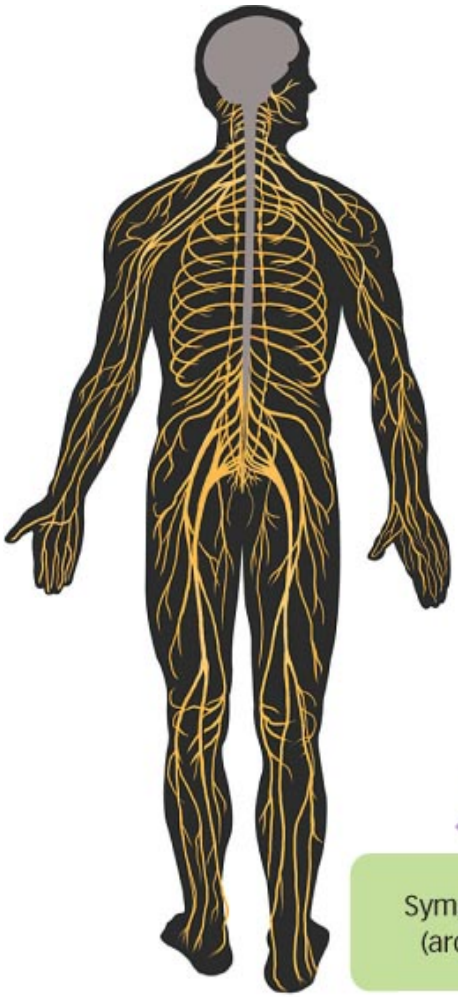
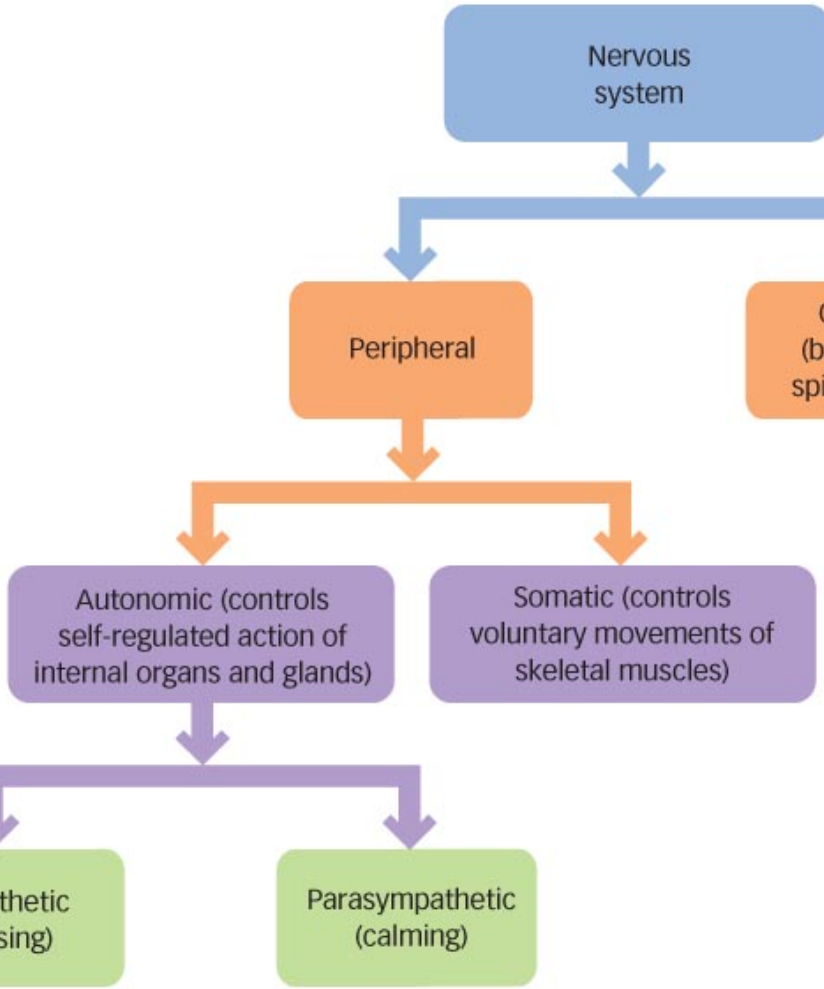
