NEUROSCIENCE

WORD RECOGNITION

An in-depth look into how we recognize the world

Information sourced from Dr. Marlene Behrmann's publications
https://www.cmu.edu/dietrich/behrmannlab/Publications/index.html

Basic word recognition is the ability of a reader to recognize written words correctly while also understanding the meaning of the word.

Letters within a word are used to piece together and form a sequence.

- Jumbled words can be read by using the same first and last letters
- You must be able to understand a word in order to recognize it

RECOGNITION DEFICITS

DYSLEXIA

- Inability or difficulty in reading or spelling of words
- Usually from a delay in speech development/learning disability
- Understanding & comprehension of words is not impaired
- Most often fixed with help from a speech therapist/tutor

ALEXIA

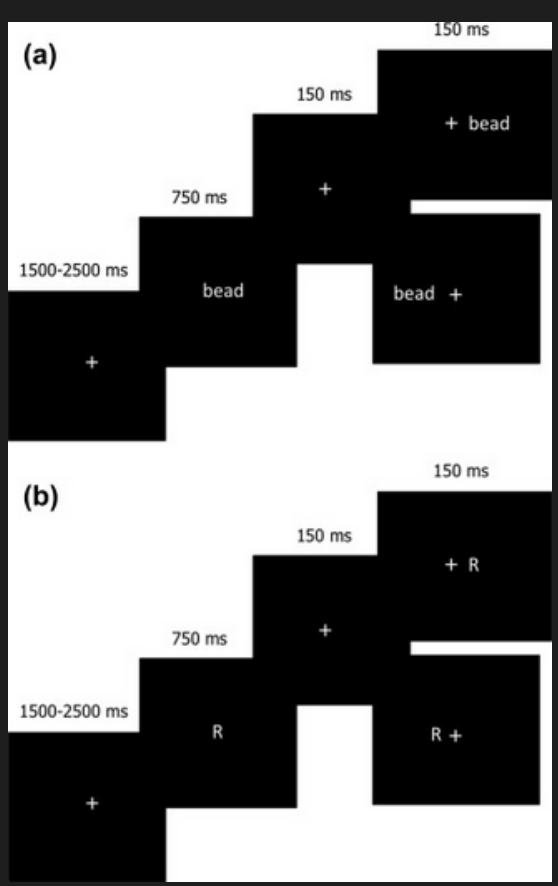
- Similar to dyslexia, but more permanant
- Usually a result of lesion or damage to occipito-temporal region in the left hemisphere
- An acquired problem instead of a developmental problem

DR. BEHRMANN'S RESEARCH

Hemispheric specialization

The left hemisphere is dominant for language, reading, & word recognition

Gabor patches and other tests (right) are used to study lateralization



Word & line bisection

Participants perform a line bisection test seen here

- Compared English to Hebrew natives
- Compared to individuals with dyslexia
- Studies suggest an over-exaggeration in line bisection for those with dyslexia