FENS Forum 2010 - Amsterdam

- Posters: to be on display from 8:00 to 13:15 in the morning and from 13:30 to 18:45 in the afternoon. Poster sessions run from 09:30 to 13:15 in the morning and from 13:30 to 17:30 in the afternoon. A one hour time block is dedicated to discussion with the authors (authors should be in attendance at their posters as from the time indicated.)
- For other sessions, time indicates the beginning and end of the sessions.

First author De Boer, Miriam (poster)

Poster board F6 - Mon 05/07/2010, 13:30 - Hall 1
Session 114 - Human cognition 3
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Title A dissociation between linguistic and communicative abilities in the human brain

Text Although language is an effective means of communication, it is unclear how linguistic and communicative abilities relate to each other. In communicative message generation, perspective taking or mentalizing are involved. Some researchers have argued that mentalizing depends on language. In this study, we directly tested the relationship between cerebral structures supporting communicative message generation and language abilities. Healthy participants were scanned with fMRI while they participated in a verbal communication paradigm in which we independently manipulated the communicative intent and linguistic difficulty of message generation. We found that dorsomedial prefrontal cortex, a brain area consistently associated with mentalizing, was sensitive to the communicative intent of utterances, irrespective of linguistic difficulty. In contrast, left inferior frontal cortex, an area known to be involved in language, was sensitive to the linguistic demands of utterances, but not to communicative intent. These findings indicate that communicative and linguistic abilities rely on different neuro-cognitive architectures. We suggest that the generation of utterances with communicative intent relies on our ability to deal with mental states of other people ("mentalizing"), which seems distinct from language.

Theme F - Cognition and behaviour
Human cognition and behaviour - Social cognition
