Vagueness, Universal Quantification and the Syntax-Pragmatics Interface

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1. Introduction. This paper presents a novel empirical contribution to a current debate in the fields of pragmatics and the philosophy of language concerning the characterization of the interface between the syntactic engine and the component of the grammar responsible for determining the use of linguistic expressions. In the traditional view of the syntax-pragmatics interface (often called the Gricean view), all pragmatic computation takes place after both narrow syntax and logical form (cf. Grice (1989) and his followers). A second view of the syntaxpragmatics interface holds that pragmatic computation mirrors syntactic computation; that is, pragmatic processes apply in a systematic manner to constituents that are smaller than the entire sentence. This Localist view of the computation of pragmatic structures has been recently defended in a systematic manner by Chierchia (2004), Récanati (2004) and Chierchia, Fox & Spector (2008) among others, using data from lexical semantics and scalar implicatures. This paper presents a new argument for the localist view of the syntax-pragmatics interface based on data from scope interactions between quantified noun phrases and pragmatic operators. We argue, following authors such as Lasersohn (1999) and Brisson (2003), that the English lexical item all is a pragmatic operator; however, based on its interactions with other quantifiers, we argue that it must make its contribution to the meaning of the sentence before the covert syntactic derivation is completed. We therefore conclude that the data concerning *all* is problematic for the Gricean view.

2. *All* **in the Gricean View.** *All* differs from its more straightforwardly quantificational counterpart *every* in that it applies to constituents that independently exhibit some degree of universal quantification. For example, the distributive sentence in (1a) without *all* is true if the predicate applies to every atomic part of the subject.

(1) a. The girls are late

b. All the girls are late

This being said, speakers generally allow a certain (contextually determined) amount of leeway in evaluating the truth of sentences containing definite plurals: (1a) can be judged true if the distributive predicate holds only of a certain salient subpart of the group referred to by *the girls*. In cases such as (1), rather than being blocked or redundant, prefixing *all* on the subject eliminates the original sentence's tolerance for (irrelevant) exceptions. This discourse function of *all* has led to its analysis not as a determiner/quantifier, but as a pragmatic operator that serves to eliminate the vagueness that is permitted in the general case (Lasersohn (1999); Morzycki (2002); Brisson (2003) among others). For example, Brisson (2003) proposes that *all* serves to restrict the choice of value for a domain restriction variable inside the distributivity operator. Following Schwarzschild (1996), she assumes that the distributivity operator takes a *cover* (a partition that allows overlap) of the domain of discourse as a covert argument (*Cov*), and this cover may group irrelevant girls in a cell that is not strictly a subset of the denotation of *the girls*. Thus, Brisson assigns the truth conditions in (2) to a sentence with a plural definite subject like *The girls jumped in the lake*.

(2) $\forall X (X \in [\![\operatorname{Cov}_i]\!] \& X \subseteq [\![the girls]\!] \to X \in [\![jumped in the lake]\!])$ (Brisson (2003: 135)) She proposes that the function of *all* is to ensure that the choice of cover groups together the members of the subject DP into a single cell, thereby deriving *all*'s 'intolerance to exceptions' effect. This analysis (like others) is Gricean since the pragmatic contribution of *all* occurs at the level of saturation of indexical expressions, i.e. strictly after (c)overt syntactic computation. **3. Problems for the Gricean View.** Although such an analysis correctly accounts for the pragmatic function of *all*, we argue that it makes wrong predictions with respect to the role that DPs headed by *all* play in the syntax. An analysis (like Brisson's) that treats *all* as a post-syntactic domain restricter predicts that there should be no difference in the scopal behavior of *all DPs* and their simple definite counterparts, since it is generally assumed that scopal relations are established by the syntactic engine. However, *all DPs* behave like quantified noun phrases with respect to their ability enter into scope relations with other operators, relations that are determined by syntactic operations like Quantifier Raising (QR). Firstly, although they are both (at least to some extent), universally quantified, definite subjects of distributive sentences and subjects headed by *every* have different scope properties. For example, while negation always scopes under the universal quantifier contributed by the distributive predicate (3a), subjects headed by *every* can take scope either above or below negation (3b).

(3) a. The girls are not late (Only $\forall > \neg$) b. Every girl is not late ($\neg > \forall \& \forall > \neg$) However, as shown in (4), *all DPs* pattern like *every DPs* (and unlike definites): they can scope both above and below negation.

(4) All the girls are not late $(\neg > \forall \& \forall > \neg)$

Additionally, in configurations in which QR for an *every DP* is impossible (like in *how many* questions (5b)), *all DPs* (but not definites (5a)) are similarly limited in scope (6).

- (5) a. How many books did the girls read? (*what* $n > \forall \& \forall > what n$)
 - b. How many books did every girl read? (Only *what* $n > \forall$)
- (6) How many books did all the girls read? (Only *what* $n > \forall$)

A final argument that *all DPs* play an important role in syntactic derivations comes from their role in NPI licensing. Firstly, unlike definites (7a), like *every DPs* (7b), DPs headed by *all* can license NPIs in their complement (8).

(7) a. *The girls who read anything passed the exam

(8)

- b. Every girl who read anything passed the exam
- All the girls who read anything passed the exam

Secondly, while definites don't intervene in NPI licensing (9a), universally quantified DPs do.

- (9) a. John doesn't think that the girls bought anything
 - b. *John doesn't think that every girl bought anything

Yet again, all DPs pattern like universally quantified DPs (10), not definites.

(10) *John doesn't think that all the girls bought anything

In summary, we argue that the *all*'s grammatical contribution cannot be limited to influencing post-syntactic processes like variable assignment to indexical expressions. The status of *all DPs* as universal quantifiers must be established prior to the end of the derivation.

4. *All* **in the Localist View.** Similar to Brisson and other authors, we propose that the distributivity operator imposes a relation on the part-structure of the definite subject. This relation is contextually determined; therefore fixing it is a matter for pragmatics. However, unlike previous authors, we propose that supplying this relation can be local and sub-propositional: we propose *all* fixes it immediately after this lexical item is merged into the structure. Therefore, the syntactic engine applies to *all DPs* as if they were universal quantifiers, which is why they behave in the same way as *every DPs* with respect to scope interaction and NPI licensing. We therefore conclude (along with Récanati, Chierchia, Fox, and Spector) that (at least some) pragmatic computation mirrors syntactic computation and that the syntax-pragmatics interface is much more intricate than is traditionally thought.

5. References. 1. Brisson, C. (2003). "Plurals, All, and the Non-Uniformity of Collective Predication." *Linguistics & Philosophy.* 26. **2.** Chierchia, G. D. Fox & B. Spector. (2008). "The Grammatical View of Scalar Implicatures and the Relationship between Semantics and Pragmatics". *Handbook of Semantics.* **3.** Grice, P. (1989). *Studies in the Way of Words.* HUP.
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