**Unit 5. Biology:** 17, Chapter 2, 213-215

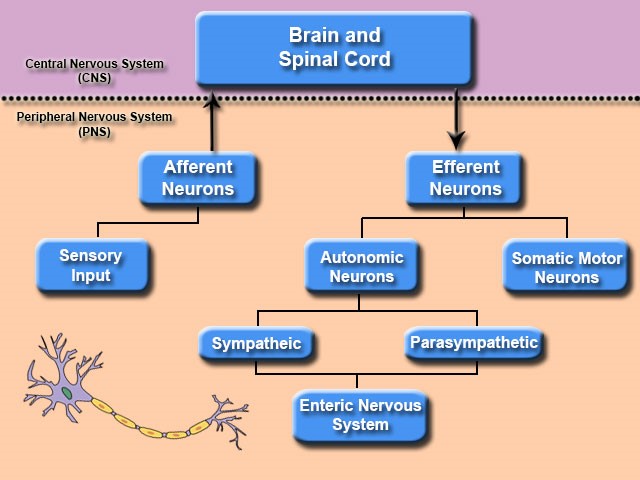
**Introduction.** 17: The Neuroscience Perspective

**THE BRAIN (CEREBRUM)**

**The brain weighs about 3 pounds and consists of approximately 100 billion neurons (which, if I calculated correctly, means that a neuron weighs approximately 5 billionths of an ounce). The brain consists of two hemispheres, the Left Cerebral Hemisphere and the Right Cerebral Hemisphere.**

**Neural Plasticity and Neurogenesis:** 77-78

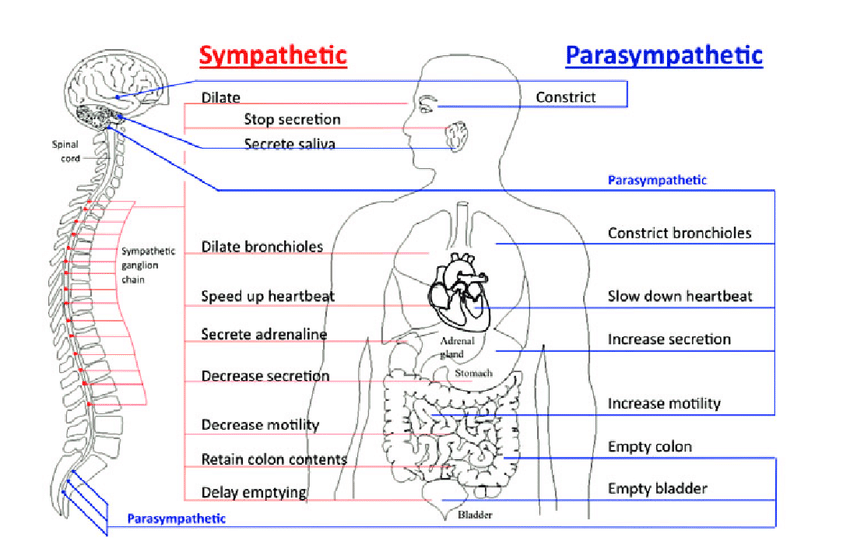
**The Organization of the Nervous System:** 60-62



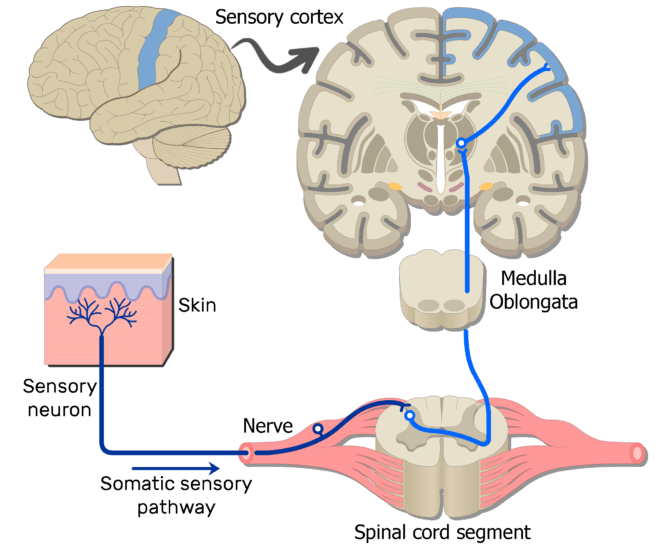
Central NS: Brain, Spinal Cord

Peripheral NS:

Autonomic NS. Sympathetic, Parasympathetic62-63

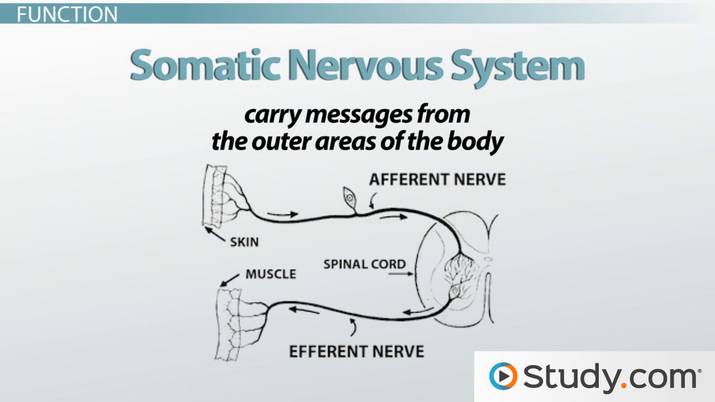


**The Somatic Nervous System is divided in two: Afferent or sensory nerves and Efferent or motor nerves.**

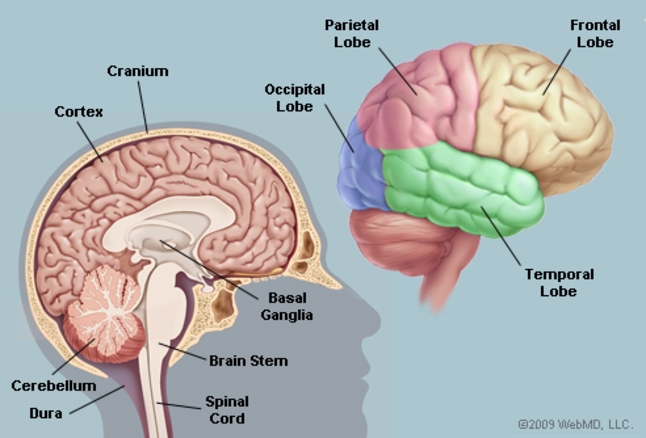


**Spinal Reflexes. Some of our reflex behavior occurs so rapidly that it is impossible for the brain to be involved. For example, when I touch a hot pan handle, my hand jumps off so quickly that the brain could not have been involved. What is involved is the Somatic Nervous System and the Spinal Cord: As soon as I touch that hot pan handle, Afferent Nerves under the skin of my hand are activated, sending a message to neurons in the spinal cord, which then sends messages to the associated efferent nerves of the hand and arm, causing my hand to jump off the hot pan handle. The brain IS involved in my saying to myself, “Ouch, that hurts and that was goofy of you!**

