

## Background

People do not always behave as ideal interactants. When asked a question, they may bluntly say "No", without apologizing or giving reasons. In an ERP experiment (measuring Event Related brain Potentials), we tested how language users process polite and less polite answers to different types of requests.

## Experiment

### Materials (translated from Dutch)

#### Request

"Could you please put out the garbage tomorrow?"

A1: "No."

A2: "No, I'm sorry, I can't."

#### Knowledge Question

"Did you know John will put out the garbage tomorrow?"

A1: "No."

A2: "No, I'm sorry, I didn't know."

#### Procedure

Visual presentation, word-by-word in the center of a computer screen (240 ms on, 240 ms off).

Question – 1200 ms – "No," – 720 ms – "sorry" – 240 ms

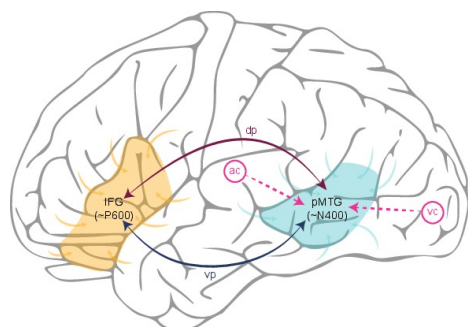
Question – 1200 ms – "No." – 1200 ms

Task: 'Semantic probe' task for a selection of items

## Hypotheses

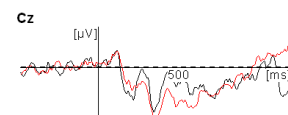
**Retrieval-Integration view** (Brouwer, Fitz, & Hoeks, 2012; Brouwer & Hoeks, submitted; Hoeks & Brouwer, to appear):

- **N400** amplitude reflects lexical retrieval
- **P600** amplitude reflects (re-)construction of MRC: Mental Representation of what is Communicated

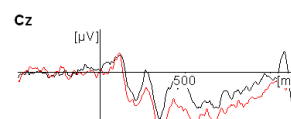


## Results

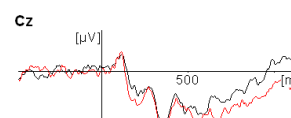
Did you know? **No.**  
Did you know? **No, ...**



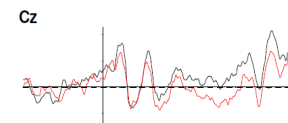
Could you please? **No.**  
Could you please? **No, ...**



Could you please? **No.**  
Did you know? **No.**



Did you know? **No, sorry**  
Could you please? **No, sorry**



## Conclusion

All these positivities are members of the **P600-family**, reflecting the effortful processing involved in the construction and maintenance of a discourse representation or MRC (Brouwer et al., 2012).

Part of this processing may be **pragmatic**: What did the person want to communicate by being blunt? Why did the person refrain from offering an apology, or some kind of a motivation for the refusal?

Another part of the processing may involve the updating of **speaker representation**, for instance, this person saying "no" is rude, perhaps implying that I better be on my guard.

To what extent this knowledge about the speaker is represented as part of the developing discourse representation, or to some extent stored separately, is a matter for future research. At present we are working on a follow-up study with spoken dialogues.

#### References:

- Brouwer, H., Fitz, H., & Hoeks, J.C.J. (2012). Getting Real about Semantic Illusions: Rethinking the Functional Role of the P600 in Language Comprehension. *Brain Research*, 1446, 127-143.
- Brouwer, H., & Hoeks, J.C.J. (submitted). A time and place for language comprehension: Mapping the N400 and the P600 to a minimal cortical network. *Frontiers in Human Neuroscience*.
- Hoeks, J.C.J., & Brouwer, H. (to appear). The electrophysiology of discourse and conversation. In: T. Holtgraves (Ed.), *Oxford University Handbook of Language and Social Cognition*. Oxford University Press: Oxford.