

PSYC 312A MIDERM#1 NOTES

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GENERAL INFORMATION

Terms:

- a) Mechanism → natural processes are mechanically determined and capable of explanation by the laws of physics and chemistry
- b) Determinism → acts are determined by past events
- c) Reductionism → doctrine that explains phenomena on one level [complex ideas] in terms of phenomena on another level [simple ideas]
- d) Empiricism → pursuit of knowledge through observation of nature and the attribution of all knowledge to experience
- e) Positivism → doctrine that recognizes only natural phenomena or facts that are objectively observable
- f) Materialism → doctrine that considers the facts of the universe to be sufficiently explained in physical terms by the existence and nature of matter
- g) Mentalism [Berkeley] → doctrine that all knowledge is a function of mental phenomena and dependent on the perceiving or experiencing person
- h) Structuralism [E.B. Titchener] → conscious experience as dependent on experiencing persons
- i) Functionalism → psychology concerned with the mind as it is used in an organism's adaptation to its environment
- j) Behaviourism [Watson] → dealt solely with observable behavioural acts that could be described in objective terms

Elements vs. whole:

- a) Elements:
 - a. James Mill
 - b. Edward Titchener
- b) Whole:
 - a. John Locke
 - b. John S. Mill
 - c. Carl Stumpf
 - d. Wilhelm Wundt

Philosophical influences:

- a) René Descartes [mind-body, reflex action theory, derived/innate ideas]
- b) Charles Babbage [difference/analytical engine]
- c) Auguste Comte [positivism, materialism]

Physiological influences:

- a) David Kinnebrook & Friedrich Bessel [observational mistakes]
- b) Johannes Muller [nerve stimulation]
- c) Marshall Hall [roles of the cerebrum, spinal cord, medulla]
- d) Pierre Flourens [extirpation, phrenology rejection]
- e) Paul Broca [clinical method]
- f) Gustav Fritsch & Eduard Hitzig [electrical stimulation]
- g) Franz Gall [phrenology]
- h) Luigi Galvani [electrical nerve impulses]
- i) Santiago Cajal [direction of nerve impulses]

Empiricists:

- a) John Locke [sensation/reflection, primary/secondary qualities, simple/complex ideas]
- b) George Berkeley [mentalism, 2D/3D association]
- c) David Hartley [repetitive association, vibrating nerves]
- d) Mary Wollstonecraft [essentialism, feminist]
- e) James Mill [no free will/creativity, mechanistic mind]
- f) John S. Mill [creative synthesis, women's rights]

Fabulous 4:

- a) Hermann von Helmholtz [neuronal speed, retinal studies]
- b) Ernst Weber [two-point threshold, just noticeable difference]
- c) Gustav Fechner [psychophysics, laws and methods]
- d) Wilhelm Wundt [introspection, apperception, tridimension, mediate/immediate experiences]

The 3 [BSK]:

- a) Franz Brentano [act psychology]
- b) Carl Stumpf [phenomenology]
- c) Oswald Kulpe [systematic experimental introspection, imageless thought]

Structuralism:

- a) Edward Titchener [subjective introspection/consciousness, stimulus error, 4 qualities of sensations, 3 states of consciousness]

CHAPTER 1: The Study of the History of Psychology

Historiography:

- a) Lost or suppressed data
- b) Translation distortion
- c) Self-serving data

Movement and standing of psychology:

- a) Psychology received low \$\$\$ support
- b) Immigration influx & high birth rate → growth in public education sector
- c) WWII → relocation of German psychology to America

Why Germany:

- a) Endorsed biology
- b) Broadly defined science
- c) Many reforms → teach whatever you want, many universities

Discrimination in psychology:

- a) Women:
 - a. Eleanor Gibson
 - b. Sandra Scarr
 - c. Endorsed by James Cattell
- b) Jews:
 - a. Harry Israel
 - b. Abraham Maslow
- c) Blacks [Howard University]:
 - a. Francis Sumner
 - b. Kenneth Clark
 - c. Mamie Clark

