a concealed question interpretation, but the AMOUNT interpretation is absent.

(10) a. *Yo me pregunto las   manzanas.
             I   me wonder   the.FM.PL apples

      b. ?Yo sé   las   manzanas.
            I   know the.FM.PL apples
          'I know which ones are the (relevant) apples'

This is not a requirement on having a modified NP, as other types of NP modification will not do. This is the case of PPs, participial phrases and, more surprisingly perhaps, reduced relatives clauses.

---

2 Some notable exceptions, which I abstract away from here, are "functional" nouns like *price*, *time*, etc. (Nathan 2006).

(11) a. *Yo me pregunto las manzanas de la bolsa.
     I me wonder the.FM.PL apples of the bag

   b. *Yo me pregunto las manzanas traídas por Juan.
      I me wonder the.FM.PL apples brought by Juan

   c. *Yo me pregunto las personas jugando a poker.
      I me wonder the.FM.PL people playing poker

As I will argue below, these two constraints should be taken as the first signs that ERCs are not ordinary DPs modified by restrictive relative clauses. In what follows, I will present further evidence that sets these constructions apart from ordinary DPs. Using surface-identical DPs that receive a non-interrogative interpretation–i.e. restrictive relative clauses referring to an individual–and other definite DPs like free relatives as contrast points, I make the argument that ERCs should be treated on par with *wh*-constructions.

2.1 Subject-Verb inversion

In Spanish, the canonical word order is SVO. However, Subject-Verb inversion is a common, optional process, and in many environments subjects may vary freely between preverbal and postverbal positions.

(12) **Declarative sentences**

   a. Hoy Juan ha traído las manzanas.
      today Juan AUX. brought the apples

      'Today Juan brought the apples'

   b. Hoy ha traído Juan las manzanas.

However, in many constructions involving A-bar movement of a *wh*-operator, SV inversion is obligatory, shown by (13) through (16) (see Torrego 1984, Suñer 1994, Barbosa 2001 a.o.).

(13) **Matrix *wh*-questions**

   a. { Qué / Cuántas manzanas } ha traído Juan?
      what / how many apples   AUX. brought Juan

      '{What / How many apples} did Juan bring?'

   b. *{ Qué / Cuántas manzanas } Juan ha traído?

(14) **Matrix exclamatives**

    a. Cuántas   manzanas que ha   traído   Juan!
        how many apples   that AUX. brought Juan
        'How many apples Juan has brought!'

    b. *Cuántas manzanas que Juan ha traído!

(15) **Embedded *wh*-questions**

    a. Me pregunto { qué / cuántas   manzanas } ha   traído   Juan.
        I   wonder   what / how many apples   AUX. brought Juan
        'I wonder {what / how many apples} Juan brought.'

    b. *Me pregunto { qué / cuántas manzanas } Juan ha traído?

(16) **Embedded exclamatives**

    a. Es sorprendente cuántas   manzanas ha   traído   Juan.
        is   surprising   how many apples   AUX. brought Juan
        'It is surprising how many apples Juan has brought.'

    b. *Es sorprendente cuántas manzanas Juan ha traído.

Note that A-bar movement itself is not a sufficient condition. As Rizzi (1997) points out, what is required is that there be an operator-variable chain, which is argued to be present in *wh*-constructions, but not in other A-bar movement constructions like relativization, (17) and (18), and topicalization (19). This difference therefore provides a useful diagnostic to identify the underlying nature of ERCs.

(17) **Relative clauses**

    a. Las manzanas que ha   traído   Juan.
        the apples   that AUX. brought Juan
        'The apples that Juan brought.'

    b. Las manzanas que Juan ha traído.

(18) **Free Relatives**

    a. Juan ha   comido lo que ha   preparado Pedro.
        Juan AUX. eaten   the that aux. cooked   Pedro
        'Juan has eaten what Pedro has cooked'

    b. Juan ha comido lo que Pedro ha preparado.

(19) **Topic fronting**

    a. El Quijote lo ha leído Juan.
       the Quixote it AUX. read Juan
       'Don Quixote Juan has read.'

    b. El Quijote Juan lo ha leído.

As shown in (20) with a number of embedding predicates, ERCs require inversion, a pattern that is unexpected if they involved a garden-variety relative clause (Plann 1984, Torrego 1988, a.o.).

(20) a. Me pregunto las manzanas que { comió Pedro / *Pedro comió }.
       me wonder the.FM.PL apples that ate Pedro
       'I wonder {what/how many} apples Pedro ate'

    b. Me dijo las manzanas que { comió Pedro / *Pedro comió }.
       me say the.FM.PL apples that ate Pedro
       'She told me {what/how many} apples Pedro ate'

    c. Me sorprendió las manzanas que { comió Pedro / *Pedro comió}.
       me surprised.3.SG D.FM.PL apples that ate Pedro
       'It surprised me the (amount of) apples that Pedro ate'

The contrasts in (20) thus present the first argument that ERCs do not behave like ordinary DPs modified by a relative clause.

2.2 Agreement

In Spanish nominative subjects must agree with the verb in person and number, whether pre- or post-verbal, as shown by the contrasts in (23a). Instead, with clausal subjects, the verb bears default agreement, presumably because clauses are not φ-feature bearers in Spanish (cf. Halpert 2015). This results in a reversed agreement pattern that tracks the nominal/clausal difference.

(21) **Agreement pattern with DPs**

    a. Me { sorprendi**eron** / *sorprendi**ó** } mis amigos.
       me surprised.3.PL surprised.3.SG I.POSS.PL friends
       'My friends surprised me'

    b. Se me { han / *ha } olvidado los libros
       REFL me AUX.3.PL AUX.3.SG forgotten the.MS.PL books
       'I forgot the books'

(22) **Agreement pattern with clauses**

    a.   Me { *sorprendi**eron** / sorprendi**ó** } cuántos amigos vinieron.
           me surprised.3.PL   surprised.3.SG   how many.PL friends.PL came
           'It surprised me how many friends came'

    b.   Se me { *han / ha } olvidado cuántos libros leyó
           REFL me AUX.3.PL AUX.3.SG forgotten how many.PL books.PL read
           'I forgot how many books she read'

If ERCs were truly nominal we would expect them to pattern with the examples in (21) and restrictive relative clauses. This is not what we find. As the contrast between the examples in (23) and (24) indicate, the φ-agreeing variants are interpreted as ordinary restrictive relative clauses (RRCs for short in the examples). This interpretation is unavailable for the non agreeing variants in (24), which are instead interpreted as embedded interrogatives (Torrego 1988, Campos 1993, Brucart 2003).[3]

(23) φ-**agreement: ✓RRC, ✗ERC**

    a.   Me sorprendi**eron** los amigos que invitó Pedro.
           me surprised.3.PL the.MS.PL friends that invited Pedro
           'The friends that invited Pedro surprised me'

    b.   Se me han olvidado los libros que me prestó Pedro
           REFL me AUX.3.PL forgotten the.MS.PL books that lend Pedro
           'I forgot the books that Pedro lend me'

(24) **No φ-agreement: ✗RRC, ✓ERC**

    a.   Me sorprendi**ó** los amigos que invitó Pedro.
           me surprised.3.SG the.MS.PL friends that invited Pedro
           'It surprised me {what/how many} friends that Pedro invited'

    b.   Se me ha olvidado los libros que me prestó Pedro
           REFL me AUX.3.SG forgotten the.MS.PL books that lend Pedro
           'I forgot {what/how many} books Pedro lend me'

Using the semantic availability of an AMOUNT-question interpretation can be useful to further tease apart ERCs from ordinary DPs in cases of nominals with special φ-agreement requirements. *Plurale tantum* nouns, which always trigger plural agreement irrespective of their number interpretation, are one such case. ERCs can also be constructed with *plurale tantum*,

---

3 Notice that, even if an OBJECT-question interpretation may be available as a concealed question in agreeing variants, the AMOUNT-question interpretation is nevertheless impossible and requires default agreement instead.

in which case lack of φ-agreement and the OBJECT- and AMOUNT-question interpretations go hand in hand once again.

(25) a. Me sorprendi**ó** los víveres que trajo Pedro.
me surprised.3.SG the.MS.PL supplies that brought Pedro
'It surprised me {what/how many} supplies Pedro brought'

b. Me sorprendi**éron** los víveres que trajo Pedro.
me surprised.3.PL the.MS.PL supplies that brought Pedro
'The supplies that Pedro brought surprised me'

Notice that the two properties of ERCs we have seen so far hang together. In (24) above, the two examples–the agreeing and the non-agreeing variants–were introduced with SV inversion. Thus, given the distribution of ERCs reviewed in this section (see §2.1), we would expect that the ordinary SV word order is compatible only with the agreeing variant. This is exactly what we find:

(26) **No φ-agreement, no SV inversion**
a. *Me sorprendi**ó** los amigos que Pedro invitó.
me surprised.3.SG the.MS.PL friends that Pedro invited
Int.: 'It surprised me {what/how many} friends that Pedro invited'

b. *Se me ha olvidado los libros que Pedro me prestó
REFL me AUX.3.SG forgotten the.MS.PL books that lend Pedro
Int.: 'I forgot {what/how many} books Pedro lend me'

2.3 Pre- vs. post-verbal clausal subjects

ERCs pattern with interrogatives and unlike ordinary DPs with restrictive relative clauses in certain positional constraints they are subject to. In Spanish, only certain types of clauses can appear in the preverbal subject position. Subject interrogatives, for instance, uniformly appear in the post-verbal position. On the other hand, DPs, including concealed questions, are not subject to this restriction and can occur in both pre and post-verbal subject positions. Examples (27a) and (27b) illustrate the contrast.

(27) a. *Preverbal interrogative*
*Qué hora era me sorprendió
what time is me surprised
'What the time was surprised me'

     b.   *Preverbal concealed question*
         La   hora   me sorprendió
         the time me surprised
         'The time surprised me'

In Spanish we can distinguish otherwise surface identical interrogatives and free relatives on the basis of the type of *wh*-pronoun they select. Spanish has two variants of *wh*-pronouns, one prosodically strong and one prosodically weak, a distinction reflected in the orthography as well (e.g. *quien* for the weak variant of "who" and *quién* for the strong one, *cuanto* and *cuánto* for "how many", etc.). Crucially, depending on the construction, only one or the other variant is permitted: strong *wh*-pronouns occur in propositional environments, i.e. true questions and exclamatives, whereas the weak variant is used in nominal environments, i.e. free relatives. Below, (28a) claims that what is surprising is the fact that a certain person came to the party. By contrast, (28b) claims that whoever came to the party, that person was surprising.

