

Scalar implicatures in non-cooperative contexts

Nausicaa Pouscoulous (UCL)

Giulio Dulcinati (UCL)

Grice's account (1989) does not make direct predictions about non-cooperative situations. However, since hearers cannot expect non-cooperative speakers to be *as informative as is required*, we can assume that this account would predict that they should not infer quantity implicatures. In our study we tested how lack of cooperation affects scalar implicature derivation with a paradigm similar to the one used by Bonnefon, Feeney and Villejoubert (2009). We designed our experiment to discriminate between three hypotheses of how the lack of cooperation in the speaker might affect the implicatures drawn by the hearer:

1. For hearers, there is no difference between a cooperative and a non-cooperative speaker with regards to drawing and accepting implicatures (i.e. our null hypothesis).
2. Hearers draw less implicatures from a non-cooperative interlocutor compared to a cooperative one (i.e., the prediction we derived from the Gricean account).
3. Hearers infer implicatures from cooperative and non-cooperative speakers to the same extent but they are more likely to reject them in the case of non-cooperative speakers (cfr. Sperber et al. 2010).

We constructed five short stories (70-100 words) describing situations in which the reader is given the perspective of a character. The reader's character needs to know a piece of information and they ask another character in the story. For example, in one situation they are about to take an exam in the company where they work and they *don't remember whether you need to need to answer all of the open questions in order to pass*, so they ask a colleague who has just taken the exam. We constructed a cooperative version and a non-cooperative version of each story. In the cooperative version the character is motivated to help the reader (e.g. everyone in the company gets a bonus if enough employees pass the exam), whereas in the non-cooperative version the character benefits from the reader being ignorant or misinformed (e.g. it's a competitive selection exam and only one person can pass). In both versions the character answers with a statement containing the expression *some* which may give rise to a scalar implicature (e.g., *Some of the open answer questions must be answered*). Each story was followed by three yes-no questions: an epistemic question (e.g., *Given what she told you, do you think it's possible that all of the open questions must be answered?*); a meaning question (e.g., *Do you think she meant that you don't need to answer all the open questions?*) and a deception question (e.g., *Do you think she was trying to mislead you?*).

In our internet-based experiment 425 native English speakers were randomly assigned to read only one version of one of the five stories. We analysed their yes-no responses to the three follow-up questions (**Fig. 1**). In the epistemic question, participants in the non-cooperative condition answered yes (i.e., thought that 'all' could be the case) significantly more than participants in the cooperative condition ($\chi^2(1, N=425)=36.42, p<0.001$). Hypothesis 1 would have predicted no difference between the two conditions in the responses to the epistemic question, so this result indicates that there is some difference in interpretation or acceptance of scalar implicatures between the cooperative and non-cooperative condition. In the meaning question, there was no significant difference in the rate of yes answers (i.e., thinking that the character intended to communicate that 'not all' was the case) between participants

in the cooperative and non-cooperative condition ($X^2(1, N=425)=0.55, p=0.46$). Hypothesis 2 would have predicted participants in the non-cooperative condition to infer less implicatures than in the cooperative condition and therefore to have lower rates of yes responses in both the epistemic and the meaning question. Hypothesis 3 instead is

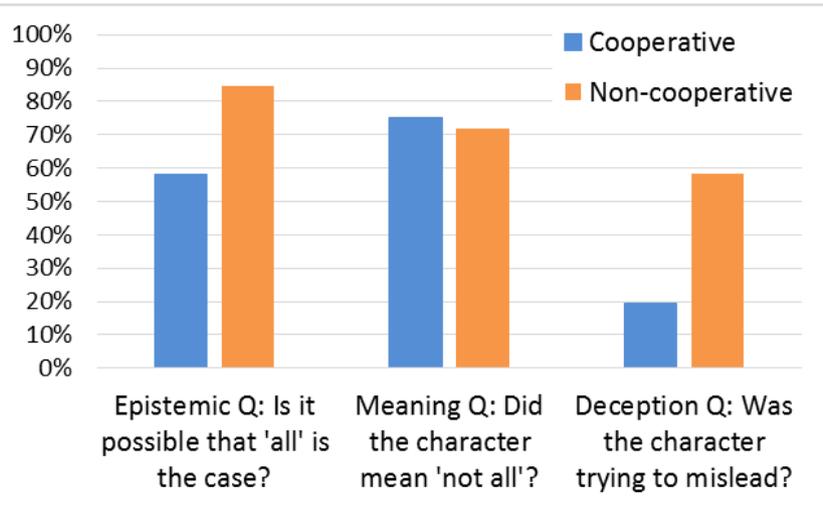


Fig.1 Frequency of yes responses to each of the three follow up questions

consistent with this pattern of results as it did not predict participants to draw less implicatures in the non-cooperative condition but it predicted them to reject the content of the implicatures more often than in the non-cooperative condition. Finally, in the deception question, participants in the non-cooperative condition answered yes (i.e., though that the character was trying to mislead them) significantly more than participants in the cooperative condition ($X^2(1, N=425)=67.61, p<0.001$). This last result fits how participants responded to the epistemic and meaning questions and suggests that participants in the non-cooperative condition recognized the intended scalar implicatures as false implicatures (Meibauer, 2014). In conclusion, the results of our experiment indicate that, other things being equal, hearers infer implicatures to the same extent from cooperative and non-cooperative speakers, but they are less likely to accept the content of the implicature from non-cooperative speakers. This conclusion is not consistent with the prediction we derived from Grice's (1989) account but it is consistent with the model proposed by Sperber et al. (2010) of how the interpretation process interacts with epistemic vigilance towards the source of the information. Our results echo findings by Mazzarella, Trouche, Mercier and Noveck (2016) on the effect of politeness on the derivation of scalar implicature.

References:

- Bonnefon, J-F., Feeney, A., & Villejoubert, G. (2009). When some is actually all: scalar inferences in face-threatening contexts. *Cognition*, 112, 249-258.
- Grice, H. P. (1989). *Studies in the way of words*. Cambridge: MA: Harvard University Press.
- Mazzarella, D., Trouche, E., Mercier, H., & Noveck, I.A. (2016). Believing what you are told: Politeness and scalar inferences. *Poster presented at AMLaP, Bilbao, Spain*
- Meibauer, J. (2014). *Lying at the semantics-pragmatics interface*. Berlin: Mouton de Gruyter.
- Sperber, D., Clément, F., Heintz, C., Mascaro, O., Mercier, H., Origgi, G., & Wilson, D. (2010). Epistemic vigilance. *Mind & Language* 25(4), 359-393.