

# Dr. Ray's Psychology 101

## Review Session I

by TA Xiangmin Xu

4:30 p.m. Feb. 02, 2000

## Review Session

- Review class lectures and textbook material
- I won't talk about the assigned videos
- Time for questions

# Class Exam 1

Time: Feb. 04 9:05 a.m.

Place: Room 103, Wilson Hall

\*\*\* Please bring your own ID and pencils.

## About the exam

- The class exam contains 50 multiple-choice questions covering the lectures, the assigned reading material and videos.
- 11 question from assigned videos, 19 questions from lectures, and 20 questions from the textbook.
- One multiple-choice question has five options.

## Chapter 1,2 and Lecture 1&2

Theme: Introduction to the study of psychology

### What is Psychology?

- Psychology is the scientific study of mental processes and behavior.
- Mental processes: contents and processes of subjective experiences like sensation, perception, thoughts and emotions
- Behavior: It generally is what is observed, such as overt actions, written expressions.

## What about the branches in psychology?

- Biopsychology (neuropsychology)
- Clinical psychology
- Cognitive psychology

## Psychology and other social sciences

- Psychology as a social science is different from others with its focus on individuals, alone or interacting with others. (Ethology and Sociology)
- One of the main purposes in psychology is to predict, control and understand human behaviors.

- Psychology and Philosophy, e.g. free will versus determinism, mind-brain problem, nature versus nurture

- Paradigm A broad system of theoretical assumptions employed by scientific investigators, which provides a filter and a focus.

- Different Psychological Perspectives  
Main ideas, metaphors and methods



## Metaphor

## Methods

Psychodynamic	Unconsciousness & consciousness conflicts, no free will, Tip of Iceberg	Psychoanalysis, case studies
Behaviorism	Mind as a black box, only study behaviors.	Experimental
Cognitive	Mind as a computer, information processing	Experimental
Evolutionary	Natural selection	Deductive

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"A toast to mankind!  
I assume we're all here."

## Book Chapter 2 & supplement

### (1) Understand research methods in psychology:

- experiments

(independent and dependent variables, confounding variables, control group and experimental group, preventing experimental bias)

- naturalistic observation

- case study and survey

- correlation research

## (2) Descriptive statistics

### Measures of central tendency and variability

- Mean, median, and mode for measuring central tendency
- Standard deviation (SD) for measuring variability

## Lecture 3 &4 Theme: the determinants of behavior

### The principles of behaviors

- Behavior is functional
- Behavior follows the minmax principle
- Behavior always involves conflict
- Behavior is only understandable in context.

## The law of effect

- Edward Thorndike
- The nature of general associations between behavior and reward. Rewards are responsible for providing a mechanism for establishing a more adaptive response

## Edward Thorndike (1911) Animal Intelligence: An experimental study of the associative processes in animals

Thorndike simply observed that a response that was followed by a reward would be stamped into the organism as a habitual response. If there is no reward following a response, the response would disappear. Rewards were responsible for providing a mechanism for establishing a more adaptive response

- The peanut butter GELLE theory of behavior

- GELLE Genetics, Early experiences, Life space, Learning and Expectancies.

- Need to understand examples.