(28)   a.   *Embedded interrogative*
         Es sorprendente [_{CP} quién   vino a la   fiesta].
         is surprising   who.STR came to the party
         'It is surprising who came to the party'

     b.   *Free relative*
         Es sorprendente [_{DP} quien   vino a la   fiesta].
         is surprising   who.WK came to the party
         'The person who came to the party is surprising'

Using *wh*-pronoun selection as a diagnostic, we can show that only free relatives–which are DPs requiring the weak variant–are allowed in the preverbal subject position. By contrast, *wh*-complements with the strong variant, are never allowed in pre-verbal position, in line with the pattern we observed in (27).[4]

(29) **Strong Relative Pronoun** *quién*

     a.   ✓*Post-verbal*
         Me sorprend**ió**   quiénes vinieron a la   fiesta.
         me surprised.3.SG WHO.PL came   to the party
         'It surprised me who came to the party'

     b.   ✗*Pre-verbal*
         *Quiénes vinieron a la   fiesta me   sorprend**ió**.
         WHO.PL came   to the party I.DAT surprised.3.SG

---

4 Recall the agreement facts reported above in §2.2: subordinate questions do not agree with matrix predicates, whereas nominals, including free relatives, do.

(30) **Weak Relative Pronoun** *quien*

    a.   ✓*Post-verbal*

       Me   sorprendi**eron** quienes vinieron a la   fiesta.
       I.DAT surprised.3.SG WHO.PL came   to the party

       'Those who came to the party surprised me'

    b.   ✓*Pre-verbal*

       Quienes vinieron a la fiesta me   sorprendi**eron**.
       WHO.PL came   to the party I.DAT surprised.3.SG

       'Those who came to the party surprised me'

Now, using the agreement patterns in §2.2 and the availability of the AMOUNT interpretation as a signature of ERCs, we can poke into their availability in pre- and post-verbal positions. What we observe is that ERCs are permitted only when the phrase in question occurs post-verbally; the pre-verbal variant is ungrammatical.

(31) a.   ✓*Post-verbal*

       Me sorprendi**ó**   los   estudiantes que vinieron a la   fiesta.
       me surprised.3.SG the.MS.PL students   that came   to the party

       'It surprised me how many students came to the party'

    b.   ✗*Pre-verbal*

       *Los   estudiantes que vinieron a la fiesta me   sorprendi**ó**.
       the.MS.PL students   that came   to the party I.DAT surprised.3.SG

Again, the fact that the distribution of ERCs follows that of strong *wh*-pronouns, which are associated with clausal/propositional environments, is unexpected if they were ordinary DPs modified by a relative clause.

2.4 Anaphora

DPs in Spanish require the same gender and number features on anaphors that refer back to them. Anaphors referring to non-nominal referents, like clauses, measure phrases etc., use neuter pronouns like *lo* and *ello* instead. Thus, if ERCs are ordinary DPs modified by relative clauses, anaphoric reference should only be available through the use of pronominal forms that agree in φ-features with the nominal head. To show whether this is the case, we will once again rely on the dual nature of *wh*-pronouns to set a baseline against which we compare the behavior of ERCs. Because strong *wh*-pronouns can only occur in clauses, anaphors referring back to those clauses can only take neuter forms. Free relatives with weak pronouns, on the other hand, will require anaphors that agree with the DPs containing the *wh*-pronoun in gender/number.

First we check the case of subordinate questions in (32) (from Plann 1984).[5]

(32) **Anaphora with strong *wh*-pronoun; subordinate question**

a. *φ-agreeing anaphor*

Me sorprendió   [cuántos   artículos$_i$ escribió Raquel]$_j$, uno
me surprised.SG   how many.MS.PL papers   wrote   Raquel   one

  tiene que admirarse   de ellos$_{i/*j}$.
  must   admire-REFL of PR.MS.PL

'It surprised me how many papers Raquel wrote, one must admire her for them'

b. *Neuter anaphor*

Me sorprendió   [cuántos   artículos$_i$ escribió Raquel]$_j$, uno
me surprised.SG   how many.MS.PL papers   wrote   Raquel   one

  tiene que admirarse   de ello$_{*i/j}$.
  must   admire-REFL of PR.NT

'It surprised me how many papers Raquel wrote, one must admire her for it'

Only (32a), with a plural anaphor, has an interpretation where the reason for admiring Raquel is the particular articles that she wrote. On the other hand, (32b), with the neuter anaphor *ello*, conveys that the reason for admiration is the number of papers that Raquel wrote (and so *it* in the glosses stands for *the amount of papers*). In contrast, we see a different pattern with the weak relative pronoun. Only the plural anaphor *ellos* in (33a) is felicitous. The neuter anaphor *ello* in (33b) does not have a suitable antecedent and the sentence is therefore illicit (excluding potential cases of deep anaphora).

(33) **Anaphora with weak relative pronoun; free relative**

a. *φ-agreeing anaphor*

Me sorprendieron [cuantos   artículos$_i$ escribió Raquel], uno
me surprised.PL   how many.MS.PL papers   wrote   Raquel   one

  tiene que admirarse   de ellos$_i$.
  must   admire-REFL of PR.MS.PL

'All the papers that Raquel wrote surprised me, one must admire her for them'

---

5 The index *i* on the nominal indicates whether the anaphor is referring back to a nominal, and the index *j* indicates whether it is instead referring back to a clausal constituent. Since this difference does not play a role with DPs modified by relative clauses, I represent both only when reference to a clause is plausible.

b. *Neuter anaphor*

  *Me sorprendieron [cuantos   artículos$_i$ escribió Raquel], uno
   me surprised.PL   how many.MS.PL papers   wrote   Raquel   one
    tiene que admirarse   de ello$_i$.
    must   admire-REFL of PR.NT
   'The papers that Raquel wrote surprised me, one must admire her for it'

Thus, unlike embedded questions, which permit anaphoric reference by neuter anaphors, free relatives are DPs that require their anaphors to match with them in φ-features.

ERCs pattern with the *wh*-constructions that make use of strong *wh*-pronouns. Example (34a) shows that the use of the plural anaphor *ellos* forces a non-interrogative interpretation where the referent of the the anaphor is some plural individual. The use of the neuter form *ello* in (34b), on the other hand, is both grammatical and its has an AMOUNT-question interpretation, the signature of ERC constructions.

(34) **Anaphora with ERCs**

a. *φ-agreeing anaphor*

  Me sorprendió [los   artículos$_i$ que escribió Raquel]$_j$, uno tiene que
  me surprised.SG the.MS.PL papers   that wrote Raquel   one must
   admirarse   de ellos$_{i/*j}$.
   admire-REFL of PR.NT
  'The papers that Raquel wrote surprised me, one must admire her for them'

b. *Neuter naphor*

  Me sorprendió [los   artículos$_i$ que escribió Raquel]$_j$, uno tiene que
  me surprised.SG the.MS.PL papers   that wrote Raquel   one must
   admirarse   de ello$_{*i/j}$.
   admire-REFL of PR.NT
  'It surprised me how many papers Raquel wrote, one must admire her for it'

For good measure, notice that with surface identical DPs modified by restrictive relative clauses, i.e. those showing φ-agreement with the verbal predicate, ungrammaticality ensues only with the neuter anaphor *ello*, but not with the agreeing *ellos*.

(35) a. *Me sorprendieron [los   artículos que escribió Raquel], uno tiene que
     me surprised.PL the.MS.PL papers that wrote Raquel   one must
      admirarse   de ello.
      admire-REFL of PR.nt
     'It surprised me how many many papers Raquel wrote, one must admire her for it'

    b. Me sorprendieron [los   artículos$_i$ que escribió Raquel], uno
       me surprised.PL   the.MS.PL papers   that wrote Raquel   one

        tiene que admirarse   de ellos$_i$.
        must   admire-REFL of PR.NT

    'The papers that Raquel wrote surprised me, one must admire her for them'

2.5   *Differential Object Marking*

The last argument that ERCs pattern like interrogative constructions comes from their distribution in object position. Spanish is a language where direct objects that are both specific and human must be preceded by the preposition *a* ("to"). This is an instance of Differential Object Marking (DOM; see Torrego 1998, Leonetti 2004, López 2012 a.o.).

(36) a. María besó   *(a) Raquel
        María kissed to   Raquel

    b. María besó   (*a) el   retrato
        María kissed to   the portrait

Unlike this subset of nominals, clausal arguments never show DOM. We can again construct minimal pairs using the by now familiar strong/weak distinction of *wh*-pronouns. The strong pronoun forms subordinate interrogatives, which, being clausal, do not trigger DOM; weak pronouns, on the other hand, form free relatives, which, if animate and specific, trigger DOM.

(37) a. *Strong wh-pronoun;* ✗*DOM*
       María vió (*a) quién vino a   la   fiesta
       María saw to   who   came to the party
       'María saw who came to the party'

    b. *Weak wh-pronoun;* ✓*DOM*
       María vió *(a) quien vino a   la   fiesta
       María saw to   who   came to the party
       'María saw the person who came to the party'

Thus, if the animacy/specificity of the superficial head noun in ERCs were sufficient to trigger DOM, this would suggest that despite the variability in interpretation, ERCs are syntactically garden-variety DPs. However, this is not what happens; ERCs do not trigger DOM, as shown in (38). Not only is the variant without DOM in (38a) grammatical and has an AMOUNT reading, the sentence in (38b) with DOM cannot receive such an interpretation (examples adapted from Bosque 1983).

(38) a. *No DOM ⇒ ERC*

Estudian   los   delegados   que enviarán
evaluate.3.PL the.MS.PL representative.MS.PL that send

'They are evaluating {what/how many} representatives they will send.3.PL'

b. *DOM ⇒ RRC*

Estudian   a los   delegados   que enviarán
evaluate.3.PL to the.MS.PL representative.MS.PL that send

'They are evaluating the (individual) representatives they will send.3.PL'

2.6 Interim conclusion

To sum up, despite their superficial resemblance to ordinary DPs, ERCs have the external distribution and share with embedded *wh*-constructions all the syntactic traits that set them apart from DPs, such as RRCs. ERCs can (*i*) complement verbs that otherwise do not take nominal complements; (*ii*) they do so with semantic interpretations unavailable to ordinary DPs; (*iii*) they show syntactic constraints that do not apply to ordinary DPs (i.e. obligatoriness of an ostensible relative clause and a restriction to appear with the definite article); and (*iv*) they behave like subordinate questions and unlike DPs in five grammatical contexts, summarized in the table below.

