PSYC 415
Human Neuropsychology

Introduction
Once again...
ww2.coastal.edu/kingw
Neuroscience

- one of the most rapidly advancing areas of science (30-40 major journals, compared to 4 or 5 in astronomy)

- Society for Neuroscience (www.sfn.org)
  - primary professional society
  - currently over 36,000 members
  - psychologists have been the largest contingent
The SFN annual meetings attract 10s of thousands of attendees.
Biopsychology

- focus on behavior
- physiological psychology
- psychopharmacology
- psychophysiology
- comparative psychology
- cognitive neuroscience
- neuropsychology
Research in Neuroscience

- Much of what we know about the brain was learned from animal experiments.

- Function of neurons - squid

- Function of the hypothalamus - rats

- Function of the frontal lobes - monkeys
Research in Neuroscience

But some things have to be studied in humans:
- Language
- The advantages of using human subjects
  - Less likely to bite you or pee on you!
  - They can tell you what they are thinking
- Disadvantages - ethical limitations (we often have to wait for "natural experiments")
How Science Works
(the short version)

- There are no absolute truths
- “Scientific truths are held only until further notice.” --Herbert Feigl

- 1902 - 1988
How Science Works (the short version)

- theories stand or fall by the grace of data
- “One Hundred Against Einstein”
- Einstein’s reply - “One would be enough!”

Why did astronomers recently check to make sure the expansion of the universe is slowing? (It’s not, by the way.)
How Science Works (the short version)

- the case of the action potential

- Hodgkin and Huxley (1930’s - 1950’s)

- but does it apply to vertebrates? (yes)
The Moral of the Story

When we say, “This is how the brain works,” this is understood to mean, “This is currently our best understanding of how the brain works.”

We could be wrong, and sometimes are.

Some of what I’m going to tell you this semester about the brain is going to be wrong.

It’s up to you to keep your knowledge current.
Quiz Zero is due on Monday. This material will be covered.
The hard stuff starts Monday!