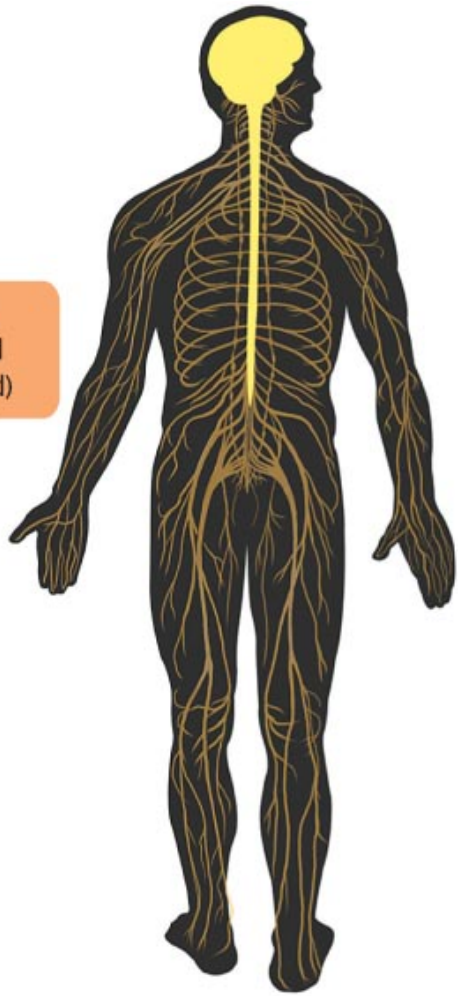
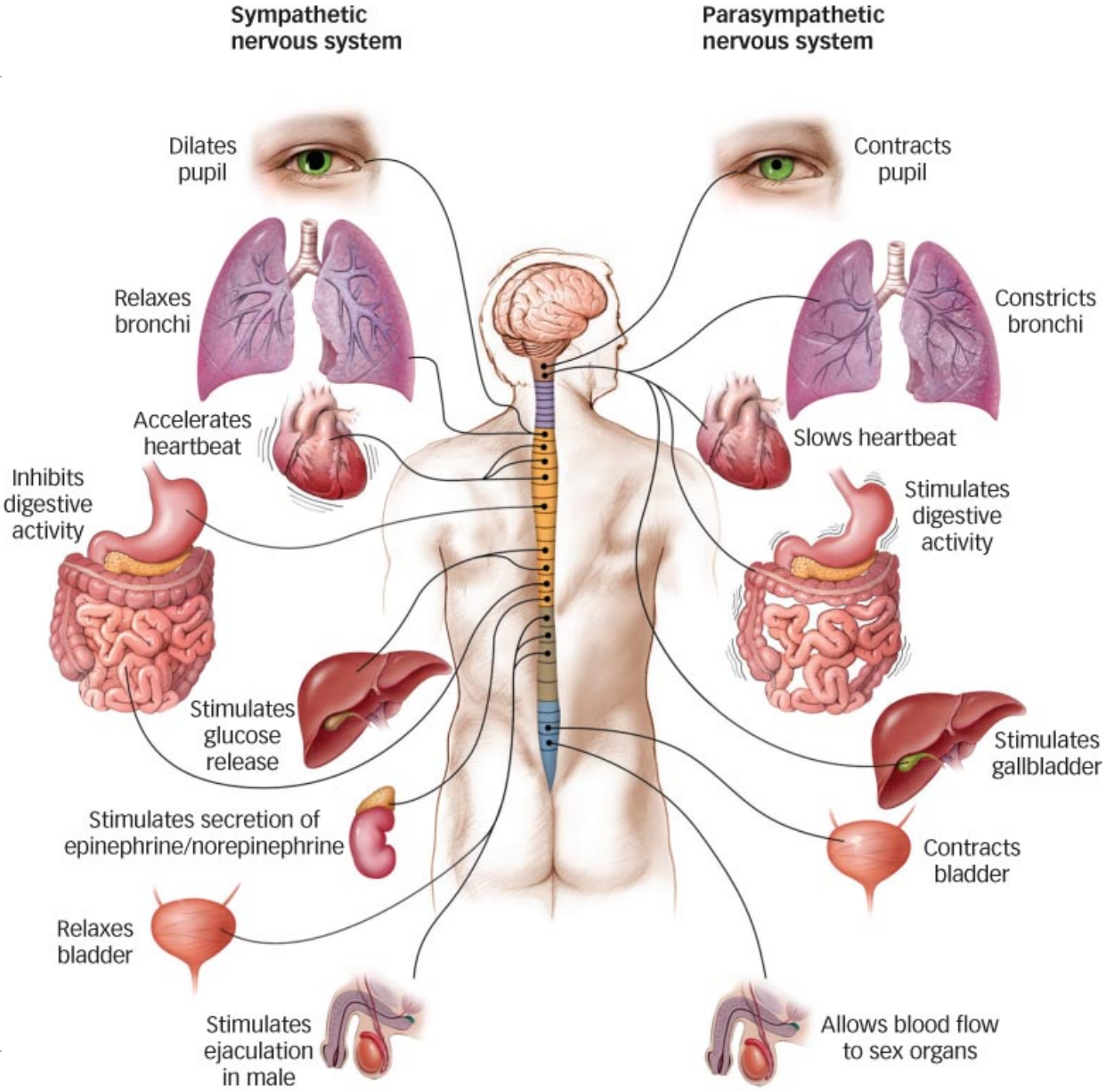
The Human Nervous System



