

Emphatic Relative Constructions as Answered Questions

Jon Ander Mendi

Heinrich Heine University Düsseldorf
mendi@hhu.edu

1 Introduction

• Initial observation

Emphatic Relative Constructions in Spanish (ERCs¹) are constructions that superficially resemble definite DPs modified by a Restrictive Relative Clause (RRC), but differ from these in two important respects:

1. They can be embedded under a great variety of *wh*-embedding predicates.
2. They are not interpreted as definite individuals: ERCs are interpreted as IDENTITY (“what”) or AMOUNT (“how many”) questions.

(1) Responsive predicates

a. Subordinate question

Yo sé { qué / cuántas } manzanas trajo Pedro.
I know what how many apples brought Pedro
'I know {what/how many} apples Pedro brought'

b. Emphatic Relative Construction

Yo sé las manzanas que trajo Pedro.
I know the apples that brought Pedro
'I know {what/how many} apples Pedro brought'

(2) Rogative 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'

• Two questions

1. Syntactic question

What accounts for the distribution of ERCs in environments that otherwise resist DPs?

2. Semantic question

How do we account for the range of interpretations ERCs can and cannot receive?

Main Claim

Spanish ERCs show a “hybrid” nature:

- Syntactically, they involve an interrogative core that combines with a definite determiner.
- Semantically, the interrogative core yields a question meaning and the definite determiner is an exponent of the ANS operator which returns the most informative proposition from the Hamblin-set delivered by the CP (*à la* Dayal 1996).

The resulting picture is one where ERCs denote the most informative proposition out of a (relevant) set of propositions; i.e., their interpretation is identical to an “answered” question.

¹ Plann (1984), Torrego (1984), Bosque and Moreno (1990), Brucart (1999), Leonetti (2004) a.m.o.

Roadmap

§2 General properties of ERCs.

§3 ERCs behave like clauses in a variety of environments, and not like RRCs.

§4 Syntactic analysis.

§5 Semantic analysis.

§6 Discussion: implications & issues.

§A Accounting for an agreement puzzle.

2 Two basic properties of ERCs

• *Obligatoriness of the relative clause*

With ERCs, the relative clause is obligatory. Unmodified definite DPs are not grammatical as complements of rogative predicates.²

(3) a. *Yo me pregunto las manzanas. [cf. (2b)]
I me wonder the.FM.PL apples

b. *Yo sé las manzanas.
I know the apples
Int.: 'I know which ones are the (relevant) apples'

• *Definite determiner*

ERCs require the definite article; other determiners lead to ungrammaticality.

(4) a. *Me pregunto { algunas / muchas / dos } manzanas que trajo.
me wonder some many two apples that brought
'I wonder {some / many / two} apples that he brought'

b. *Sé { algunas / muchas / dos } manzanas que trajo Pedro.
know some many two apples that brought Pedro
'I wonder {some / many / two} apples that Pedro brought'

• In fact, ERCs require an *unmodified* definite article, as illustrated by the fact that further modification of the DP always leads to ungrammaticality.

(5) a. *Yo me pregunto todas las manzanas que trajo.
I me wonder all the apples that brought
Lit.: 'I wonder all the apples that he brought'

b. *Yo sé todas las manzanas que trajo Pedro.
I know all the apples that brought Pedro
Lit.: 'I know all the apples that Pedro brought'

3 ERCs have clausal syntax

- ERCs display distributional and syntactic behavior unique to CPs. Evidence comes from agreement facts, obligatory SV inversion, and differences between pre- vs. post-verbal subjects.

3.1 Agreement

• *SV agreement*

In Spanish ordinary DP subjects must agree in PERSON/NUMBER with the verb.

(6) φ -agreement with DPs

a. Me { sorprendieron / *sorprendió } [DP mis amigos] .
me surprised.PL surprised.SG my.PL friend.PL
'My friends surprised me'

b. Se me { han / *ha } olvidado [DP los libros] .
RFL me AUX.PL AUX.SG forgotten the.PL book.PL
'I forgot the books'

- Clausal subjects, however, always agree in [3.SG].

