

- Conduction aphasia: difficulty repeating words and phrases, but they are comprehended. Retain deep structure but not surface structure.
- Pragmatics is knowledge of the world. Used in conversations and is involved in speech comprehension. Scripts: characteristics of typical situations that assist in comprehending a verbal discourse. A conversation can bring up certain scripts in the listener so the speaker can convey information without all the gritty details.
- Areas important for speech:
 - Broca's area: motor association cortex in left frontal lobe. Speech production occurs here. Sign language users also show activity in this area, meaning it is for more than just speech production.
 - Damage here (extending to underlying white matter) causes Broca's aphasia which involves severe difficulty articulating words, especially function words.
 - Agrammatism: inability to properly use or comprehend function words and grammatical features.
 - Comprehension of word order, for example, is affected in Broca's aphasia.
 - Deficit in comprehension parallels their deficit in production (grammatical and syntactical loss)
 - Wernicke suggested that Broca's area contains memories of sequences of muscle movements needed to articulate words. Broca's area is located just in front of the primary motor cortex.
 - Wernicke's area: upper part of the left temporal lobe, involved in the recognition of speech.
 - Wernicke's aphasia:
 - Damage to the left temporal and parietal cortex that includes Wernicke's area. Causes deficits in perception of speech and producing fluent but meaningless speech and lack of content words.
 - Show poor comprehension, disorder known as receptive aphasia, inability to convert thoughts into words, and inability to recognize spoken words.
 - Recognizing is not the same as comprehending: a word for which there is no learned meaning associated can still be recognized.
 - Pure word deafness: Damage restricted to Wernicke's area. Inability to comprehend the meaning of heard speech (can still read lips and writing) but one can still hear, speak properly, and write. Can recognize emotions conveyed through prosody but not what is being said.
 - Isolation aphasia: damage to the left temporal and parietal cortex that spares Wernicke's area (area that surrounds Wernicke's area is the posterior language area). Similar to Wernicke's aphasia yet they can recognize and repeat words.
 - Posterior language area is responsible for word meanings.
- Sounds of words recognized in Wernicke's area, passed onto Broca's area so they can be repeated.
- fMRI and PET Studies on word recognition and production:
 - Broca's aphasia patients show low activity in the lower left frontal lobe. Wernicke's aphasia shows low activity in the temporal/parietal area of the brain.
 - Listening passively to a list of nouns activates the primary auditory cortex and Wernicke's area. Repeating the nouns activates primary motor cortex and Broca's area.
- Semantics: the meaning of a word. Defined by the particular memories associated with the word.
 - Memories not stored in primary speech areas, but in other parts of the brain such as the association cortex. Different memories of one word can be stored in different areas of the brain but they are somehow activated and linked together.

Reading

- Saccades: rapid jumps of the eyes as we read. Fixations occur between saccades and are where visual information is gathered. Good readers' saccades are only in the forward direction.
 - Most time is spent fixating on content words. It takes longer to recognize and understand unusual words and longer words.