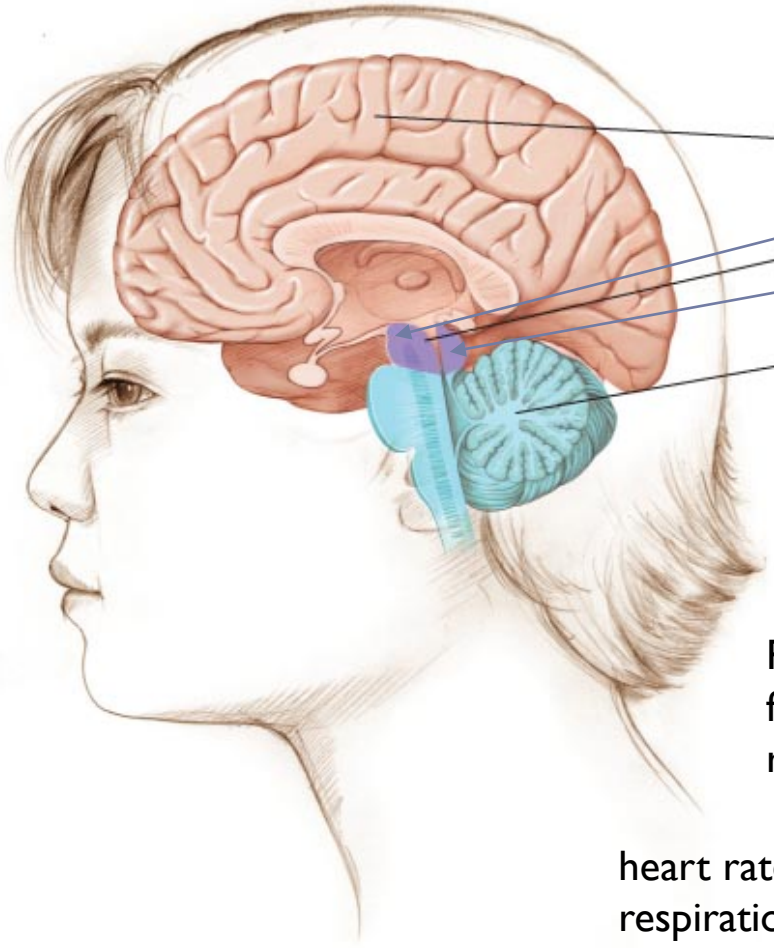




Sympathetic and Parasympathetic Systems

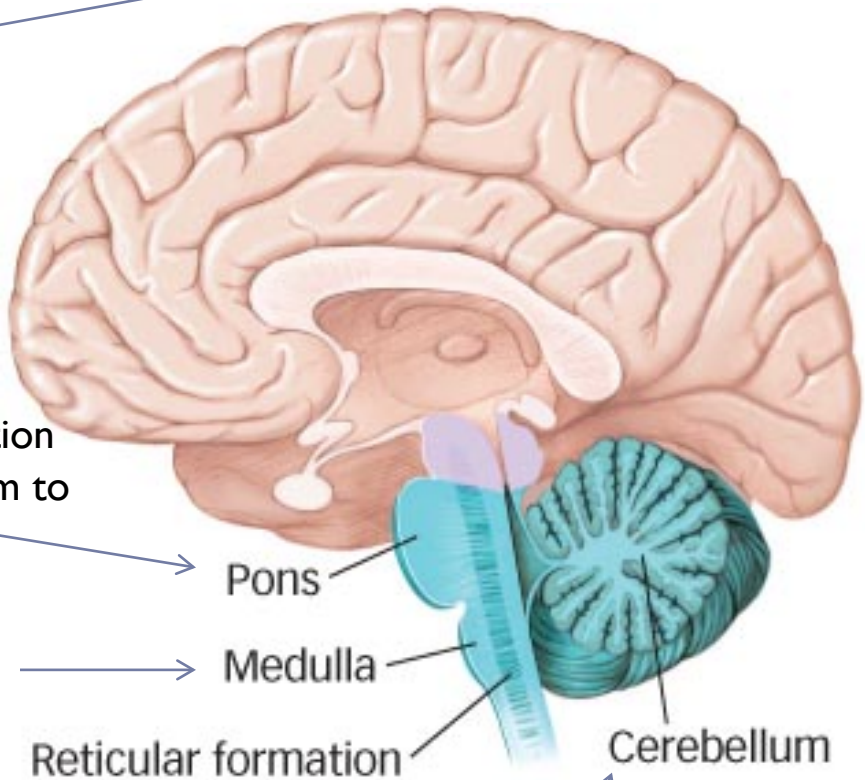


The Major Divisions of the Brain



Tegmentum
Movement and Arousal

Tectum
Orients organism in the environment



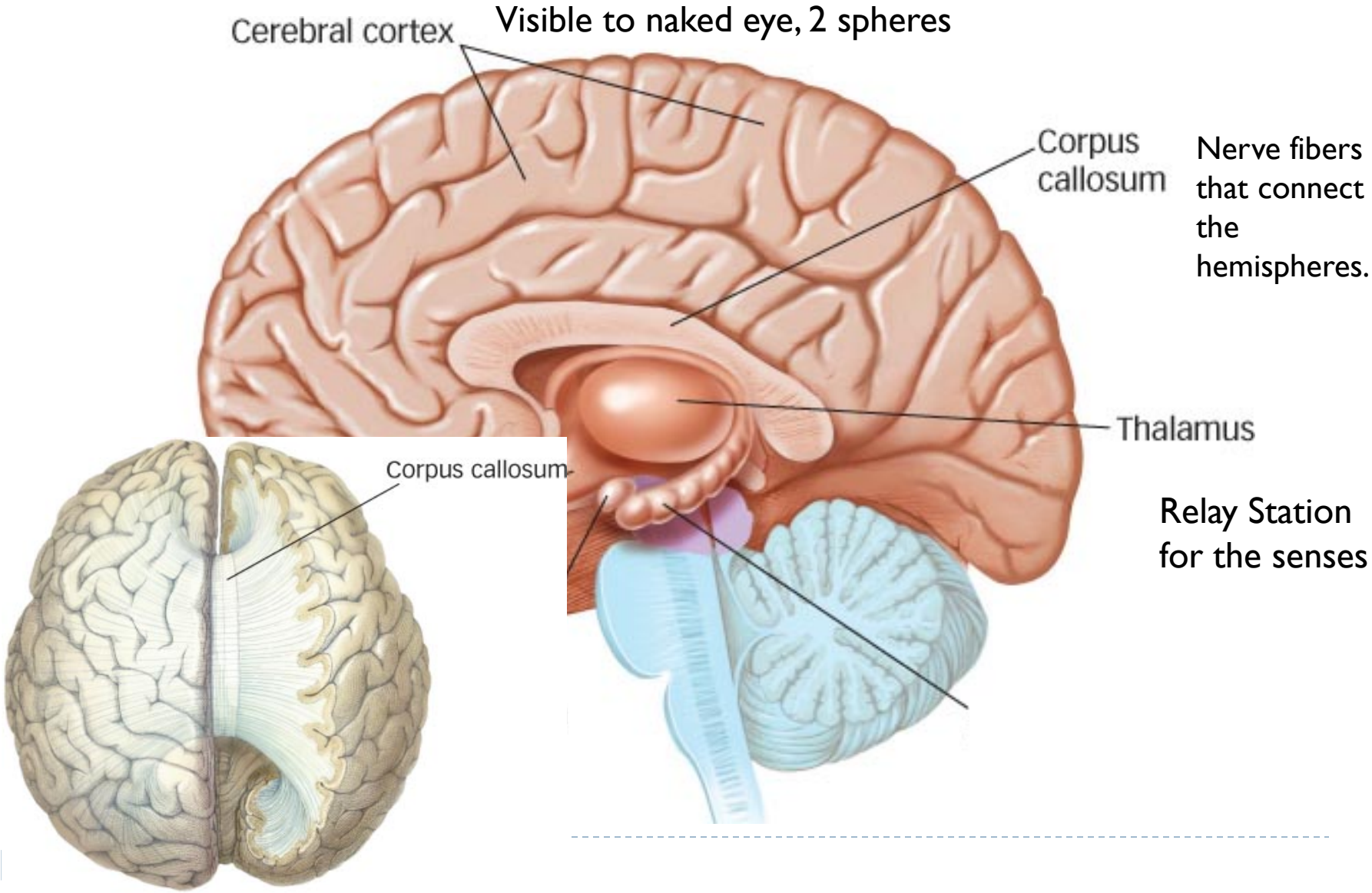
Relays information from cerebellum to rest of brain

