TELENCEPHALON

1/7/82, 6 Jan 00, 6 Jan 03, 7 Jan 04, 5 Jan 05, 14Jan09, 26Jan09,
25Jan10, 12Jan11, 01Dec15
S&M: 299-321, Martini’s 5th: 436-439, 445-454, 6th: 483-492,
7th 452-471, 8th: 480-487, 9th: 463-475, 10th: 482-491

TELENCEPHALON: (p 483) Excel’nt 3D brain: http://www.g2conline.org/2022
largest portion of brain, consists of
R and L hemispheres of cerebrum(?dif)
corpus callosum
lateral ventricles within each

Fissures and sulci divide brain into lobes,
Lobes:  1) connected to opposite side of body
       (p. 483)  2) hemispheres have different func’ns
       3) plasticity of function. Diffuse
Named for overlying cranial bones:
  frontal, parietal, temporal occipital

Gyri:  rounded ridges on cerebrum, divided by fissures, or sulcus if shallow Unique like fingerprints.
      Increases surface area of brain to 2.5 sq feet, makes room for more neurons.
      longitudinal fissure  down middle, two hemispheres connected by corpus callosum
      central sulcus (fissure of Rolando)  precentral gyrus (primary motor) and postcentral gyrus (somatosensory) on either side
      lateral fissure (fissure of Sylvius)  between temporal and frontal lobes
      parieto-occipital sulcus
      less distinct, clearer medially

Insula, “fifth lobe,” deep in lateral fissure (gustatory center).

Basal Nuclei (Ganglia) (p. 485): Unconscious motor commands, adjust muscle tone
coordination of learned movement patterns (inhibits opposing muscles)
masses of grey matter deep within cerebral hemisphere, below ventricles
  caudate nucleus  head & “tail” arch links amygdala to globus pallidus
  amygdala  part of limbic system, links memories to emotions
  claustrum (barrier)  just inside grey matter of insula
  lentiform nucleus:  a) putamen and communicates to thalamus
                  b) globus pallidus: to cerebrum
  its extrapyramidal system coordinates, refines motor function by inhibition:
  basal nuclei inhibited by dopamine which is released from substantia nigra
Parkinson PT lack dopamine: difficult to initiate movement because opposing muscles not
      inhibited, jerky motion. (levodopa treatment)

FUNCTIONS OF REGIONS OF THE CEREBRUM:

PRIMARY MOTOR CORTEX: precentral gyrus. Arrangement: toe deep in
longitudinal fissure, mouth most lateral
  Pyramidal tracts  cell bodies of motor neurons pyramid shaped, located in
                  precentral gyrus
  Broca's area  ability to speak, frontal lobe along lateral fissure, just
                behind prefrontal cortex.

PRIMARY SENSORY CORTEX:
postcentral gyrus:  termination of somatic sensory pathways (touch, pressure, pain,
  vibration, taste, temperature)
Other cortical sensory areas: (page 486) (remember plasticity: regions flexible)
  occipital lobe  posterior portion  visual area
  temporal lobe  upper margin  auditory area
  temporal lobe  medial surface  olfactory
  parietal lobe  deep near insula  taste
  insula
Each surrounded by association areas which assign meaning to sensory patterns received.