

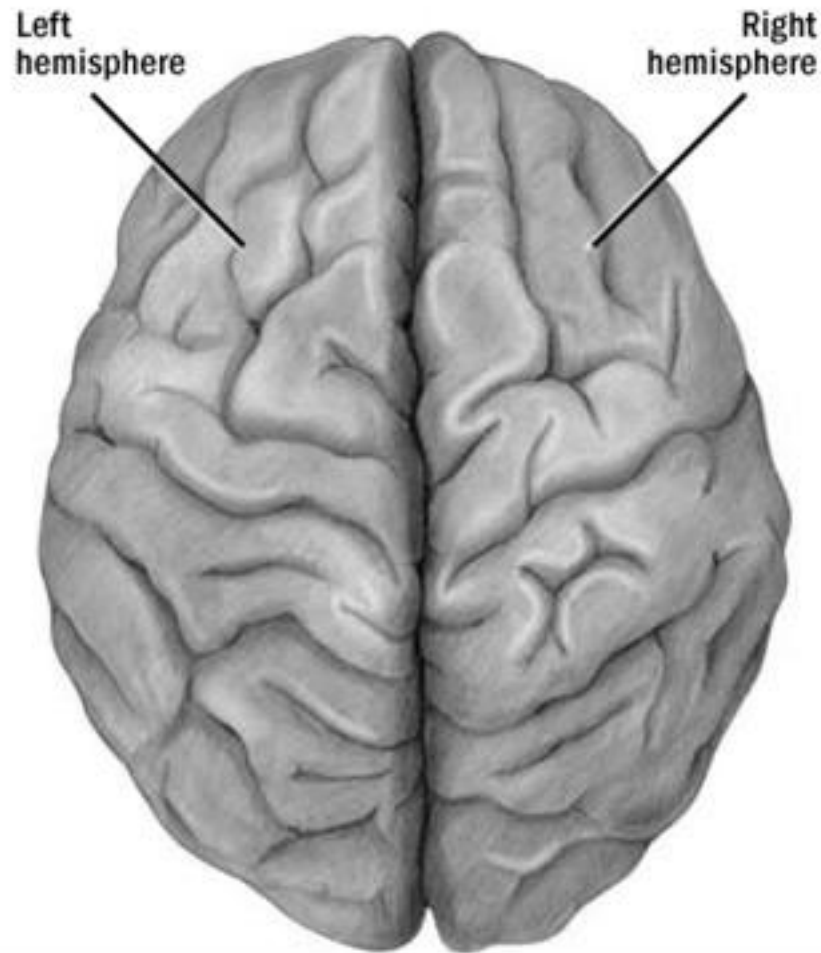
# Language is important for ...



