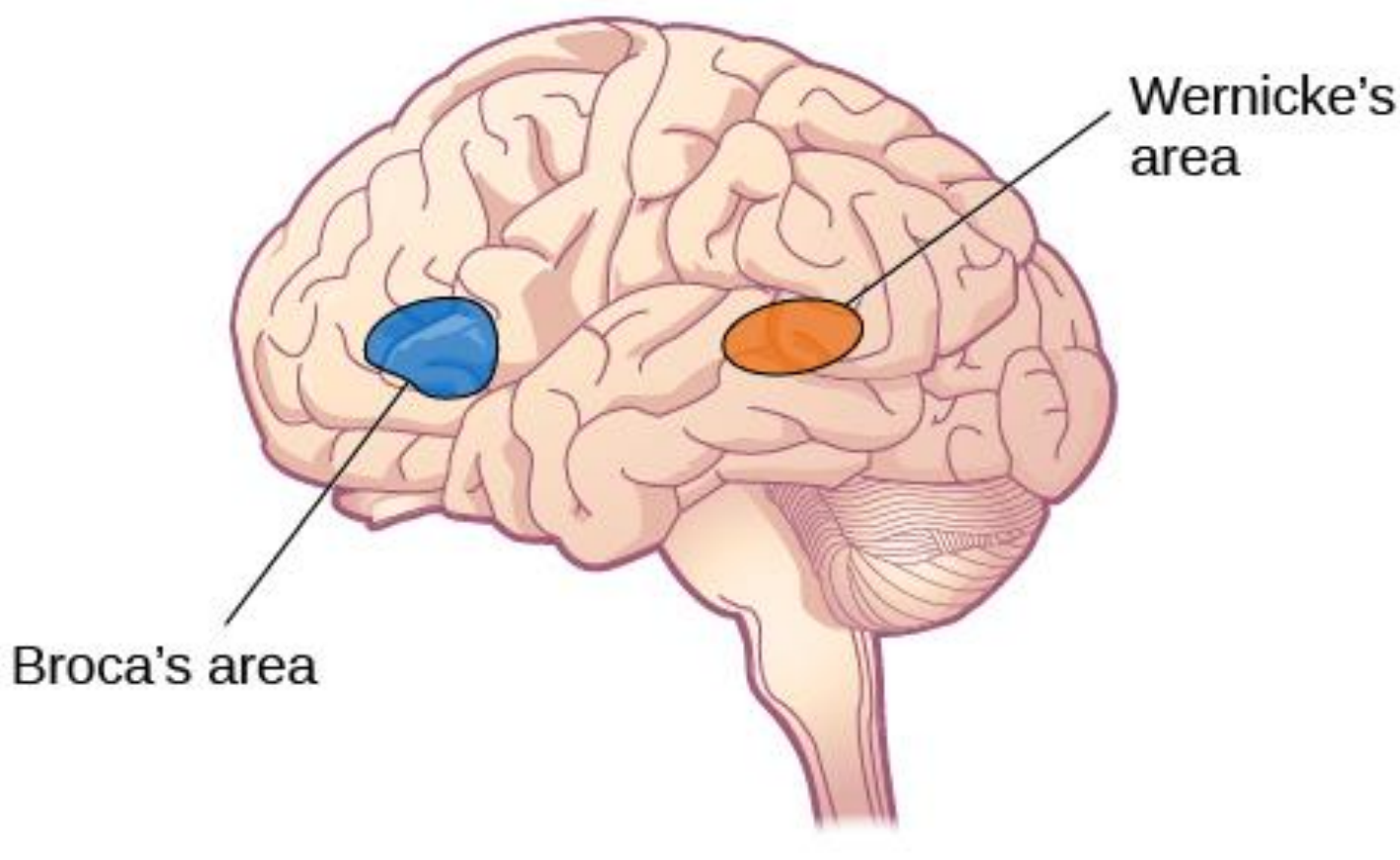
Aphasia

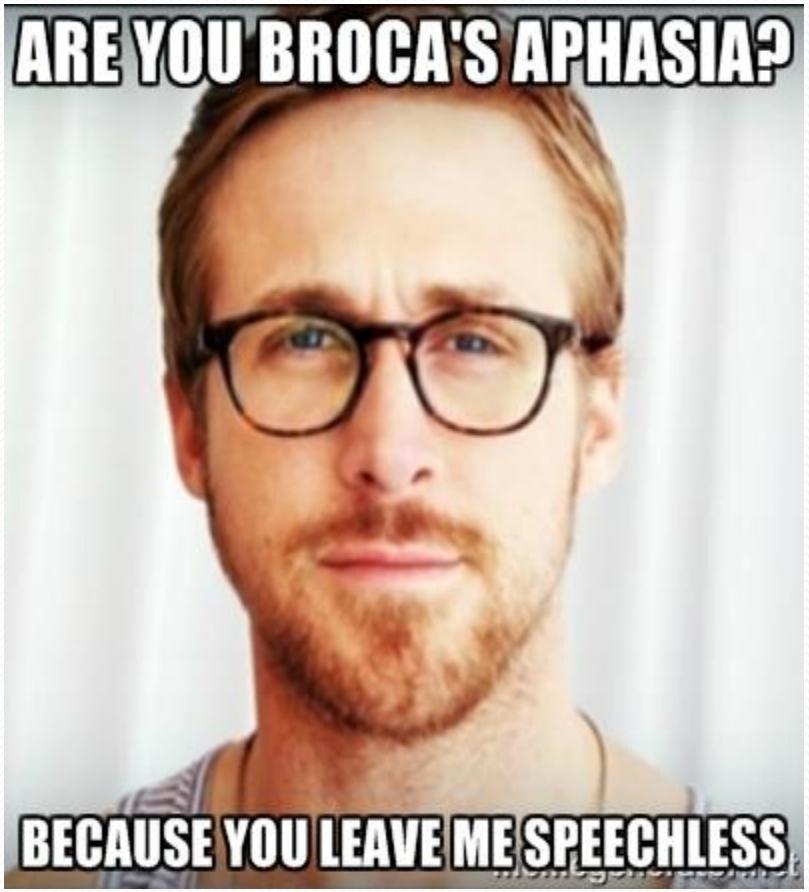
Examples of Localization

Broca and Wernicke



Broca's Aphasia: Expressive

- Broca's Area: Controls speech muscles
- Damage to this area disrupts speech
- Can still comprehend speech