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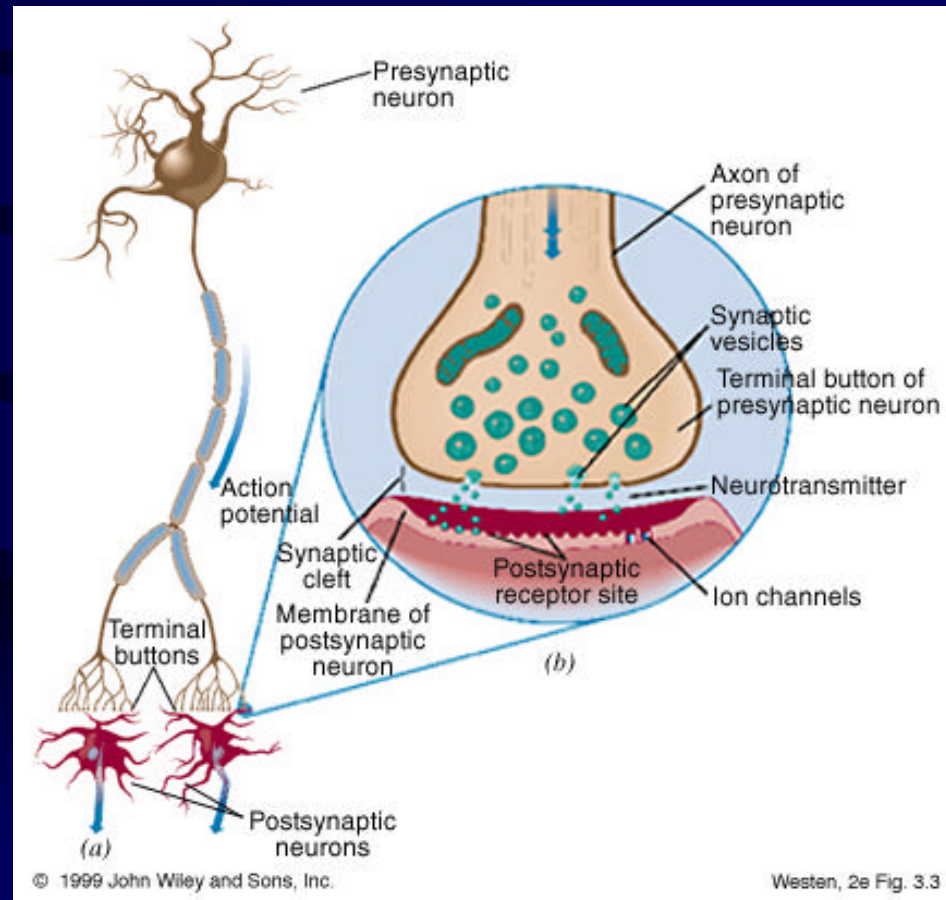


"I'd like a king-size promise with extra applesauce, hold the baloney."

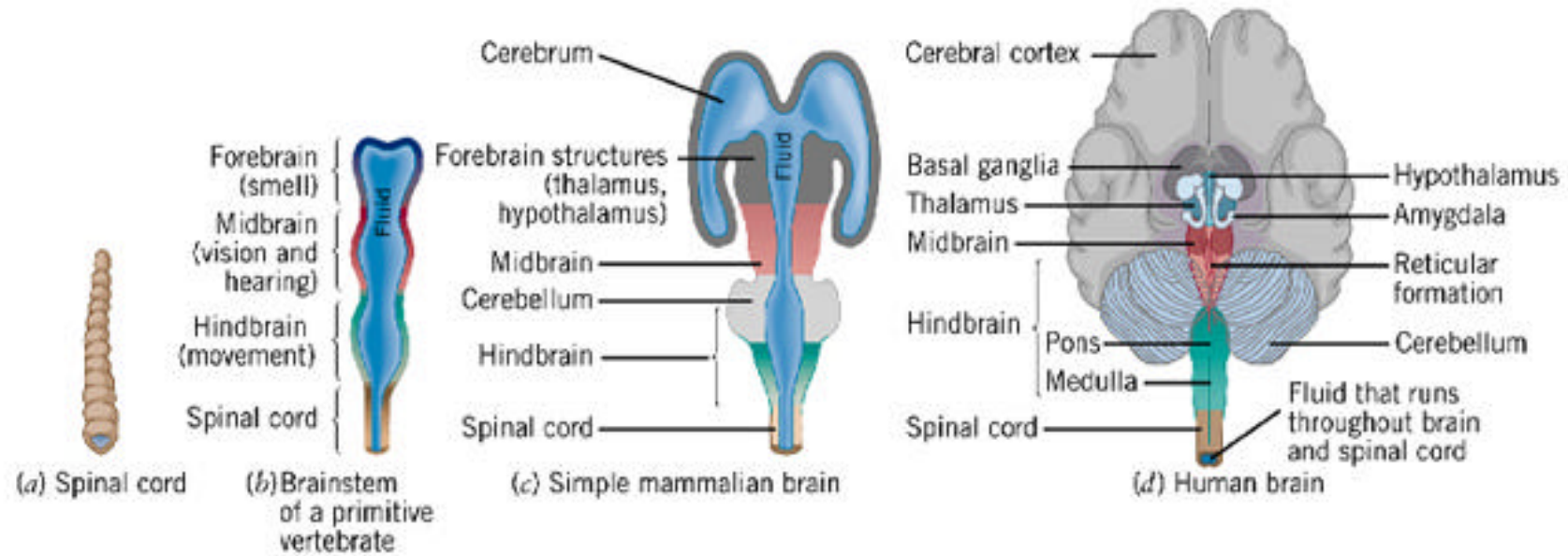
# Chapter 3, 4 & 9 Biological bases of psychology