	RRCs	ERCs	Subordinate Qs
Obligatory SV inversion	✗	✓	✓
Pre- *vs.* Post-verbal	✓	✗	✗
Differential Object Marking	✓	✗	✗
Agreement	φ	3.SG	3.SG
Anaphora	φ	3.SG	3.SG

Table 1: Syntactic properties of ERCs *vs.* Restrictive Relative Clauses and subordinate questions

I take it then that all these evidence points towards ERCs being clausal, and so they cannot be treated as a form of concealed questions; they are true questions, albeit questions that seem not be such. They wear all the syntactic signature properties of *wh*-embedded interrogatives on their sleeve (see Table 1), and so they are very much unconcealed in this respect. However, due to their isomorphism with DPs modified by restrictive relative clauses, it is only in collusion with grammatical processes that have the potential to discriminate between nominal and clausal constituents–which invariably treat ERCs as clauses–that we can see their true interrogative nature.

Nevertheless, despite bearing all the signature properties of *wh*-embedded interrogatives, there is no denying that they rely on the presence of the definite article (see (8) and (9) above), suggesting that they are categorically DPs. Thus, among our key desiderata in the remainder of this paper is to account for the "hybrid" nature of ERCs.

In the following two sections, I propose a structure for ERCs that takes seriously their syntactic and semantic parallels with subordinate interrogatives and their differences with ordinary DPs. In a nutshell, I propose that ERCs start their lives out, both syntactically and semantically, as *wh*-questions, all they way up to the CP. The nominal aspect of their nature is derived by merging a special variant of the definite article, which I call D_{ANS}. Semantically, D_{ANS} applies to the set of propositions denoted by the CP and returns the maximally informative proposition from this set, effectively behaving like an "answerhood" operator (Heim 1994, Dayal 1996).

3 The interrogative syntax of ERCs

ERCs are not born as DPs, but as full clauses. The syntactic make-up of ERCs is akin to interrogative clauses, which involve a $[+wh]$ specified C° head with an interrogative core. The resulting construction is a DP with an embedded CP providing question semantics that is only superficially identical to an NP modified by a relative clause. Consider the example in (39) as a working case.

(39) … las   manzanas que trajo   Pedro.
         the.FM.PL apples   that brought Pedro

This example looks like a restrictive relative clause, but, as I hope has been shown throughout the paper, there are a number of reasons to believe that it cannot just be an ordinary DP modified by a relative clause. The structure that I propose for DPs like (39) *qua* ERCs is represented below.[6]

---

6 I am abstracting away from the correct characterization of SV inversion in Spanish. I will represent the verb as moving to C° and the subject to [Spect, TP], only because I believe it is the most widely adopted derivation, but nothing of consequence hinges on this decision–i.e. an alternative analysis where the verb moves to [Spec,TP] and the subject remains in *v*P is also possible. From a semantic standpoint, none of these movements affects the interpretation of the ERC, and only the movement of the complex *wh*-phrase $[Op_{wh}$ manzanas] will be relevant at LF.

(40) **Syntactic structure of ERCs**
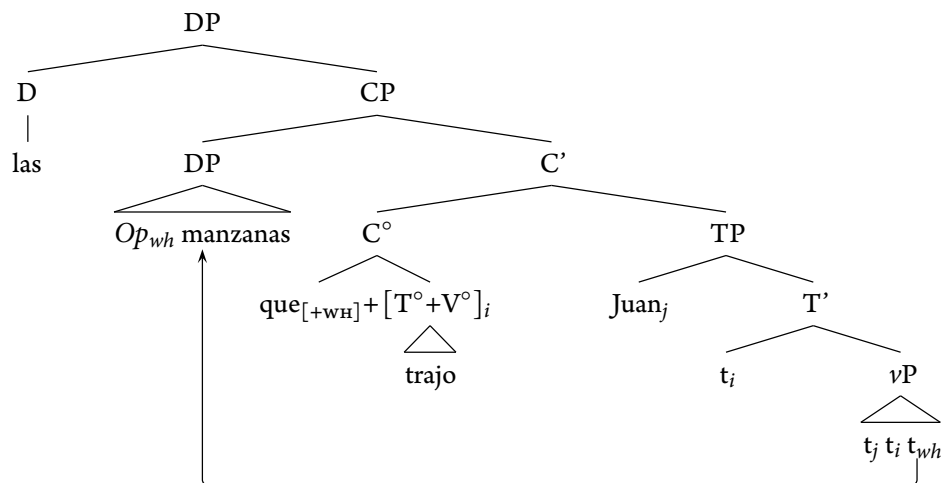
The structure in (40) is reminiscent of that proposed by Borsley (1997) and Bianchi (1999) for restrictive relative clauses. For these authors, D directly takes a CP as its complement (see also Kayne 1994), and the constituent targeted for movement is not an NP, but a DP headed by a null determiner.[7]

(41) $[_{DP}$ the $[_{CP} [_{DP}$ *e* books$]_i$ $[_{C}$ that $[_{TP}$ you read t$_i$]]]

There are two main differences between their structures and mine: (*i*) the presence of a C° head with a $[+WH]$ feature in (40) and (*ii*) that the null determiner in (40) is a *wh*-operator. With these ingredients, the crucial aspects of the derivation proceed as follows. The $[+WH]$ C° head probes for an element in its domain with matching $[WH]$ specifications, either a question or an exclamative, and agrees with that element. Spanish is a *wh*-movement language, and this Agree relation triggers movement of the *wh*-goal to the specifier of CP. In the variant that I adopt here finite verbs in Spanish overtly move to T (Rizzi 1982) and when there is *wh*-

---

7 From a c-selectional point of view, the behavior of the definite article is quite flexible in Spanish in this respect. For instance, unlike in Germanic languages, it can appear with tensed clauses.

(i) a. No me gusta el $[_{CP}$ que tu   actúes   así].
         not me like   the   that you behave.SUBJ so

     'I don't like your behaving like that'

     b. El $[_{CP}$ que Juan llegue   tarde] no me importa
         the   that Juan arrive.SUBJ late   not me care

     'I don't care if Juan arrives late'

movement, there is also accompanying T-to-C movement, such that the verb is pronounced to the immediate right of the moved *wh*-expression (Torrego 1984, Suñer 1994 and Gallego 2007 a.o.).

Finally, the D introducing the definite article enters in the derivation with an unvalued φ-feature, $D[u\varphi]$. In the current structure, unlike with restrictive relative clauses, the sister of D lacks these features, but the DP in [Spec,CP], which is equidistant to CP and also in the c-command of $D[u\varphi]$ can serve as a suitable goal for agreement.

(42)
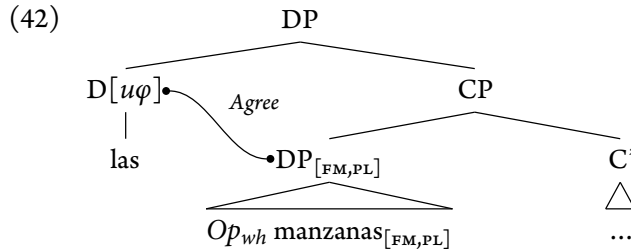
The key aspects of (40) amount to (*i*) a [+wh] feature on C°, (*ii*) the presence of a null *wh*-operator generated in VP internal position, and (*iii*) the ability of the definite article to combine with a non-relative CP. Since these are the three fundamental aspects of the syntax of ERCs, I will discuss them and elaborate in turn.

3.1   *The nature of the [wh] feature*

The structure in (40) takes ERCs to involve a type of interrogative C°, yet ERCs and ordinary interrogatives differ in a number of important ways. For one, ERCs can never form matrix interrogatives.

(43)   *Las   manzanas que trajo   Pedro?
       the.FM.PL apples   that brought Pedro
       'What apples brought Pedro?

Moreover, genuine embedded interrogatives are incompatible with the complementizer *que*, which is obligatory in ERCs.

(44)   a.   *Embedded interrogative*
           Me pregunto cuántas   manzanas (*que) trajo   Pedro.
           me wonder   how many apples   that   brought Pedro
           'I wonder how many apples Pedro brought'

       b.   *ERC*
           Me pregunto las manzanas *(que) trajo   Pedro.
           me wonder   the apples   that   brought Pedro

19

Given these differences, we are forced to ask: what is the nature of the [+wʜ] C° head in ERCs? I would like to suggest that the C° in ERCs is the same one as in *wh*-exclamatives. The parallels between the two constructions are various. For instance, ERCs, which, as we saw before, do not form good matrix interrogatives, do nevertheless form grammatical and felicitous matrix exclamatives. Moreover, exclamatives are compatible with the complementizer *que*.

(45)   a.   *Nominal matrix exclamative*
        Las   manzanas que trajo Pedro!
        what apples   that aux brought
        'The apples that Pedro brought!

      b.   *Wh-matrix exclamatives*
        Cuántas   manzanas que trajo Pedro!
        how many apples   that aux brought
        'How many apples Pedro brought!

These two examples show properties of Spanish exclamatives that, although relevant for ERCs, fall out of the scope of this work and I will not address them here.[8] For instance, sub-sentential exclamatives like (45a) rely on some form of null *wh*-operators to be interpreted whose nature varies depending on particular views of exclamatives like (45a). These have been argued to be either sentential (e.g. Zanuttini and Portner 2003, Portner and Zanuttini 2005 a.o.) or sub-sentential (e.g. Castroviejo 2006, Rett 2015 and the papers in Bosque 2017).[9]

3.2   *The null wh-operator*

I assume that the phonologically null operator Op_{wh} may come in two forms, as covert variants of the overt *wh*-words *qué* ("what" or "how") and *cuánto* ("how many"). That is, the only differences between Op_{wh} and *qué* and *cuánto* are simply their overtness *vs.* covertness; oth-

---

8   From a semantic point of view, there is a long tradition of analyzing exclamatives as building on question semantics, so nothing is lost in this respect; see Lahiri (2002), D'avis (2002), Abels (2007) and, for Spanish, the essays in the two collections Gutiérrez-Rexach (2014) and Bosque (2017).

9   Notice that the structure proposed in (40) is in violation of the doubly filled COMP filter (Chomsky and Lasnik 1977), originally proposed to rule out sentences like (ii).

   (i)   **Doubly Filled COMP Filter**
       *[$_{\text{COMP}}$ *wh*-phrase φ], $\varphi \neq e$ [where *e* means "deleted"]
   (ii)   *the man [$_{\text{CP}}$ who [$_c$ that met you]] is my friend

   I do not dwell on this issue for two main reasons. First, if we admit that this is an issue, there are simple technical solutions, such as adopting multiple CP layer, and option we may very well be necessary for independent reasons; see e.g. Watanabe (1993), Benincà (1996), Gutíerrez-Rexach (2001), Ambar 2003, Castroviejo 2006, a.o. Second, it is well-known that there are other structures in Spanish that also seem to be in violation of this filter, including certain types of relative clauses, thereby calling into question the role of the filter in the language (Plann 1982, Suñer 1984, Arregi 1998, Lahiri 2002, a.o.).

erwise, Op_{wh} is identical to the *wh*-words we see overtly on interrogatives and exclamatives. The evidence for such covert operators comes, once again, from exclamative constructions. As Hernanz (2006) and Hernanz and Rigau (2006) show, *wh*-words in exclamatives like (46) are optional, and so they can be dropped without any observable semantic difference.

