

The impact of the wording of tasks in linguistic experiments and violations of Grice's second maxim of quality

Alexandre Cremers, Lea Fricke, Edgar Onea

The experiment had two goals. First, it investigated how different wordings of prompts and the type of response tasks in experiments affect the responses of participants. We tested the prompts shown in (1) in the context of a short story.

- (1)
 - a. Is x's statement true?
 - b. Was the answer correct?
 - c. Is x right?
 - d. Was x's statement natural in this context?
 - e. Was x justified in saying that?
 - f. Based on her behavior in this situation, do you consider x trustworthy?

The response task was either a binary forced choice judgment, meaning participants had to choose between the answers *Yes* and *No*, or they had to select a value on a Likert scale from 1 to 7, with the endpoints labelled with *I completely disagree* and *I completely agree*.

The second research question was how violations of Grice's (1975) second sub-maxim of quality are perceived. The two sub-maxims are shown in (2).

- (2)
 - a. Do not say what you believe is false.
 - b. Do not say that for which you lack adequate evidence.

We wanted to find out how participants react to violations in different contexts, which vary with respect to the probability that the statement is true. On one end of the spectrum we employed, was a situation in which the speaker utters a wrong statement while her evidence was such that she could be a 100 percent certain that the statement is false; and on the other end of the spectrum there was a situation in which the speaker utters a true statement having 100 percent certainty that it is true. In between these extremes, lie situations in which the statement was either true or false, with varying probability that this is the case given the speaker's knowledge.

The data we obtained overall confirm our hypothesis that different prompts vary regarding their sensitivity to the probability that the statement is true. We found that phrasings that explicitly target truth-value judgements (1a, b and c) are less susceptible to variations of the probability than wordings targeting the appropriateness in the context (1d, e and f). In the cases of the truth-sensitive prompts, adhering to Grice's first sub-maxim of quality is essential while violations of the second submaxim are tolerated. The evidence-sensitive prompt (1d) appears to allow for violation of the first sub-maxim while "adequate evidence" is required. Prompt (1f) behaves similarly although false statements receive low ratings throughout. For labelling a statement as *justified* (1e), adherence to both sub-maxims seems important. Regarding the two response tasks, there was no clear difference in the answer patterns between them, but with the binary response option, the data showed more noise.

Future experimental research can profit from this methodological study, as our insights may contribute to making more informed decisions when designing an experiment. With prompt (1c), we identified a prompt that singles out factual truth/falsity of the target sentence to the exclusion of pragmatic factors. This could be used to test various types of implicatures, the nature of which is controversial: While the Neo-Gricean approach treats all implicatures as

resulting from Gricean maxims (e.g. Geurts and Pouscoulous (2009), Horn (2009)), the grammatical approach treats implicatures as semantic phenomena, independent of the speaker's intentions (Fox, 2007; Chierchia et al., 2012).

References:

- Chierchia, G., Fox, D., and Spector, B. (2012). Scalar implicature as a grammatical phenomenon. In Maienborn, C., von Stechow, K., and Portner, P., editors, *Semantics: An international handbook of natural language meaning*, volume 3, pages 2297-2331. Mouton de Gruyter, Berlin.
- Fox, D. (2007). Free choice and the theory of scalar implicature. In Sauerland, U. and Stateva, P., editors, *Presupposition and implicature in compositional semantics*, Palgrave studies in pragmatics, language and cognition, pages 71-120. Palgrave Macmillan, London.
- Geurts, B. and Pouscoulous, N. (2009). Embedded implicatures?!? *Semantics and Pragmatics*, 2:1-34.
- Grice, P. (1975). Logic and conversation. In Davidson, D. and Harman, G., editors, *The logic of grammar*, pages 64-75. Dickenson, Encino, CA.
- Horn, L. (2009). Wj-40: Implicature, truth and meaning. *International Review of Pragmatics*, 1(1):3-34.