Personalistic vs. naturalistic views – 15:

- a) Personalistic → scientific progress/change attributable to the ideas of unique individuals; although, slow change is important
- b) Naturalistic → scientific/change attributable to the Zeitgeist, which makes a culture receptive to some ideas but not to others

CHAPTER 2: Philosophical Influences on Psychology

Charles Babbage – 27:

- a) Developed the difference engine/analytical engine
- b) Machines are automatic → physical force results in mental effort [thinking]
- c) Heartbroken by Ada

René Descartes – 29:

- a) Mind-body problem → mind is related to matter
- b) Mind has the single function of thought
- c) Mind is nonmaterial → located in the pineal gland
- d) Body composed of physical matter → machine dictated by mechanical laws [physics]
- e) Reflex action theory → nerves are hollow tubes in which animal spirits flowed
- f) Derived vs. innate ideas – 34:
 - a. Derived [sound of bell/sight of tree] → ideas produced by the direct application of an external stimulus
 - b. Innate [God, self, perfection, infinity] → ideas that arise from the mind or consciousness, independent of sensory experiences or external stimuli
- g) 5 contributions – 34:
 - a. The mechanistic conception of the body
 - b. The theory of reflex action
 - c. The mind-body interaction
 - d. The localization of mental functions in the brain
 - e. The doctrine of innate ideas

Auguste Comte:

- a) Positivism → facts must be objectively observable and not debatable
- b) Believes that science has reached the positivist stage
- c) Supported further by materialism → facts of universe understood in terms of physics and chemistry
- d) Supported equality for women

John Locke:

- a) Humans are tabula rasa, gaining knowledge through experience
- b) Association → notion that knowledge results from linking or associating simple ideas to form complex ideas
- c) Sensation vs. reflection – 36:
 - a. Sensation → ideas derived from direct sensory input from environmental physical objects
 - b. Reflection → ideas depend on sensory experience
- d) Simple vs. complex ideas – 38:
 - a. Simple → elemental ideas that arise from sensation and reflection
 - b. Complex → derived ideas that are compounded of simple ideas and thus can be analyzed or reduced to their simpler components
- e) Primary vs. secondary qualities – 38:
 - a. Primary → characteristics such as size and shape that exist in an object whether or not we perceive them
 - b. Secondary → characteristics such as colour and odour that exist in our perception of the object

George Berkeley:

- a) Mentalism – 39:
 - a. All knowledge is a function of mental phenomena and dependent on the perceiving or experiencing person
 - b. Perception is the only reality; there are no primary qualities
- b) 2D into 3D through association – 40:
 - a. We perceive depth as a result of our experience
 - b. Depth perception is not a simple sensory experience but an association of ideas that must be learned

David Hartley:

- a) Law of contiguity → association by repetition
- b) Viewed psychology in mechanistic principles
- c) Nerves are vibrating, solid structures

Mary Wollstonecraft:

- a) Essentialism → disregarded belief that women are deficient in judgment, ineffective in math and sciences

- b) Wanted to learn math and sciences → privately educated herself; “knowledge will not unsex them”
- c) Wrote “Vindication of the Rights of Women” → first feminist manifesto

James Mill:

- a) Wrote “History of British India”
- b) No free will, mind and association are automatic
- c) Reduced mind to its elementary, mechanistic components
- d) Mind has no creative abilities → resulting ideas merely accumulation of individual mental elements

John Stuart Mill:

- a) Association through creative synthesis [mental chemistry]
- b) Believed in birth by choice, women rights, women as equals
- c) Believed in social reform, equality of the sexes, freedom of expression
- d) Ethology → study of factors that influence development of human personality

Contributions of empiricism to psychology – 44:

- a) The primary role of the process of sensation
- b) The analysis of conscious experience into elements
- c) The synthesis of elements into complex mental experiences through the process of association
- d) The focus on conscious processes

CHAPTER 3: Physiological Influences on Psychology

David Kinnebrook & Friedrich Bessel:

- a) Personal perceptions influence observation
- b) Role of the human observer important in every other science that relied on observational methods

Johannes Muller:

- a) Advocate of the experimental method
- b) Stimulation of a particular nerve always leads to a characteristic sensation → each nerve has own specific energy

Marshall Hall:

- a) Voluntary movement on cerebrum, involuntary spinal, respiratory medulla

Pierre Flourens:

- a) Extirpation → systematically removing brain parts and observing resulting behavioural changes
- b) Believed that brain too soft for phrenology

Paul Broca:

- a) Clinical method → posthumous examination of brain structures to detect damaged areas

Gustav Fritch & Eduard Hitzig:

- a) Electrical stimulation → exploring the cerebral cortex with weak electric current to observe motor responses

Franz Gall:

- a) Creator of phrenology
- b) Supported by Johann Spurzheim & the Fowler Brothers

Luigi Galvani:

- a) Nerves are electrical
- b) Stimuli are responsible for exciting nerve impulses

Santiago Cajal:

- a) Discovered the direction of travel for nerve impulses in he brain and spinal cord

Herman Helmholtz:

- a) Human sense organs function like machines [compared nerve impulses to telegraph]
- b) Invented the ophthalmoscope
- c) Discovered speed of neural impulse [90ft/sec] – 57:
 - a. Led to studies on reaction times in humans
- d) Investigated external eye muscles and the mechanism by which internal eye muscles focus the lens:
 - a. Led to the Young-Helmholtz theory of colour

Ernst Weber:

- a) Two-point threshold
- b) Just noticeable difference [1/40] – 58:
 - a. The smallest difference that can be detected between two physical stimuli
 - b. Stimuli discrimination is a ratio

Gustav Fechner [Father of psychophysics]:

- a) Day view vs. night view – 59:
 - a. Day → universe can be regarded from the standpoint of consciousness
 - b. Night → universe including consciousness, consisted of nothing but inert matter
- b) Inner vs. outer psychophysics – 62:
 - a. Inner → body's external world is functionally related to the mind by mediation of the body's internal world
 - b. Outer → the only thing that is available to immediate experience
- c) Absolute threshold/point of sensitivity – 60:
 - a. Point of sensitivity below which no sensations can be detected and above which sensations can be experienced
 - b. I.e., hearing test
- d) Differential threshold – 61:
 - a. The point of sensitivity at which the least amount of change in a stimulus gives rise to a change in sensation
- e) Method of average error – 61:
 - a. How average, how much are you wrong
 - b. I.e., match light intensity to target
- f) Method of constant stimuli – 61:
 - a. Stimulus not related from one trial to the next; presented randomly
 - b. Subjects unable to predict level of next stimulus
 - c. Reduces errors of habituation and expectation
- g) Method of limits – 62:
 - a. Ascending/descending until subject detects stimulus or is unable to detect stimulus
 - b. I.e., placing weights in hands of blindfolded person
- h) Stimulus and perception is logarithmic → $S = K \log R$

Franz Brentano:

- a) Endorsed observation through empiricism
- b) Act psychology [memory, imagination] – 82:
 - a. Focuses on mental activities [i.e., seeing] rather than on mental contents [i.e., that which is seen]

Carl Stumpf:

- a) Phenomenology – 83:
 - a. Introspective method that examined experience as it occurred without trying to reduce experience to elementary components
 - b. Based on unbiased description of immediate experience as it occurs, not analyzed or reduced to elements
 - c. Examination of unbiased experiences
- b) Disagreed with Wundt about breaking experience down into elements

Oswald Kulpe:

- a) Thought processes could be studied experimentally
- b) Systematic experimental introspection – 84:

- a. Retrospective reports of subjects' cognitive processes after they had completed a difficult experimental task
- b. Introspection divided into time periods
- c. Endorsed subjective, qualitative reports
- d. Experimenters often intruded on subjects
- c) Imageless thought → idea that meaning in thought can occur without any sensory or imaginal component
- d) Henry Watt study [word task & subconscious] – 85:
 - a. Predispositions outside of consciousness were somehow able to control conscious abilities