(46) a. (Qué) listo   que es Pedro!
          what   intelligent that is Pedro!
          'How intelligent Pedro is!

     b. (Cuántas   ) ganas   le   pone el tío!
          how many   effort.FM.PL him put the dude
          'How much effort the dude is putting in!'

3.3 The role of the determiner

The proposed structure in (40) requires the definite article to select a CP. This is common practice under some variants of the raising analysis of relative clauses, originated in Kayne (1994) (cf. Borsley 1997 and Bianchi 1999). But there is a big difference in terms of the featural specification of $C°$ in relative clauses on the one hand and ERCs on the other: the former is a $C°[+REL]$ whereas the later is $C°[+WH]$. This difference is paramount, it is what makes ERCs *syntactically* different from their identical restrictive relative counterparts, and so it is crucial to derive the SV inversion patterns reported in §2.1. But the distinction is also meaningful for the semantic composition of ERCs (as will be clear in the next section).

  The main question is the following: if we take for granted the results presented here so far, i.e. if we are assuming that ERCs are syntactically questions up to CP, what is the role of the definite article? I want to defend the idea that the definite article we see in ERCs is not the run-of-the-mill definite article. Instead, it is a variant similar to the answerhood operators proposed in Heim (1994) and Dayal (1996). Let us refer to this variant of D as D_{ANS}. I will postpone the discussion of its semantic details until the next section, and concentrate now on its syntactic properties.

  Syntactically, I take D_{ANS} to be an impoverished variant of its ordinary cousin D_{NOM} (henceforth I will use D_{NOM} to refer to the ordinary definite article). Earlier we saw that ERCs do not behave syntactically as other DPs do, including DPs with restrictive relative clauses. A subset of that evidence shows that ERCs establish grammatical relations, e.g. Agree, differently (see §2.2 for full discussion):

(23) *Subject DPs must agree in number with the matrix predicate; ERCs do not.*
     a. Me sorprendió   los   amigos   que invitó Pedro.
          me surprised.3.SG the.MS.PL friend.MS.PL that invited Pedro
          'It surprised me {what/how many} friends that Pedro invited'

b. Me sorprendi**eron** los   amigos   que invitó Pedro.
me surprised.3.PL the.MS.PL friend.MS.PL that invited Pedro
'The friends that invited Pedro surprised me'

These data suggest that the φ-features that are visible on the D heading the ERC (e.g., MS.PL in (23)) are nevertheless not visible to the agreeing V. Thus, the Agree mechanism proposed in (42) above, where D_{ANS} gets its φ-features valued by the *wh*-DP in [Spec,CP], can only be part of the explanation. As I show below, the solution to this mismatch lies in the particularities of D_{ANS} and its own φ-featural composition.

It is well-known that Agreement, as a grammatical operation, is sometimes sensitive to syntactic features and some other times to semantic features. But, as Corbett (2006) has shown, occasionally it appears that Agreement is sensitive to both types of features *simultaneously*, within the same utterance. The consequence is that controllers of agreement must carry two sets of φ-features. Recent examples of papers exploring and corroborating these implications can be found in Danon (2013) and Landau (2016).

According to Corbett (2006, 155–157), "semantic agreement" is consistent with the meaning of the controller, whereas "syntactic agreement" is consistent with its form. This divergent distribution of φ-features within the DP is very well attested across languages. The cases that interest us are those where a mismatch occurs between the DP internal φ-features and the φ-features that it controls outside the DP. The following are some such examples in English (from Danon 2013, Landau 2016 and Rullman 2010).

(47) **Syntactic agreement**

   a. [$_{DP[SG]}$ Part of the residents] has.SG opposed the plan.

   b. [$_{DP[SG]}$ The committee] has.SG decided on the issue.

   c. [$_{DP[SG]}$ Each of us] thinks.SG that we can win the nomination.

(48) **Semantic agreement**

   a. [$_{DP[SG]}$ Part of the residents] have.PL opposed the plan.

   b. [$_{DP[SG]}$ The committee] have.PL decided on the issue.

   c. [$_{DP[SG]}$ Each of us] think.PL that we can win the nomination.

The agreement patterns in (48) are the flip-image of Spanish ERCs. In (48), a morphologically singular DP controls plural agreement on the verb, whereas in Spanish ERCs a morphologically plural DP controls singular agreement on the verb. Of course, this state of affairs raises questions about Agree. In the particular cases at hand, (48) and ERCs in Spanish, are there multiple Agree operations, each targeting a different set of φ-features bore by potentially different heads? Moreover, in addition to making the relevant Agree relationship available, we

need to understand as well where the difference between D_{ANS} and D_{NOM} exactly lies.

The solution that I propose is couched in terms of Wechsler and Zlatić's (2003) original distinction between CONCORD and INDEX features, (partially) following Landau's (2016) configurational adaption. The gist of the idea is that morphologically-rooted features (CONCORD features) are hosted on the noun stem while semantically-rooted features (INDEX features) are hosted on higher functional heads. Following Danon (2013), I will assume that the only φ-features that are accessible to agreement from outside of the DP are those in the highest nominal projection, D in the case of DPs (this is accordance with phase-based conceptions of agreement, but largely independent of it). As a consequence, D must somehow mediate between the DP-internal and DP-external φ-agreement. Graphically, this can be represented as follows (cf. Landau 2016):

(49) $\underbrace{[_{TP} \, T° \, [_{vP} V°}_{\text{External Agree Zone}} \, \underbrace{[_{DP} \, D \, [_{XP} \ldots]]}_{\text{Internal Agree Zone}}]]$

The low boundary of the External Zone is determined by D, which in turns determines the high boundary of the Internal Zone. Here DP-external agreement takes place after D has carried out all the Agree operations DP-internally. In Landau's (2016) terms, D is the "contact point" between external probes like v and T, and any nominal φ-features there may be inside the DP.

Both Wechsler and Zlatić (2003) and Landau (2016) show convincingly that Agree in the External Zone almost exclusively targets INDEX features.[10] This means that inherently INDEX (semantic or, in this case, "interpretable") features, such as [PERSON], will always be specified as valued features on D, since N is not specified for [PERSON]. In turn, D must have unvalued CONCORD (morphological) features that it will inherit from N. Thus, by the time that V is merged and is probing for agreement, D has already probed into its Internal Agree Zone and valued all the unvalued features it had.

We are now ready to look into the featural specifications of D_{NOM} and D_{ANS} in Spanish. I will begin with the more familiar D_{NOM}.[11]

(50) **Feature array of D_{NOM}**

$$\begin{bmatrix} \text{INDEX} & \begin{bmatrix} u\text{GENDER:} & \text{\_\_} \\ u\text{NUMBER:} & \text{\_\_} \end{bmatrix} \\ \\ \text{CONCORD} & \begin{bmatrix} u\text{GENDER:} & \text{\_\_} \\ u\text{NUMBER:} & \text{\_\_} \end{bmatrix} \end{bmatrix}$$

---

10 Landau (2016) comments on two possible answers for why this must be the case, giving a locality-based answer and a type-based answer. I refer the interested reader to the original paper.

11 Only the nominal NUMBER and GENDER features are represented. (Un)valuation is marked with the privative feature u, so that unvalued features are represented as $[u\text{F}]$ and valued ones simply as $[\text{F}]$.

According to (50), all its features, INDEX and CONCORD are unvalued. This means that D will have to value them all in the Internal Agree Zone from some goal, N in this case, which only contains valued CONCORD features.
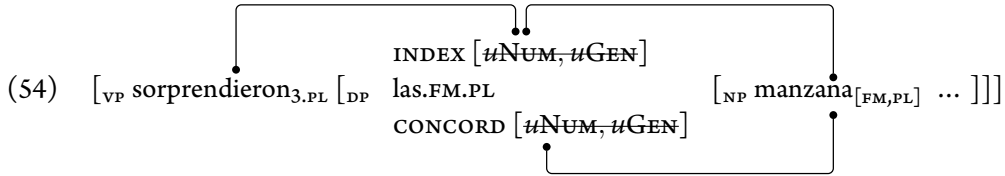
(51) **Feature array of N**

$$\left[\, \text{CONCORD} \left[\begin{array}{c} \text{GENDER} \\ \text{NUMBER} \end{array}\right] \right]$$

This is the most common situation, one where INDEX and CONCORD features on D have the same specifications. Schematically:

(52) $\left[_{\text{VP}} \text{V} \left[_{\text{DP}} \text{D} \quad\quad\quad\quad \left[_{\text{NP}} \text{N}_{[\text{NUM,GEN}]} \; \ldots \,\right]\right]\right]$
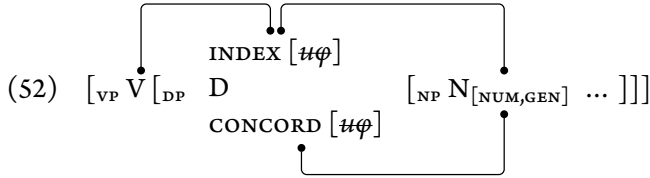
INDEX $\left[u\varphi\right]$

CONCORD $\left[u\varphi\right]$

The $\left[u\varphi\right]$ features of D, both INDEX and CONCORD, are valued by the $\left[\varphi\right]$ features on N. With its valued INDEX $\left[\varphi\right]$ features, D can serve as goal for a probing V. Thus, for (53) we have (54).

(53) Me sorpredieron las   manzanas   que trajo   Pedro.
      me surprised.3.PL the.FM.PL apple.FM.PL that brought Pedro

(54) $\left[_{\text{VP}} \text{sorprendieron}_{3.\text{PL}} \left[_{\text{DP}} \text{las.FM.PL} \quad\quad\quad \left[_{\text{NP}} \text{manzana}_{[\text{FM,PL}]} \; \ldots \,\right]\right]\right]$

INDEX $\left[u\textsc{Num}, u\textsc{Gen}\right]$

CONCORD $\left[u\textsc{Num}, u\textsc{Gen}\right]$

Let us look at D_{ANS} now. I mentioned earlier the intuition that D_{ANS} seemed to be "defective", in the sense that it rendered opaque the φ-features of the nominal in $[\text{Spec,CP}]$ for DP-external probes. We can now formulate this intuition in a concrete way: D_{ANS} enters in the computation with valued φ INDEX features and unvalued CONCORD φ-features. In this respect, it differs from D_{NOM} precisely in that, although it can Agree with the nominal in $[\text{Spec,CP}]$, it is not able to "pass on" its features further up in the tree. Its feature specification looks as in (55).