(7) [3.SG]-agreement with clauses

a. Me { *sorprendieron / sorprendió } [CP quiénes vinieron] .
me surprised.PL surprised.SG who.PL came.PL
'It surprised me who came'

b. Se me { *han / ha } olvidado [CP qué libros vió] .
RFL me AUX.PL AUX.SG forgotten what book.PL saw
'I forgot what books he saw'

- ERCs also trigger [3.SG] agreement. In (8a), where the verb shows φ -agreement with *friends*, the DP only has an ordinary restrictive (i.e. non-ERC) interpretation.

² With the exception of some "functional" nouns like *price*, *time*, etc., which allow concealed question interpretations (Nathan 2006).

- (8) a. φ -agreement with RRCs [XP]≈[DP]
Me sorprendieron [_{XP} los amigos que invitó Pedro].
 me surprised.[PL] the.[PL] friend.[PL] that invited Pedro
 ‘The friends that invited Pedro surprised me’
- b. [3.SG]-agreement with ERCs [cf. (6)]; [YP]≈[CP]
Me sorprendió [_{YP} los amigos que invitó Pedro].
 me surprised.[SG] the.[PL] friend.[PL] that invited Pedro
 ‘It surprised me {what/how many} friends that Pedro invited’

- (11) a. *Rogative predicates*
*Me pregunto las peras que { trajo Pedro / *Pedro trajo }.*
 me wonder the pears that brought Pedro
 ‘I wonder {what/how many} pears Pedro brought’
- b. *Responsive predicates*
*Me dijo las peras que { trajo Pedro / *Pedro trajo }.*
 me say the pears that brought Pedro
 ‘She told me {what/how many} pears Pedro brought’

3.2 Obligatory SV inversion

- Although Spanish is ordinarily SVO, SV-inversion is a common and optional process in declarative sentences. However, when movement of certain *wh*-operators takes place from within a clause, it obligatorily requires SV-inversion (Torrego 1984, Suñer 1994, a.m.o.).

- (9) a. *Matrix wh-questions*
*Qué { ha traído Juan? / *Juan ha traído? }*
 what AUX. brought Juan
 ‘What did Juan bring?’
- b. *Subordinate wh-questions*
*Pedro sabe qué { ha traído Juan? / *Juan ha traído? }*
 Pedro knows what AUX. brought Juan
 ‘Pedro knows what Juan brought’
- (10) a. *Matrix wh-exclamatives*
*Qué cosas { ha traído Juan! / *Juan ha traído! }*
 what things AUX. brought Juan
 ‘What things Juan brought!’
- b. *Subordinate wh-exclamatives*
*Me sorprendió qué cosas { trajo Juan! / *Juan trajo! }*
 me surprised what things brought Juan
 ‘It surprised me what Juan brought’

- Like the *wh*-constructions shown above—and unlike ordinary DPs modified by relative clauses—ERCs require SV-inversion.

3.3 Pre- vs. Post-verbal subjects

- In Spanish, nominal subjects can often freely appear in pre- or post-verbal position, but clausal subjects are obligatorily post-verbal.

- (12) a. ✓*Post-verbal*
Me sorprendió 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 sorprendió.*
 WHO.PL came to the party me surprised.3.SG
- ERCs also show the same restriction to post-verbal positions, unlike ordinary DPs.
- (13) a. ✓*Post-verbal*
Me sorprendió 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 sorprendió.*
 the.MS.PL students that came to the party me surprised.3.SG

TAKE AWAY

Despite looking like ordinary DPs, ERCs have the external distribution and display the syntactic hallmark properties of (at least some) clausal *wh*-constructions.