## (1) The nervous system

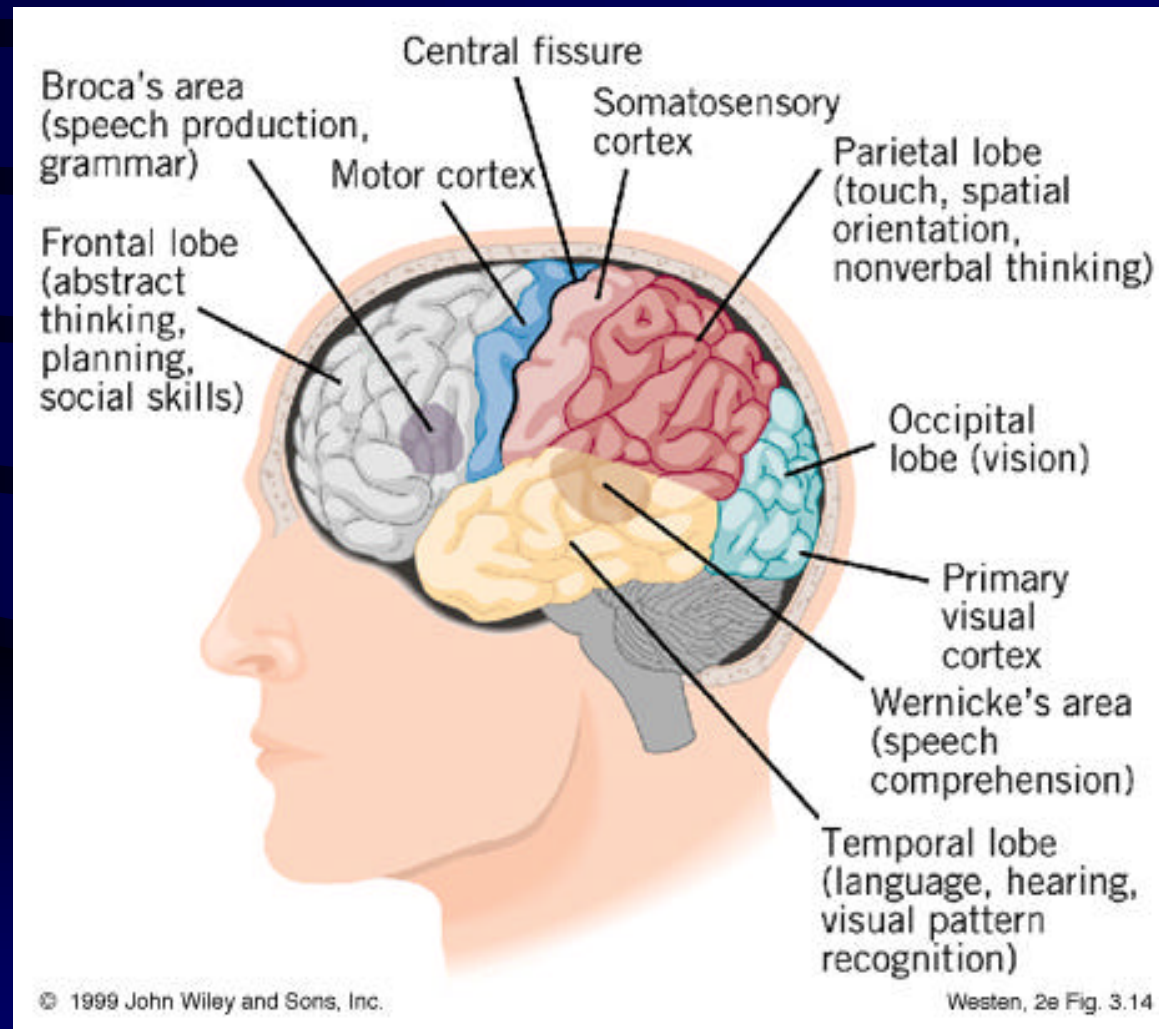
- Neurons: anatomy and information transmission
- Synapses