(55) **Feature array of D_{ANS}**

$$\begin{bmatrix} \text{INDEX} & \begin{bmatrix} \text{GENDER:} & nt \\ \text{NUMBER:} & sg \end{bmatrix} \\[2em] \text{CONCORD} & \begin{bmatrix} u\text{GENDER:} & \text{---} \\ u\text{NUMBER:} & \text{---} \end{bmatrix} \end{bmatrix}$$

Given its feature configuration, whenever D_{ANS} is involved, only NEUTER and SINGULAR φ-features will be visible from any DP-external position. In a case with SV agreement mismatch like (56) the agreement relationships are established as in (57).

(56) Me sorpredió   las   manzanas   que trajo   Pedro.
      me surprised.3.SG the.FM.PL apple.FM.PL that brought Pedro

(57) $[_{VP}$ sorprendió$_{3.SG}$ $[_{DP}$ las.FM.PL INDEX $[\text{NUM}_{sg}, \text{GEN}_{nt}]$ $[_{NP}$ manzana$_{[FM,PL]}$ ... $]]]$
                                              CONCORD $[u\text{NUM}, u\text{GEN}]$
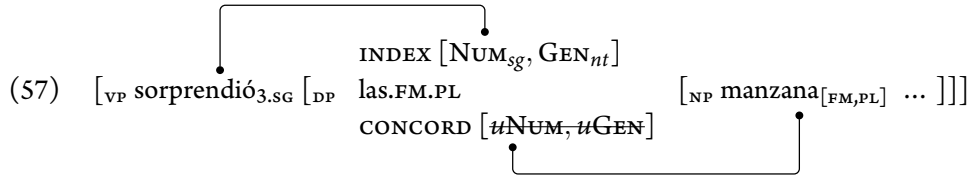
This configuration correctly captures the behavior of ERCs with respect to the three phenomena mentioned earlier: SV agreement, anaphora and DOM. In the ideal case, one would also be able to tie in the valued INDEX features of D_{ANS} with the presence of a $[+\text{WH}]$ $C°$ in its complement position. This would provide the first step towards an explanation for why D_{ANS} but not D_{NOM} must come with valued INDEX features. I will leave this question open for future study.[12]

4 The semantics of "unconcealed" questions

As I hope has emerged throughout the paper, there is a lot to gain by attributing to ERCs the syntactic structure of full-fledged *wh*-constructions. In this section, I show how we can also capture their semantic properties by interpreting them as having a question nucleus. We need to capture the two types of interpretations that ERCs may give rise to: OBJECT and AMOUNT interpretations.

---

12 One may also wonder whether it is a coincidence that the INDEX features on D_{ANS} are neuter and singular, raising the question of whether this is some form of "default" in Spanish. But notice that, since we still need the relevant φ-features to agree inside the DP, it is not clear how D_{ANS} could show default agreement in this sense.

4.1 Background assumptions

The baseline theory of questions that I am assuming is fairly standard, a blend of Hamblin (1973) and Karttunen (1977), with the incorporation of Dayal's (1994, 1996) answerhood operators. The syntax-semantic mapping I assume follows the LF-oriented renditions of Karttunen's (1977) semantics in von Stechow (1996) and Bittner (1998). First, I assume that *wh*-words denote existential quantifiers.

(58) a. $[\![who]\!] = \lambda P . \exists x[person(w)(x) \wedge P(x)]$

     b. $[\![what]\!] = \lambda P . \lambda Q . \exists x[P(w)(x) \wedge Q(w)(x)]$

Following von Stechow (1996), I define the denotation of the operator Q as an identity relation between propositions:

(59) $[\![Q]\!] = \lambda p . \lambda q . [p = q]$

In the spirit of Karttunen (1977), I assume that the syntactic locus of the question operator is on C°, akin to his proto-question rule. The relevant aspects of the derivation of a simple question like *what books did Liz read* with an LF like (60) are in (61).

(60) $[_{CP1} \lambda p [_{CP2} [_{DP} \text{ what books }]_i \lambda x [_{C'} Q [_{TP} \text{ Liz read } t_i]]]]]$

(61) a. $[\![TP]\!] = read(L, x)$

     b. $[\![C']\!] = [\![Q]\!]([\![TP]\!]) = [p = \lambda w . read(w)(L, x)]$

     c. $[\![CP2]\!] = \exists x[*book(x) \wedge p = \lambda w' . read(w')(L, x)]$

     d. $[\![CP1]\!] = \lambda p . \exists x[*book(x) \wedge p = \lambda w' . read(w')(L, x)]$

In (60) the *wh*-word, a quantifier, undergoes QR to [Spec,CP] pied-piping its nominal complement and leaves an individual trace internal to TP. (The type of a trace left by a moved element corresponds to the type this moved element quantifies over.) The CP level is the level at which "intensionalization" happens. For simplicity, I assume Intensional Functional Application (Heim and Kratzer 1998), in order to allow the combination of the C° head, which requires a propositional argument, with the TP, which provides a truth-value. The result is again a truth-value, but now a world variable w has been introduced and abstracted over the predicate.

    As in Karttunen (1977), the free propositional variable in CP2 is bound by a lambda operator, effectively creating a set of propositions. The resulting interpretation of this LF is the proposition-set denotation of the question *what books did Liz read*, i.e. the Hamblin-set of propositions of the form "Liz read x", where x is any book. Unlike in Karttunen (1977), this is not the set of true propositions, and so the last step is to filter out the false propositions. Here I follow Dayal (1996), who defines an operator Ans that essentially mimics the functions of a

definite determiner: it applies to a set of propositions (a Hamblin-set) and picks the maximum of the true answers (see also Heim 1994 and Rullmann 1995).

(62) $[\![\text{ANS}]\!] = \lambda Q_{\langle st, t \rangle} \,.\, \lambda w \,.\, \iota p[p(w) \wedge Q(p) \wedge \forall q[q(w) \wedge Q(q) \rightarrow p \subseteq q]]$

(63) $\lambda w \,.\, \iota p[p(w) \wedge \exists x[{}^{*}book(x) \wedge p = \lambda w' \,.\, read(w')(L, x)]]$

<div align="center">

ANS   CP1: $\langle st, t \rangle$

$\lambda p \,.\, \exists x[{}^{*}book(x) \wedge p = \lambda w' \,.\, read(w')(L, x)]$

</div>

 With respect to *how many* questions, the derivation proceeds in a similar fashion. The strategy I adopt is along the lines of Higginbotham (1993), Cresti (1995), Romero (1998) and others. The idea is to decompose *how many NP* phrases a *wh*-operator part and a *many NP* part. Thus, while the *wh*-operator takes scope, the nominal can be interpreted at different parts in the clause.[13] This keeps the semantics of *how many NP* maximally similar to the scope splitting structures usually assumed in the semantics of comparative quantifiers (e.g. Hackl 2000 a.o.). I define the two moving parts of *how many NP* as follows:

(64) a. $[\![how]\!] = \lambda D_{\langle dt \rangle} \,.\, \exists d[D(d)]$

   b. $[\![\text{MANY}]\!] = \lambda P_{\langle et \rangle} \,.\, \lambda d \,.\, \lambda Q_{\langle et \rangle} \,.\, \exists x \, [P(x) \wedge Q(x) \wedge |x| = d]$

In this way, a question like *how many books did Liz read?*, has a corresponding LF-structure as in (65). (66) summarizes the derivation.

(65) $[_{\text{CP1}} \lambda p \, [_{\text{CP2}} [_{\text{DP1}} Op_{wh}]_j \, \lambda d \, [_{\text{C'}} Q \, [_{\text{TP1}} [_{\text{DP2}} t_j \, \text{MANY books}]_i \, \lambda x \, [_{\text{TP2}} \text{Liz read } t_i]]]]]$

(66) a. $[\![\text{TP1}]\!] = \exists x \, [{}^{*}book(x) \wedge read(L, x) \wedge |x| = d]$

   b. $[\![\text{C'}]\!] = [\![Q]\!]([\![\text{TP1}]\!]) = [p = \lambda w' \,.\, \exists x \, [{}^{*}book(x) \wedge read(w')(L, x) \wedge |x| = d]$

   c. $[\![\text{CP2}]\!] = \exists d[p = \lambda w' \,.\, \exists x[{}^{*}book(x) \wedge |x| = d \wedge read(w')(L, x)]]$

   d. $[\![\text{CP1}]\!] = \lambda p \,.\, \exists d[p = \lambda w' \,.\, \exists x[{}^{*}book(x) \wedge |x| = d \wedge read(w')(L, x)]]$

From here on, ANS applies all the same and derivation continues as in (63), returning the maximally informative answer from the set, as represented below.

---

13 This is required for ambiguities like the following (Kroch 1989, Cinque 1990):

(i)   How many books does Chris want to buy?

   a.   What is the number n such that there are n books that Chris wants to buy?

   b.   What is the number n such that Chris wants it to be the case that there are n books that he wants to buy?

(67) $\lambda w . \iota p[p(w) \wedge \exists d[p = \lambda w' . \exists x[^*book(x) \wedge |x| = d \wedge read(w')(L,x)]]]$

4.2 The semantics of D_{ANS}

I have argued so far that ERCs are syntactically questions, and so different in this respect from concealed questions. The obvious question, then, is what to do with the definite article. This definite article, which I called D_{ANS} earlier, must apply to a CP that denotes a question, a Hamblin-set. Its function, therefore, is similar to the Answerhood operators proposed in Heim (1994) and, more specifically, Dayal (1996). The full lexical entry of D_{ANS} is below.[14]

(68) $[\![D_{ANS}]\!] = \lambda Q_{\langle st,t \rangle} . \lambda w : \exists p[Q(p) \wedge p(w) \wedge \forall q[[q(w) \wedge Q(q)] \rightarrow p \subseteq q]]$
$\qquad . \iota p[Q(p) \wedge p(w) \wedge \forall q[[q(w) \wedge Q(q)] \rightarrow p \subseteq q]]$

The semantic task of D_{ANS} is the same as that of Ans1 in Heim (1994) and Ans-D_w in Dayal (1996): it applies to a question denotation, the Hamblin-set Q, it presupposes the existence of a true proposition p in Q that entails all other true propositions, and returns that p. Here I follow more closely Dayal (1996), whose Ans-D_w essentially functions as a definite determiner defined over properties of proposition. The similarities of (68) with the ordinary definite article are hard to miss; I discuss here the most relevant aspects.