ANALYSIS IN A NUTSHELL

ERCs start their lives out, both syntactically and semantically, as *wh*-constructions. Their nominal nature is derived by merging a special variant of the definite article, which I call D_{ANS} , which combines with a question and returns a proposition.

4 Analysis I: Syntax

• Syntactic structure

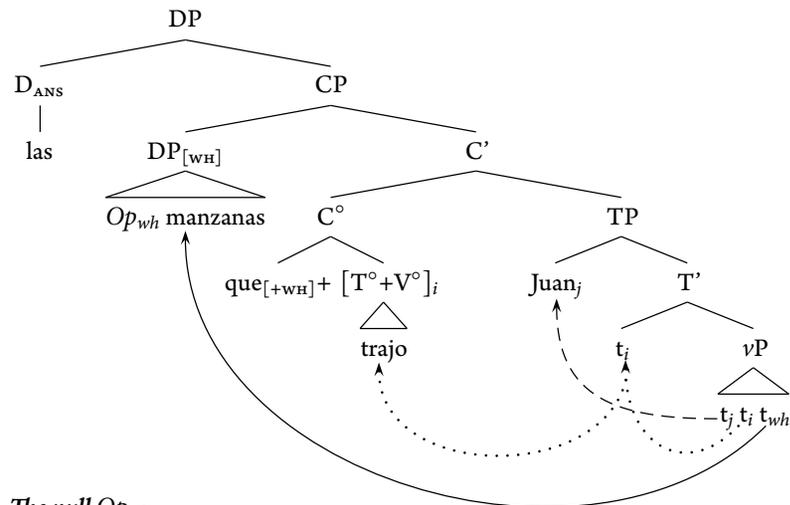
The structure that I propose for DPs like (14) *qua* ERCs is represented in (15) (cf. Kayne 1994, Borsley 1997 and Bianchi 1999):

- D directly takes a CP as its complement.
- Within the CP, movement of a DP headed by a null-operator has taken place.

(14) ... *las manzanas que trajo Pedro.*
the apples that brought Pedro

- The derivation is identical to a matrix interrogative except for the fact that the role of the *wh*-word is fulfilled by Op_{wh} and the presence of the complementizer.

(15) Syntactic structure of ERCs



• The null Op_{wh}

The null operator may come in two forms, as covert variants of the overt *wh*-words *qué* (“what” or “how”) and *cuánto* (“how many”). The only differences between

Op_{wh} and *qué* and *cuánto* are simply overtness vs. covertness; otherwise, Op_{wh} is identical to the *wh*-words we see overtly on interrogatives.³

• The definite determiner

Syntactically, D_{ANS} is a featurally impoverished variant of its ordinary cousin D_{NOM} , and triggers default/3.SG agreement on the agreeing verb. (See Appendix A for an account of how the mismatch between φ -features visible on the D-head and features realized on the agreeing verb can be explained.)

- D_{ANS} differs from D_{NOM} in c-selecting a clausal complement, as opposed to an NP, unlike ordinary Ds. As a result, in ERCs, the [D+CP] cluster forms a constituent, and not [D + *manzanas*].

• Brief assessment

- ✓ SV inversion and the impossibility of having ERCs as preverbal subjects can be tied to the presence of [+WH] feature on C^o .
- ✓ That ERCs are only possible with the definite article and modified by a relative clause follows from the c-selectional restrictions (and semantics) of D_{ANS} and the presence of a [+WH] C^o .
- ➡ This syntax accounts for their puzzling syntactic behavior and allows for a compositional semantic analysis that derives their interpretive properties.

5 Analysis II: Semantics

5.1 Background assumptions

• Composing questions as set of propositions

Questions denote the set of their true answers (Karttunen 1977). I follow the LF-oriented renditions of this idea in von Stechow (1996) and Bittner (1998).

