

Brain and Neural Organization

Intro Psychology
 Georgia Tech
 Instructor: Dr. Bruce Walker

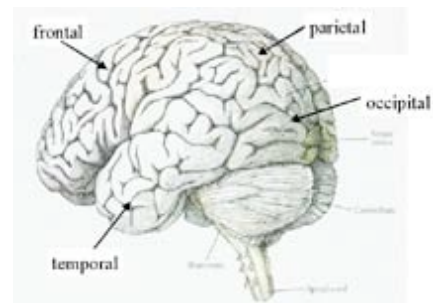
Today

- Structural regions of the brain
- Functional regions & organization

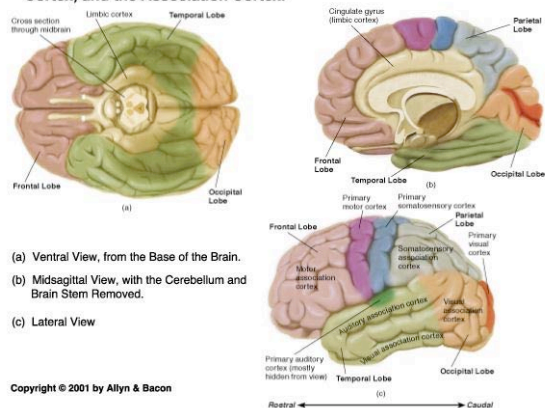
Getting Oriented

- Lobes
- Regions
- Tracts
- Structures
- Nuclei
- (etc....)

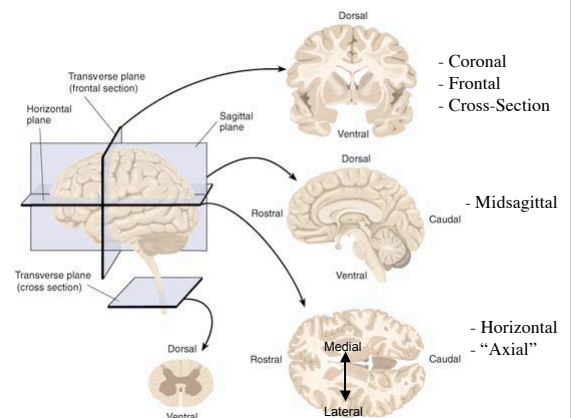
Lobes of the Cerebrum



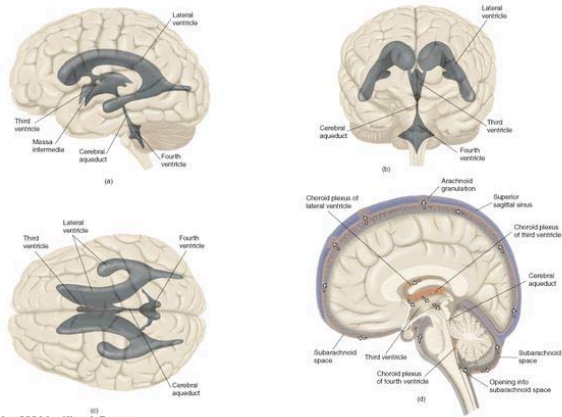
► The Four Lobes of the Cerebral Cortex, the Primary Sensory and Motor Cortex, and the Association Cortex.



► Planes of Section as They Pertain to the Human Central Nervous System



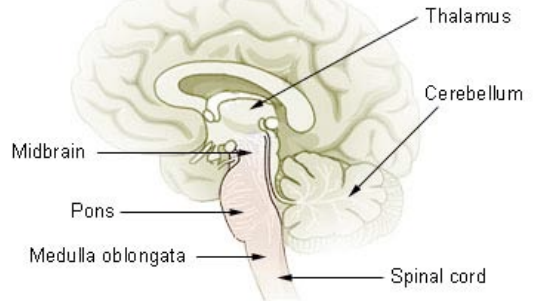
► Ventricular System of the Brain



Copyright © 2001 by Allyn & Bacon

Brain Stem

Brain Stem



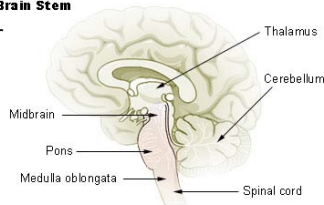
Medulla oblongata – heart rate, breathing

Pons – “relay station” for fiber tracts between cerebellum and cortex

Midbrain – relays between cerebellum and cortex primarily for motor control

Thalamus – visual and auditory relays. Contains “reticular activating system” implicated in general arousal, sleep

Brain Stem



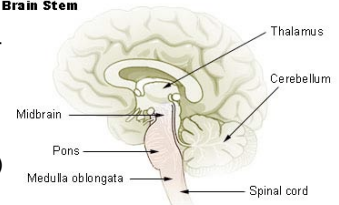
Cerebellum

Classically seen as all motor control. Integrate sensory information for balance and equilibrium.

