CNS 5037
NEUROPHILOSOPHY

Day 1

Introduction

- Welcome & Grounding Exercise

- Formal Class Introductions:
  - Name
  - Graduate & Undergraduate Background
  - First thing that comes to mind…

Agenda For the Day

- Introductions
- What is our class about and why is it important?
- Syllabus review
- Brain Nervous System Basics
- Traditional Neurophilosophy
- Changing Your Mind
- Mindfulness Exercise

What is this Class About?

- Activity Instructions
  - No looking at another person's image.
  - Approximately 15-20 minutes.
- Post-Activity
  - What made the activity difficult?
  - How is this activity a metaphor for life?
- Our class is about perspectives & self-awareness (consciousness)

What is this class About?

1. Perspectives

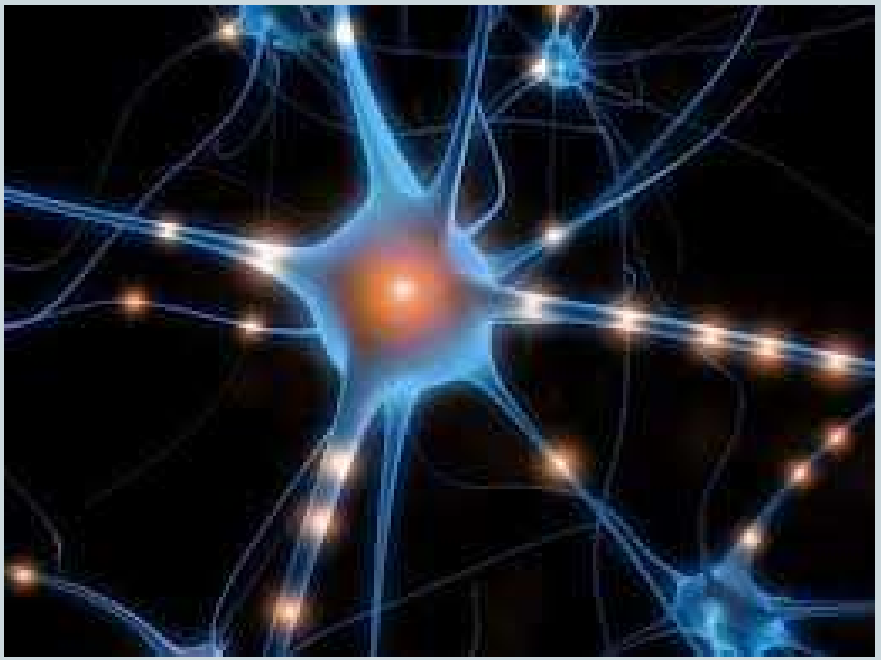
- Stress, unhappiness, conflict often the result of misperception, limited perception, or unwillingness to explore perceptions beyond our dominant ones.

- More often, people are simply unaware that they have the ability to access different perspectives.

- *Our class is about exploring new perspectives.*

What is this Class About?
2. The Brain & Nervous System

- Both our behaviors and mental processes are influenced by our nervous system and in particular, our brain.
- The brain is critical for so many wonderful, profound experiences.
- Yet, in many ways, it is also the reason for our limited perceptions and self-defeating behaviors.

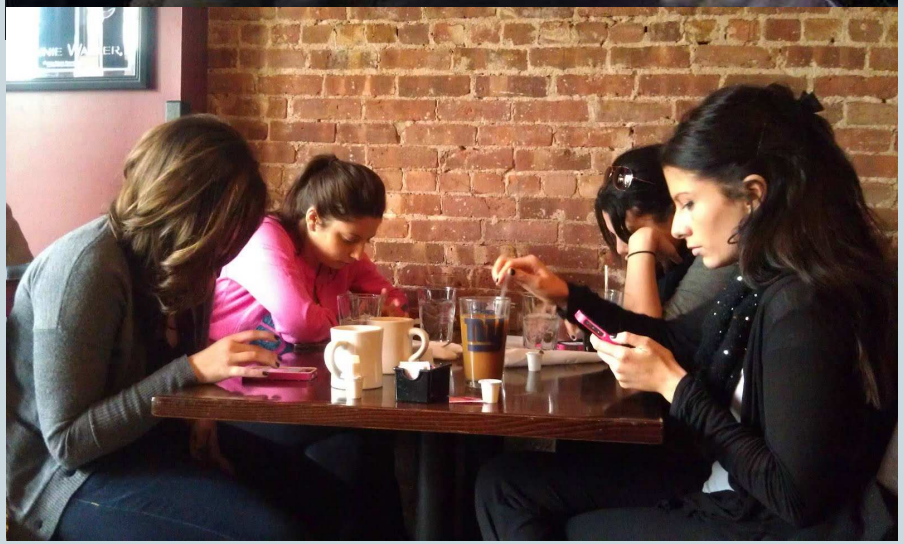


What is this Class About?
3. Consciousness / Self-Awareness

- We are often unaware of why we have certain responses – internal (thoughts, emotions), or external (verbal & physical reaction) – we just have them.

- It may be possible to consciously choose more productive and joy-promoting behaviors rather than unconsciously choosing limiting and stress-producing ones.

- *Our class is about developing this self-awareness.*



Main Premise of Our Class

By exploring how the brain operates and exploring the philosophical implications that follow, we can learn more about how people can live a more conscious life…

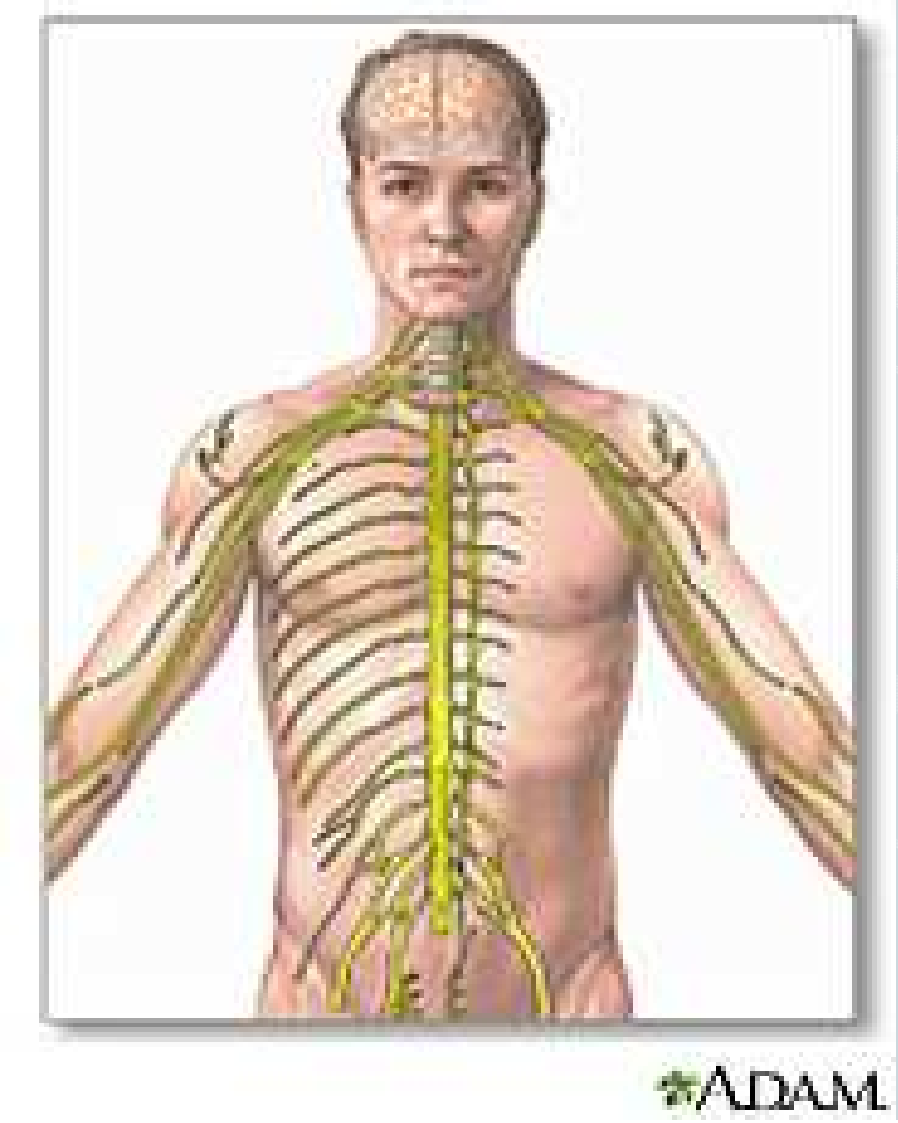
beyond perceptual assumptions and behavioral habits.