- C^o hosts the question operator Q -akin to Karttunen’s (1977) proto-question rule. Q denotes an identity relation between propositions (von Stechow 1996):

$$(16) \quad [[Q]] = \lambda p. \lambda q [p = q]$$

- 3 Evidence for such covert operators comes from exclamative constructions: *wh*-words can be dropped in examples like (16) with no semantic effect (Hernanz 2006, Hernanz and Rigau 2006):

- (i) 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!’

– *Wh*-words denote existential quantifiers.

- (17) a. $\llbracket who \rrbracket = \lambda P. \exists x [person(x) \wedge P(x)]$
 b. $\llbracket what \rrbracket = \lambda P. \lambda Q. \exists x [P(x) \wedge Q(x)]$

• **Embedding questions**

An operator *ANS* mediates between questions denotations (sets of propositions) and declarative-embedding verbs like *know*. Here I adopt Dayal's (1996), which applies to a the Hamblin-set and picks the maximum of the answers that are true in the evaluation world.⁴

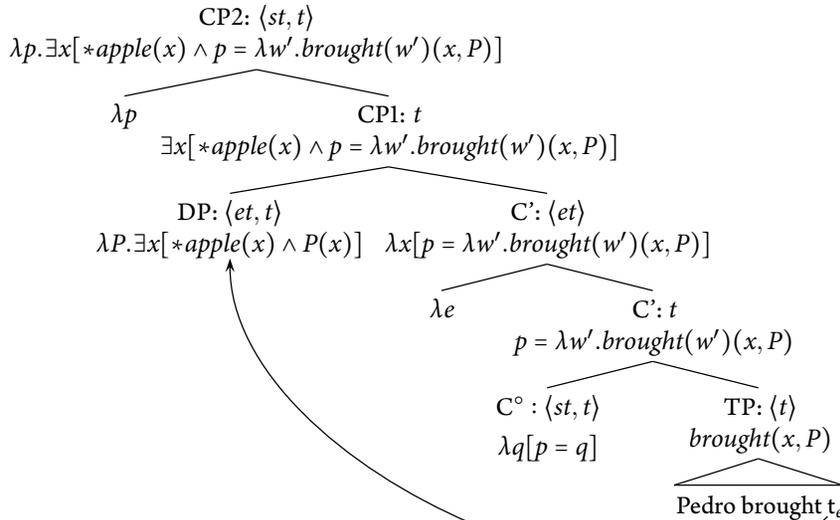
(18) $\llbracket ANS-D \rrbracket = \lambda Q_{\langle st, t \rangle}. \lambda w. ip[p(w) \wedge Q(p) \wedge \forall q[[q(w) \wedge Q(q) \rightarrow p \subseteq q]]$

5.2 **Deriving IDENTITY interpretations of ERCs**

• The derivation proceeds exactly like it would for an ordinary interrogative up to the CP level. Consider again:

(14) $[_{DP1} \text{ las } [_{CP} [_{DP2} \text{ Op}_{wh} \text{ manzanas }] [_C \text{ que } [_{TP} \text{ trajo Pedro }]]]]$
 $\text{D}_{ANS} \quad \text{apples} \quad \text{that} \quad \text{brought Pedro}$

(19) **LF derivation of $\llbracket CP \rrbracket$ in (14)** $\llbracket IDENTITY \rrbracket$



• As in interrogatives, the C° provides the question nucleus, but unlike in those, the *wh*-word is null.

• **The definite article**

The definite article D_{ANS} selects for CPs that denote questions. Its function is the same as Dayal's (1996) ANSWERHOOD operator defined in (18): 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 (the propositional concept of) p .

