

# Scope of focused scalar items and embedded implicatures

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## 1 Embedded Implicature

The aim of this short paper is to evaluate the proposal to deal with embedded scalar implicatures by Geurts (2010), who is one of the most vocal advocates for the traditional ‘Globalist’ approach to scalar implicatures. The issue of local/embedded scalar implicatures has been a polarizing topic in recent years. Under the traditional view that was originally conceived by Grice, the generation of a conversational implicature is a post-semantic process, and it has been the most widely accepted view. There is now a competitor to the globalist approach: the localist/grammaticist theory, represented by Chierchia (2004, 2006), Fox (2007, 2009), and Chierchia et al. (2012), and central to the debate between the two approaches are embedded/local implicature phenomena. The promoters of localism argue that scalar implicatures are generated grammatically via the presence of a implicature-inducing operator. It is a radical departure from the traditional understanding of what implicatures are, and it is not surprising that the localist/grammaticist doctrine is not universally embraced.

The presence of some phenomena relevant to embedded implicatures was noted fairly early on (e.g., the well known *Hurford’s Constraint* in Hurford 1974), but their theoretical importance has increased dramatically as they began to be examined much more rigorously and systematically (cf. Chierchia 2004, van Rooij & Schulz 2004, Sauerland 2004, among others). The following are a couple of examples of embedded implicatures.

- (1) a. Andy believes that some of his colleagues are crooks.  $\rightsquigarrow$  Andy believes that not all of his colleagues are crooks.
- b. Every student solved some of the problems.  $\rightsquigarrow$  Every student solved some but not all problems.

The implicatures in (1) are stronger than what the Globalist approach predicts. (1a) should implicate that Andy has no firm beliefs concerning whether all of his colleagues are crooks, while the implicature in (1b) should be that not every student solved all of the problems. The Chierchia/Fox/Chierchia-et-al theory proposes that there is a sentential operator *Exh* (the term used in Fox 2007), which operates on

the set of scalar alternatives of its prejacent and negates the non-weaker alternatives in the set that are compatible with the prejacent. (2) illustrates the steps, using the sentence (1b). Here I take the liberty to simplify the proposals found in the papers listed above, as the exact technical execution of the idea is not crucial for our purpose.

- (2) Every student solved some of the problems.
- a. LF: [[Every student]<sub>1</sub> *Exh* [t<sub>1</sub> solved some of the problems]]
  - b. Set of Alternatives under *g*: {g(1) solved none of the problems, g(1) solved some of the problems, g(1) solved all of the problems}
  - c. With *Exh*: not true that g(1) solved all of the problems
  - d. The end result: Every student solved some but not all problems.

## 2 Globalists battle back

There have been a variety of counter-proposals from the Globalist camp (e.g., Russell 2006, Geurts 2009, 2010, Geurts & Pouscoulous 2009), but I would like to focus on the analysis proposed by Geurts (2010, chapter 8). Geurts maintains that the majority of embedded can be accommodated within the Globalist framework: "... they can be accounted for in a principled way as Q-implicatures, or at any rate, as essentially involving Q-implicatures. True, we had to assume that additional factors were involved in each case, but such auxiliary assumptions as had to be made could always be motivated on independent grounds" (Geurts 2010: 181). At the same time, he acknowledges that there are some fairly clear cases of what appear to be embedded implicatures when the relevant scale-inducing items are contrastively focused. For instance, focus seems necessary to generate the Horn-scale implicatures in the following examples.

- (3) a. Around here, we don't LIKE coffee, we LOVE it.  
 b. I'd rather have a WARM bath than a HOT one.  
 (Geurts 2010: 181, (36a,b))

Geurts argues that contrastive focus is not merely an auxiliary factor but an essential ingredient for 'embedded' implicatures.

- (4) a. For 'an embedded implicature' to arise (consistently), the relevant scalar item must be contrastively focused.  
 b. A contrastively focused scalar item undergoes *semantic narrowing*, which makes its meaning stronger than its original meaning.

- c. Thus, the strengthening with focus is a semantic phenomenon. It is not an implicature (hence, the quotation marks around embedded implicatures)

Typically, loving something entails liking something (but not vice versa). Contrasting ‘like’ with ‘love’, however, the meaning of the former undergoes semantic narrowing — it narrows down to ‘like but not love’. Going back to one of the previous examples, it is indeed true that focusing helps the embedded implicature become prominent (although my informants are unsure if focus is absolutely necessary).

- (5) Every student solved *SOME* of the problems.

