# The brain

## Language: Specialization and Integration

Aphasia: impairment of language, usually caused by left-hemisphere damage either to Broca's area or Wernicke's area.\*

Wernicke's area: controls language reception; usually in the left temporal lobe, involved in language comprehension and expression. (where we formulate the plan!)

Broca's area: controls language expression; an area of the frontal lobe, usually in the left hemisphere, directs muscle movements involved in speech. (where the plan is executed!)

## **Plasticity: The Brain is Adaptable**

If the brain is damaged, especially in the general association areas the brain due to the b

- an restore some functions the brain does not repair damaged neurons Ito
- eas to new functions. it can form new connectiv inize, rea sign o
- rain cells, helps rebuild

## **Splitting theBrain**

A procedure in which the two hemispheres of the brain are isolated by cutting the connecting fibers (mainly those of the corpus callosum) between them.

## **Separating the Hemispheres:**

Each hemisphere controls the opposite side of the body AND is aware of the visual field on that opposite side.

- Without the corpus callosum, the halves of the body and the halves of the visual field do not work together.
- Only the left half of the brain has enough verbal ability to express its thoughts out loud.