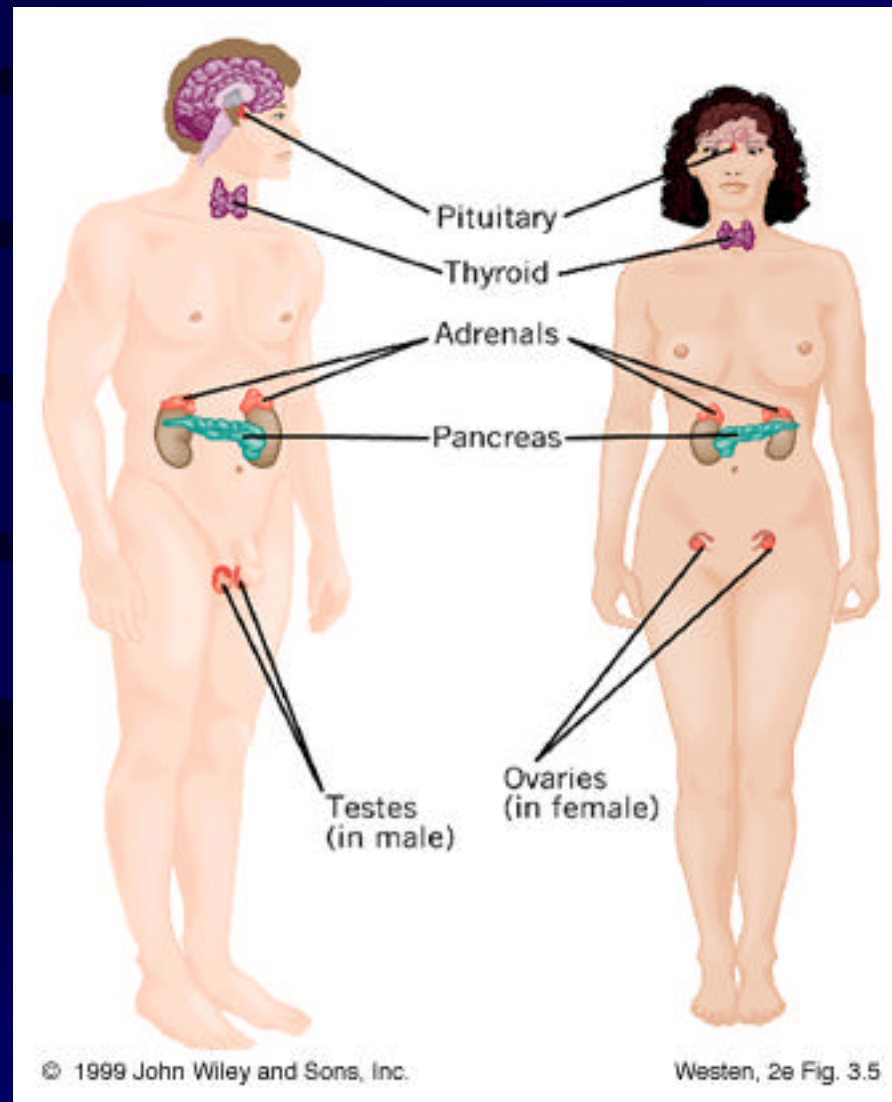
- General subdivisions of the nervous system
- gross anatomy and function of the brain  
forebrain, midbrain and hindbrain



