Psychology 4910 - End of Semester Review

Chapter 1.

Positivism - goal of science is to describe, predict & control nature.

Types of Theories

- Nomological Deductive: describe nature in terms of mathematical formulas
  - Iron Law of Explanation – avoid circular definitions
  - operational definitions (from Chapter 11: Behaviourism)

- Semantic Approach – idealized models → information processing models
  - connectionism. (Chapter 12: Cognitive Science)

- Reasons versus Causes: physiological mechanisms versus explanations in terms of goals, values, beliefs, expectations etc.

Thomas Kuhn's Ideas

- discuss major changes in way psychology was carried out, e.g. Aristotle's observation, animal behavior research (anecdotal method), Wundt's introspection, Freud's clinical method, behaviouristic research, cognitive research.

Importance of being able to falsify hypotheses

Chapter 2: Ancient Greece

- importance of open discussion, criticism of a person's ideas not the person's character
- observation of nature (Aristotle)
- dissections, importance of understanding how the body and brain work, study of sensation and perception, epistemology

Chapter 3: Antiquity

- psychology and religion – role of psychology as "healer of the soul" – how this conflicts with science, yet people seem to have spiritual side
  - psychology had to reject religion in order to become scientific
- no dissections in Islamic world → no progress in neurology or neurophysiology; only minor modifications in theories about the mind or soul

Chapter 4: The Middle Ages

- various medieval scholars introducing some new ideas – separation of faith and reason, free will, trying to understand abstract thinking, Ockham's razor
- discovery of the classical Greek literature
- dissections being performed

- concept of the individual → makes study of individual differences relevant

- Reformation (1517)

Chapter 5: The Scientific Revolution (1600 – 1700)

- Why Europe? What were the social structures and values that contributed to the rise of science?
  - role of cities, universities, church
  - separation of church & state
  - persuasion and reason in Christianity (see Chapter 3)
  - public knowledge
  - secondary causation
  - knowledge of Greek naturalism (Aristotle)
- role of technology – complex machines e.g. clocks,
- international trade – contact with very different cultures, religions, political systems, religions etc.
- Copernicus & Galileo – motion of the planets. Earth not the centre of the universe

- Locke & Descartes – Way of Ideas – mind has a representation of the world
- Descartes – theory of the soul based on known physiology
  - consciousness – worthy of study – could shed light on how we know the world
- Descartes' theory of language (compare Chomsky)
- problems arising from Descartes ideas – homunculus problem

Thomas Hobbes – view of human nature influences type of society we want
- Hobbes – we need strong government to keep human greed under control

Other thinkers: Leibniz, Spinoza, Pascal,

Chapter 6: The Enlightenment (1700 – 1815)

Enlightenment Project: to remake society on the basis of science (compare to 20th C progressives in USA)

Bishop Berkeley – theory of depth perception

Hume – associationism = gravity of the mind, athesist, skeptic → need practical philosophy,
- importance of emotion in guiding our lives; reason insufficient (compare to the computer in Chapter 12)

Scottish Common Sense & its influence in the USA
- realism: God made people to know his world
- nativism: God made humans – any "first principles" must be valid

Kant – metaphysical: noumena vs phenomena
- nativist – mind imposes itself upon the world
- innate Categories of Understanding: 3-D space, causality, time etc.
- "empirical ego" – sum of sensations – can be studied through introspection
  → psychology not a science
- anthropology – common-sense psychology, study of human character, intellectual capacities, character etc.
  - humans as moral beings
  - compare to Wundt's Geisteswissenschaft – interdisciplinary study of human culture

<u>French Naturalism</u>
- materialism: de la Mettrie – the body is a machine, but morality inherent in the natural world; atheist; vitalist – attributed special powers to living organisms

- empiricism: Condillac all knowledge from sensation; animals different from people in that people have reason; human soul could think (compare to Descartes)

- Helvetius – combined ideas of both la Mettrie & Condillac

- crisis of naturalism – if humans are mere machines, morality goes out the window
  → hedonism

Ethical Systems
1) <u>Utilitarianism – Jeremy Bentham</u> – felicific calculus – foundation of modern economics; the greatest happiness for the greatest number

2) <u>Ethics of Duty</u>- Kant
- categorical imperative – a person should act in a way they would want everyone to act.
- morality comes from reason

3) <u>Scottish School of Common Sense</u> – we have an innate moral sense which comes from God, our creator – people made to be sociable

Social Engineering – Utopian communities e.g. Robert Owen

<u>Counter-Enlightenment: Romanticism</u>
- Vico, Herder, Jean-Jacques Rousseau

<u>Chapter 7: The Ascent of Science (1815 – 1914)</u>

- Romanticism, continuing enlightenment
- Positivism August Comte, Ernst Mach

- Mesmerism, spiritualism, psychic research

- advances in physiology:
    - Gall - phrenology
    - Helmholtz: neural conduction speed, unconscious inference
    - Flourens – localization of function in lower parts of the brain
    - Magendie, Bell – afferent and efferent nerves → reflex theory of the brain

- advances in methodology
    - Donders subtraction method
    - Webber & Fechner – psychophysics
    - mental testing – Francis Galton, Binet

- philosophy – Bain, Taine – linking known physiology to associationism

- psychiatry – moral therapy

Chapter 8: GermanPsychology

- Wundt, Wurzburg School, Gestalt psychologists

Chapter 9: Sigmund Freud

Chapter 10: Psychology of Adaptation
- Charles Darwin's Theory of Evolution
- Lamarckian Psychology – Herbert Spencer
- rise of comparative psychology
- psychology and religion in USA
- applied phrenology: Lorenzo & Orson Fowler
- Wm James, functionalism, pragmatism
    - will & reflex theory of the brain
    - role of consciousness in decision making
    - James-Lange theory of emotion
- Motor Theory of Thought – Munsterberg
- John Dewey
- decline in introspection and concern in conscious contents

Chapter 11: Behaviourism

Chapter 12: Cognitive Science

Chapter 13: Rise of Applied Psychology

Chapter 14: The Psychological Society