Course Expectations

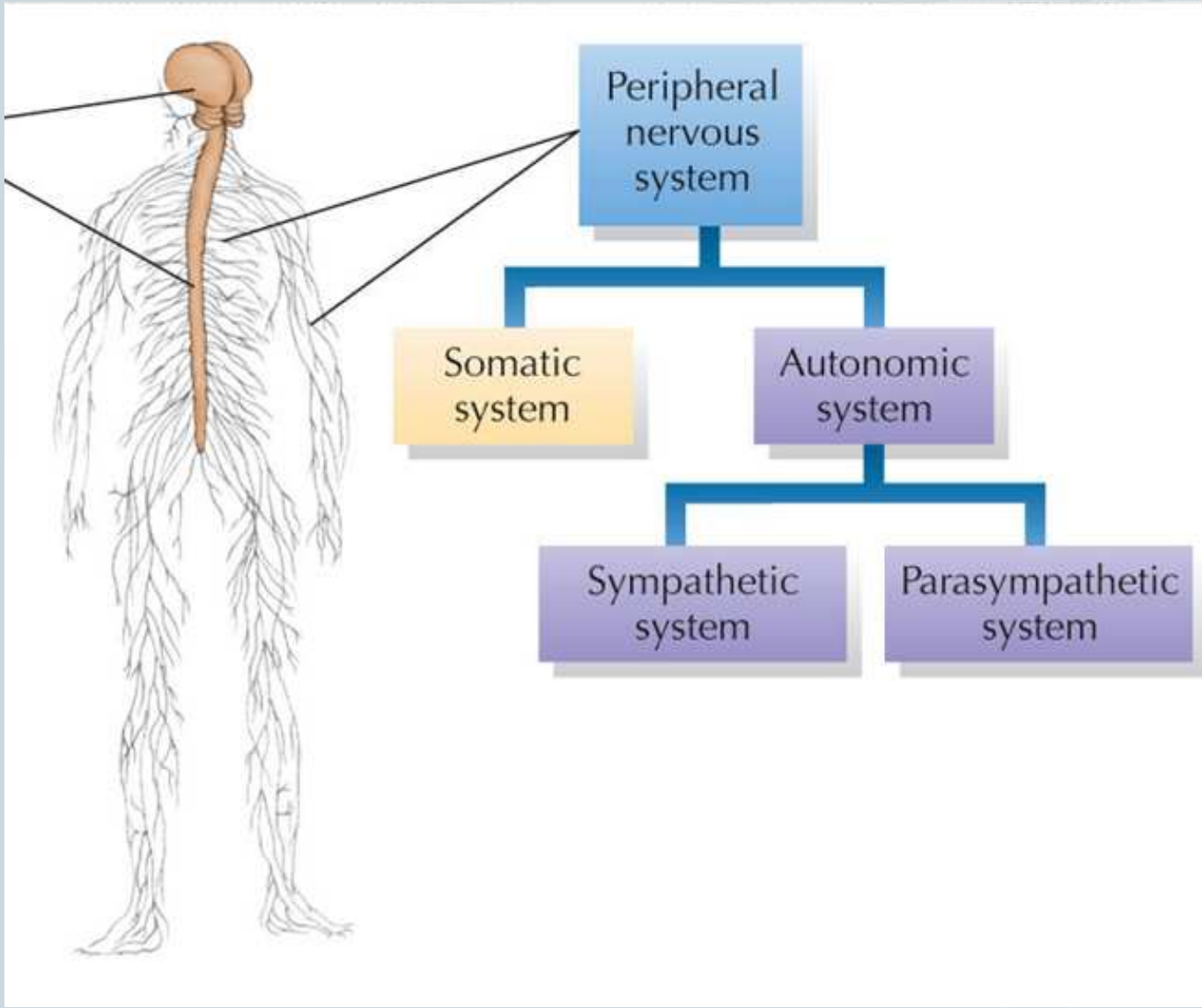
- Syllabus Review
- Exercise all 4 functions (Thinking, Feeling, Intuitive, Sense)

The Brain & Nervous System
A Brief Overview

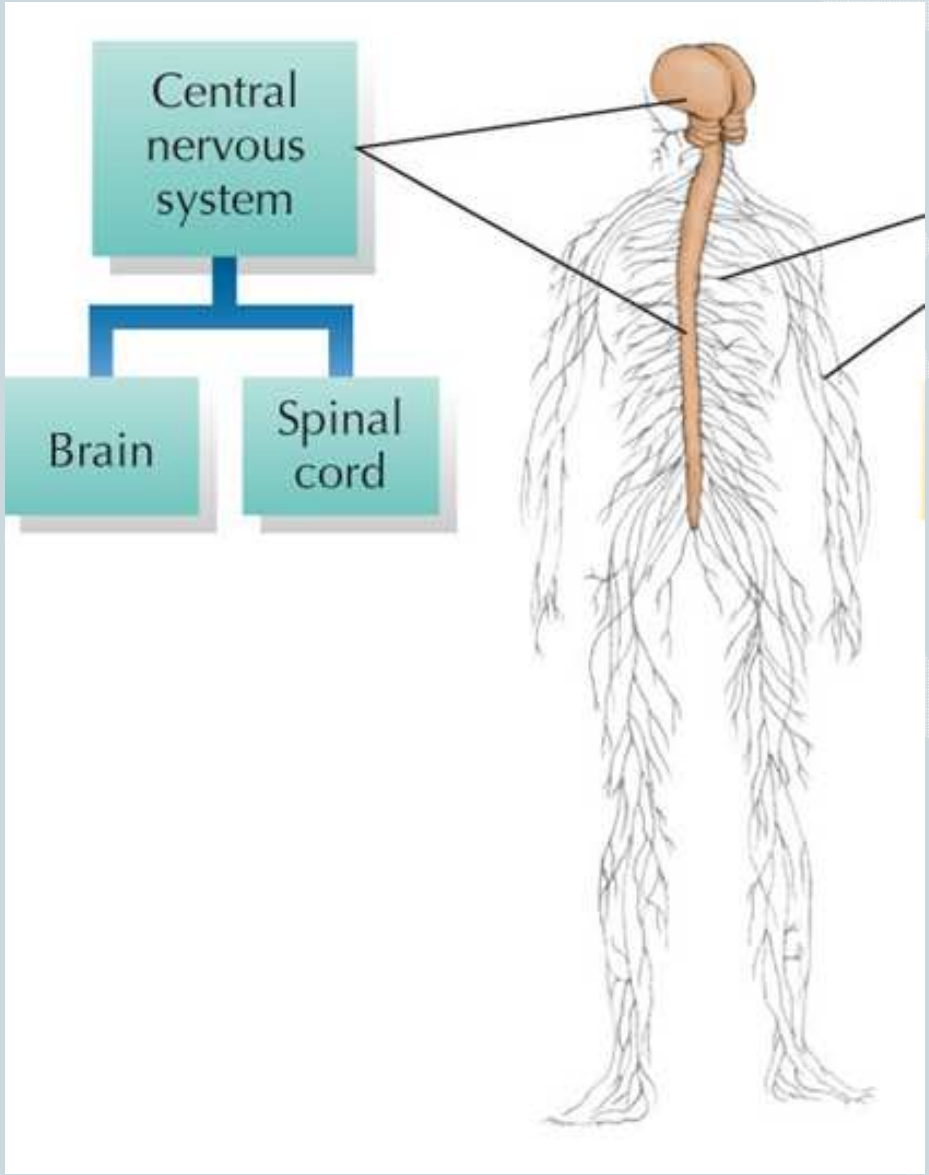
What do you know about the Nervous System?