heart rate, circulation, respiration

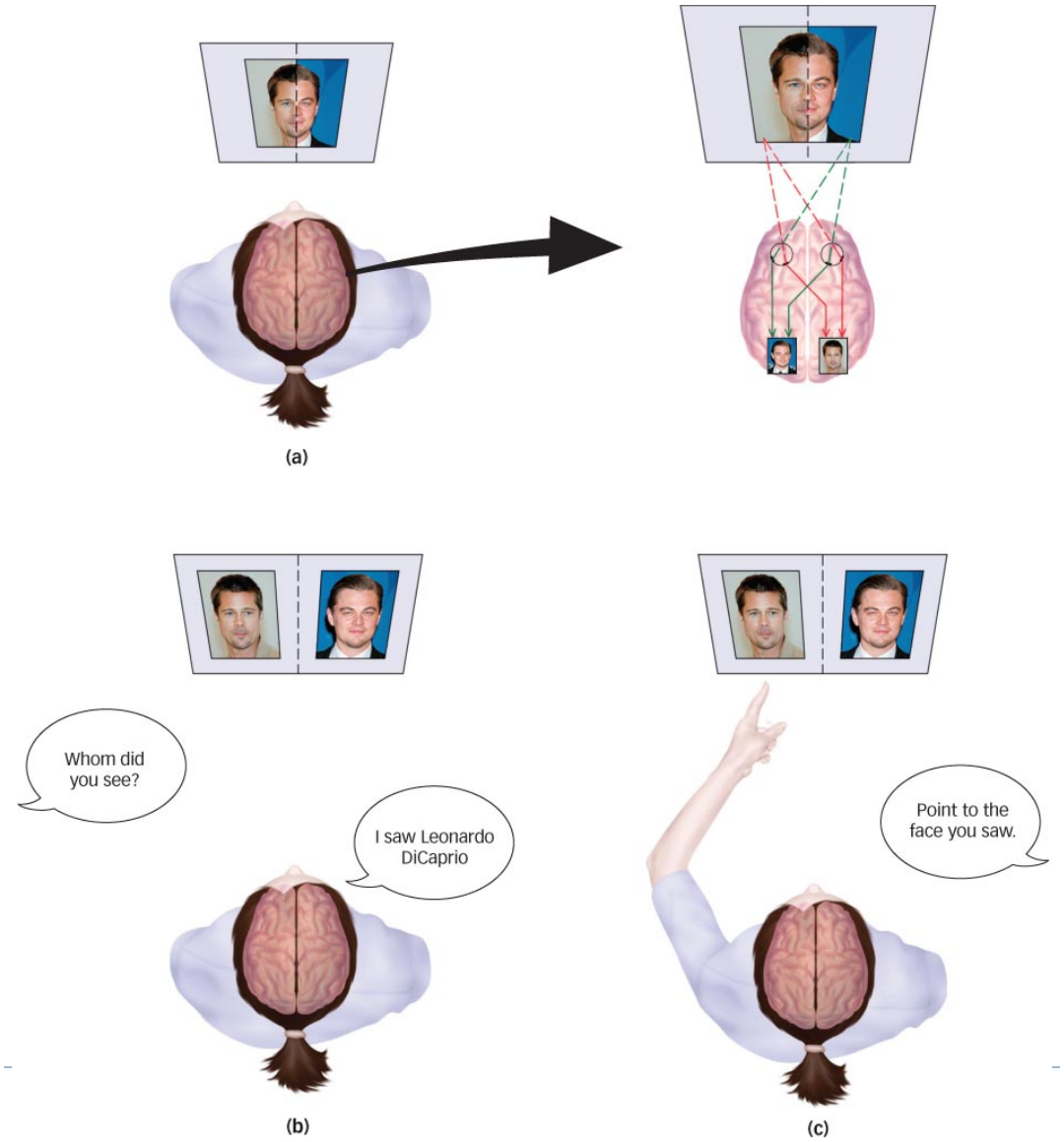
regulates sleep, wakefulness, and levels of arousal

