

Distributed Plurality in Spanish: *unos* vs. *algunos*.

It has long been observed that Bare Plurals (BPs) have a dependent plural (DPlur) reading: the sentence *unicycles have wheels* is true even though each unicycle has only one wheel (Chomsky 1975). DPlur readings have been extensively studied (see Zweig 2008 for an overview), but the focus has mostly been on English, where dependent plurality is restricted to BPs (Partee 1985). This paper shows that the Spanish indefinites *unos* and *algunos* differ in that DPlur readings are available for the former, but not for the latter. We argue that i) the DPlur readings of *unos* pattern differently from those of BPs, and can be derived as cumulative readings; ii) the contrast between *unos* and *algunos* has to do with the locus of interpretation of plural morphology.

The contrast. Both *unos* and *algunos* convey plurality (Martí 2007): the sentences in (1) can be paraphrased as ‘J. wrote *two or more* very interesting articles’. This parallelism breaks down when the indefinites are in the scope of a plural phrase (2). The *algunos* version (2a) is true if J. and M. wrote two or more joint articles, or if they wrote two or more articles each, but *not if they wrote only one article each*. In contrast, the *unos* version (2b) can also be true in the latter situation (but is false if J. and M. wrote just one joint paper.) That is, *unos* can have a DPlur reading: plurality is not distributed, but there is an overall plurality requirement (Zweig 2008).

DPlur readings of *unos* are cumulative readings. According to several authors (see e.g., Beck 2000), DPlur readings of BPs are the result of cumulativity. The cumulative reading of (3a) is paraphrased as ‘a total number of two girls ate a total of two pizzas’. If BPs introduce plurality semantically, the DPlur reading of (3b) (‘a total number of two girls ate two or more pizzas overall’) can be derived as a cumulative reading. Zweig 2008 argues against this approach by showing that BPs can have DPlur interpretations in contexts that block cumulative readings: (4a) lacks a cumulative interpretation (it can’t mean that most students read at least one paper, and a total of 30 papers were read overall), but (4b) has a DPlur reading. Furthermore, he claims that BPs are lexically number-neutral, following Sauerland *et al.* (2005) among others.

Zweig’s arguments do not carry over to *unos*: (i) Unlike BPs, *unos* DPs are not number-neutral (Martí 2007). Consider (5) (a variation of Zweig’s example (49)): (5a), with a BP, conveys that Sherlock must question at least one resident; (5b), with *unos*, that he must question at least two. (ii) Unlike BPs, *unos* lacks DPlur readings in contexts that block cumulative interpretations: (6a) lacks a cumulative reading, and (6b) does not have a DPlur interpretation (it is false if each student read just one paper.) Hence, there seems to be no obstacle to treating the DPlur readings of *unos* as cumulative readings.

***Unos*.** Following Krifka 1998 and Kratzer 2003, we will assume that the extensions of all lexical predicates are cumulative (7). This automatically derives the DPlur reading of *unos* given the following uncontroversial assumptions: (i) *unos* is an existential quantifier (8); (ii) plural morphology (here interpreted as proper plurality) combines with the NP, as in (9). The sentence in (4b), whose LF is given in (10a), is assigned the truth-conditions in (10b): there is an event of writing a plural article (i.e., the sum of at least two articles) whose agent is the sum individual j+Mm. As desired, these truth-conditions are satisfied in a scenario where J. and M. wrote just one paper each, given the cumulative interpretation of ‘*write’ and ‘*agent’.

