Children failures with Scalar Implicatures: a reassessment of their pragmatic competence

The Question
Recently, a lot of experimental works have been done to investigate children pragmatic abilities (Chierchia-et-al.,2001; Noveck,2001; Papafragou&Musolino,2003; Guasti-et-al.,2004), especially focusing on Scalar Implicatures (SI), i.e. inferences that are derived when a scalar item is used:

(1) <u>Some</u> linguists are Italian
(2) <u>Not all</u> linguists are Italian

A general conclusion emerge from the literature:

- children have problems with SI

We intend to newly address the question of children pragmatic ability, arguing that previous works underestimated children competence. We show that, by using a different experimental design, children's performance improves dramatically.

Our study
We considered two facts:

- The influence of the task: subjects give more "logic" responses if the setting is non natural
- The bimodal distribution of subjects: either these always accept, or always reject, the critical statements

We suggest that subjects resort to a response strategy, favoured by some features of the experimental design:

- different groups of subjects were tested on different scales separately, so that each subject was tested on just 1 type of scalar items, presented 4 or 5 times in the course of the experiment
- all critical stories had the same underlying structure and the same outcome. For example, all the stories for "some" started with 5 characters and two alternatives; in the outcome, all characters chose the same thing, and the puppet described the story using "some X did Y", true but underinformative (all X did Y).
- this similarity among stories contributed to consider the situation "artificial" and to put pragmatic norms aside

We tested 40 5-year-old children and 40 adults on 3 different scalar items: *some-of* (in subject/object position), *two*, *a-piece-of*. The task used was the same of Papafragou&Musolino(2003), the TVJT, but we changed the experimental design:

- 4 conditions were created, 12 stories each: 8 controls + 4 critical stories;
- 10 subjects were randomly assigned to each condition so that each subject was shown only one occurrence of each target item and all subjects saw all types of scalar items.
- the structure of the stories varied a lot across items

Our results & conclusions
As in Papafragou&Musolino(2003), we found that SI associated to numbers is more readily derived than other items. However, overall children rate of derivation of SI rose significantly with respect to previous findings, on all items: *two* is interpreted as *not-three* 98% of times, *some* as *not all* 72,5% and *a-piece-of* as *not-whole* 62,5%.

In addition, the response given to the first target statement was not necessarily reiterated in the others, and no bimodal distribution was found. This suggests that subjects were answering according to the item, as they normally do in conversations, and not resorting to a strategy.

In light of these findings, we think that previous results and claims about children's pragmatic failures need to be reassessed: their competence, in fact, is much more adult-like than previous works suggested.

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