

Diversity of Scalar Inferences

Introduction.

Since Horn (1972) it has been widely assumed that scalar implicatures are based on pre-existing lexical scales (often referred to as Horn scales). Alternatives, or scale-mates, are ranked according to informativeness (Matsumoto (1995)): a stronger alternative must be more informative than a weaker one. As a result, if a speaker chooses a statement with a weaker alternative, the hearer is entitled to infer that she believes or knows that a statement with a stronger alternative does not hold. For instance, given a scale *<some, all>* in (1), a speaker utters (1a) and implicates (1b):

- (1) a. The cellist played some of Bach's suites.
- b. The cellist did not play all of Bach's suites.

Experimental investigations.

A considerable amount of literature written in the last 40 years discusses various kinds of scales of different domains: quantifiers, connectives, modals, gradable adjectives, etc. They are exemplified in (2) – (5).

- (2) a. Some of the guests have come.
- b. Not all of the guests have come.
- (3) a. The child ate an apple or a pear.
- b. The child did not eat an apple and a pear.
- (4) a. There might be a bear in the box.
- b. There does not have to be a bear in the box.
- (5) a. The summer was warm.
- b. The summer was not hot.

The most frequently investigated scalar expressions both in first language acquisition as well as in experiments with adults are quantifiers *<some, all>* (starting from Noveck (2001) up to Banga et al. (2009), Larson et al. (2009), and Geurts and Poussoulous (2009)) and connectives *<or, and>* (starting from Paris (1973) up to Zondervan (2010)). As for the other scalar expressions, it has been presupposed that they all belong to the same pattern as the scalar terms mentioned above.

However, recent studies Larson et al. (2009) and Larson et al. (in press) showed that gradable adjectives differ significantly from other Q-based scalar terms though the experiments' goals were rather distant from this finding: they investigated a topic to what degree scalar inferences on a par with other kinds of generalized conversational implicatures are incorporated into truth-conditional meaning.

The purpose of my experiment primarily concerned an issue whether all scalar values behave similarly. I tested gradable adjectives like *<warm, hot>*, *<intelligent, brilliant>* on a par with quantificational items *<some, all>*, *<sometimes, always>*, and modals, both epistemic *<may, certain>* and deontic *<may, have to>*. Despite the distinction between goals, and experimental paradigms in Larson and her colleagues' experiments (novel 'Literal Lucy' methodology) and mine (inference task), the data accord with each other revealing that gradable adjectives should be distinguished from other scalar expressions.

Second, my experiment showed a considerable discrepancy among adjectival domain: for instance, *<warm, hot>* was given much higher percentage rates (62%) than *<intelligent, brilliant>* (2%).

Theoretical consequence.

New data refute a widespread view that all Horn scales are alike. There is a strong evidence relied on the quantitative data that scalar expressions do not constitute a unified class since they give rise to different rates of scalar implicatures.

A potential explanation to this fact could be a difference in availability of scales. It seems plausible that quantificational and modal scales are more available than adjectival ones. For instance, *some* activates *all* more readily than *intelligent* does so for *brilliant*.

The findings undermine a traditional distinction between generalized and particularized conversational implicatures and go to the heart of the skirmish between defaultists (both – so-called syntax-based and presumptive – versions) and contextualists supporting the latter ones according to whom Horn scales are possible (Matsumoto (1995)), or available, rather than given to us (Gazdar (1979)).

References

- Banga A., Heutinck, I., Berends S.M., & P. Hendriks (2009).** *Some implicatures reveal semantic differences*. [pdf-file].
- Geurts and Pouscoulous (2009).** Embedded Implicatures?!? *Semantics and pragmatics* 2(4): 1–34.
- Horn, L. (1972).** On the semantic properties of the logical operators in *English*. *Ph.D. thesis*. University of California at Los Angeles.
- Larson M., R. Doran, Y. McNabb, R. Baker, M. Berends, A. Djalali, G. Ward, G. (2009).** On the Non Unified Nature of Scalar Implicature: An Empirical Investigation. *International Review of Pragmatics* 1(2), 211-248.
- Larson M., R. Doran, Y. McNabb, R. Baker, M. Berends, A. Djalali, G. Ward, G. (in press).** Distinguishing the said from the implicated using a novel experimental paradigm. *Semantics and Pragmatics: From Experiment to Theory*. ed. by Uli Sauerland and Kazuko Yatsushiro. New York, NY: Palgrave Macmillan.
- Matsumoto, Y. (1995).** The conversational condition on Horn scales. *Linguistics and philosophy* 18: 21–60.
- Noveck, I. (2001).** When children are more logical than adults: experimental investigations of scalar implicature. *Cognition* 78: 165–188.
- Paris, S. (1973).** Comprehension of language connectives and propositional logical relationships. *Journal of experimental child psychology* 16: 278–291.
- Zondervan, A. (2010).** Scalar Implicatures or focus: an experimental approach. *Ph.D. thesis*. Utrecht University.