Dayal (1996) revised (one of) Heim's (1994) answerhood operators for reasons that had to do with the semantics of number morphology and existence presuppositions in questions. The inclusion of the presupposition in (68) ensures that we capture our intuitions about questions on singular and plural individuals, which differ on the felicity of the possible answers. For instance, a question like *Which book did Liz read* cannot be answered in the plural, *she read Don Quijote and The Hobbit*. This shows that the choice between a singular or a plural *wh*-phrase is reflective of speakers' expectations regarding the number of entities that should be mentioned in the answer. In this respect, the problem is reminiscent of expectations raised by singular *vs.* plural definite descriptions. Thus, given the similar felicity conditions shared by definite descriptions and answers to questions, it is no surprise that a solution would come from introducing a maximality/uniqueness presupposition in the question denotation.

Furthermore, Dayal deviated from the traditional conception of the ι-operator and rather than having it return a maximal element, she defined it in terms of *maximal informativity*. Thus, since I attributed D_{ANS} the semantics of Dayal's (1996) Ans-D_w, the only putative difference between D_{ANS} and more traditional definitions of D_{NOM} is that D_{ANS} brings in maximal informativeness rather than simple *maximality*. The difference is important, but it can be shown that maximal informativity is in fact desirable for both D_{ANS} and D_{NOM}, bringing the connection between the two closer. In traditional approaches to the semantics of *the*–i.e. the Sharvy/Link approach–the domain of individuals is assumed to be closed by the sum formation operation '$\oplus$', and so the domain is ordered by a part/whole relation $\leq_e$ over those individuals. When *the*

---

14 I follow the convention of introducing presuppositions with a colon after the lambda term.

applies to a plural individual like *dogs* it picks its maximal element. For instance, assuming that Fido, Barky and Pooch are the only dogs, *the dogs* refers to the maximal individual $f \oplus b \oplus p$. Similarly, if Fido and Pooch were barking and *Mary knows what dogs barked* is true, she knows for every x in {Fido, Pooch} that x was barking, and for every x not in {Fido, Pooch}, she knows that x was not barking.[15] This is the traditional conception of maximilatity at work.

D_{ANS}, and so maximal informativity, is different in that the criterion used to order the domain is not a part/whole relation, but informativity. As a consequence, the maximal element that *the* picks may not always be the maximal element with respect to the part/whole relation. Beck and Rullmann (1999) identified upward scalar predicates as a context where this divergence is systematically visible.[16]

(69) a.   Mary knows how many eggs are sufficient to make a cake.

b.   Mary knows how much money you can live on.

The predicted maximality based interpretation of the embedded questions in (69) return *the largest amount of eggs that are sufficient to bake a cake* and *the largest amount of money on which you can live on*. There are two issues with this maximality based interpretation. Take (69a). First, the maximum is undefined: if three eggs are sufficient to bake the cake and two are not, it seems natural to assume that four eggs are also sufficient, and five, six, etc. Then, there is no largest number of eggs that would be sufficient. Second, as Beck and Rullmann (1999) point out, even if we set a contextually determined upper-bound on eggs–such that the expression is defined–we do not end up with the desired interpretation. After all, (69a) gives the largest number of eggs that would be sufficient even in the most restricted scenario, but our intuitions tell us that we need the *smallest* number of eggs. That is in fact the *minimum* number of eggs or, in this case, the maximally informative amount of eggs.

This issue does not arise with maximal informativeness. The reason is that propositions of the form *d-much x is sufficient to P* become more informative the smaller d is. This is because according to D_{ANS} we are no longer looking into entailment relations between objects to determine what the maximal element must be, but we look instead into entailment relations between propositions. Thus, it is up to the internal make-up of the propositions themselves whether they contain downward scalar or upward scalar predicates, as Beck and Rullmann (1999) originally noted. The principle is clear: the maximally informative answer of a downward scalar predicate is the answer that contains the *largest* (maximal) object. In turn, the maximally informative answer of an upward scalar predicate is the answer that contains the *smallest* (minimal) object.

This connection to maximal informativeness has also been pointed out in the literature in relation with the definite article in English. The same logic is used by von Fintel et al. (2014)

---

15 Assuming that knowing p entails knowing every proposition entailed by p (Groenendijk and Stokhof 1982).

16 For concreteness: A predicate P is *downward* scalar if $\forall x, y[[P(x) \wedge y \leq x] \rightarrow P(y)]$. A predicate P is *upward* scalar if $\forall x, y[[P(x) \wedge x \leq y] \rightarrow P(y)]$.

to argue that the traditional definition of the definite article in English is inadequate to deal with upward scalar predicates. The authors provide the following examples:

(70)   a.   the amount of walnuts sufficient to make a pan of baklava.

       b.   the number of soldier who together can destroy the Trojan army.

       c.   the money John can live on.

All these are examples that require a minimality reading. The logic is the same as before: the definite description in, say (70a), does not refer to the unique/maximal amount of walnuts sufficient to make baklava. That is, assuming that if *d-many* walnuts are sufficient to make baklava, then $d + d'$-*many* also are. The traditional definition of D_{NOM} (the article *the*), faces the same issues as the maximality-based theory of questions above: it either results in a presupposition failure (because there is no such maximal amount of walnuts), or simply returns the wrong object (the maximal amount of walnuts with which you make a pan of baklava). To fix the issue, this is the meaning that von Fintel et al. (2014) suggest for D_{NOM}.

(71)   a. $[\![the(\varphi)]\!]$ is defined in w only if there is a uniquely maximal object x based on the ordering $\geq_{\varphi}$ st. $\varphi(w)(x)$ is true. When defined, the reference of $[the\ \varphi]$ is this maximal element.

       b.   For all x, y of type α and property φ of type $\langle s, \langle \alpha, t \rangle \rangle$, $x \geq_{\varphi} y$ iff $\lambda w . \varphi(w)(x)$ entails $\lambda w . \varphi(w)(y)$.

As with D_{ANS} and Dayal's (1996) Answerhood operator, what makes different the entry in (71) from the more traditional definitions is that the ordering is not established according to part/whole relations anymore, but the criterion now is entailment between propositions (of the form $\lambda w . \varphi(x)(w)$). With this, we have come full circle. von Fintel et al. (2014) show that the same pressures that prompted Dayal (1996) and Beck and Rullmann (1999) to deviate from maximality in the definition of Answerhood operators, apply to the definite article as well. Now, from a semantic standpoint, Answerhood operators and the definite article are fulfilling the exact same task, albeit in different domains (compare the definitions of both D_{ANS} in (68) above and D_{NOM} in are (71)). For one, they are both looking at uniquely maximally informative elements that are true in the evaluation world, with respect to some predicate, in the case of *the*/D_{NOM}. Moreover, both D_{ANS} and D_{NOM} presuppose the existence of such unique, maximal and true element.

4.3   Application to ERCs

We are now well equipped to dive into how to map structures like ERCs to their semantic interpretation. Our desiderata is to account for the wide range of interpretations that ERCs are capable of delivering. Given the syntactic analysis presented in §3, the consititutive pieces

involved in ERCs permit a straightforward application of the semantic analysis sketched above. As a working example, consider the two interpretations of (72).

(72) las   manzanas que trajo   Pedro
the.FM.PL apples   that brought Pedro
   a.   OBJECT interrogative: *what apples Pedro brought*

   b.   AMOUNT interrogative: *how may apples Pedro brought*

The parsing responsible for the OBJECT-question interpretation in (72a) is the LF in below.

(73) $[_{DP1}$ las $[_{CP} [_{DP2} Op_{wh}$ manzanas $]_i [_{C'}$ que$_{[+WH]}$ [trajo $]_j [_{TP}$ Juan t$_j$ t$_i$]]]]

As explained in §3, the composing analytical pieces of (73) below are identical to any identity question using the relative pronoun *qué* ("what"); the only differences between ERCs and constituent questions are phonological. Thus, up to CP nothing of interest happens, and semantic composition proceeds as with ordinary interrogatives:

(74) $[\![CP_{(73)}]\!] = \lambda p . \exists x[^*manzana(x) \wedge p = \lambda w' . trajo(w')(P, x)]$

The same is true of the derivation the AMOUNT interpretation in (72b). The LF is analogous to that of a *how many* question, and with a *wh*-operator that quantifies over degrees and a null gradable predicate *many*.

(75) $[_{DP1}$ las $[_{CP} [_{DP2} Op_{wh}$ MANY manzanas $]_i [_{C'}$ que$_{[+WH]}$ [trajo $]_j [_{TP}$ Juan t$_j$ t$_i$]]]]

(76) $[\![CP_{(75)}]\!] = \lambda p . \exists d[p = \lambda w' . \exists x[^*manzana(x) \wedge |x| = d \wedge trajo(w')(P, x)]]$

    We now have to interpret the definite article in (68) above. As discussed earlier, the definite article D_{ANS} is defined following the semantics of an Answerhood operator. With this, we can finally give a full denotation to the two types of ERCs (presuppositions omitted).

(77)   a.   *Final interpretation of OBJECT ERC*
        $[\![(73)]\!] = \lambda w . \iota p[p(w) \wedge \exists x[^*manzana(x) \wedge p = \lambda w' . trajo(w')(P, x)]]$

   b.   *Final interpretation of AMOUNT ERC*
        $[\![(75)]\!] = \lambda w . \iota d[p(w) \wedge p = \lambda w' . \exists x[^*manzana(x) \wedge |x| = d \wedge trajo(w')(P, x)]]$

In each case, the result is a function from worlds to propositions, a propositional concept. The definite article D_{ANS} takes a CP denoting a set of propositions–either one of (74)/(76) above–and returns the intension of the maximally informative proposition from that set, if there is one. This is in accordance with current standard theories of questions and so it can be adapted to any variant of question semantics that delivers a weak exhaustive interpretation. From here, stronger interpretations can be derived by applying additional operators (cf. Heim 1994, Beck and Rullmann 1999, a.o.). The take-aways is that ERCs are not semantically special

in any way; their particularities lie in the relationship between the overtness and covertness of their constitutive morphological pieces. Once this is acknowledged, there is no significant difference with ordinary interrogative constructions.[17]

4.4 A note on embedding contexts

4.4.1 The selection problem

ERCs denote propositional concepts, they are of type $\langle s, st \rangle$. From a compositional perspective, there are two issues with this. First, many predicates that can typically embed questions, usually take complements that denote sets of propositions, that is, of type $\langle st, t \rangle$ (or $\langle s, \langle st, t \rangle \rangle$). This is certainly the case for rogative predicates like *wonder* and *ask*, but also common for *responsive* predicates. For instance, a usual lexical entry for question embedding *know* may look like this:

(78) $[\![know]\!] = \lambda Q_{\langle st,t \rangle}.\lambda x_e.\forall p[Q(p) \wedge p(w_0) \rightarrow \forall w' \in Dox_x(w_0)[p(w')]]$

Second, ERCs are not compatible with anti-rogative predicates like *think* and *believe*, which only take propositional (declarative) complements.