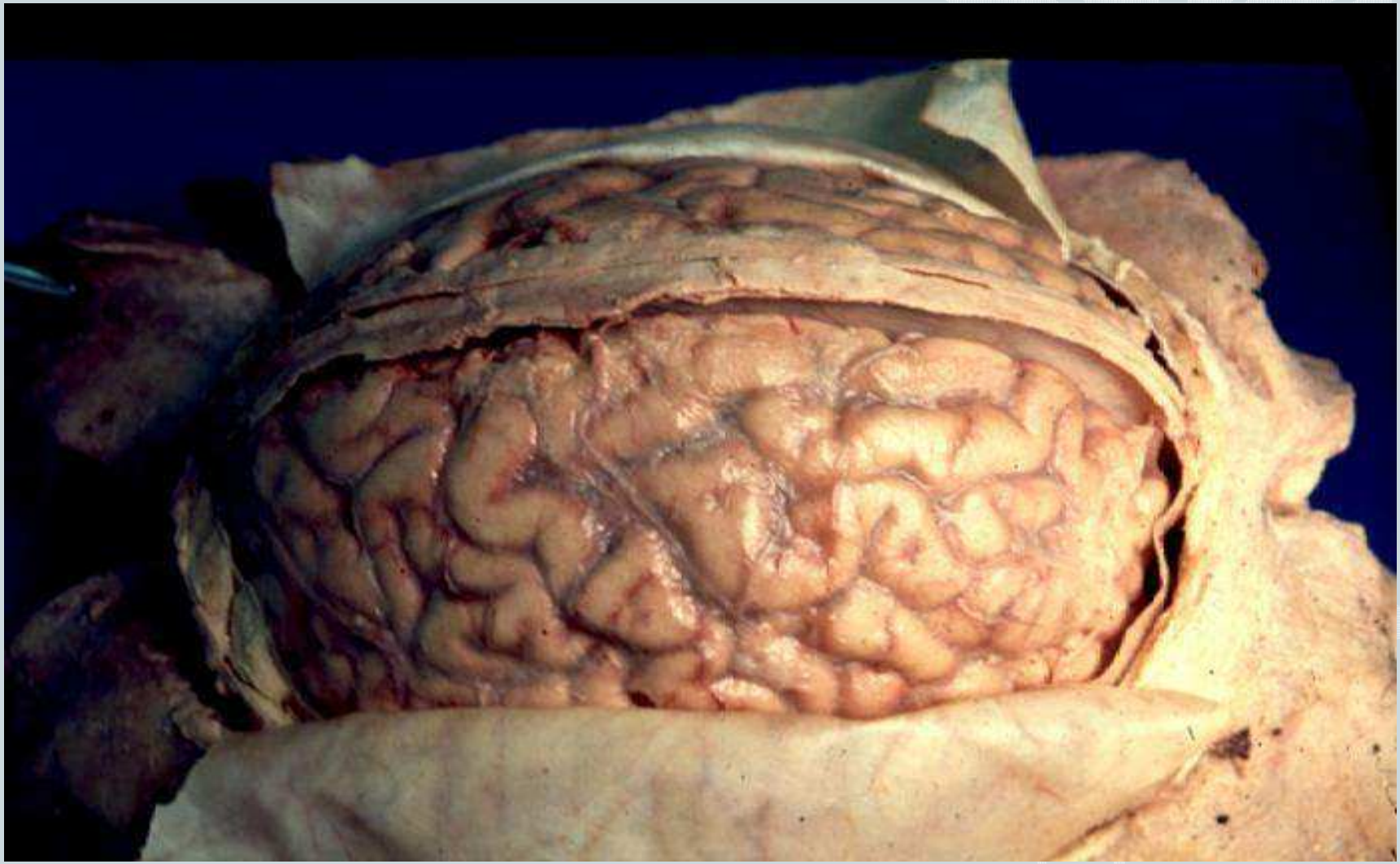
The Nervous System



The Nervous System

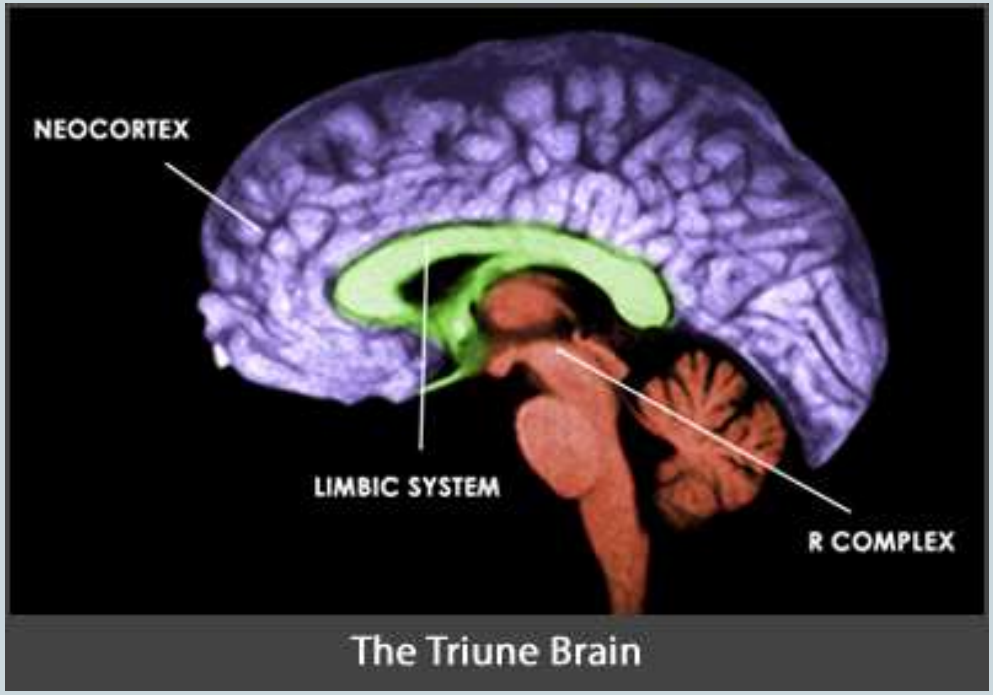


What do you know about the brain?



