Embedded *some* and scalar implicatures in real usage
Ira Noveck (ISC) & Pierre Larrivée (Unicaen)

This purpose of this submission is to investigate the extent to which scalar implicatures are found with weak quantifiers in an embedded context, as illustrated by the following (from Potts et al., 2016).

(1)   Every player hit some of his shots.

The theoretical background to the investigation of this particular case stems from an ongoing debate concerning the locus of scalar implicatures: is enrichment attributable to structural features of language or to extra-linguistic, contextual factors? There are basically two schools of thought on the matter.   One is that the generation of scalar implicatures depends on contextual factors and that, when they occur, they are part of an effort to comprehend the speaker's intended meaning; often, as the data underline, the semantics of *some* could suffice and need not lead to further enrichment. This is the contextualist position (see Breheny et al., 2006; Noveck & Sperber, 2007; Noveck, 2018). A second, semantic school considers words like *some* to be ambiguous between a *some and perhaps all* reading and a *some but not all* reading and that the choice between the two depends on structural factors. This is the position defended by formal semanticists such as Chierchia and colleagues (2004) whose most recent proposal is that there is a covert operator in the syntax that allows words such as *some* to come with a narrowed lexical meaning at any sentence node. Such a covert operator (sometimes known as EXH, for exhaustivity, or as a covert "only") allows a word such as *some* to be understood readily as *some but not all* (i.e. *only some*).

The covert exhaustivity account has led to a new generation of experiments concerning scalar terms, mostly because there are other semanticists who are not convinced by such a proposal (e.g. Geurts, 2009, 2010; Russell, 2006). These experimental investigations usually present utterances that are designed to evaluate quantifiable features of drawings.   For example, Geurts and Pouscoulous (2009) had participants evaluate the sentence in (2) when it was used to describe a design featuring three squares and three circles. A careful analysis would reveal that one square is connected by a line to all three of the presented circles, but that two squares are connected by a line to two of the three circles:

(2)   Every square is connected with some of the circles.

Thus, if *some* were interpreted exhaustively (as *Every square is connected with some but not all of the* circles) one should say "false" because there is, after all, one square connected to all circles. However, nearly all participants judged it true. Follow-up studies (Potts et al. 2016), with more user-friendly situations, also reported very low rates of false responses to similar situations, as did van Tiel et al. (2018). Interestingly, the prior work revealed that there was far greater variation in more particular environments such as (3) which was used to describe a case in which one player, who was shown to succeed in hitting half of his shots, was juxtaposed with two other players, who each hit all of theirs.

(3)   Exactly one player hit some of his shots.

In such a scenario, rates of true responses among participants range from 25 to 50% (see Van

Tiel et al., 2018).

Prior corpus investigations with respect to unembedded cases have been fruitful (see Degen, 2015; Larrivée and Duffley, 2014). For example, Larrivée and Duffley (2014) examined the interpretation of focused *some* in the spoken language subpart of the Corpus of London Teenage English (COLT). They found that 38% of occurrences had an upper-bounded reading and 4.5% a lower-bounded one; the majority of cases (57%) were however neutral (they could not naturally be paraphrased by any implicature). That paper further established that in the majority of contexts that do prompt an upper-bounded implicature (67%), a contextual trigger can be identified. It can be seen that prior corpus work supports a contextualist approach.

In the current work, we review the actual usage of embedded *some* in two steps. The first is a pilot investigation of the British National Corpus (BNC), which revealed that only embedding under *every* is found with some regularity in a corpus of 100 million words (e.g. there is not a single case of embedding under *exactly one,* as in [3]). The second is the main investigation, which used the Corpus of Contemporary American English (COCA). The method is to extract sequences with pre-verbal subject *every* and post-verbal object *some* in order to test the reading of *some*. Following (Larrivée and Duffley 2014), this is achieved by verifying whether modification by *some* with *at least* (for lower-bound reading) or *at most* (for upper-bound) yielded sequences that in and of themselves were interpretable. The acceptability judgment provided the following three outcomes. One, the configuration we looked for -- one that resembles the sentence structure in experimental paradigms such as (1) -- is uncommon; it accounts for only 18% (181 occurrences) of the first 1000 results. Two, as far as these 18% are concerned, *some* is compatible with an upper-bounded *some and not all* reading remarkably infrequently (representing about 10% of these 181 occurrences). Three, *some* most frequently (in 85% of attestations) serves to make explicit its lower-bounded reading. In the remaining 5% of cases, *some* communicates no tangible implicature. Finally, our review of the very few certifiable upper-bounded cases indicates that scalar implicatures in embedded positions, when they occur, are typically contextually determined. All told, the upper-bounded reading is even rarer in the embedded environments than they are in the general environments investigated by Larrivée and Duffley (2014).

These results strongly support a contextualist approach, while illustrating the interest of investigating real usage. The current approach even may explain why stimuli such as (3), which never emerge in the corpus, give way to variable responses. It pays to use several methods to investigate pragmatic phenomena; this way, one can get closer to capturing the effective reasoning used by speakers and listeners alike.

References

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