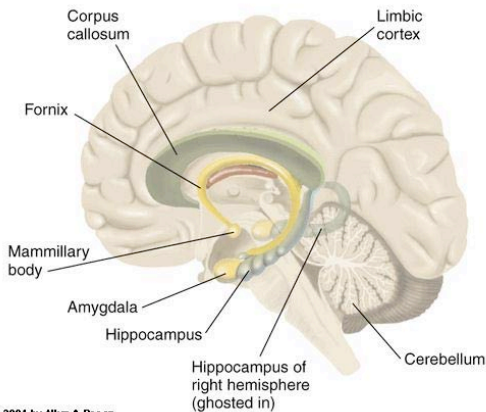
Recent neuroimaging (fMRI) has been more puzzling. Lights up in many “cognitive tasks”

Involved in ways that we don’t really know right now.

Brain Stem

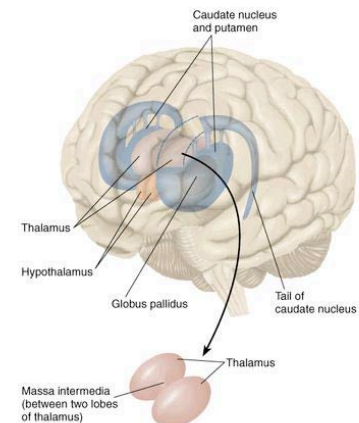


► Major Components of the Limbic System

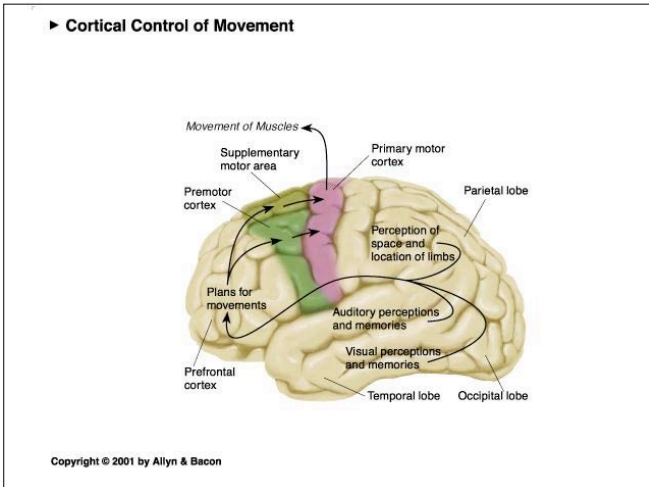
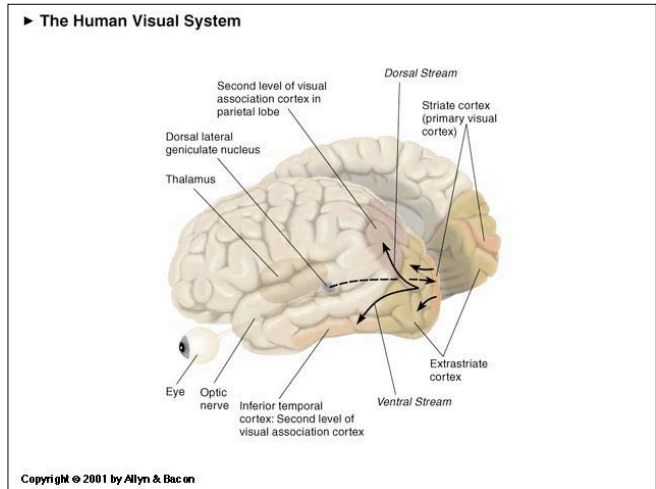
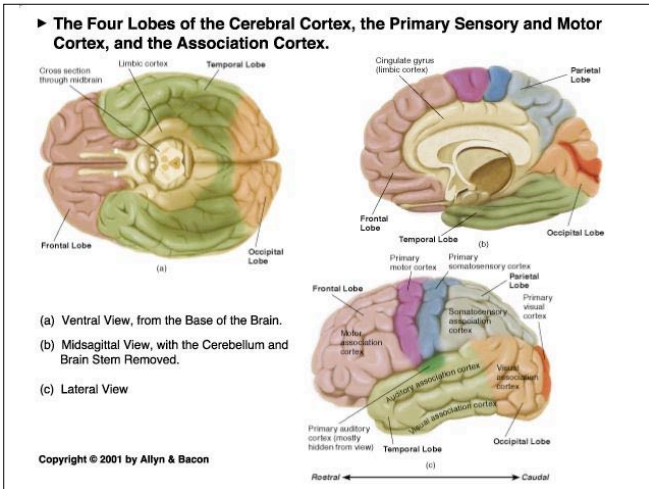


Copyright © 2001 by Allyn & Bacon

► Location of the Basal Ganglia and Diencephalon



Copyright © 2001 by Allyn & Bacon



Upcoming

- Vision as example of organization
- Motivation & learning
- Sensation & perception