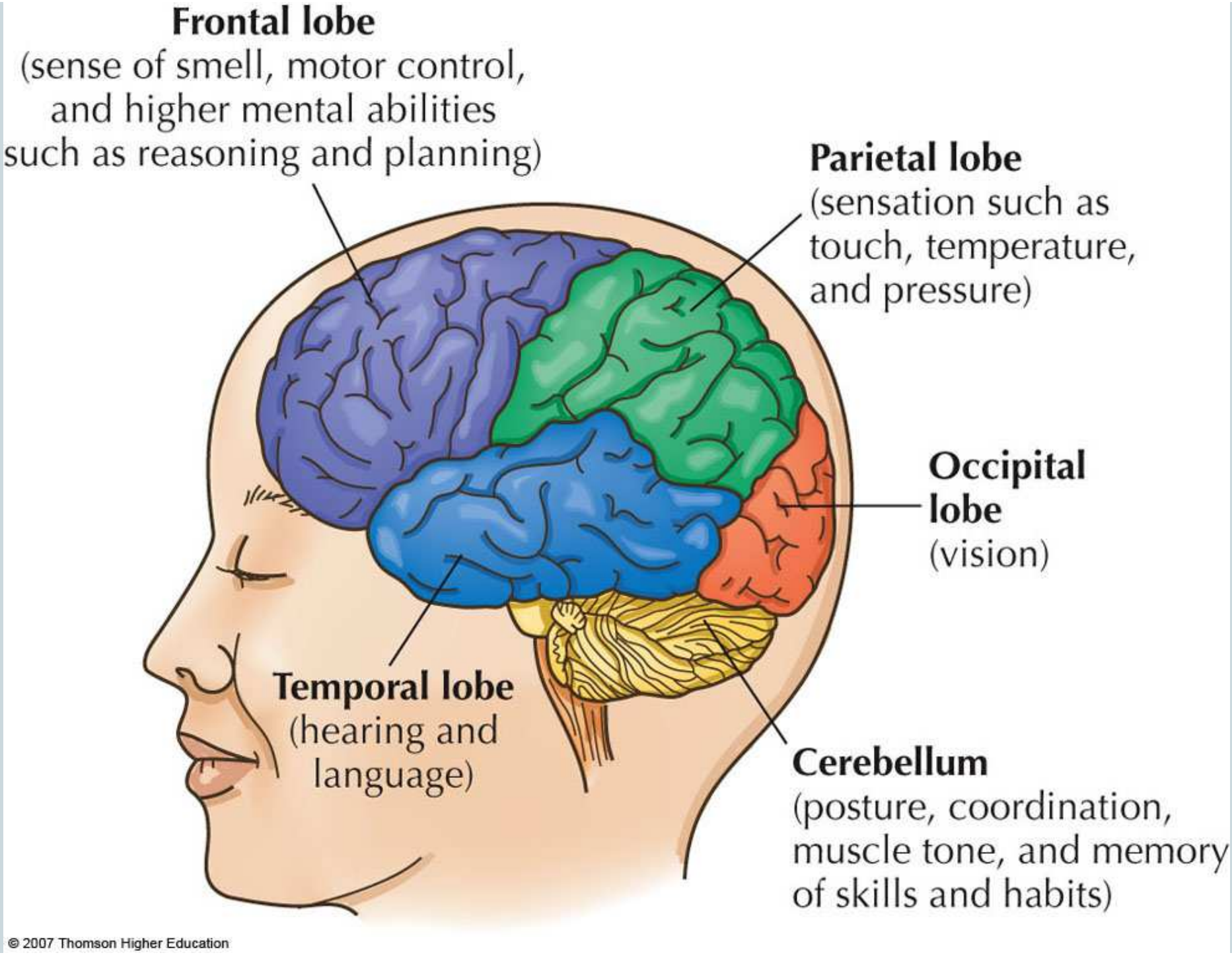
Brain's Basic Structure

- Three Major Systems



The Triune Brain

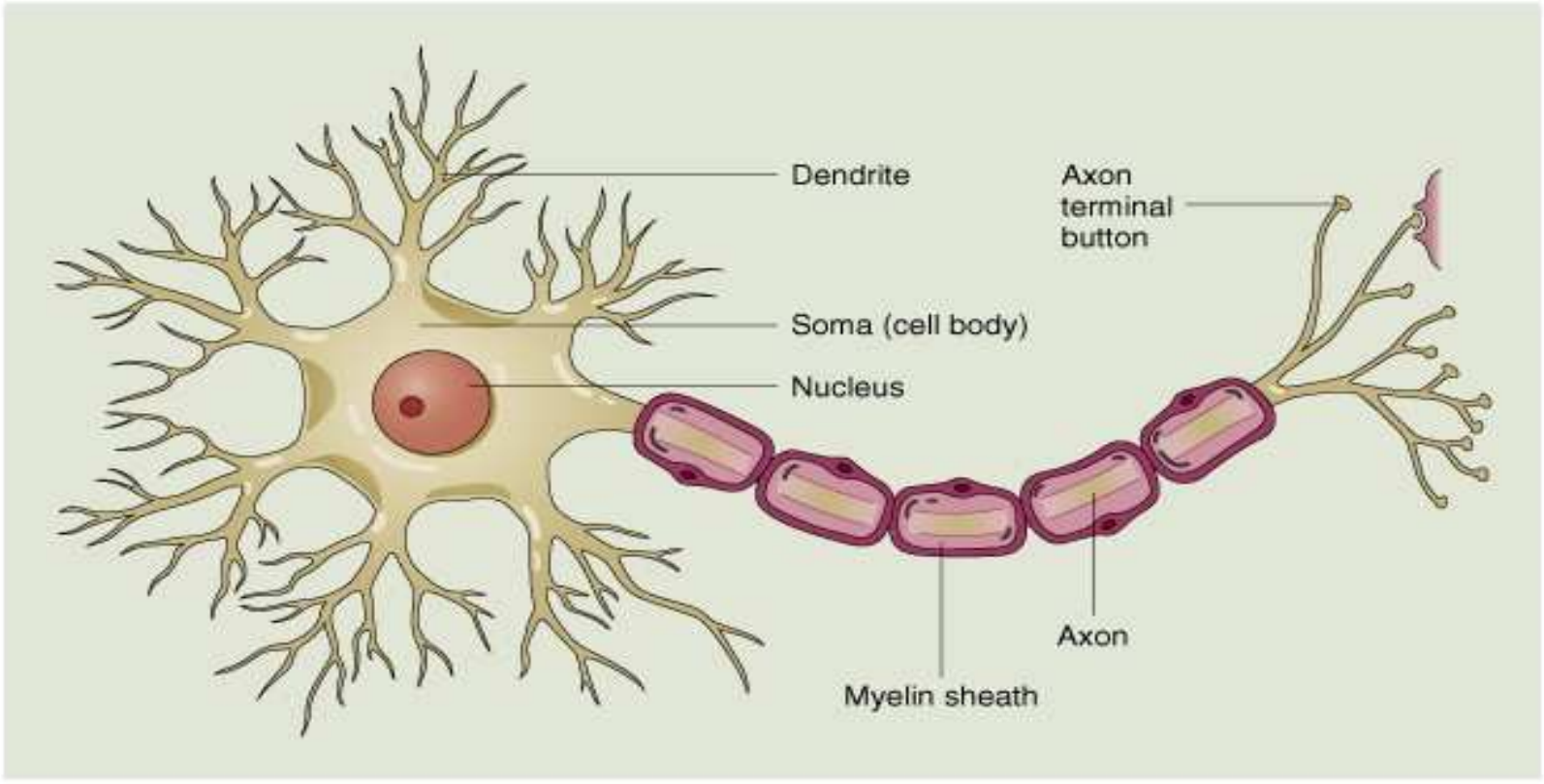
- Two Hemispheres



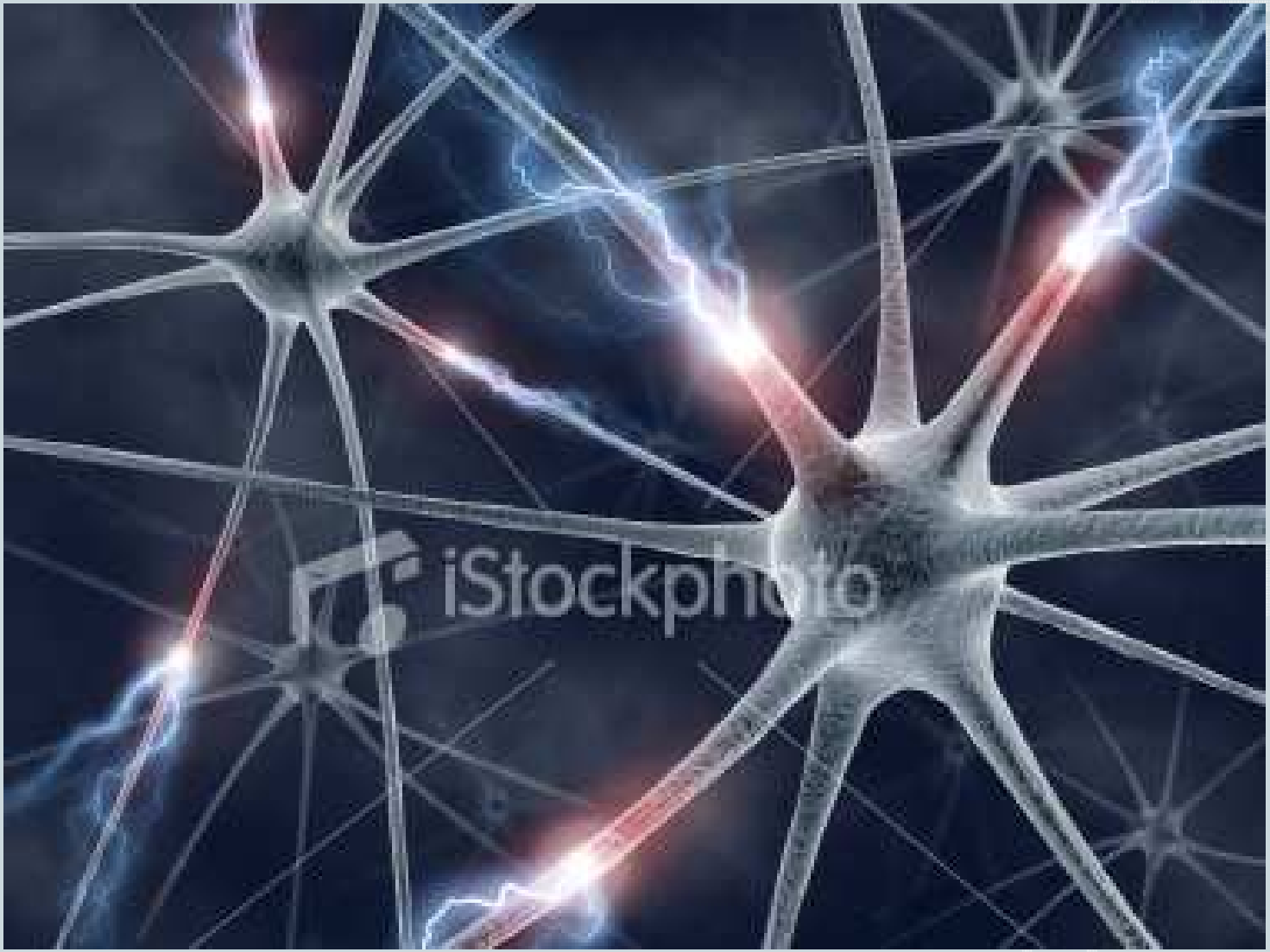
About the Brain

- This tofu like tissue weighs in at _____ lbs.
  - **~3lbs.**
- Comprised of brain cells called _____.
  - **Neurons**
- How many neurons in the brain?
  - **Estimates between 100 billion to trillions.**
- Each neuron connected to up typically 5000 other neurons. These chains of neurons are called _____.
  - **Neural networks, ~500 trillion connections!**
- **Activity:** Always on 24/7/365. 20-25% of blood flow, oxygen, glucose