(20) $\llbracket D_{ANS} \rrbracket = \lambda Q_{\langle st, t \rangle}. \lambda w : \exists p[Q(p) \wedge p(w) \wedge \forall q[[q(w) \wedge Q(q)] \rightarrow p \subseteq q]]$
 $\quad \quad \quad \cdot ip[Q(p) \wedge p(w) \wedge \forall q[[q(w) \wedge Q(q)] \rightarrow p \subseteq q]]$

(21) $\lambda w. ip[p(w) \wedge \exists x[*apple(x) \wedge p = \lambda w'. brought(w')(x, P)]]$
 $\text{D}_{ANS} \quad \text{CP3} \quad \text{CP2}$
 $\lambda p. \exists x[*apple(x) \wedge p = \lambda w'. brought(w')(x, P)]$

• Assuming that extensional verbs like *know* (*sensu* Karttunen 1977 and Groenendijk and Stokhof 1982) establish relationships between individuals and propositions (23a), the meaning of the ERC in (22) is given in (23b).

(22) *Juan sabe las manzanas que trajo Pedro*
 Juan knows the apples that brought Pedro

(23) a. $\llbracket know \rrbracket = \lambda Q_{\langle s, st \rangle}. \lambda x_e. \lambda w. know(x, Q)(w)$
 b. $\llbracket know \rrbracket(\llbracket CP3 \rrbracket)(Juan)(w_0) =$
 $know(Juan, ip[p(w_0) \wedge \exists x[*apple(x) \wedge p = \lambda w'. brought(w')(x, P)]])$

5.3 **The AMOUNT interpretations**

• **How many**

I assume that the Spanish inventory of *wh*-operators includes a null variant of the overt *cuánto* (“how many”), responsible for the AMOUNT interpretation of ERCs.

• I follow Higginbotham (1993), Cresti (1995), Romero (1998) and others in decomposing *how many NP* phrases in a *wh*-operator and a *many NP* part. This keeps the semantics of *how many NP* maximally similar to the scope splitting structures normally assumed for comparative quantifiers (e.g. Hackl 2000 a.o.).

⁴ How to interpret rogative predicates will depend greatly on our assumptions about complement selection and question denotation; one could assume that rogative predicates take propositional complements, or lift $ANS(Q)$ (e.g. $\llbracket IDENT_p \rrbracket = \lambda p_{\langle st \rangle}. \lambda q[q = p]$).

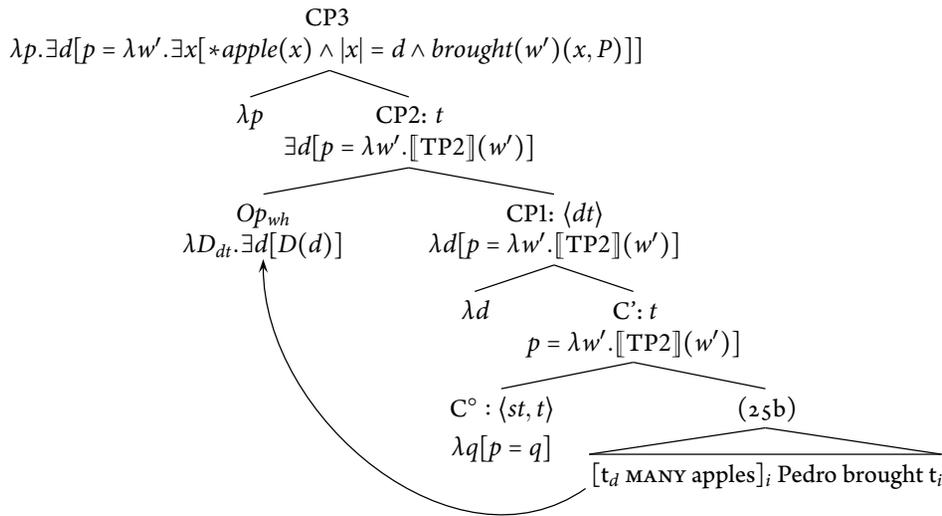
- (24) a. $\llbracket how \rrbracket = \lambda D_{\langle dt \rangle} . \exists d [D(d)]$
 b. $\llbracket MANY \rrbracket = \lambda P_{\langle et \rangle} . \lambda d . \lambda Q_{\langle et \rangle} . \exists x [P(x) \wedge Q(x) \wedge |x| = d]$

• **Derivation**

First, the complex phrase $\llbracket how\ many\ NP \rrbracket$ moves to the edge of TP. Then *how* further moves and the derivation proceeds as expected.