Somatic NS: Afferent, Efferent



**Endocrine System:** 64-66



**The Cerebral Cortex:** 73-77

**Association Areas. 76**

Frontal/Prefrontal

Temporal

Parietal

Occipital

**The Central Core:** 70-73

Corpus Callosum

Cerebellum

**Right Cerebral Hemisphere.**

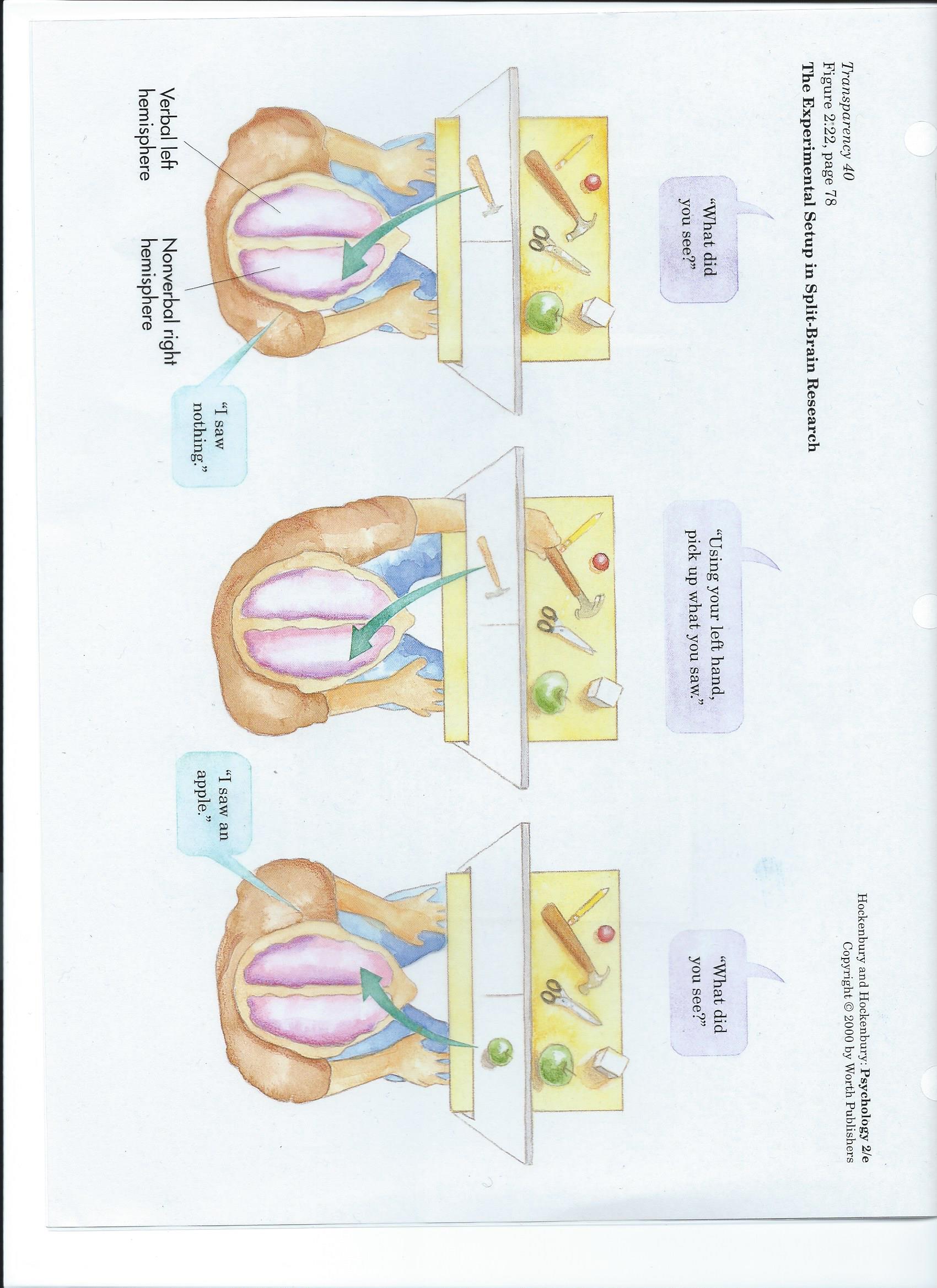
Reticular Formation

Thalamus

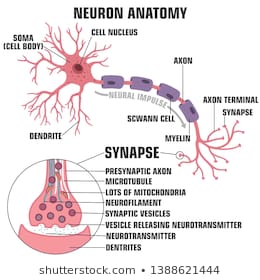
Hypothalamus  
  **The Limbic System: 72-73**