- **Speed:** Neurons firing around 5 to 50 times a second (or faster)
- **Distance:** signals crossing your brain in a tenth of a second

A Neuron



Perspectives, Behavior, & Neural Networks



Neural Network Development

http://www.youtube.com/watch?v=6f8NdC9Amhg

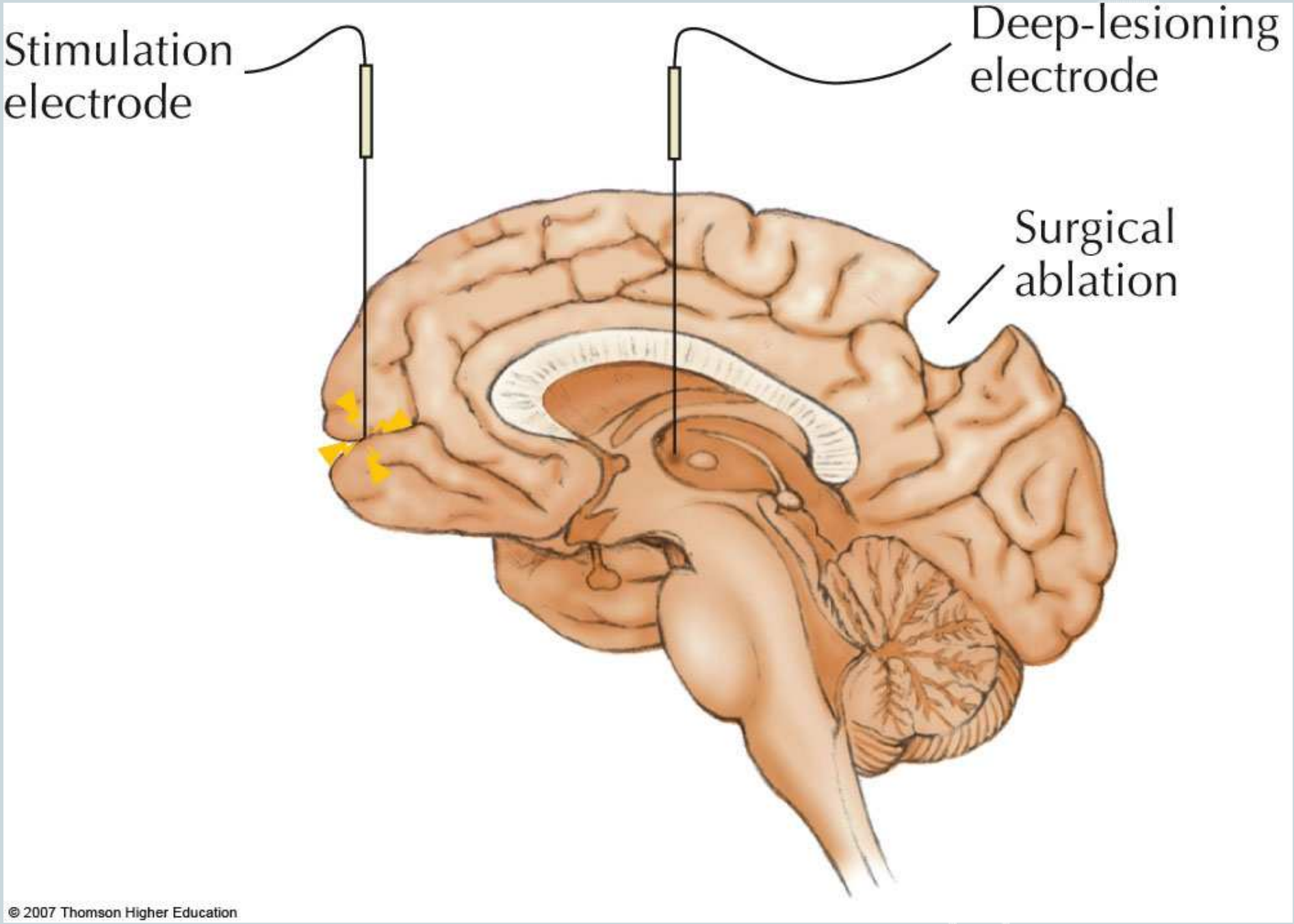
Key Points?

- Our thoughts and perceptions directly affected by the different components and neural networks of the brain

- Our brain structures can change over time as a result of experience.

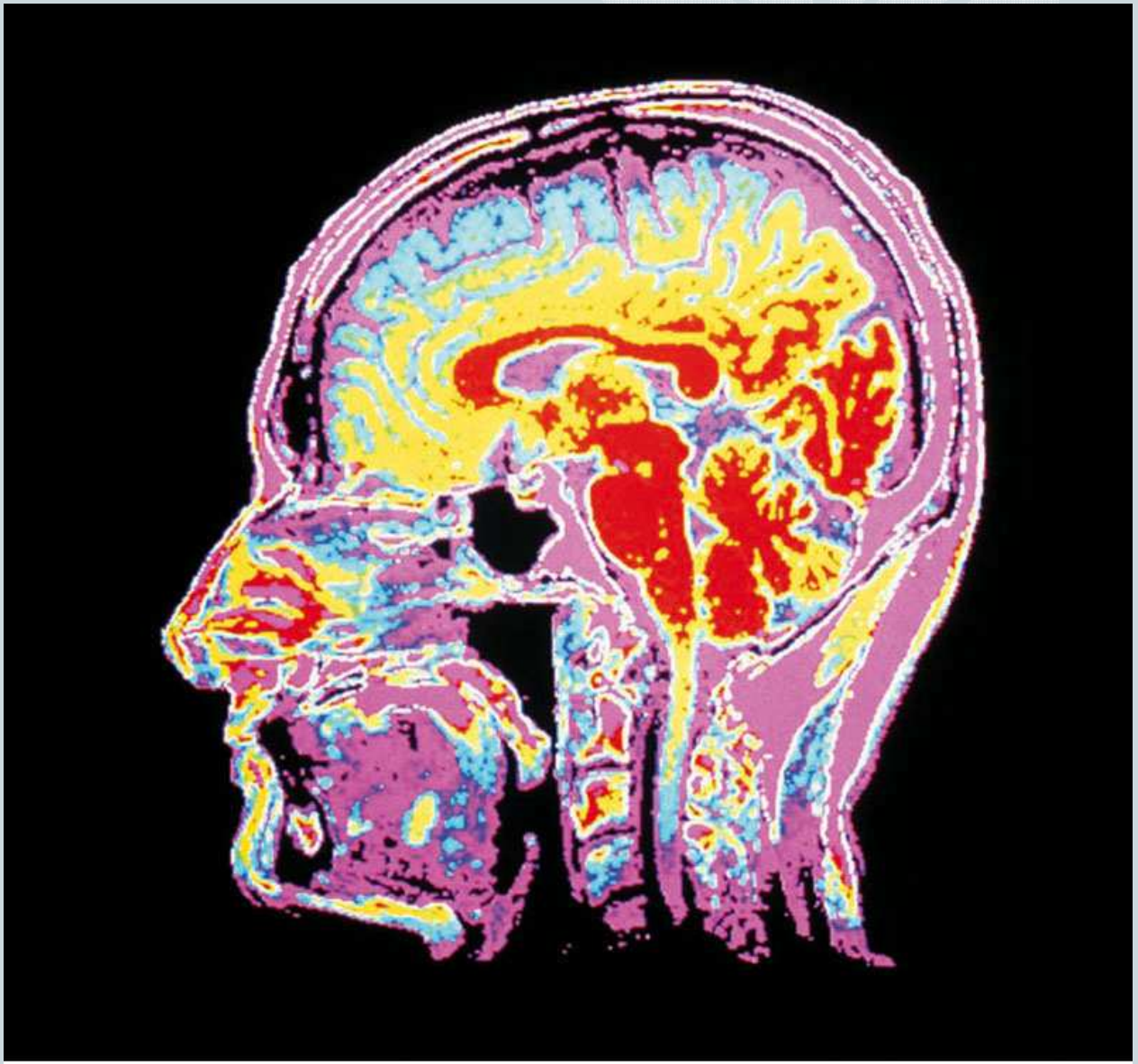
(Hence it may be useful to learn how the brain functions.)