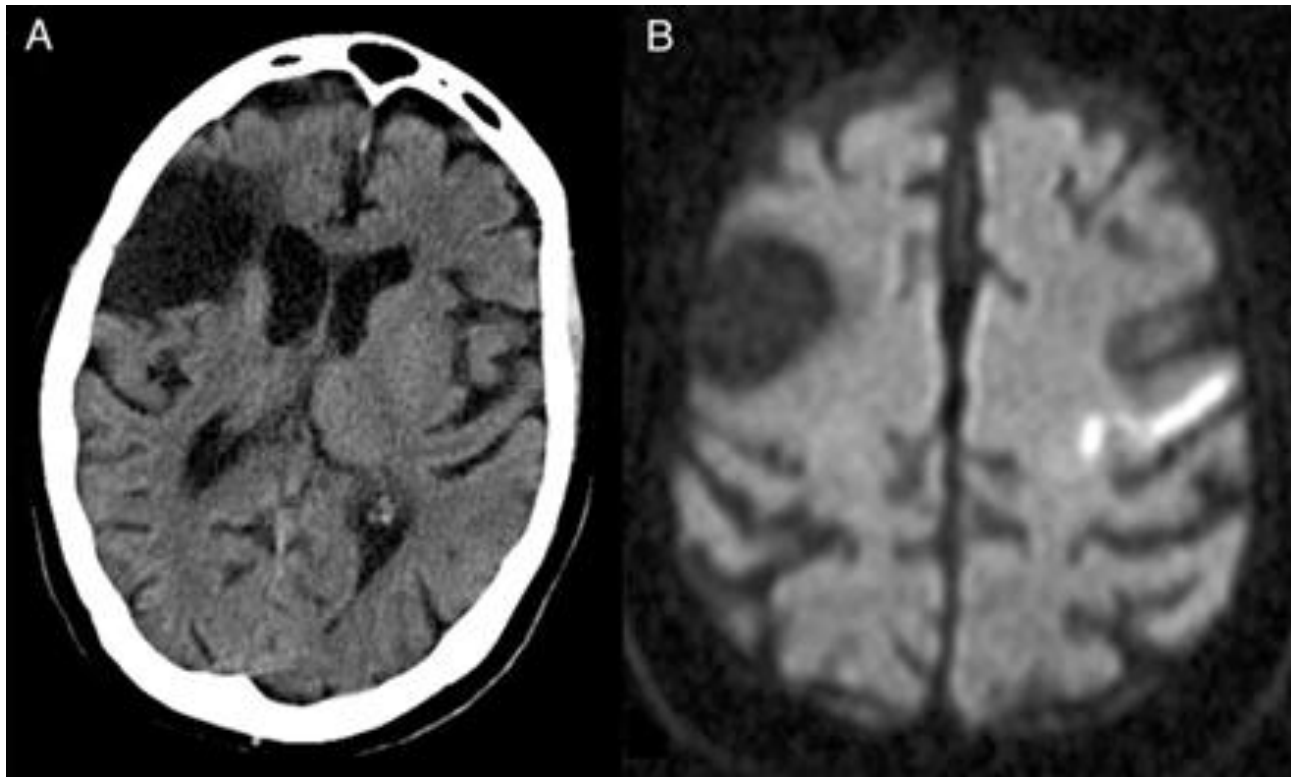
- Information
- Social connections
- Thought

Approximately 6-8 million people in the United States suffer from some form of language impairment.