In this example, there is no overt ‘antecedent’ with which *some* contrasts, but with heavy stress on it, it is fairly clear that the speaker intends to contrast it with another quantifier, most likely with *every* or *all*. Then, the focused quantifier is assumed to acquire the strengthened meaning: *some but not all*.

### 3 Intermediate scope and intermediate implicature

Let us now examine what is predicted by Geurts’ proposal. Since the relevant ‘embedded implicatures’ are tied to the semantically narrowed lexical meanings of focused scalar items, the scope of implicatures are tied to the scope taking possibilities of the scalar items (although the matrix implicatures are predicted to be available all the time, regardless of the scope of the scalar item). In this regard, we will examine of the status of intermediate implicatures.

When a scalar item is doubly embedded, there are potentially three different implicatures depending on where the computing of implicatures takes place. Consider the following example, where a focused *some* is embedded deeply.

- (6) In City A, every school requires that the students read *SOME* of the *Harry Potter* books. In City B, on the other hand, every school requires that the students read *ALL* of them.
  - a. Global: Not every school requires that the students are required to read all the textbooks.
  - b. Intermediate: Every school allows the students to read all the *Harry Potter* books (i.e., the students who read all of them should not be penalized).
  - c. Local: Every school requires the students not to read all the *Harry Potter* books (i.e., reading of all of them is not a good thing to do).

It is not clear, as far as my consultants’ judgments are concerned, whether all the three readings are equally available, but importantly, the intermediate reading seems

to be the most easily detected. The situation becomes rather different if the presumed semantic meaning of the focused *SOME* is explicitly stated:

- (7) a. Every school requires that the students read some but not all of the *Harry Potter* books.  
 b. Every school requires that the students read only some of the *Harry Potter* books.

In these sentences, the most salient reading (and the only available reading for many) is the local interpretation: The students should not be allowed to read all of the *Harry Potter* books. The difference between (6) and (7) is not expected under Geurts' semantic narrowing account. With all things being equal, the two quantifiers, the focused *some* and the fully spelled out versions *some but not all*, *only some*, should behave the same.

(6) also contrasts quite sharply with the following sentences where the relevant 'intermediate' readings are available with the *some but not all* and *only some*.

- (8) a. Every school requires the students to read some but not all of the *Harry Potter* books.  
 b. Every school requires the students to read only some of the *Harry Potter* books.

The differences between (7) and (8) are easily explained by the general fact about quantifier scope: clause-boundedness. A quantifier does not (easily) scope out of a finite clause while it can escape an infinitival clause. In order to generate the intermediate reading with *some but not all* / *only some*, the quantifiers must move out of finite clauses in (7), but a long-distance QR of that sort is not allowed. Therefore, the intermediate implicatures are not generated. In (8), the intermediate implicatures require QR out of infinitive clauses, which is known to be possible. The presence of the relevant implicatures is correctly predicted. The only pattern unaccounted for is (6). The intermediate reading should be absent, but it is indeed available.

There may be an objection to this characterization, however, based on the following assumption. A focused *some* may have the semantics of *some but not all* but retains the privilege of the simple *some* in that it can take exceptionally high scope, possibly due to the availability of the choice function strategy (Reinhart 1997, Matthewson 2001, among others). Let us check, therefore, with *most*, a quantifier that does not have the choice function strategy as an option but still generates the relevant implicature.

- (9) In City A, every school requires that the students read MOST of the *Harry Potter* books. In City B, on the other hand, every school requires that the students read ALL of them.

The result is the same. The intermediate implicature is available and seems to be the most salient reading of the three. The explicitly spelled version of this focused *most*, shown below, does not have the relevant intermediate reading.

- (10) Every school requires that the students read most but not all of the *Harry Potter* books.

The data examined above show that (i) a focused scalar quantifier can induce not only the most local implicature but also the intermediate implicature, but that (ii) the explicitly strengthened version of the same quantifier does not generate the intermediate reading unless the intermediate scope is independently available for the quantifier, and that (iii) a strategy for exceptional high scope, such as the choice function strategy, is not responsible for the presence of an intermediate implicature. Therefore, Geurt's (2010) analysis based on semantic narrowing cannot account for the intermediate implicatures generated by embedded focused scalar items.

#### 4 Conclusion

One of the main objections to the Localist/Grammaticist approach to scalar implicatures is that it over-generates. The criticism of the Globalist approach is the opposite: it under-generates. Geurt's proposal of focused scalar items is designed to solve this under-generation problem. The data examined in this paper suggest, however, that it does not solve the problem, as it fails to guarantee intermediate implicatures that are present even when the focused scalar items cannot take the corresponding intermediate scope.

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