

production that occur in repeated references when communication is unsuccessful are in fact useful for an addressee and might be done with this addressee in mind.

We can relate the findings of this study also to previous work on gesture production in repeated references where there was no negative feedback. Specifically the study by Hoetjes, Koolen, et al. (2015) found that in repeated references, speakers produced fewer and less precise gestures. When conducting their gesture interpretation experiment however, it turned out that these changes in gesture production did not make the gestures less informative, i.e. in their experiment they found that participants were equally likely to correctly select the target object based on a gesture from an initial or from a repeated reference. In the current study, the same procedure was used. We can therefore directly compare the results of their gesture interpretation experiment to the results of the current study. In the study by Hoetjes, Koolen, et al. (2015) object descriptions were repeated in a context of common ground, without communicative problems. In the current study the object descriptions were repeated because the addressee provided negative feedback, indicating that there were communicative problems. Combining the findings from both studies it can be concluded that when gestures are produced during repeated object descriptions, they only become more informative if the discourse context requires it. When there are no communicative problems and there is common ground between speaker and addressee, there is no need to make the gesture more informative for the addressee. When negative feedback indicates that there are communicative problems, and consequently there is less, or no, common ground, gesture production in repeated references is adapted in such a way that the gesture can help the addressee in correctly identifying the target object.

To conclude, this study suggests that gestures can provide valuable information in a discourse context. In this case, participants were able to select the correct object above chance level, after only viewing one gesture (which is a hard task, especially without the original speech), and this ability increased when these gestures were produced after negative feedback. Based on these findings, we would like to claim that by adapting their gestures when communication is unsuccessful in such a way that they become more informative, speakers help the addressee, and thereby help to keep the overall communicative situation as successful as possible.

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