fine motor skills

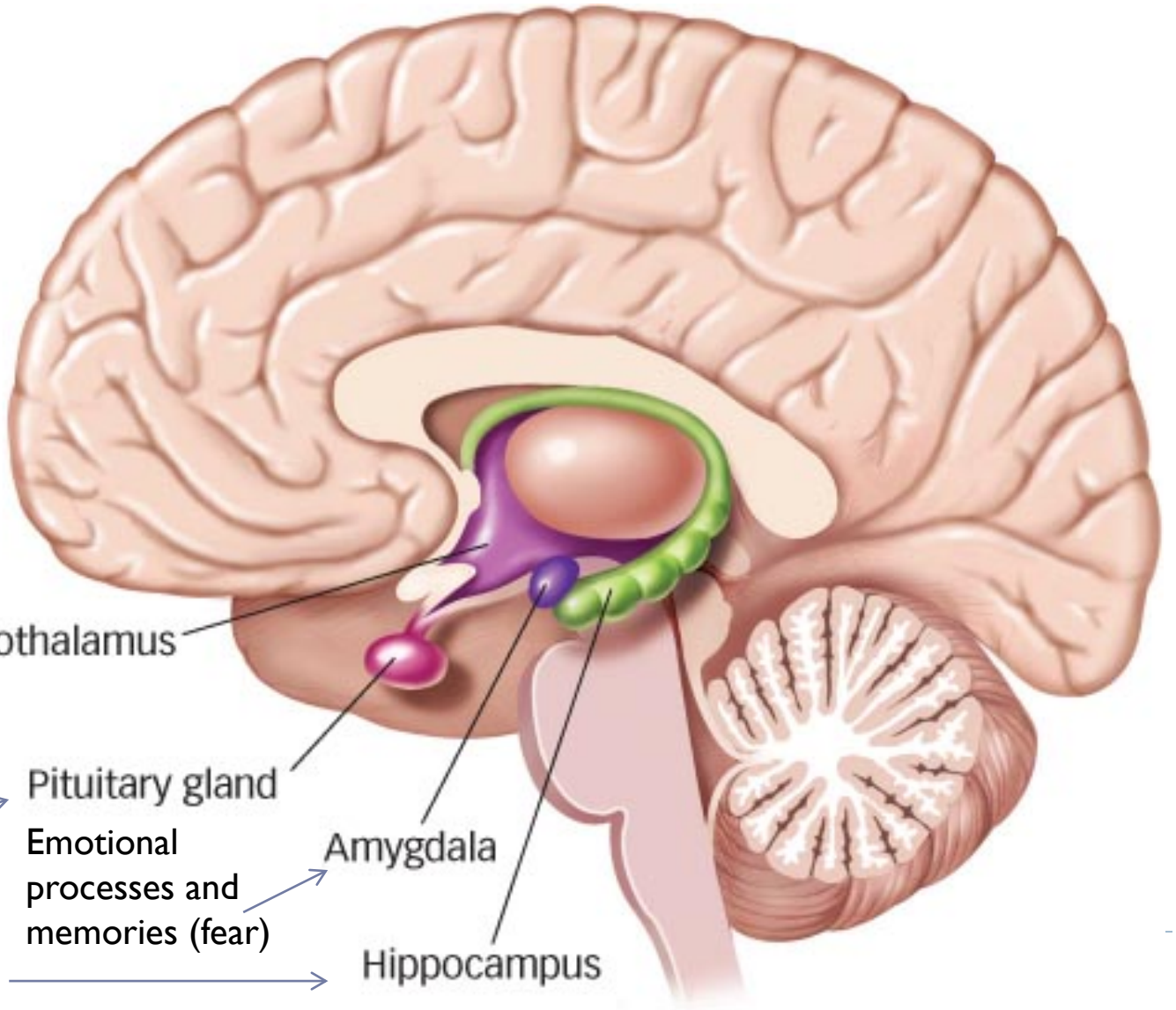
The Forebrain



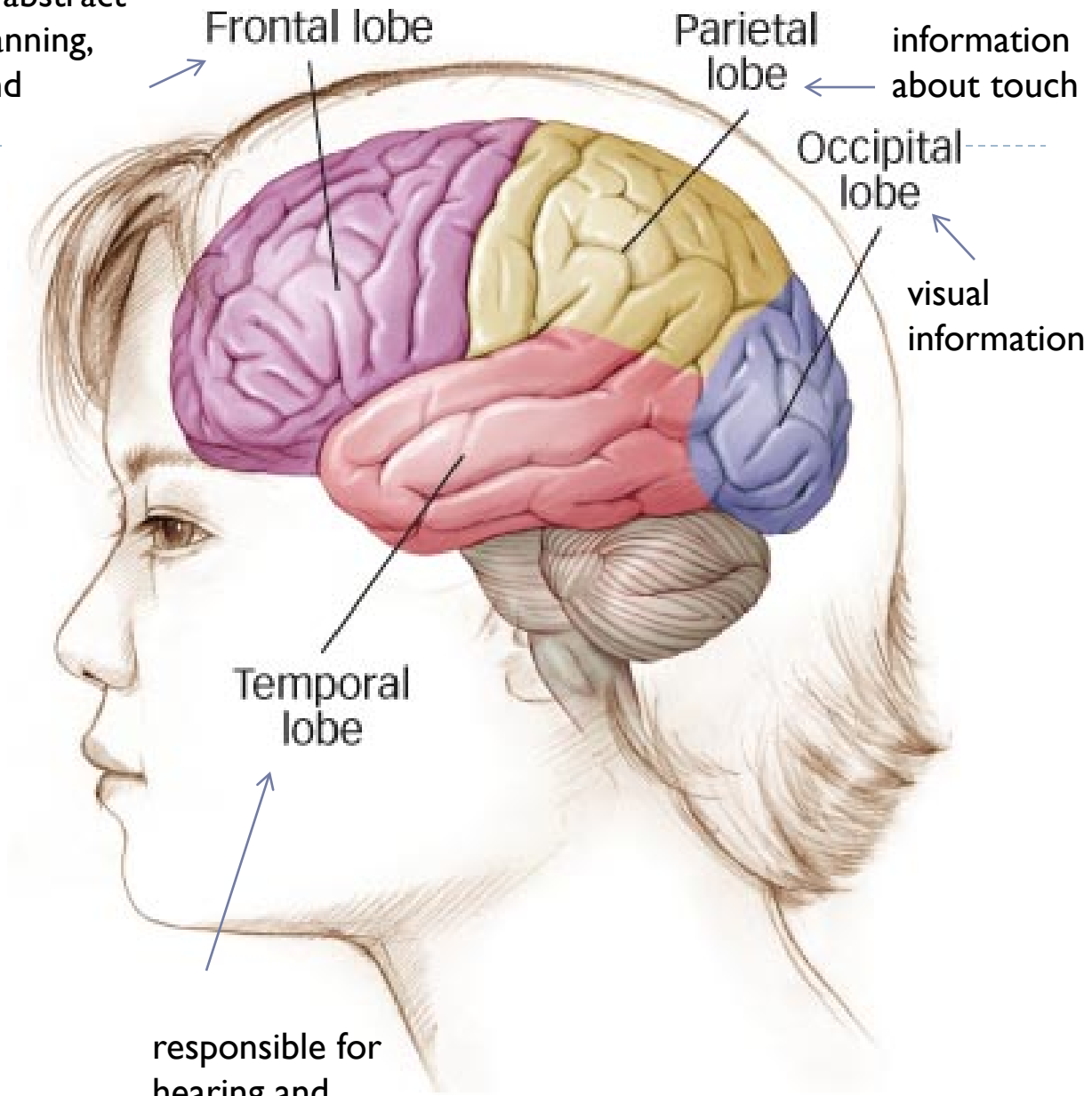