How Do We Learn About the Brain?



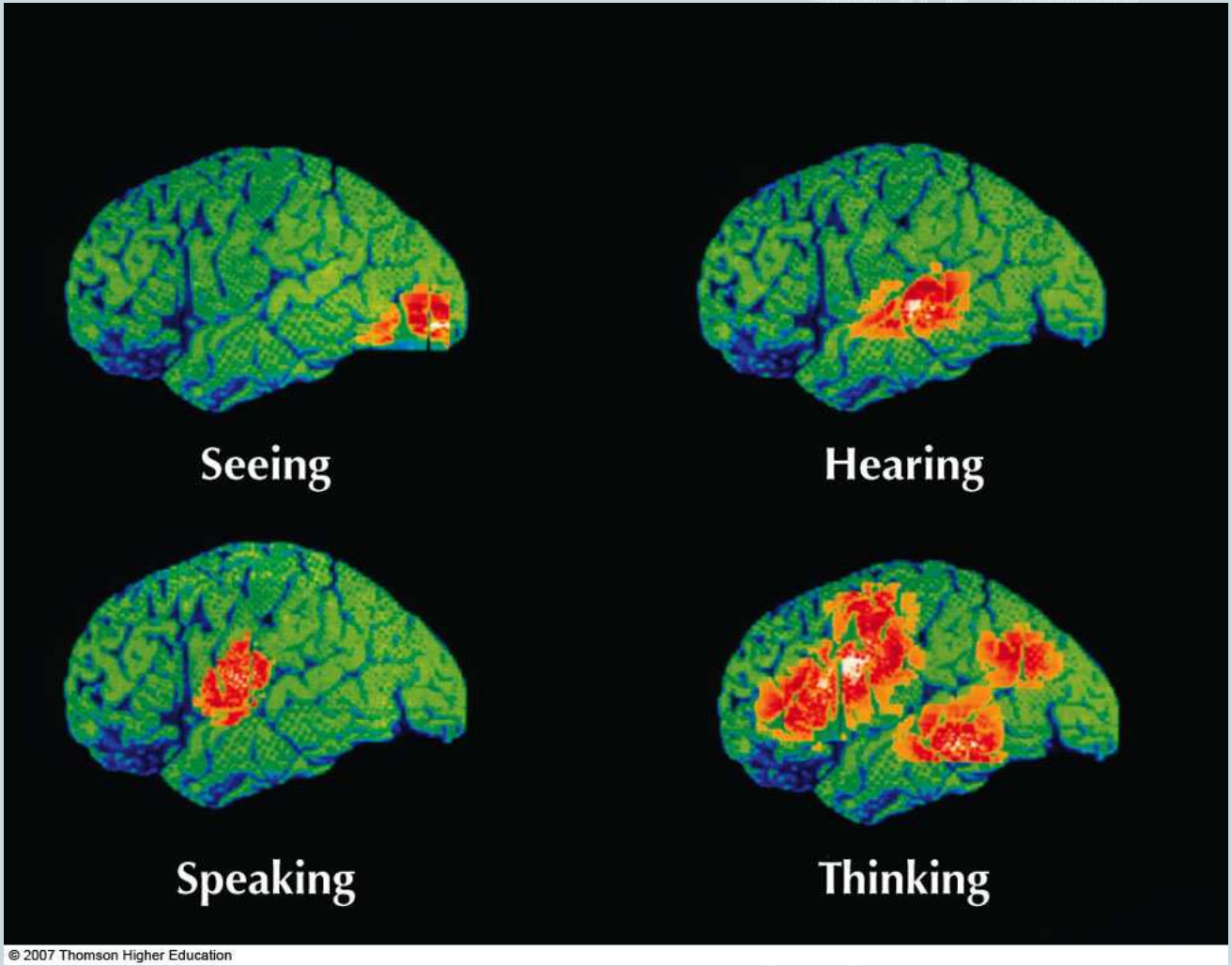
Magnetic Resonance Imaging (MRI):

- Uses a strong magnetic field, *not an X-ray*, to produce a 3D image of the brain or body (snapshot)



Positron Emission Tomography (PET):

- Computer-generated color image of brain activity, based on glucose consumption in the brain



Electroencephalograph (EEG):

- Detects, amplifies, and records electrical activity in the brain

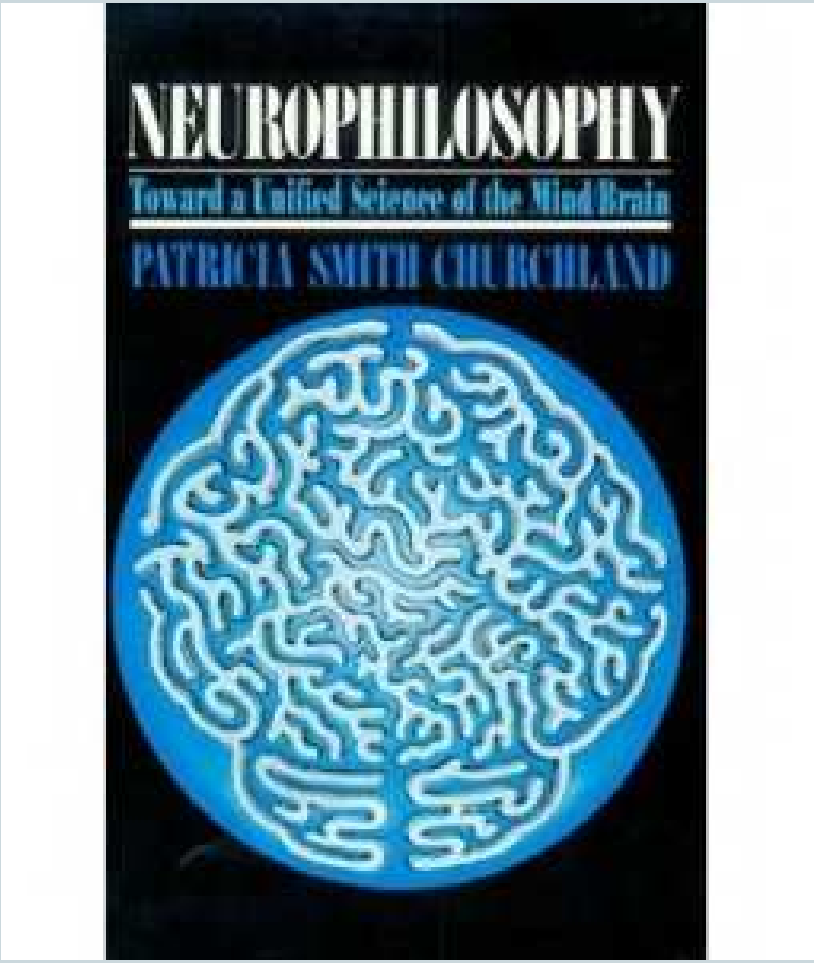
Group Exercise

- List positive ways brain and nervous system research has directly or indirectly helped you or others you know.
- How would you define the mind?
- What do you believe the relationship is between the brain and the mind?