(79) *Juan piensa las   manzanas que trajo   Pedro el año pasado
       Juan thinks the.FM.PL apples   that brought Pedro the last year

In general, the problem is that in providing ERCs a propositional semantics we seem to lose the parallelism with questions when it comes to embeddability.

For the sake of the argument, we could entertain the simple minded solution of lifting the type of the ERC to a set of propositions. For example, by dapting Partee's (1987) IDENT operator to operate over propositions, we can obtain a (singleton) set again (Uegaki 2015).[18]

(80) $[\![ID]\!] = \lambda p . \lambda q . [q = p]$

Employing an identity operator has the advantage of immediately accounting for the fact that rogative predicates can also successfully combine with ERCs, but anti-rogative predicates cannot. This type of solution can be enforced either by incorporating ID into D_{ANS} or by giving D_{ANS} a different semantics altogether. Both these options however would take the meaning of D_{ANS} away from its ordinary nominal counterpart D_{NOM}.[19]

---

17 An open question that remains is the availability of mention some and mention intermediate questions with ERCs. My initial investigations have not been conclusive, and so I leave the task for a future occasion.

18 It may seem that generating a set after having closed it by an ι operator is a Duke of York style operation. In this implementation this is not so, since D_{ANS} filters out the true propositions in the Hamblin-set denoted by the CP.

19 Another option, suggested to me by Seth Cable (pc.) is to shift the burden of explaining the restriction of ERCs to anti-rogative predicates on the $[+Q]$ feature of the complementizer head. On this view, D_{ANS} would no longer be a syntactic head in the same way as other determiners are, and so it would not block subcategorization into its sister node. I will leave the task of finding a better solution than the one presented here for a future occasion.

The derivation of the differences between the three types of predicates (rogative, responsive and anti-rogative) has occupied semanticists at least since Karttunen's (1977) work, and I will not be able to address the issue here with the level of detail that it deserves.[20] Different assumptions about the semantics of interrogatives will face different aspects of this issue. Thus, the hope is that solutions designed to solve problems of question embedding will as well solve the problem of embedding ERCs.

4.4.2 Exclamatives

ERCs may also be interpreted as embedded exclamatives. To see the difference between embedded interrogatives and exclamatives, consider the full paradigm below. The sentence in (81) with an ERC may have the four interpretations in (82).

(81)   No   sabes   las   manzanas que trajo   Pedro el   año pasado
       not know.2.SG the.FM.PL apples   that brought Pedro the last year

(82)   a.   *OBJECT interrogative*
            You don't know what are the apples that Pedro brought last year.

       b.   *AMOUNT interrogative*
            You don't know what is the amount of apples that Pedro brought last year.

       c.   *OBJECT exclamative*
            The amount of apples that Pedro brought last year exceeded the expectations of the speaker with respect to some property of apples.

       d.   *AMOUNT exclamative*
            The amount of apples that Pedro brought last year exceeded the expectations of the speaker.

As Bosque (1983) extensively argues it is hard to pin down exactly when a predicate allows a subordinate exclamative interpretation. This is in part related to the fact that it is sometimes difficult to tell whether the construction in question is a truly exclamative construction or whether it is instead a subordinate question *used* as an exclamation (see papers in Bosque 2017). Thus, what follows should be taken as a promissory demonstration that, the analysis of ERCs presented here can conciliate the semantics of ERCs with exclamative predicates. The price to pay is the assumption that exclamative predicates can c-select for propositions. As a case study, take factive emotive predicates with expletives like *it is surprising/amazing,* that can take both question and declarative embedding complements, but not ordinary DPs.

---

20 For recent discussions, see Uegaki (2015), Spector and Egré (2015), Xiang (2016), Theiler et al. (2016) and Dayal (2017).

(83) a. It is amazing {who came to the party / that Liz came to the party / *the dog}.

b. It is surprising {who came to the party / that Liz came to the party / *the dog}.

With our current assumptions, we can make emotive predicates like these directly take ERCs. Assume for instance a general entry for this type of predicates (where $Exp_{Sp,x}$ stands for the set of worlds where the course of events proceeds as expected by speaker Sp in the evaluation world).

(84) $\llbracket EMO \rrbracket = \lambda p_{\langle st \rangle} . \lambda w . [p(w) \land \forall w'[w' \in Exp_{w,Sp} \to \neg p(w')]]$

The targeted truth-conditions state that the proposition denoted by the ERC is true in the evaluation world, but not in the "expectation" worlds of the speaker. This serves well as a basis for a subordinate exclamative, and is accordance with propositional accounts of exclamatives (Zanuttini and Portner 2003, Portner and Zanuttini 2005, Gutiérrez-Rexach 2014). On top of this, we may want to add the emotive component of exclamations (cf. Castroviejo 2006, Chernilovskaya 2014 a.o.) and also a reference to the degree to which the predicate in the embedded position exceeds the speakers' expectations (Castroviejo 2006, Rett 2008).

The main takeaway is that we can directly extend our semantics of ERCs to (at least some) exclamative predicates by, (i) following the tradition that exclamations may be built up from question semantics (see Lahiri 2002, D'avis 2002, Abels 2007), and (ii) assuming that exclamative predicates c-select for propositions.

5 Conclusions & discussion

This paper provides an account of so-called Emphatic Relative Constructions in Spanish when they appear as complements to *wh*-embedding predicates. From a syntactic standpoint, I have argued that ERCs are DPs with a full question embedded at the CP level, both syntactically and semantically. This conclusion is supported by a number of syntactic criteria, which in turn speak against the superficially more straightforward analysis in terms of concealed questions. Semantically, they are interpreted as questions, not because of additional operations or type-shifting procedures usually assumed for concealed questions, but because they *are* questions. ERCs are unconcealed in the sense that they possess full interrogative syntax and semantics, although their surface similarity to DPs modified by relative clauses makes it hard to see.

The paper has shown that Spanish is a particular language in that it possesses D_{ANS}, a version of the definite article that applies to questions and returns the maximally informative true answer. Once the existence D_{ANS} in the language is accepted, there is not much work left to do to understand why Spanish ERCs are allowed in a variety of distinct grammatical environments. The conclusion is that ERCs in Spanish belong to its own kind and constitute a third kind of embedded question, but one that is not very far from other more familiar constructions, as it is built up with the same materials.

If the analysis of ERCs provided here is on the right track, the definite determiner D_{ANS} in Spanish is an overt exponent of Dayal's (1996) Answerhood operator ANS-D_w. From a semantic point of view alone, that her Answerhood operator is realized as a definite determiner is hardly surprising; see the discussion in §4.2.[21] I hope to have shown that a variant of the definite article that embodies an Answerhood operator is not a radical move, given the semantic isomorphism between the two. Their similarities raise the question as to whether a unification is possible, and suggest the need to steer away from maximality towards a more flexible criterion of entailment–in this case maximal informativity–also in the case of the regular definite article.

The resulting state of affairs has consequences for the nature of Answerhood operators in general. For instance, Dayal (2017, 55) wonders about the precise status of Answerhood operators, and suggests three options: that they should be taken to be meaning postulates, lexically triggered type-shifts or syntactically projected operators.

(85) a. $[\![know(x, Q)]\!] \leftrightarrow [\![know(x, \text{ANS}(Q))]\!]$ *Meaning postulate*

    b. $[\![know\ Q]\!] = \lambda Q.\lambda x.know(x, \text{ANS}(Q))$ *Type-shift*

    c. $[\ know\ [\ OP_{\text{ANS}}\ [_{\text{CP}}\ ...]]]$ *Syntactic operators*

If correct, the view of ERCs defended here speaks in favor of the third option.

A further consequence of the present analysis is that Answerhood operators should be available even with predicates which exclusively embed questions, such as *wonder* and *ask*. Above I suggested one way of solving this intuitively unwanted limitation by means of a type-lift similar to Partee's (1987) Ident operator. An alternative, following Groenendijk and Stokhof (1982), is to maintain the extensional/intensional division of the complement of *wh*-embedding verbs: extensional *wh*-predicates would combine with propositions directly (type $\langle st \rangle$) and intensional predicates would instead combine with their intensions, type $\langle s, st \rangle$. Thus, the difference would not rely on the type of ERCs, but on that of the embedding predicate.

My hope is that the issues and questions that I am leaving open in this paper are not questions about ERCs *per se*, but questions that have to do with general aspects of the semantics of interrogatives: selection problems, the role of Answerhood operators, the relation to exclamatives, etc. Thus, whatever solutions we find to those general problems, they should apply wholesale to ERCs as well. On the other hand, there is a contribution to be made by ERCs to

---

21 To my knowledge, the only attempts to relate the contribution of the definite article in ERCs to formal properties of questions have suggested that the definite article is a question operator (Plann 1984, Torrego 1988, Brucart 1992). I find this idea harder than my proposal to materialize within a general theory of questions. For instance, if the definite article were an exponent of an operator like *what*, its superficial similarity to a definite article would be a coincidence. Moreover, notice that we could end up with a theory where, after deriving an ERC, it would still be necessary to apply an Answerhood operator in certain contexts (e.g. with predicates like *know*), with counterintuitive result that a role very similar to the definite article is carried out by some phonologically null operator instead of the definite article that is visible in the syntax.

the general theory of questions, namely the morphological reality of Answerhood operators and their relationship to definite descriptions. *Prima facie*, this looks like a promising result, but it should be corroborated by further inquiries about the role of the definite article in *wh*-embedding contexts across languages.

Abels, K. (2007). Deriving selection restriction of surprise-predicates. In Spät, A., editor, *Interface and Interface condititions*, pages 115–140. De Gruyter.

Ambar, M. (2003). Wh-asymmetries. In Di Sciullo, A. M., editor, *Asymmetry in grammar*, pages 209–249. John Benjamins.

Arregi, K. (1998). Spanish *el que* relative clauses and the doubly filled comp filter. Manuscript, MIT.

Baker, C. L. (1968). *Indirect questions in English*. PhD thesis, University of Illinois.

Barbosa, P. (2001). On inversion in wh-questions in Romance. In Hulk, A. C. and Pollock, J.-Y., editors, *Subject Inversion in Romance and the Theory of Universal Grammar*, pages 20–59. Oxford University Press.