# Cerebral hemispheres



Left hemisphere damage often causes language processing problems

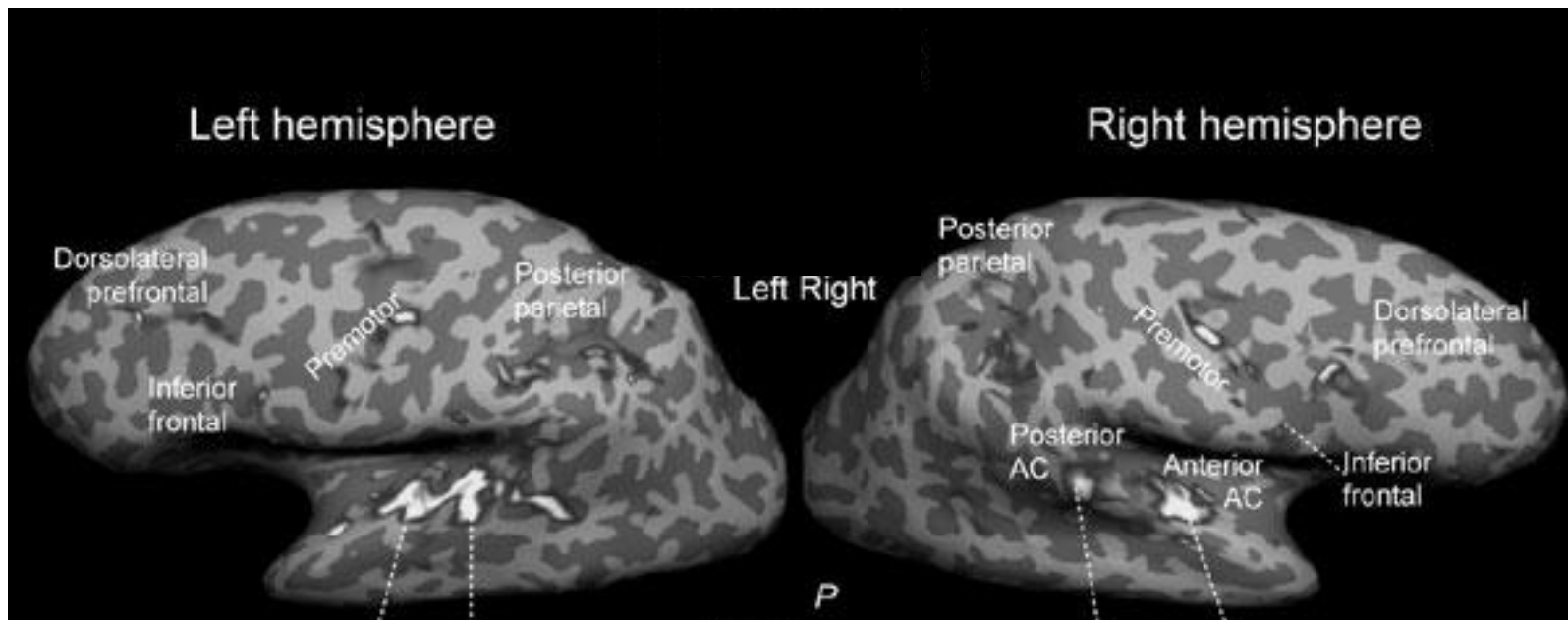
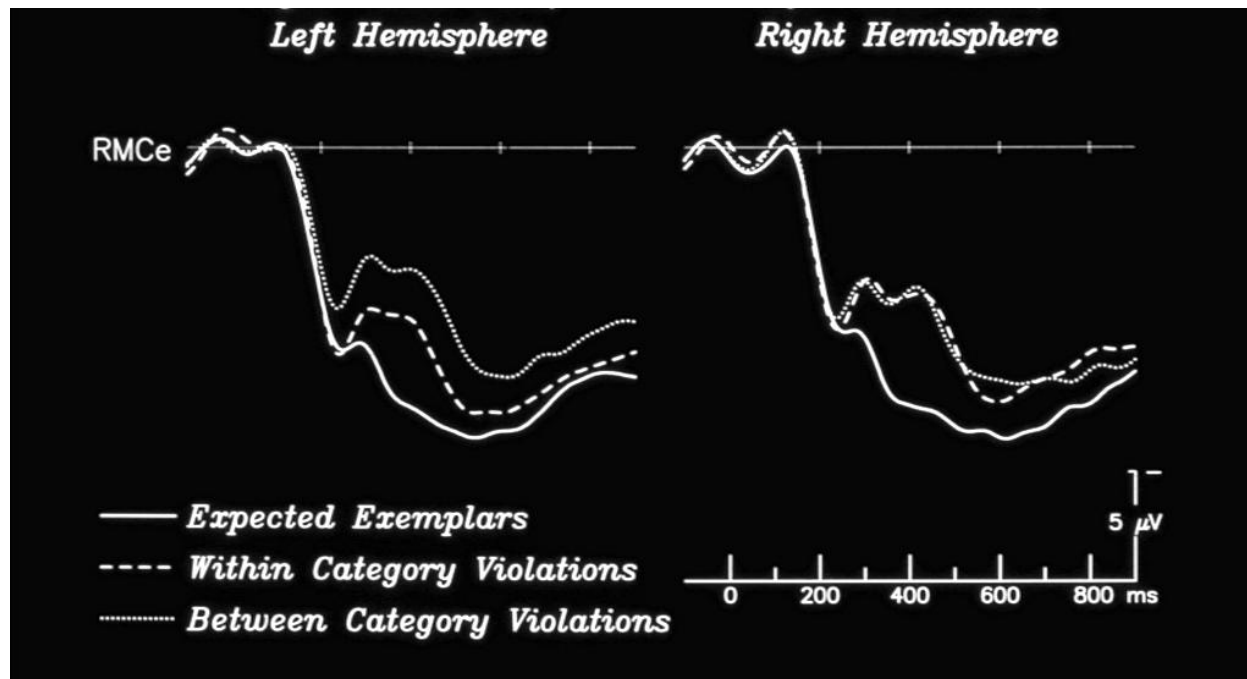


# The Cognition and Brain Laboratory Beckman Institute, UIUC



# Magnetoencephalography (MEG)





The **N400** is a feature ("component") of the human scalp-recorded event-related brain potential (ERP). Its name derives from the fact that the N400 is a negative-going potential (relative to a reference behind the ear), which peak around 400 ms post-stimulus onset (and is observed between about 250 and 550 ms) in young adults. The N400 forms part of the typical electrical brain activity seen in response to a wide array of meaningful and potentially meaningful stimuli, including visual and auditory words (and word-like strings of letters), acronyms, sign language signs, pictures, environmental sounds, and gestures.

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