Chimeric Faces and the Split Brain



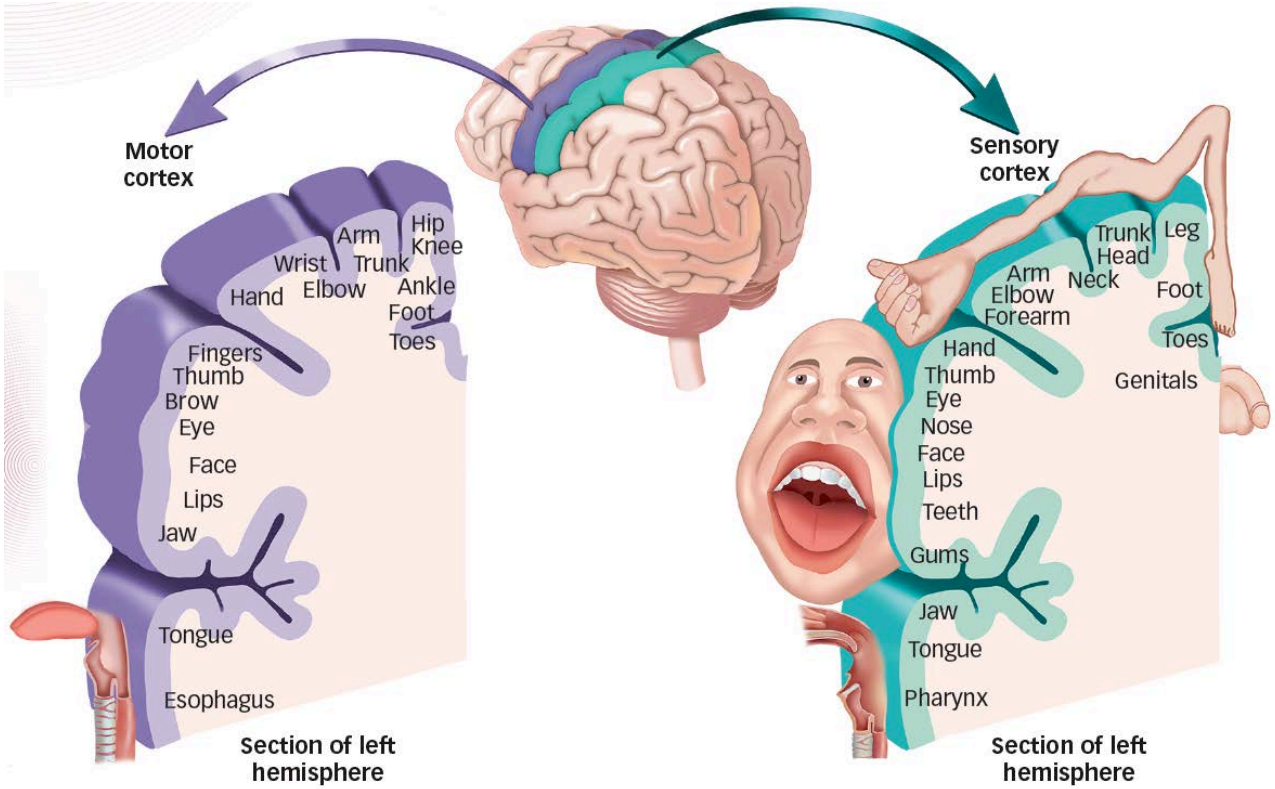
The Limbic System: motivation, emotion, learning and memory