- (25) a. $\llbracket [\text{TP}_2 [\text{DP}_1 t_d \text{ MANY apples}]_i \lambda x [\text{TP}_1 \text{ Pedro brought } t_i]] \rrbracket$
 b. $\llbracket \text{TP}_2 \rrbracket = \exists x [*apple(x) \wedge brought(x, P) \wedge |x| = d]$

- (26) **LF derivation of $\llbracket \text{CP} \rrbracket$ in (14)** [AMOUNT]



• After D_{ANS} (simplified):

- (27) $\lambda w . ip [p(w) \wedge \exists d [p = \lambda w' . \exists x [*apple(x) \wedge |x| = d \wedge brought(w')(x, P)]]]$

THREE KEY PIECES

1. ERCs involve an interrogative [+WH] C^o that contributes a semantic question nucleus.
2. The definite article is an overt exponent of Dayal's (1996) ANSWERHOOD operator.
3. Spanish possesses two covert *wh*-operators that correspond to their overt counterparts, understood as existential quantifiers.

6 Discussion

- ✓ The seemingly puzzling syntactic behavior of ERCs is accounted for by (i) the presence of [+WH] feature on C^o and (ii) a variant of the definite article that directly applies to CPs.
- ✓ The interrogative-like interpretation of ERCs follows from the meaning of CP in ERCs—the Q operator—and the semantics of D_{ANS} . By the same token, ERCs cannot be interpreted as definite individuals, despite superficial appearances.
- ➡ The “hybrid” nature of ERCs is derived via a simple rearrangement of morphological pieces familiar from the syntax/semantics of questions.

❶ **Exclamatives**

Exclamations may be built up from question semantics (Lahiri 2002, D'avis 2002, Abels 2007, a.o.). Predicates that embed exclamatives should also be tractable in the terms of the analysis of ERCs presented above. The price to pay is the assumption that exclamative predicates can c-select for propositions.

- With our current assumptions, we can make emotive predicates 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).

(28) $\llbracket EMO \rrbracket = \lambda p_{\langle st, t \rangle} . \lambda w . p(w) \wedge \forall w' [w' \in Exp_{w, Sp} \rightarrow \neg p(w')]$

- The proposition denoted by the ERC is true in the evaluation world, but not in the “expectation” worlds. This serves well as a basis for a subordinate exclamative (plus the emotive component; e.g. Castroviejo 2006).

❷ **The $D \sim ANS$ connection**

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. However, her definition also incorporated a notion of “maximal informativity” that is able to accommodate cases where the most informative alternative corresponds to the *minimal* proposition.

- Recently, von Stechow et al. (2012) have discussed similar cases with the definite article: the Sharvy/Link interpretation of *the* falls short precisely for not being able to accommodate the *minimality* problem (Beck and Rullmann 1999).
- The similarities with the ordinary definite article are hard to miss: the two operators, ANS -operators and the definite article, require (i) existence, (ii) uniqueness

and (iii) maximal informativeness; see von Stechow et al. (2012). Given these formal similarities, is unification possible?

③ *The nature of ANS-operators*

Dayal (2017:55) raises the issue of “the precise status of these ANS operators”, and suggests three options: (i) meaning postulates, (ii) lexically triggered type-shifts and (iii) syntactically projected operators.