Beck, S. and Rullmann, H. (1999). A flexible approach to exhaustivity in questions. *Natural Language Semantics*, 7:249–298.

Benincà, P. (1996). La struttura della frase esclamativa alla luce del dialetto padovano. In de Mauro, T., Benincá, P., Cinque, G., and Vincent, N., editors, *Saggi di grammatica per Giulio C. Lepschy*, pages 23–43. Bulzoni, Roma.

Bianchi, V. (1999). *Consequences of Antisymmetry. Headed Relative Clauses*. Mouton de Gruyter.

Bittner, M. (1998). Cross-linguistic semantics for questions. *Linguistics and Philosophy*, 21(1):1–82.

Borsley, R. D. (1997). Relative clauses and the theory of phrase structure. *Linguistic Inquiry*, 28(4):629–647.

Bosque, Ignacio », D. (1983). Sobre la interrogación indirecta. *Dicenda*, 1:13–34.

Bosque, I., editor (2017). *Advances in the analysis of Spanish exclamatives*. The Ohio State University Press.

Bosque, I. and Moreno, J. C. (1990). Las construcciones con *lo* y la denotación del neutro. *Lingüística, Revista de ALFAL*, 2(1):5–50.

Brucart, J. M. (1992). Sobre el análisis de las construcciones enfáticas con artículo y cláusula de relativo. *Gramma-Temas*, 1:36–63.

Brucart, J. M. (1999). La estructura del sintagma nominal: las oraciones de relativo. In Bosque, I. and Demonte, V., editors, *Gramática descriptiva de la lengua española*, chapter 7, pages 395–522. Espasa Calpe, Madrid.

Brucart, J. M. (2003). Adición, sustracción y comparación. In Sánchez Miret, F., editor, *Actas del XXIII Congreso Internacional de Lingüística y Filología Románica*, pages 11–60. Tubingen: Max Niemeyer.

Campos, H. (1993). *De la oración simple a la oración compuesta*. Georgetown University Press, Washington, DC.

Castroviejo, E. (2006). *Wh-exclamatives in Catalan*. PhD thesis, University of Barcelona.

Chernilovskaya, A. (2014). *Exclamativity in discourse: exploring the exclamative speech act from a discourse perspective*. LOT.

Chomsky, N. and Lasnik, H. (1977). Filters and control. *Linguistic Inquiry*, 8(3):425–504.

Cinque, G. (1990). *Types of A'-dependencies*. MIT Press, Cambridge, Massachusetts.

Corbett, G. G. (2006). *Agreement*. Cambridge University Press, Cambridge.

Cresti, D. (1995). Extraction and reconstruction. *Natural Language Semantics*, 3(1):79–122.

Danon, G. (2013). Agreement alternations with quantified nominals in Modern Hebrew. *Journal of Linguistics*, 49:55–92.

D'avis, F.-J. (2002). On the interpretation of wh-clauses in exclamative environments. *Theoretical Linguistics*, 28:5–31.

Dayal, V. (1996). *Locality in Wh-Quantification: Questions and Relative Clauses in Hindi*. Kluwer Academic Press, Dordrecht.

Dayal, V. (2017). *Questions*. Oxford University Press.

Dayal, V. S. (1994). Scope marking as indirect wh-dependency. *Natural Language Semantics*, 2(2):137–170.

Frana, I. (2017). *Concealed questions*. Oxford University Press.

Gallego, Á. (2007). *Phase theory and parametric variation*. PhD thesis, Universidad Autónoma de Barcelona.

Grimshaw, J. (1979). Complement selection and the lexicon. *Linguistic Inquiry*, 10:279–326.

Groenendijk, J. and Stokhof, M. (1982). Semantic analysis of wh-complements. *Linguistics and Philosophy*, 5(2):175–233.

Gutíerrez-Rexach, J. (2001). Spanish exclamatives and the interpretation of the left periphery. In Roorick, J., D'Hulst, Y., and J., S., editors, *Romance Languages and Linguistic Theory 1999. Selected papers from Going Romance 1999*, Leiden. John Benjamins.

Gutiérrez-Rexach, J. (2014). *Interfaces and domains of quantification*. Ohio State University.

Hackl, M. (2000). *Comparative Quantifiers*. PhD thesis, MIT.

Halpert, C. (2015). *Argument licensing and agreement*. Oxford University Press.

Hamblin, C. (1973). Questions in Montague grammar. *Foundations of Language*, 10(1):41–53.

Heim, I. (1994). Interrogative semantics and karttunen's semantics for *know*. In Buchalla, R. and Mittwoch, A., editors, *IATL 1*, pages 128–144, Jerusalem. Akademon.

Heim, I. and Kratzer, A. (1998). *Semantics in generative grammar*. Blackwell, Malden, MA.

Hernanz, M. (2006). Emphatic polarity and C in Spanish. In Brugè, L., editor, *Studies in Spanish Syntax*, pages 105–150. Università Ca'Foscari, Venecia.

Hernanz, M. and Rigau, G. (2006). Variación dialectal y periferia izquierda. In Fernández, B. and Laka, I., editors, *Andolin gogoan. Essays in honour of Professor Eguzkitza*, pages 435–452. Euskal Herriko Unibertsitatea, Gipuzkoa.

Higginbotham, J. (1993). Interrogatives. In Hale, K. and Keyser, S. J., editors, *The View from Building 20*, pages 195–228. MIT Press, Cambridge, Massachusetts.

Karttunen, L. (1977). Syntax and semantics of questions. *Linguistics and Philosophy*, 1(1):3–44.

Kayne, R. S. (1994). *The Antisymmetry of Syntax*. MIT Press, Cambridge, Massachusetts.

Kroch, A. (1989). Amount quantification, referentiality, and long *wh*-movement. University of Pennsylvania; http://citeseerx.ist.psu.edu/viewdoc/download? doi=10.1.1.53.8124&rep=rep1&type=pdf.

Lahiri, U. (2002). *Questions and Answers in Embedded Contexts*. Oxford University Press, Oxford.

Landau, I. (2016). DP-internal semantic agreement: A configurational analysis. *Natural Language and Linguistic Theory*, 34:975–1020.

Leonetti, M. (2004). Specificity and Differential Object Marking in Spanish. *Catalan Journal of Linguistics*, 3:75–114.

Link, G. (1983). The logical analysis of plurals and mass terms. In Bauerle, R., Schwarze, C., and von Stechow, A., editors, *Meaning, use and interpretation of language*, pages 302–323. De Gruyter.

López, L. (2012). *Indefinite objects*. MIT Press.

Nathan, L. (2006). *On the interpretation of concealed questions*. PhD thesis, MIT.

Partee, B. (1987). Noun phrase interpretation and type-shifting principles. *Studies in Discourse Representation Theory and the theory of generalized quantifiers*, 8:115–143.

Plann, S. (1982). Indirect questions in Spanish. *Linguistic Inquiry*, 13(2):297–312.

Plann, S. (1984). The syntax and semantics of *más/menos... que* versus *más/menos... de* in comparatives of inequality. *Hispanic Linguistics*, 1:191–213.

Portner, P. and Zanuttini, R. (2005). Nominal exclamatives in English. In Stainton, R. and Elugardo, R., editors, *Ellipsis and Non-Sentential Speech*, pages 57–67. Kluwer Academic Publishers, Dordrecht.

Rett, J. (2008). *Degree Modification in Natural Language*. PhD thesis, Rutgers University.

Rett, J. (2015). *The semantics of evaluativity*. OSTL. Oxford University Press.

Rizzi, L. (1982). *Issues in Italian syntax*. Foris Publications, Dordrecht, Holland.

Rizzi, L. (1997). The fine structure of the left periphery. In Haegeman, L., editor, *Elements of grammar*, pages 281–337. Kluwer Academic Publishers, Dordrecht.

Romero, M. (1998). *Focus and reconstruction effects in* wh-*phrases*. PhD thesis, UMass Amherst.

Rullman, H. (2010). Number, person and bound variables. Slides for a talk given at Radboud Universiteit, Nijmegen.

Rullmann, H. (1995). *Maximality in the semantics of* wh-*constructions*. PhD thesis, University of Massachusetts at Amherst.

Sharvy, R. (1980). A more general theory of definite descriptions. *Philosphical review*, 89:607–64.

Spector, B. and Egré, P. (2015). A uniform semantics for embedded interrogatives: An answer, not necesarily the answer. *Synthese*, 192(6):1729–1784.

Suñer, M. (1984). Free relatives and the matching parameter. *The linguistic review*, 3:363–387.

Suñer, M. (1994). V-movement and the licensing of argumental *wh*-phrases in Spansih. *Natural Language and Linguistic Theory*, 12:335–372.

Suñer, M. (1999). La subordinación sustantiva: la interrogación indirecta. In Bosque, I. and Demonte, V., editors, *Gramática Descritiva de la Lengua Española*, pages 2147–2195. Espasa, Madrid.

Theiler, N., Roelofsen, F., and Aloni, M. (2016). A uniform semantics for declarative and interrogative complements. http://semanticsarchive.net/Archive/DE5M2Q4Z/paper.pdf.

Torrego, E. (1984). On inversion in Spanish and some of its effects. *Linguistic Inquiry*, 15(1):103–129.

Torrego, E. (1988). Operadores en las exclamativas con artículo determinado de valor cuantitativo. *NRFH*, 36(1):109–122.

Torrego, E. (1998). *The Dependencies of Objects*, volume 34. The MIT Press, Cambridge.

Uegaki, W. (2015). *Interpreting questions under attitudes*. PhD thesis, MIT.

von Fintel, K., Fox, D., and Iatridou, S. (2014). Definiteness as maximal informativeness. In Crnič, L. and Sauerland, U., editors, *The Art and Craft of Semantics: A Festschrift for Irene Heim*, volume 1 of *MITWPL*, pages 165–174. MIT Press.

von Stechow, A. (1996). Against LF pied-piping. *Natural Language Semantics*, 4(1):57–110.

Watanabe, A. (1993). Larsonian CP recursion, factive complements, and selection. In Schafer, A. J., editor, *Proceedings of the North East Linguistic Society 23*, pages 523–537, University of Ottawa. Graduate Linguistic Student Association.

Wechsler, S. and Zlatić, L. (2003). *The many faces of agreement*. CSLI, Stanford.

Xiang, Y. (2016). *Interpreting Questions with Non-exhaustive Answers*. PhD thesis, Harvard University.

Zanuttini, R. and Portner, P. L. (2003). Exclamative clauses: At the syntax-semantics interface. *Language*, 79(1):39–81.