Cerebral Cortex and Lobes

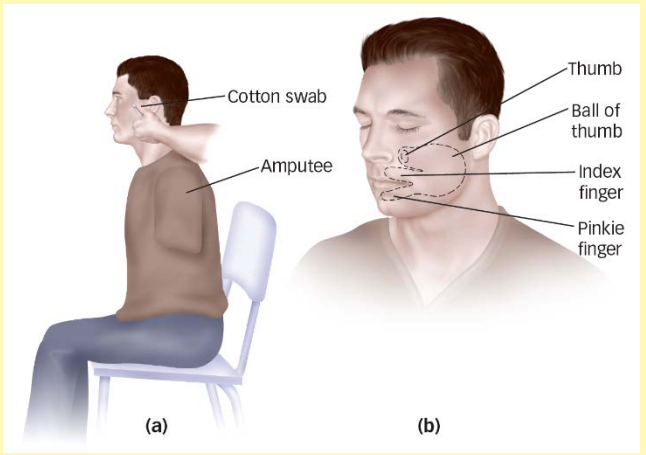


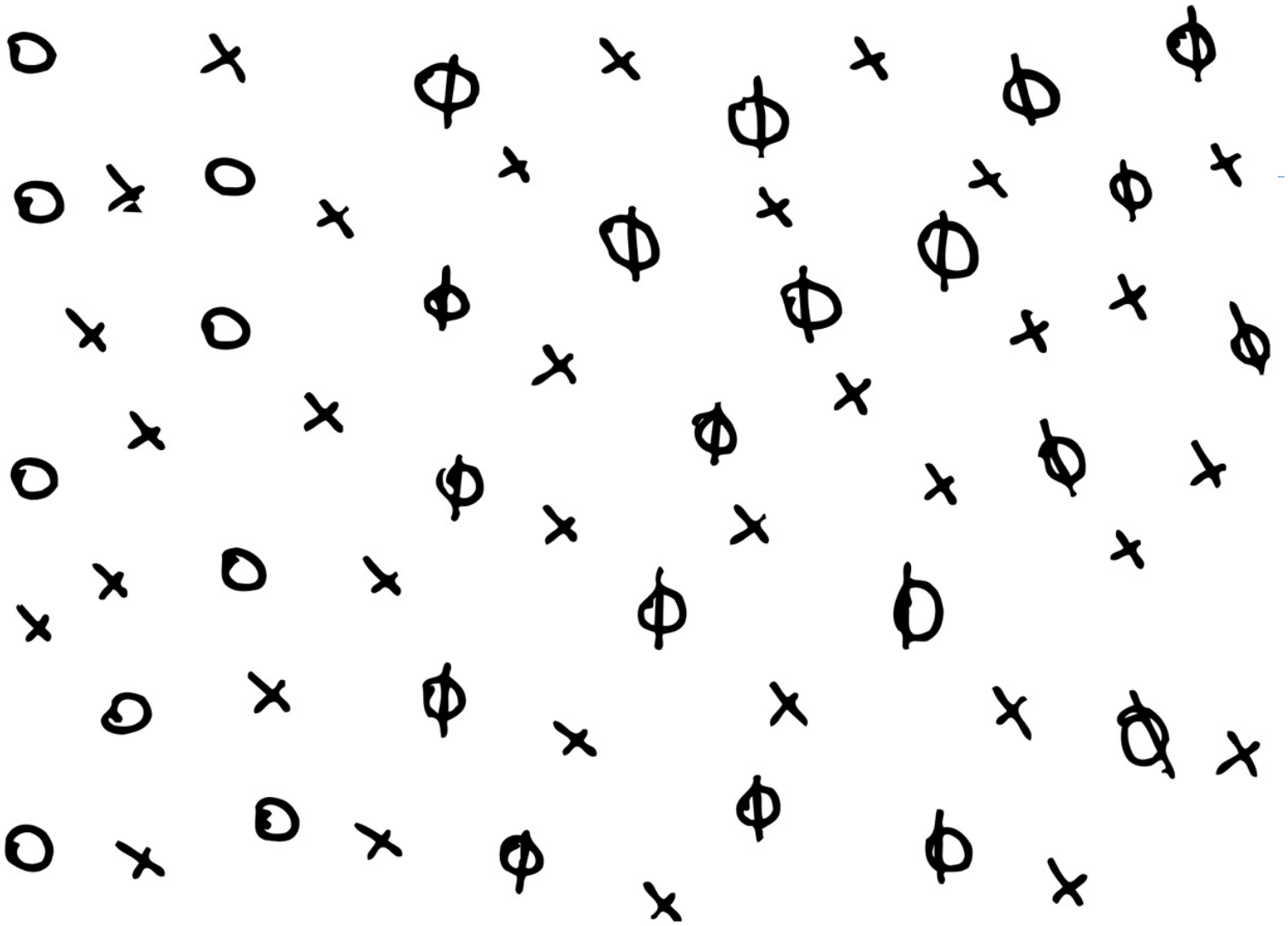
Somatosensory and Motor Cortices



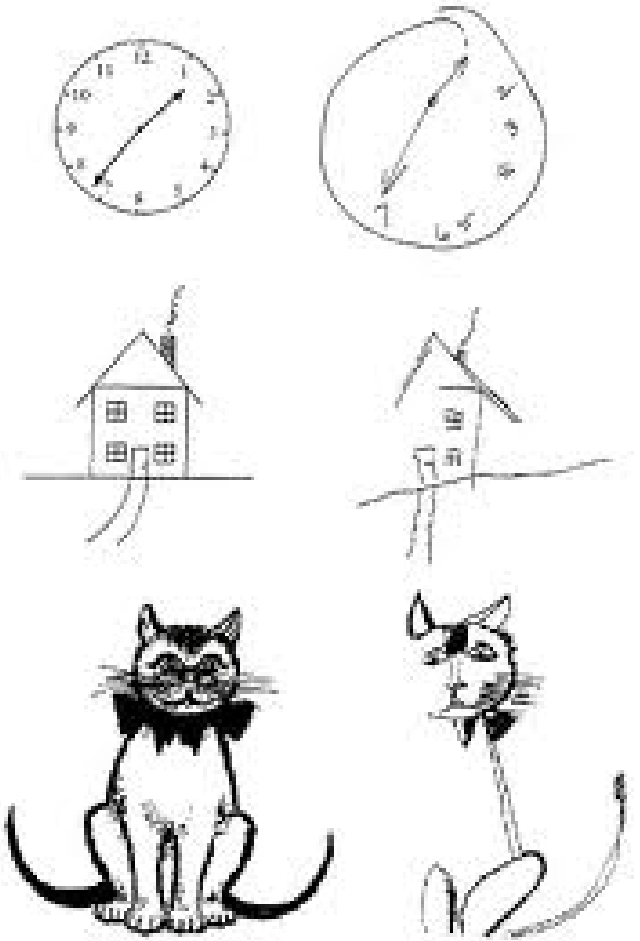
Brain Plasticity

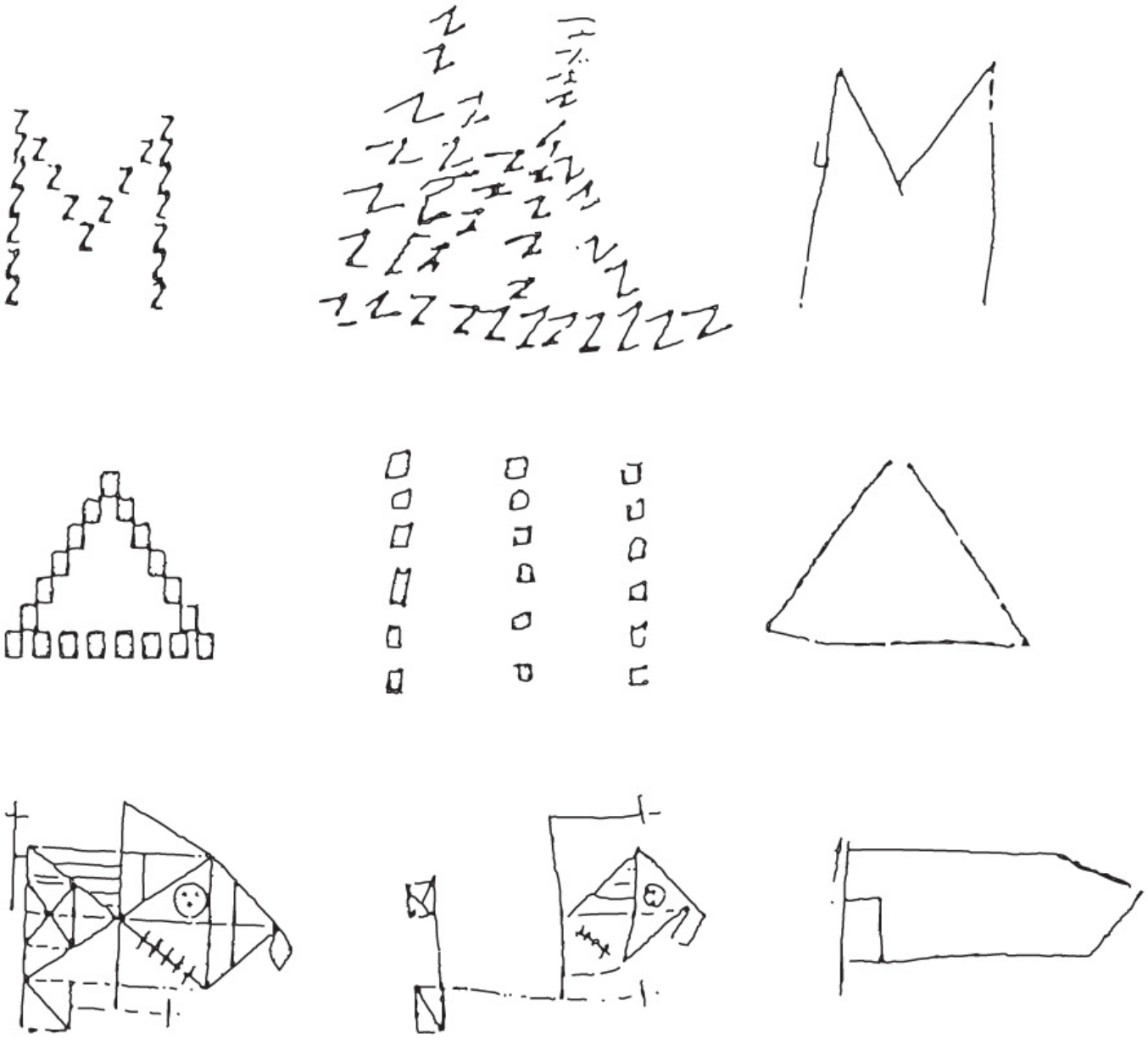
- Sensory cortices can adapt to change.
- The brain is plastic: functions that were assigned to certain areas of the brain may be capable of being reassigned to other areas of the brain to accommodate changing input from the environment.
- Greater use of a function may allocate greater space in the cortical map.
- Physical exercise can benefit the strength and connections of synapses in the brain.





Performance of a patient with damage to the right hemisphere who had been asked to put slashes through all the circles





(a) (b) (c)

Phineas Gage