Challenging Our Perceptions

Knowledge gained from neuroscience so significant and life changing that it has had an impacted our approach to certain philosophical questions.

History of Traditional Neurophilosophy



Neuroscience not much impact on philosophy, until this book was published (1987).

Eliminative Materialism and Philosophy "Neuralized"

Issues in Traditional Neurophilosophy

- #1 - What is the nature of consciousness and the mind?
  - Is my subjective experience (qualia) merely a product of neural networks?
  - Is my mind merely a product of neural activity? Am I not more?

http://www.youtube.com/watch?v=X2DPKLRBuio

Questions:

Is she right?

What would it mean if she were?

Issues in Traditional Neurophilosophy

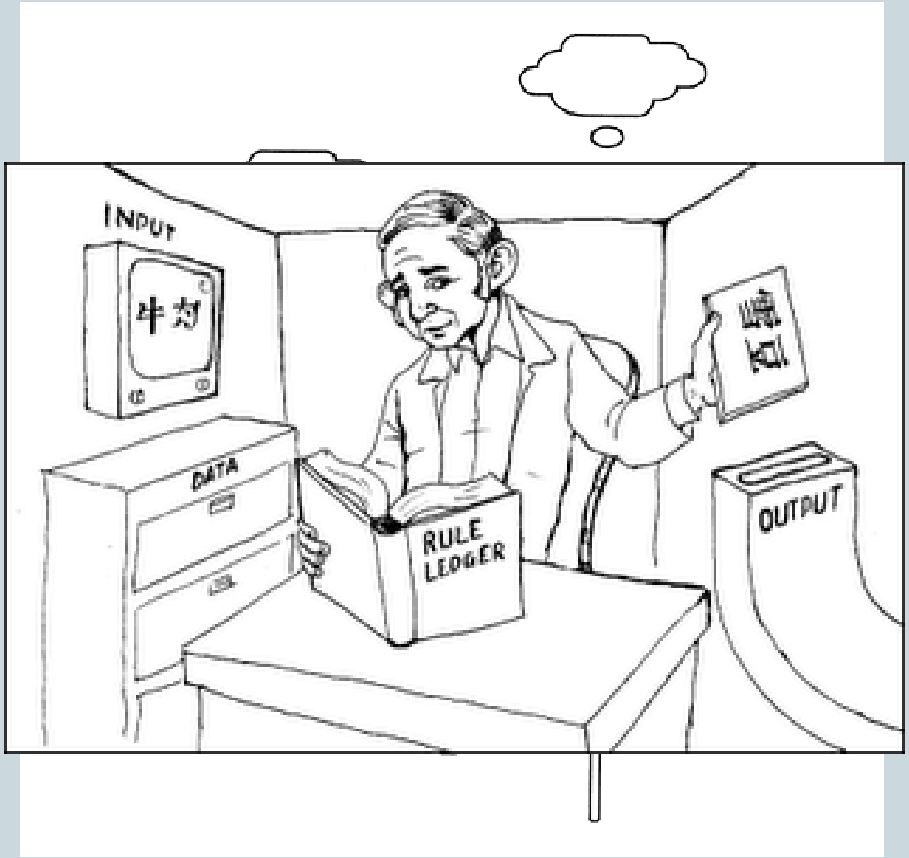
- #2 - Couldn't we then create conscious, artificial intelligence?

- The Turing Test (1950)
  - Is Siri have a little consciousness?

- John Searle and the Chinese Room
  - A computer program cannot give a computer consciousness or a mind.

- Paul and Patricia Churchland
  - Just because you can't imagine it does not make it impossible.
  - Light = Electromagnetic waves.

- Question: What do we then make of the soul or spirit? Can Siri have a soul?



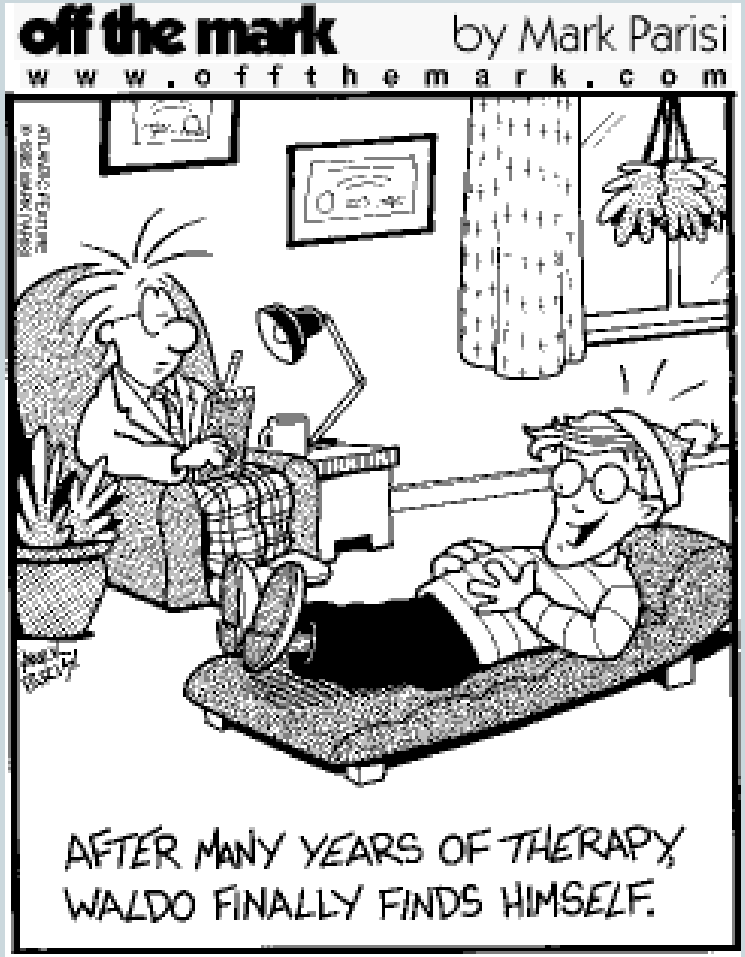
Issues in Traditional Neurophilosophy

- #3 – Is folk psychology still necessary?

- Folk Psychology:
  - Explaining human behavior based on "beliefs" and "desires"

- Eliminative Materialists:
  - There are no such things as beliefs and desires since there is no "mind," only brain.
  - It hasn't evolved with new findings.
  - It isn't very useful, and certainly not as useful as neurological intervention.
  - It is simply an archaic paradigm, just like all other myths – fatigue from "fatigues"

- Question:
  - How might eliminating FP affect us?



Issues in Traditional Neurophilosophy

- #3 – Is folk psychology still necessary? - 2:20 minutes Paul's explanation
  http://www.youtube.com/watch?v=u8e7rmIdGDM

Full Disclosure: Our Class Assumptions

- "Folk Psychology" has it's place.
  - If nothing else, as a useful language to understand ourselves.
- The body does effect the mind and the mind does effect the body.
  - Even if the mind is not a "thing" or is simply a description of neurological phenomenon.
- Human beings do have free will.
  - Since a lot of our actions are due to unconscious programing it would help to be conscious participants of our unconscious programming.

Non-Traditional Brand of Neurophilosophy

Traditional neurophilosophy delves into several thought provoking questions.