- Lobes of the cerebral cortex and functional correspondence



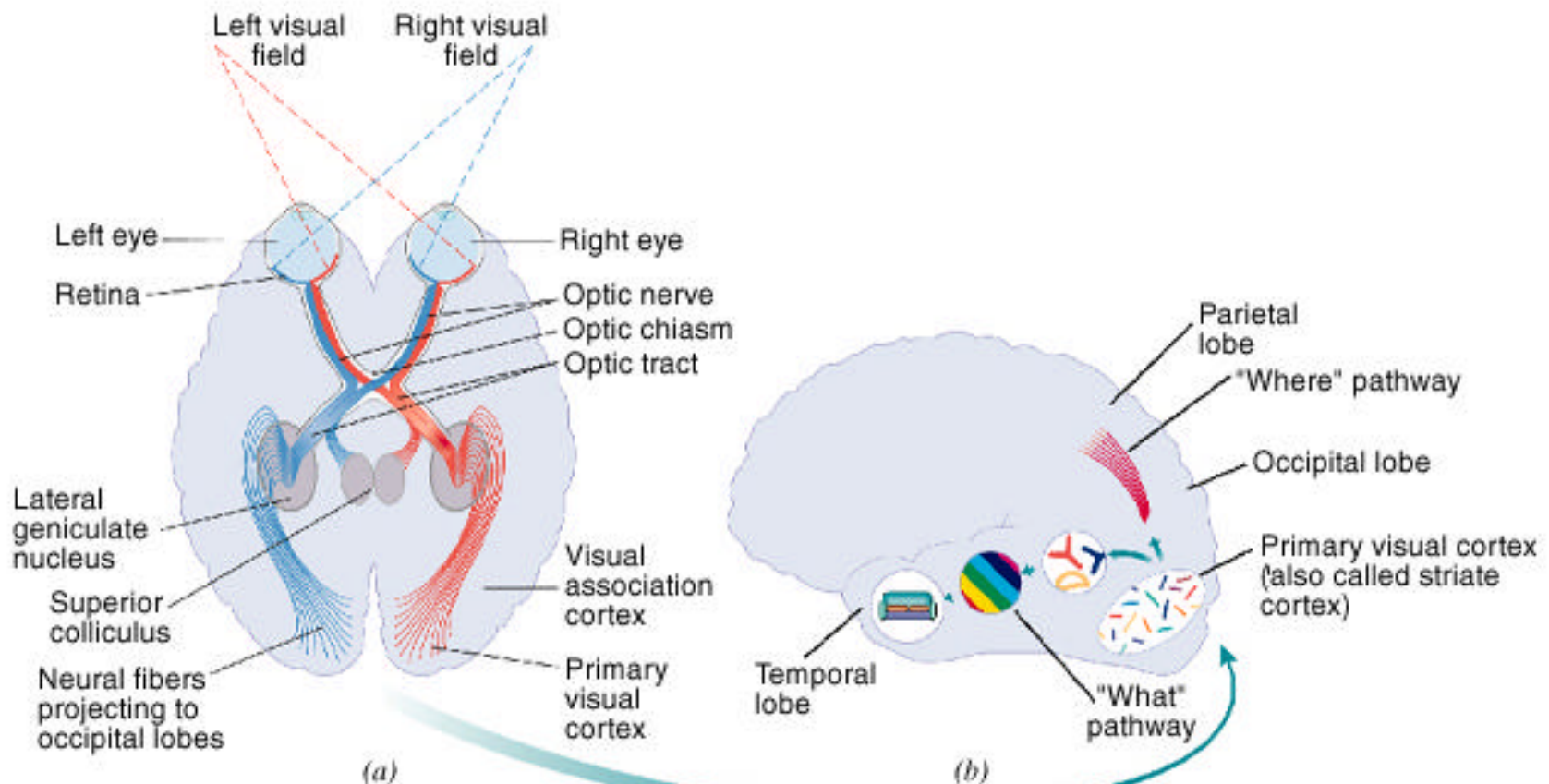
## (2) the endocrine system: major glands and hormones