***Algunos*.** In this setup, cumulative readings should be generally available for existentials. Since these readings are compatible with scenarios where plurality does not distribute, the unacceptability of *algunos* in these scenarios is puzzling. (The same question arises for plural *some*, whose plurality never distributes.) We contend that the solution to this puzzle has to do with the locus of interpretation of plural morphology. Building on work by Kratzer 2003, we

claim that the plural feature of *algunos*-DPs moves outside the DP and pluralizes the DP's sister, as in (11). In this structure, *plural* combines with an expression of type $\langle e, it \rangle$ ('i' is the type of events.) Assuming a cross-categorial denotation for *plural*, in this case *plural* will be interpreted as in (12). As before, it imposes a proper part requirement, but this time it does so over the theme and the event argument. The sentence in (4a) will then have the truth-conditions in (13), which are satisfied if J. and M. wrote at least two joint papers, or if they wrote more than one paper each, but crucially not if they wrote just one paper each. In the latter scenario, there are two atomic writing events, one by J. (e1) and one by M. (e2). Neither of these two events satisfies (13) and their sum $e1+e2$ doesn't either, since it has no proper parts whose agent is $j+m$.

Our analysis of the contrast between *unos* and *algunos* raises the question of what factors determine where plural morphology is interpreted. An investigation of this issue is likely to shed light on the syntactic and semantic properties of plurality.

- (1) Juan escribió {algunos / unos} artículos muy interesantes.
Juan wrote {algunos / unos} articles very interesting
- (2) a. Juan y María escribieron algunos artículos muy interesantes.
b. Juan y María escribieron unos artículos muy interesantes.
Juan and María wrote algunos/unos artículos very interesting
- (3) a. Two girls ate two pizzas. b. Two girls ate pizzas.
- (4) a. Most students read thirty papers. b. Most students read papers. (Zweig 2008: 28-29)
- (5) a. Para encontrar al ladrón, Sherlock tiene que interrogar a habitantes del pueblo.
b. Para encontrar al ladrón, Sherlock tiene que interrogar a unos habitantes del pueblo.
To find the thief, Sherlock has to interrogate a unos residents of-the town
- (6) a. La mayoría de los estudiantes leyeron tres artículos muy interesantes.
b. La mayoría de los estudiantes leyeron unos artículos muy interesantes.
The majority of the students read three / unos articles very interesting
- (7) Lexical cumulativity: For any $P_{\langle \sigma, t \rangle}$, and any a, b of type σ , $[P(a) \ \& \ P(b) \rightarrow P(a+b)]$
- (8) $\| \text{unos} \| = \lambda P_{\langle e, t \rangle} \lambda Q_{\langle e, it \rangle} \lambda e \exists x [P(x) \ \& \ Q(x)(e)]$
- (9) a. **unos artículos** \rightarrow LF: $[_{DP} \text{un } [_{NP} \text{plural artículo}]]$
b. $\| \text{artículo} \| = \lambda x. * \text{article}(x)$ ['*' indicates that the predicate that follows is cumulative.]
c. $\| \text{plural} \| = \lambda P_{\langle e, t \rangle} \lambda x. [P(x) \ \& \ \exists y [P(y) \ \& \ y < x]]$ (' $x < y$ ' iff x is a proper part of y .)
- (10) a. $[_{DP} \text{un } [_{NP} \text{plural artículo}]]$ **1 Juan and María wrote t_1**
b. $\exists e \exists x [* \text{article}(x) \ \& \ \exists y [* \text{article}(y) \ \& \ y < x \ \& \ * \text{agent}(j+m)(e) \ \& \ * \text{write}(x)(e)]]$
- (11) $[_{DP} \text{algún } [_{NP} \text{artículo}]]$ $[_{pl} \text{plural } [1 \text{ J. y M. escribieron } t_1]]$
- (12) $\| \text{plural} \| = \lambda P_{\langle e, it \rangle} \lambda x \lambda e [P(x)(e) \ \& \ \exists y \exists e' [P(y)(e') \ \& \ y < x \ \& \ e' < e]]$
- (13) $\exists e \exists x [* \text{write}(x)(e) \ \& \ * \text{article}(x) \ * \text{agent}(j+m)(e) \ \& \ \exists e' \exists y [y < x \ \& \ e' < e' \ \& \ * \text{write}(y)(e') \ \& \ * \text{article}(y) \ * \text{agent}(j+m)(e')]]$

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