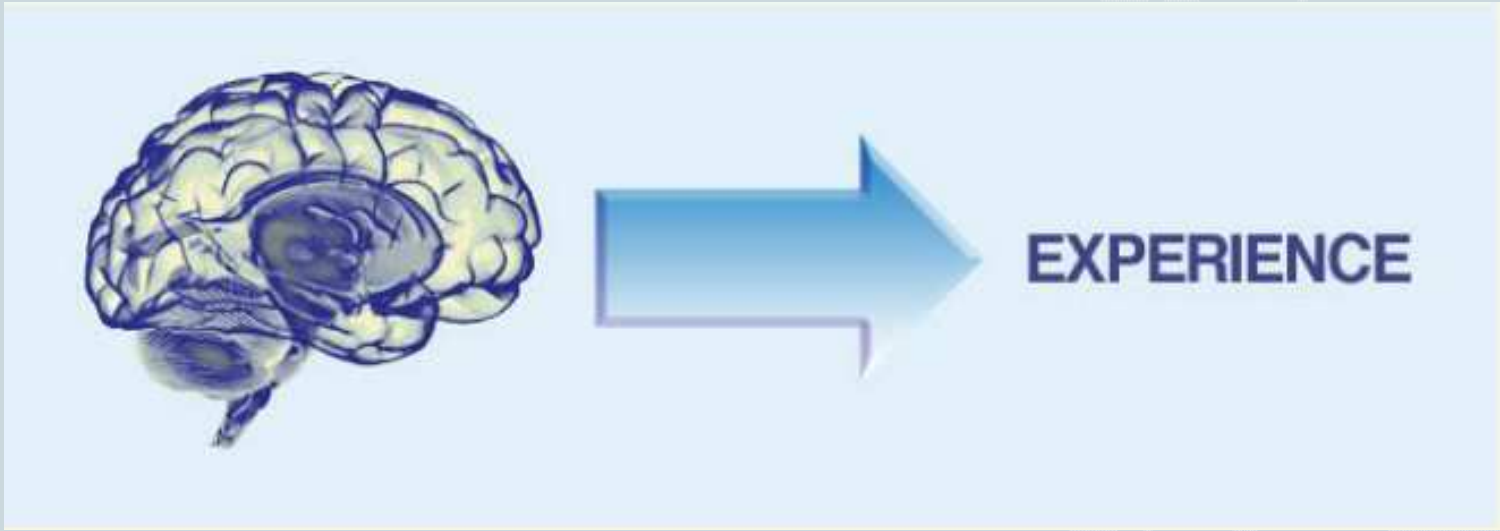
But…

Rather than explore traditional neurophilosophical inquiry for its own sake, we will explicitly explore how this type of inquiry can:

1. Help widen our access to multiple perceptions
2. And help develop self-awareness for the purpose of enhancing personal and collective well-being.

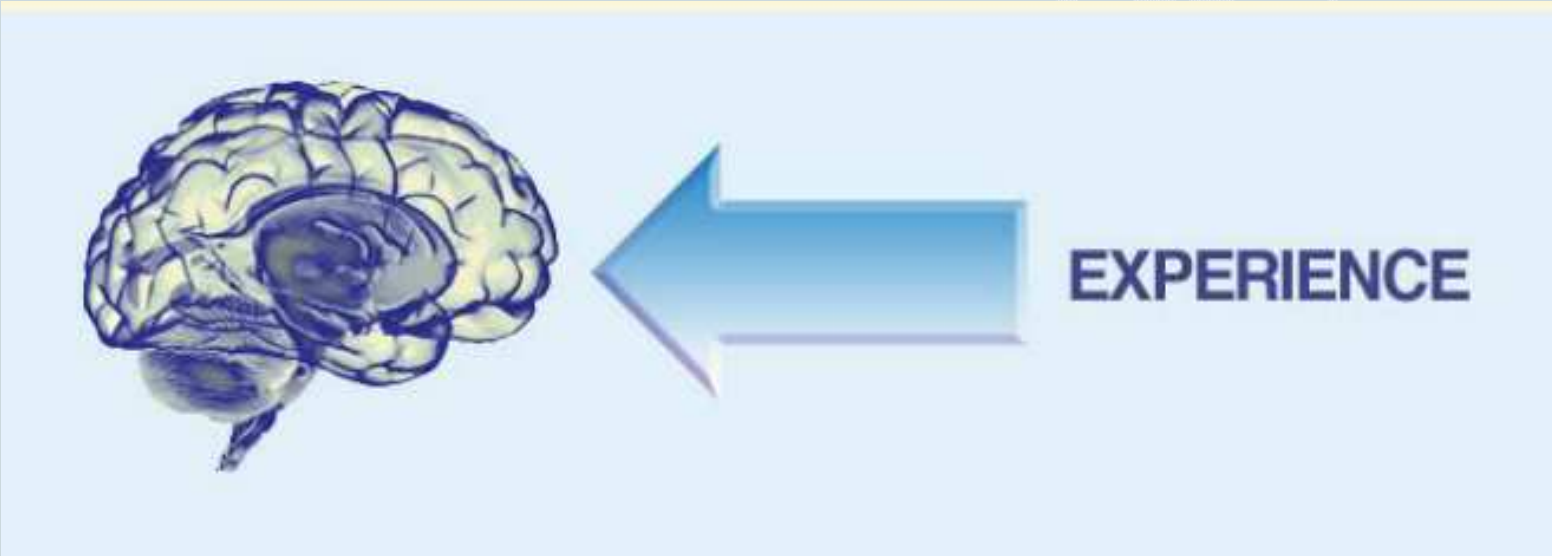
Back to the Beginning

- The brain shapes every experience we have, and not necessarily in empowering or optimal ways.



Can we Change Our Beliefs & Thought Habits?

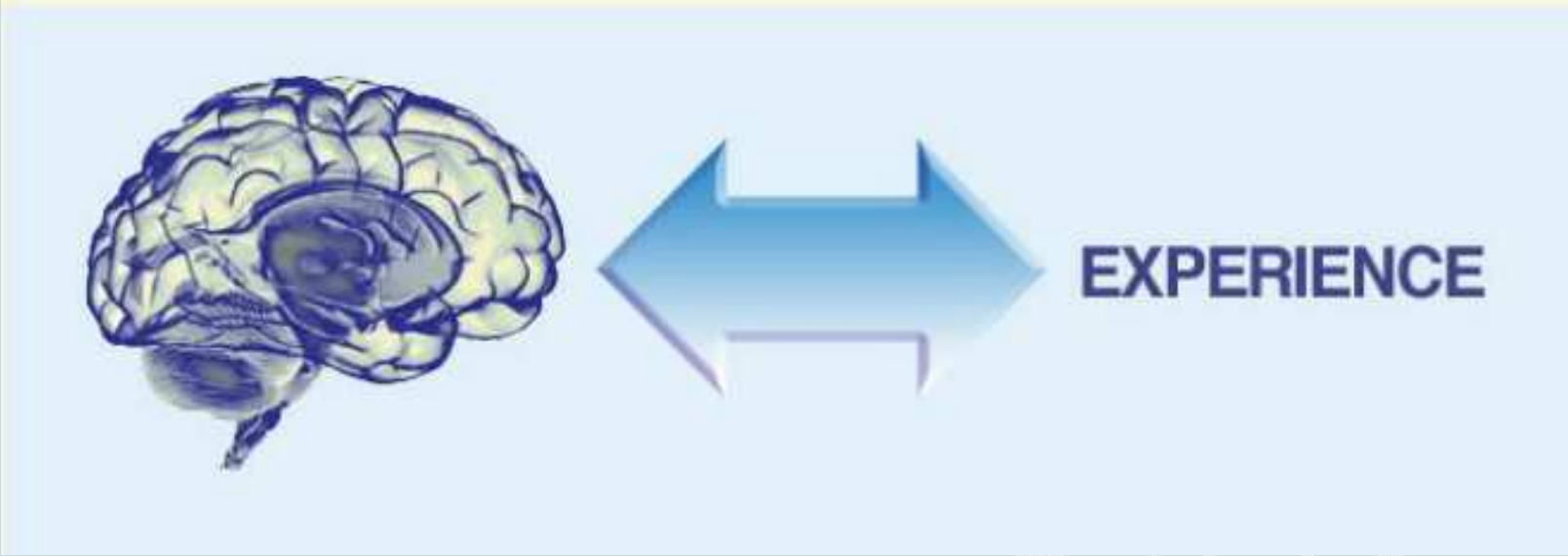
- Every experience shapes and restructures our brain.



Neuroplasticity & Neurogensis

So Why not be a Conscious Participant

- Why not choose to shape and structure our brains in certain ways in order to have more love, happiness, and wisdom.



The Power of Attention & Intention

HW Week #1

1 to 2 typed pages, double spaced.

- Our textbook makes an assumption about the relationship between the brain and the mind. What is that assumption, and what reasons do we have for believing that that assumption is correct? How might someone challenge that assumption?

- Based on this assumption, how does Hanson propose we take more conscious control over our own levels of happiness, love and wisdom?

- According to the Ornstein reading, what is one purpose of "traditional" psychological techniques (meditation, Zen Koans, Yogas) and what is a common issue faced by adherents of these traditional psychologies?

- Reflect on any instances this week where you found yourself automatically driven to "negative" judgments of yourself, others, or your current circumstance.