Broca's Aphasia Examples

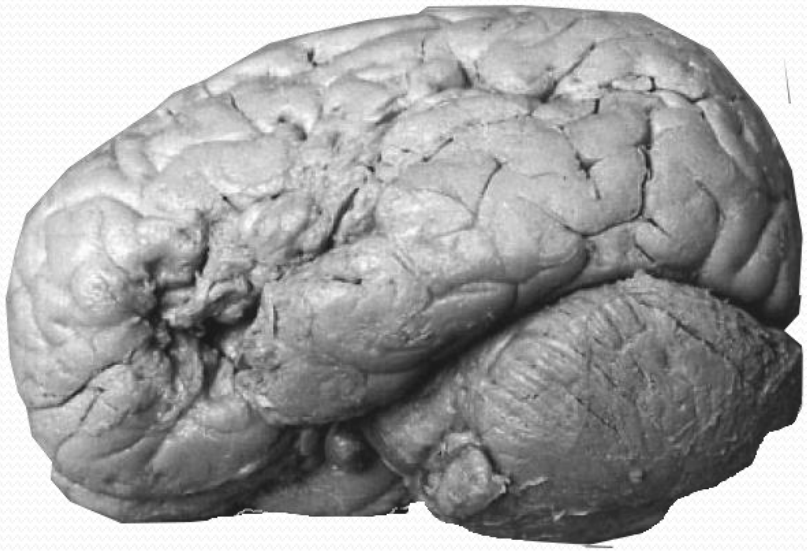
For example, in the following passage, a Broca's aphasic patient is trying to explain how he came to the hospital for dental surgery:

Yes... ah... Monday... er... Dad and Peter H... (his own name), and Dad.... er... hospital... and ah... Wednesday... Wednesday, nine o'clock... and oh... Thursday... ten o'clock, ah doctors... two... an' doctors... and er... teeth... yah.[7]

- https://www.youtube.com/watch?v=f2IiMEbMnPM
- https://www.youtube.com/watch?v=1aplTvEQ6ew

History of Research (1861-1865)

- "Tan Tan"- Patient with 21 year loss of speech (actual name Leborgne).
- Autopsy: Lesion in frontal lobe of left hemisphere
- Found same thing in 12 more autopsies of people with similar cases



Wernicke's Aphasia: Receptive

- Wernicke's Area: Disrupts speech AND understanding

- Fluent Aphasia: Can fluently connect words, but the phrases lack meaning.

Wernicke's Aphasia Examples

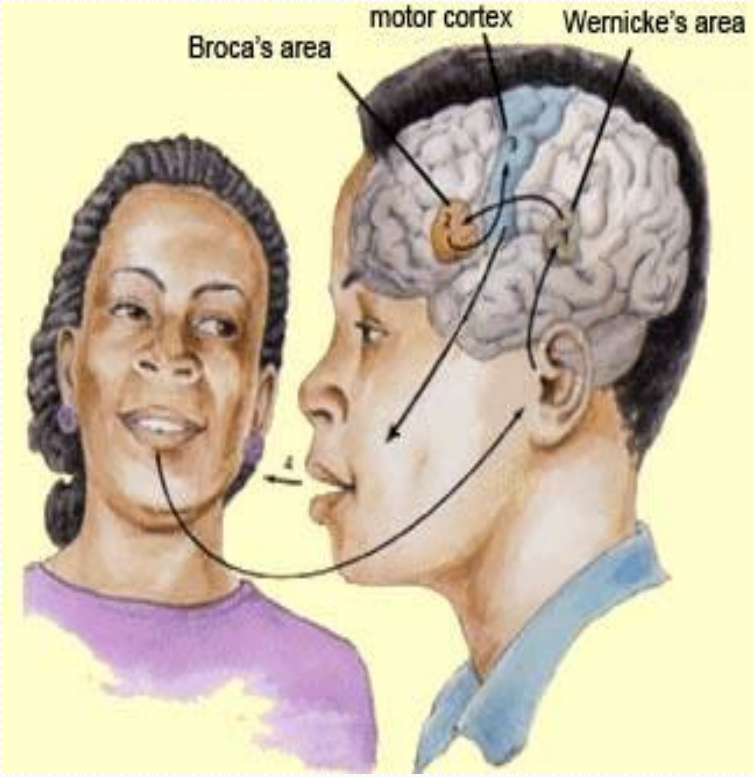
Asked to describe a picture of two boys stealing cookies behind a woman's back:

"Mother is away her working her work to get her better, but when she's looking the two boys looking the other part. She's working another time."

https://www.youtube.com/watch?v=dKTdMV6cOZw

https://www.youtube.com/watch?v=UH-JfYl6HXw

https://www.youtube.com/watch?v=30ef68YabDo

History of Research (1874)

- 1873: Wernicke studied a patient who had suffered a stroke.
- Man could speak and hear.
- Man could NOT understand written or spoken language.
- Autopsy showed a lesion in the rear parietal/temporal region of the left brain hemisphere.
- Predicted connection between his area and Broca's area—he was correct.