### (3) sensation and perception

- Basic concepts: sensation and perception, absolute threshold, difference threshold, jnd (just noticeable difference)
- Understand Weber's law and Fechner's law
- Visual perception

# Visual perception



## (4) Chapter 9 Sleep and Dreaming

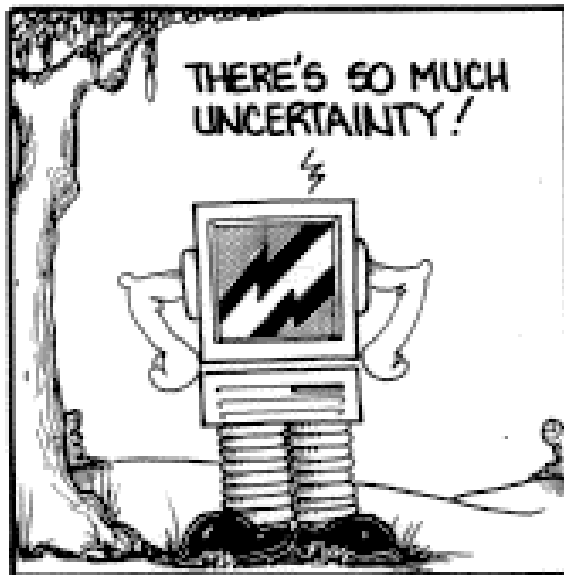
Stages of Sleep: non-REM sleep and REM sleep

REM : rapid eye movement



## Class Video - Life Space (The Power of Situation)

- Asch's Study of Conformity
- The Milgram Experiment  
The Power of Authority: Obedience
- Mock Jail Experiments



## Lecture 5,6 Physiological Processes

- Working characteristics of the nervous system and the endocrine system

- Jim Olds and rats

### Medial Forebrain Bundle

- Sexual differentiation - Interfaces between the brain and the endocrine system, behavioral and psychological effects

# Chapter 13 & Lecture 7,8, and 9

## Theme: Developmental Processes

- Concepts: Maturation, critical periods
- Early experiences
- The ways of studying development
- Physical development:
  - Prenatal development (germinal, embryonic and fetal periods)
  - Infancy
  - Childhood and adolescence
  - Adulthood and aging

# Piaget Stages of cognitive development

- Sensorimotor stage  
(0-2 object permanence),
- Preoperational stage  
(2-7, symbolic thought)
- Concrete operational stage  
(7-12, conservation)
- Formal operational stage  
(12+, manipulate abstract and concrete objects)



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Westen, 2e Fig. 13.10

**(a) CONSERVATION  
OF LIQUID QUANTITY**

Initial equality



Changed state



Conservation question:  
Do the two glasses have  
the same amount of  
water, or does one glass  
have more than the  
other?

**(b) CONSERVATION  
OF NUMBER**

Initial equality



Changed state



Conservation question:  
Do the two rows have the  
same number of chips, or  
does one row have more  
than the other?

**(c) CONSERVATION OF MASS**

Initial equality



Changed state



Conservation question:  
Do the two pieces have  
the same amount of  
clay, or does one have  
more than the other?



## Study Tips

- Understand some important concepts in the text which overlap with those in Dr. Ray's lectures.
- Understand the important definitions and summaries in the text .
- Study the old test to orient yourself while reading the book. ([Sample Test](#) on the class webpage).





Good Luck On Your Exam!