Hermann Ebbinghaus:

- a) Learning & forgetting
- b) Learning difficult by frequency
- c) Nonsense syllable → 9 times harder to memorize
- d) Forgetting curve
- e) Wrote “Physiology of Sense Organs” and “Principles of Psychology”

Wilhelm Wundt:

- a) First laboratory, journal, began experimental psychology
- b) Founds vs. originators – 66:
 - a. Founding → requires integration of prior knowledge, publication, and promotion of the newly organized material
- c) Wrote “Lectures on the Minds of Men Animals” and “Principles of Physiological Psychology”
- d) Cultural psychology in America – 70:
 - a. Did not flourish due to new emerging psychologies in the United States
- e) Concluded high mental processes are impossible to study
- f) Endorsed consciousness, did not believe in multitasking
- g) Voluntarism – 71:
 - a. Idea that the mind has the capacity to organize mental contents into higher-level thought processes
- h) Mediate vs. immediate experiences – 71:
 - a. Mediate → provides information about something other than the elements of the experience [i.e., the rose is red, name for experience]
 - b. Immediate → experience that is unbiased by interpretation
- i) Introspection [internal perception] – 72:
 - a. Examination of one's own mind to inspect and report on personal thoughts or feelings → endorsed objectivity
 - b. Observers rigorously trained to perform internal perceptions
 - c. Interval between acts of observing and reporting the immediate experience would be minimal
- j) The 3 goals of Wundt – 73:
 - a. Analyze conscious processes into their basic elements
 - b. Discover how these elements are synthesized or organized
 - c. Determine the laws of connection governing the organization of the elements
- k) Tridimensional theory of feelings [metronome] – 73:
 - a. Pleasure/displeasure
 - b. Tension/relaxation
 - c. Excitement/depression
- l) Apperception [creative synthesis] – 74:
 - a. Process by which mental elements are organized
 - b. Disregarded association as being passive and mechanical
- m) Problems - 76:
 - a. Not appropriate for real world problems
 - b. How do we judge introspection?
 - c. Political bias against USA

Edward Titchener:

- a) Endorsed elements, neglected whole and apperception
- b) Endorsed subjective consciousness from an individualistic point of view
- c) Called subjects “regents” due to chemistry → treating the mind as a machine

- d) Self-observation and systematic experimental introspection used by trained individuals
- e) Stimulus error → naming an object when one should be reporting the elements of colour, brightness, and shape
- f) Contributions:
 - a. Introspection used in self-reports [clinical]
 - b. Introspection used in computer interactions [reasoning]
- g) Criticism:
 - a. Kant → introspection introduces exogenous variable which alters conscious experience
 - b. Comte → must be split in 2
 - c. Maudsley → no agreement between introspection subjects
 - d. Freud → how does one introspect the unconscious?
 - e. Titchener had trouble with the definition of introspection
 - f. What are introspectionists trained to do?
 - g. Time lapse exists in “introspection”
 - h. The whole cannot be captured by later association of elementary parts
- h) Experimentalists → no women allowed, but supported women’s PhD
- i) Titchener’s 3 problems for psychology:
 - a. Reduce conscious processes to their simplest components
 - b. Determine laws by which these elements of consciousness were associated
 - c. Connect the elements with their physiological conditions
- j) Titchener’s 4 [6] attributes of sensations:
 - a. Quality
 - b. Intensity
 - c. Duration
 - d. Clearness
 - e. Penetration [rubbing alcohol]
 - f. Insistence [pain, odours]
- k) Titchener’s 3 elementary states of consciousness:
 - a. Sensations
 - b. Images
 - c. Affective states

Margaret Washburn:

- a) 1st woman PhD.
- b) Wrote “The Animal mind” → believed animals have consciousness
- c) Neural imagery → image rehearsal helps performance