

## Strong plurals in Spanish interrogatives

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What is the semantic import of number morphology? This paper addresses this question by analysing the semantics of Spanish singular and plural *wh*-interrogatives, which appear to be problematic for most current accounts.

**Background** Singular *wh*-questions in English differ from plural and ‘neutral’ interrogatives (headed by *who*) in that they trigger a *uniqueness presupposition*: (1a) can only be used if exactly one person went to the party (Dayal, 1996). Instead, uttering a plural interrogative such as (1b) triggers the inference that the speaker believes that more than one person went to the party (*plurality inference*). Neutral questions in (1c) trigger neither a *uniqueness presupposition* nor a *plurality inference*.

- |     |    |                                 |                                 |
|-----|----|---------------------------------|---------------------------------|
| (1) | a. | Which person went to the party? | ✓ John did; ✗ John and Mary did |
|     | b. | Which people went to the party? | ✗ John did; ✓ John and Mary did |
|     | c. | Who went to the party?          | ✓ John did; ✓ John and Mary did |

The contrast between (1a) and (1b) can be explained by assuming that: (a) plural marking has weak semantic import (i.e. *weak account of plurality*, Sauerland, 2003; Spector, 2007); and (b) interrogatives presuppose the existence of a maximally informative answer (Dayal, 1996). By (a), a plural question such as (1b) will range over both singular and plural propositions, while the denotation of (1a) will only contain singular propositions of the form ‘*x* came to the party’, with *x* being an atomic individual. By (b), the set of true answers to a question should contain a member that entails all the other members. With singular questions, this can be the case only if this set is a singleton (‘*x* went to the party’ does not entail ‘*y* went to the party’ unless  $x = y$ ). Following Dayal (1996), the requirement in (b) can be captured in terms of the answerhood operator defined in (2), by assuming that a question *Q* is felicitous only if in all worlds *w* compatible with common knowledge,  $ANS(Q)(w)$  is defined.

- (2)  $ANS(Q)(w) = \iota p. p \in Q \wedge p(w) \wedge \forall p' \in Q: p'(w) \rightarrow p \subset p'$   
In words:  $ANS(Q)(w)$  is the maximally informative answer to *Q* in *w*, if there is one, and is undefined otherwise.

On this view, the plurality inference associated with (1b) arises as an implicated presupposition (Heim, 1991; Sauerland, 2008): (1b) is infelicitous whenever its singular counterpart 1a is felicitous, i.e. whenever it is presupposed that exactly one person came to the party.

**Puzzle** Spanish distinguishes morphologically between a singular and a plural form for the interrogative ‘who’ (e.g. 3). The analysis outlined above would predict that Spanish *who*-interrogatives should pattern just as singular and plural questions in English. However, singular *quién*-questions (3a) are compatible with both singular and plural answers (no *uniqueness presupposition*), suggesting that the *wh*-element ‘quién’ is not semantically singular and can range over both atoms and pluralities (cf. English ‘who’). Conversely, the plural alternative with ‘quienes’ does trigger a *plurality inference*, making the question incompatible with singular answers. If we assume an underspecified meaning for ‘quién’ (just like for ‘who’ in English), the plurality inference for ‘quienes’ can no longer arise as a implicated presupposition, since the two items would have the same presuppositional strength.

- |     |    |   |                                 |
|-----|----|---|---------------------------------|
| (3) | a. | Quién fue a la fiesta?<br>Who <sub>SG</sub> went to the party?      | ✓ John did; ✓ John and Mary did |
|     | b. | Quiénes fueron a la fiesta?<br>Who <sub>PL</sub> went to the party? | ✗ John did; ✓ John and Mary did |

In this paper, I will claim that the distribution of *quién* and *quienes* can be only understood under a *strong account of plurality*, such that ‘quienes’ triggers a strong plurality presupposition, whereas ‘quién’ carries no specific requirement, as far as its semantics is concerned.

**Distribution of *quién* and *quiénes* interrogatives** The availability of *quién* and *quiénes* interrogatives is restricted by conditions on contexts: the possibility of using each of these questions depends on the beliefs the speaker has about the complete answer to her question. A *quiénes*-interrogative such as (4b) can be felicitously uttered only if it is common knowledge that more than one person went to the party. This is independent of the morphological marking in the noun (e.g. 4c). Alternatively, whenever (i) the speaker is completely ignorant (e.g. ‘at least one’ scenarios in 5) or (ii) the speaker believes that exactly one friend came to the party (cf. ‘exactly one’ scenarios in 4a), *quiénes*-interrogatives lead to oddness, and the alternative with ‘*quién*’ then has to be used.

- (4) a. Una de mis amigas fue a la fiesta pero no me acuerdo quién (# *quiénes*).  
 ‘One of my friends went to the party but I don’t remember who<sub>SG</sub> (# who<sub>PL</sub>)’.
- b. Varias amigas fueron a la fiesta pero no me acuerdo *quiénes* (?? *quién*).  
 ‘Several friends went to the party but I don’t remember who<sub>PL</sub> (?? who<sub>SG</sub>)’.
- c. Mucha gente fue a la fiesta pero no me acuerdo *quiénes* (?? *quién*).  
 ‘Many people went to the party but I don’t remember who<sub>PL</sub> (?? who<sub>SG</sub>)’.
- (5) *Juan is expecting at least one friend to come to the party.*
- a. Juan no sabe *quién* va a venir a la fiesta.  
 ‘Juan doesn’t know who<sub>SG</sub> will come to the party.’
- b. # Juan no sabe *quiénes* van a venir a la fiesta.  
 ‘Juan doesn’t know who<sub>PL</sub> will come to the party.’
- c. Juan no sabe *qué/cuáles* amigos van a venir a la fiesta.  
 ‘Juan doesn’t know what/which friends will come to the party.’
- d. Juan doesn’t know which friends will come to the party.