- (29) a. $\llbracket know(x, Q) \rrbracket \leftrightarrow \llbracket know(x, ANS(Q)) \rrbracket$
 b. $\llbracket know Q \rrbracket = \lambda Q. \lambda x. know(x, ANS(Q))$
 c. $\llbracket know [OP_{ANS} [CP \dots]] \rrbracket$

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

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A Agreement of ERCs

- I assume that controllers of agreement must carry two sets of φ -features—a fact independently motivated by cases of “semantic agreement” (e.g. Corbett 2006): CONCORD and INDEX features (Wechsler and Zlatić 2003). 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. Graphically (cf. Landau 2016):

$$(30) \quad \underbrace{[_{TP} T^{\circ} [_{VP} V^{\circ}]]}_{\text{External Agree Zone}} \underbrace{[_{DP} D [_{XP} \dots]]}_{\text{Internal Agree Zone}}$$

- The difference between D_{ANS} and D_{NOM} amounts to the specification of the INDEX features. D_{NOM} comes with both sets of features unvalued.

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

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

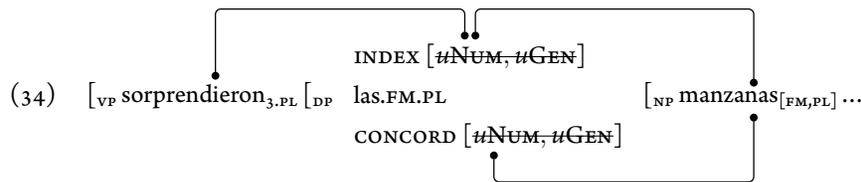
- In contrast, D_{ANS} enters in the computation with valued φ INDEX features and unvalued CONCORD φ -features. Thus, although it can Agree with the nominal in [Spec,CP], it is not able to “pass on” its features further up in the tree.

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

$$\begin{bmatrix} \text{INDEX} & \begin{bmatrix} \text{GENDER:} & nt \\ \text{NUMBER:} & sg \end{bmatrix} \\ \text{CONCORD} & \begin{bmatrix} u\text{GENDER:} & \text{—} \\ u\text{NUMBER:} & \text{—} \end{bmatrix} \end{bmatrix}$$

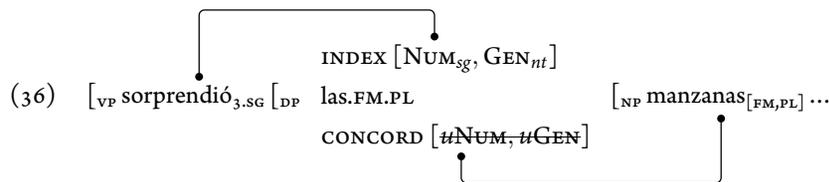
- The most common situation is one where INDEX and CONCORD features on D have the same specifications. The $[u\varphi]$ features of D_{NOM} , both INDEX and CONCORD, are valued by the $[\varphi]$ features on N. With its valued INDEX $[\varphi]$ features, D_{NOM} can serve as goal for a probing V. Thus, for (33) we have (34).

(33) *Me sorprendieron las manzanas que trajo Pedro.*
 me surprised.PL the.PL apple.PL that brought Pedro



- In the case of D_{ANS}, given its feature configuration, only NT and SINGULAR φ -features will be visible from any DP-external position.

(35) *Me sorprendió las manzanas que trajo Pedro.*
 me surprised._[SG] the._[PL] apple._[PL] that brought Pedro



- This type of analysis accounts for the fact that Agreement, as a grammatical operation, is sometimes sensitive to syntactic features and some other times to semantic features. More concretely, it allows to analyze cases where Agreement is sensitive to both types of features *simultaneously*, within the same utterance (Corbett 2006).
- On this view, D acts as the “contact point” between external probes like v and T, and any nominal φ -features there may be inside the DP (see (30) above). Thus, we can model the way in which D_{ANS} seems to be “defective”, in the sense that it renders opaque the φ -features of the nominal in [Spec,CP] for DP-external probes.

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

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

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

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.

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

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

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

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.

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

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

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.

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.

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.

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

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

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

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

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

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

von Fintel, K., Fox, D., and Iatridou, S. (2012). Definiteness as maximal informativeness. In Crnić, 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.

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