**Memory:** 213-215: The Neuroscience of Memory

**Hemispheric Specialization:** 78-81



**Neurons and Neurotransmitters:** 51-58



**Tools for Studying the Brain:** 68-70: Studying the Brain’s Structure

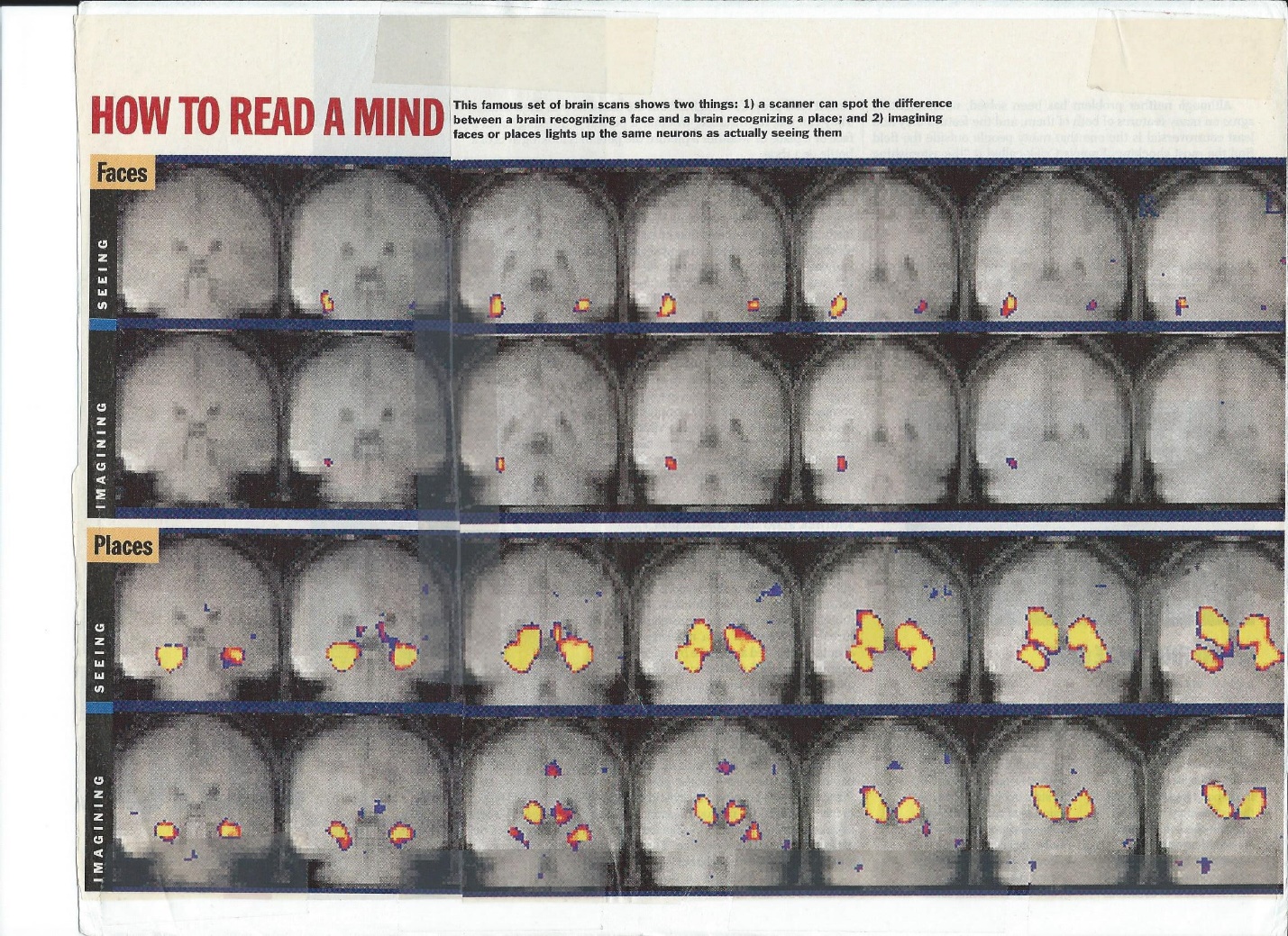
And Functions

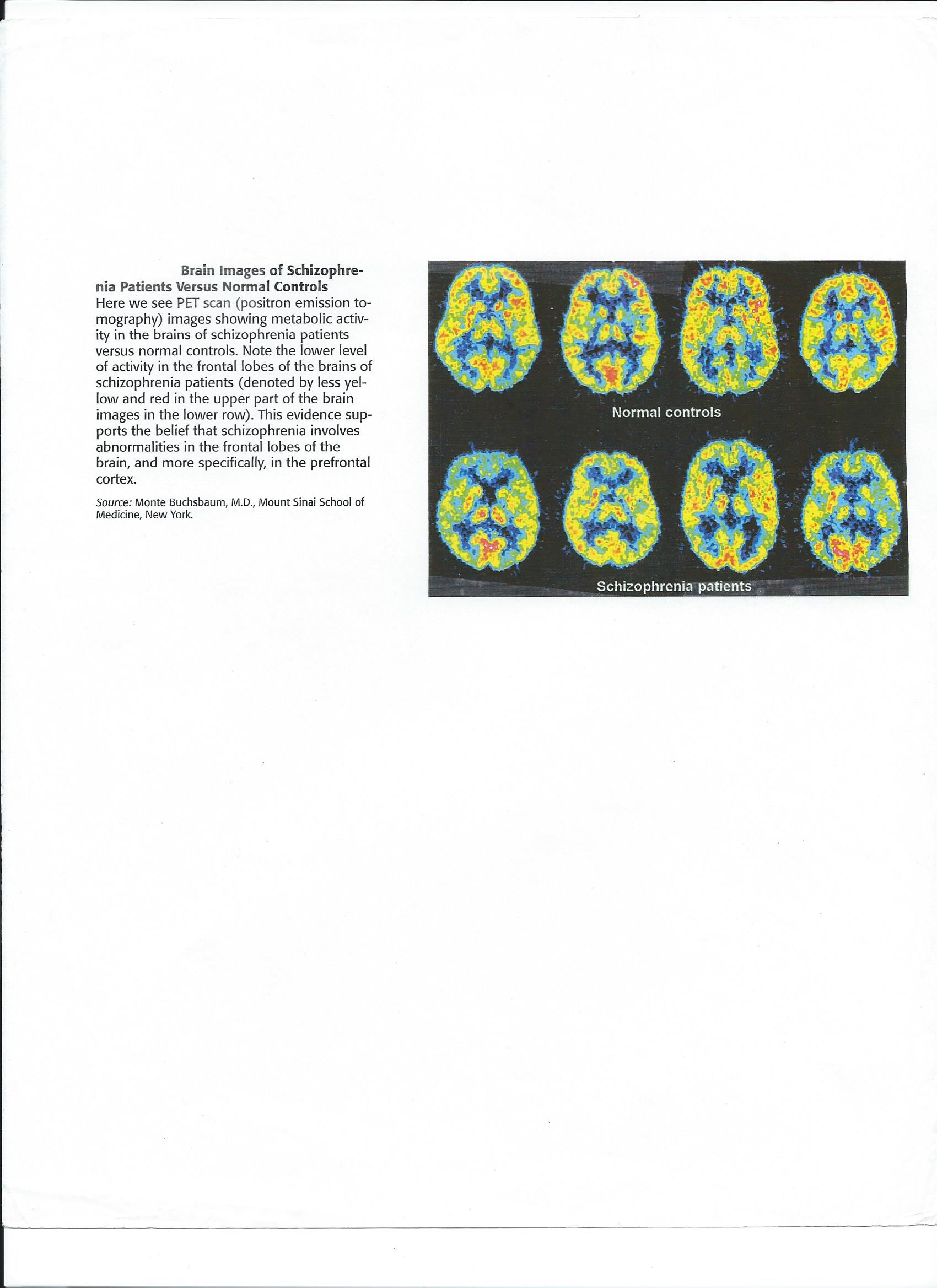
Lesions

EEG

fMRI

PET





**Unit 5 Exercises. Psychology 1A. Milligan, PhD.**

1. For this exercise, assume that you play cards in your leisure time – perhaps poker (or any other card game). For each of the following brain sites, state: 1) the general function of the brain site, and, 2) how that part of the brain is involved in card playing.

Hypothalamus, Occipital Lobe, Reticular Formation, Cerebellum, Temporal Lobe, Frontal Lobe, Thalamus, Corpus Callosum, Amygdala, Hippocampus.

1. Label each of the following activities with an R if it is primarily a right brain activity, with an L if it is primarily a left brain activity and with RL if the activity involves both sides of the brain equally:

Studying concepts from Psychology, Drawing a map of your campus, Daydreaming about your next holiday trip, Listening to a piano concert, Listening to rap music, Thinking about your next “night out”, Reading junk mail, 6x4-2+5, Redecorating your room, Doodling, Completing this form.