Unlike *quiénes*-interrogatives, plural *which*-interrogatives in both Spanish and English can also be uttered in ignorance contexts (e.g. 5c/d), indicating that only for these interrogatives the *plurality inference* is an implicated presupposition (so that the relevant questions can be used as soon as the presupposition of their singular counterpart is not satisfied, including in an ignorance scenario).

**Account** The distribution of Spanish interrogatives can be nicely accounted for by assuming that ‘*quiénes*’ carries a cardinality requirement, whereas ‘*quién*’ is underspecified for number (i.e. it does not carry any specific requirement). While it’s natural to infer that the plurality requirement is encoded in the semantics of plural morphology, such assumption would not allow us to account for the broader set of data in Spanish and English (e.g. *which*-interrogatives). For the sake of simplicity, I will encode this requirement as part of the lexical meaning. The denotations for (3a) and (3b) are given in (6)

- (6) a.  $[[3a]] = \lambda p. \exists x \in D_e. x \text{ is human} \ \& \ p = \lambda w \text{ went-to-the-party}(w)(x)$   
 $= \{m \text{ went}, j \text{ went}, b \text{ went}, m \oplus j \text{ went}, m \oplus b \text{ went}, j \oplus b \text{ went}, m \oplus j \oplus b \text{ went}\}$
- b.  $[[3b]] = \lambda p. \exists x \in D_e. |x| > 1 \ \& \ x \text{ are human} \ \& \ p = \lambda w \text{ went-to-the-party}(w)(x)$   
 $= \{m \oplus j \text{ went}, m \oplus b \text{ went}, j \oplus b \text{ went}, m \oplus j \oplus b \text{ went}\}$

After applying the ANS operator, (6b) will carry a *plurality presupposition*. In every world where exactly one person went to the party, (3b) will correctly yield to a presupposition failure. Conversely, in any scenario where the speaker believes there were more than one attendees, (3a) and (3b) are contextually equivalent. A principle such as *Maximize Presupposition!* (Heim, 1991) would then select the latter, since this is the LF carrying a stronger presupposition. When a *quién*-interrogative is uttered, one should infer that it’s not presupposed that the question has a plural answer, or the alternative with ‘*quiénes*’ should have been used. Questions such as (3a) therefore trigger an ignorance inference. If the speaker is considered to be reliable and knowledgeable, following the logic of the epistemic step for anti-presuppositions (Chemla, 2008), an ‘exactly-one’ inference (cf. implicated presupposition) will be derived.

**Conclusions and open issues** *Quiénes*-interrogatives are the mirror image of singular *which*-questions: while the latter presuppose that the complete answer involves an atomic individual, the former presuppose that the complete answer involves a non-atomic individual. However, it is not always enough for a *quiénes*-interrogatives to be licensed that the strong plurality presupposition is satisfied:

- (7) *Mary and John arrive at their apartment, where there is supposed to be no one. They hear two people whispering inside. Mary asks to John:*  
Quién está ahí? / # Quiénes están ahí?  
'Who is in there?'

On top of the plurality requirement, the plural 'quiénes' seem to require 'd-linking' contexts, where a certain domain of individuals is contextually salient (Pesetsky, 1987). Whenever the context is not *d-linked*, singular *quién*-interrogatives are the only available alternative. This also include cases in which the plurality requirement is satisfied by default (e.g. collective predicates). In this respect, 'quiénes' patterns with plural indefinites such as 'algunos' (Alonso-Ovalle and Menéndez-Benito, 2011).

To conclude, my analysis shows that current approaches to number marking (both weak and strong accounts, Sauerland, 2003; Spector, 2007; de Swart and Farkas, 2010 among others) need to be made more sophisticated to account for both cross-linguistic and within-language variation: While the distribution of *quién* and *quiénes* interrogatives is well explained by a strong plural/weak singular semantics, the meaning of some plural indefinites (e.g. *which*-phrases) in both Spanish and English is still best accounted for in terms of a *weak* semantics for plural morphology. One might suggest that number morphology has different semantic import depending on whether it applies to single-word quantifiers (i.e. indefinite pronouns) or to determiners. Indeed, a contrast between these items is also attested in the declarative domain, where some singular single-word quantifiers seem to have a weak semantics, making them compatible with a collective predicate (e.g. “\*Every student gathered” vs. “Everyone gathered”).

**Acknowledgments.** For helpful suggestions and comments, I thank Amir Anvari, Emmanuel Chemla, Milica Denic, Manuel Kriz, Irene Heim, Roger Schwarzschild, and the audience of Console 25 at Leipzig University. Special thanks to Benjamin Spector for discussions during the whole development of this work. Of course, all errors are my own.

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