Chapter Two: Philosophical Influences on Psychology

PSY 495
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Philosophy from the Greeks to Descartes

- Plato and Aristotle
  - 400 BC to 300 BC
    - Hellenistic Period
      - Not much after this until 1200-1300 AD
  - Before Plato
    - 6th century BC
      - Critiques of systems of thoughts
      - Beginning of modern Western thought

Philosophy from the Greeks to Descartes

- The question of Being vs. Becoming
  - Being
    - Beyond the changing world there are external truths
    - Ideas have an existence apart from any person
    - Foundation of Idealism
    - Some argued that ideas were innate
      - Nativists
  - Becoming
    - The only constant in the world is change
    - Constantly changing and becoming something else
    - Ideas are simply mental constructs
Rationalism vs. Empiricism

- **Rationalism**
  - Exercise of reason is the only means by which valid knowledge is created
  - Perform logical deductions from intuitively valid premises

- **Empiricism**
  - Know reality through experience
  - Valid knowledge results from experience/observation

**Philosophy from the Greeks to Descartes**

### Plato

- Idealist and Rationalist
- Objects continually change so we cannot really know them
- Perception is faulty
  - Can’t use it to determine reality
- Ideal form for every object

**This form exists in a cave somewhere in the earth**

- We have knowledge of the forms, but only when we are dead

- 2 ways to get the knowledge w/o dying
  - Contact with real objects jars our memories
  - Rational process
    - Socratic Method

- Dualist in regards to mind-body problem
Plato’s views on the soul:

<table>
<thead>
<tr>
<th>Level</th>
<th>Name</th>
<th>Located</th>
<th>Who</th>
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<tbody>
<tr>
<td>1</td>
<td>Appetites</td>
<td>Stomach</td>
<td>Men, women, slaves, animals</td>
</tr>
<tr>
<td>2</td>
<td>Passion</td>
<td>Chest</td>
<td>Men, women, slaves, animals</td>
</tr>
<tr>
<td>3</td>
<td>immortal</td>
<td>head</td>
<td>men</td>
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Aristotle
- On the fence about Being/Becoming and Empiricist
- Some say he was the first scientist
- Mind-body problem
  - Noted dual aspect of mind/body
  - Stated there was one material reality with two aspects—the physical and the mental
- 4 types of causes
  - Material causation
  - Formal/essence causation
  - Efficient causation
  - Final cause
  - Soul = formal, efficient, and final cause
  - Body = material cause
- Located cognition and motivation in mind rather than the body
Philosophy from the Greeks to Descartes

- His idea of empiricism was not complete
  - Did not offer complete confirmation by sensory data
- Universals
  - Appear to be like prototypes
  - "essences"
- Focused on purpose of behavior
  - Touch of Functionalism
  - Touch of Behaviorism

Philosophy from the Greeks to Descartes

- Three laws of association
  - Similarity
  - Contiguity
  - Contrast
- Need for repetition in learning
- Aristotle died in 323 BC
- Final comments on Plato/Aristotle
  - Modern-sounding ideas
  - Some were off the mark, but give them credit for trying

Philosophy from the Greeks to Descartes

- Others in the Hellenistic Period
  - Atomists ruled
    - Emphasize becoming and empiricism
      - With a strong emphasis on materialism, determinism, and reductionism
  - Very scientific age
  - Ptolemy & Galen
    - Anatomical, botanical, and astronomical work
  - Hellenistic Stoicism
    - Materialism and monism
    - Wanted to reduce human psychology to physical matters
Philosophy from the Greeks to Descartes

- As Rome deteriorated, people’s lives got worse
  - Turned to religion to help
  - Christianity comes out on top of the heap and the Age of Faith begins

- Age of Faith
  - Big Question:
    - How to reconcile Christianity with philosophy
  - St. Augustine of Hippo (345-420)
    - One of first to try to do this

- Combined Christianity with Platonic ideals
  - Put Plato’s forms in God’s mind
  - Very much a mystic
  - Stated that heaven, God, souls, and angels could only be known through introspection
    - No science is possible in this context
  - He believed that science should not be concerned with things you can see
    - No emphasis on the self
    - Felt science should emphasize the supernatural
  - Each physical object represents something supernatural
    - Therefore, is an imperfect form

- God is the ultimate truth
  - Mind is concerned with things that are not discernable through observation
  - We can only know truth through rationalism
    - However, faith can elevate the comprehension of the ultimate truth

- Augustinian thinking dominated for the next few centuries
  - However, by then people were so unknowledgeable that they had machines that they did not know how to use
Philosophy from the Greeks to Descartes

- Charlamange (760-800)
  - Attempted to restore knowledge
- Fall of Constantinople
  - Knowledge reintroduced to Europe
  - When Plato, Aristotle and the boys are reintroduced they are so far advanced that they were taken as authoritative
- Concept of individual was reintroduced into philosophy
  - But not really studied (cf., Augustine)

Philosophy from the Greeks to Descartes

- St. Thomas Aquinas (1225-1274)
  - Synthesized Aristotle and Christianity
  - Eventually his ideas overtook those of Augustine
  - Emphasized naturalism and empiricism
  - God is indirectly known through his works in the world
    - Thus, philosophy and religion could be separate yet compatible
  - Led to the destruction of theological metaphysics
    - Ideas in the mind of God

Philosophy from the Greeks to Descartes

- Transition from the Age of Faith to the Renaissance
  - William of Ockham (1290-1345)
    - Revised empiricism
      - Knowledge comes from experiencing and knowing objects in the real world
      - No universals
      - Only exist in the mind
    - Ockham’s Razor
      - Felt that adding religion to philosophy only adds extra baggage
Philosophy from the Greeks to Descartes

- All things being equal, the simplest (most parsimonious) explanation is the best
  - Roger Bacon (1214-1272)
    - Ideas should be based on experience, not authority
    - Tried to account for all aspects of experience
      - Physiological, mental, etc.
    - Did not isolate crucial aspects of reality
  - Nicolaus Copernicus (1473-1543)
    - Besides placing sun at the center of the universe, he philosophically agreed with Aquinas

Philosophy from the Greeks to Descartes

- Other important scientists involved in the transition
  - Tycho Brahe (1546-1601)
  - Johannes Kepler (1571-1630)
  - Galileo Galilei (1564-1642)

The Renaissance: Working in the Spirit of Mechanism

- Mechanism
  - Mechanical items were becoming commonplace in the 17th century
    - Clocks were the impetus
  - Doctrine that natural processes are mechanically determined and capable of explanation by the laws of physics and chemistry
The Renaissance: Working in the Spirit of Mechanism

- Originated in physics
  - Work of Galileo and Isaac Newton
- Everything in the universe was composed of particles of matter in motion
  - Therefore, every physical event follows from a direct cause
  - These effects are subject to the laws of measurement and should be predictable
  - Operation of the physical universe is orderly, like a clock

The Renaissance: Working in the Spirit of Mechanism

- Once the laws that governed the universe are understood, can make predictions about what will happen in the future
- Observation and experimentation became the distinguishing features of science
  - Followed closely by measurement
  - Attempted to define every phenomenon by assigning it a numerical value

The Renaissance: Working in the Spirit of Mechanism

- The clockwork universe
  - Clock was the metaphor for 17th century spirit of mechanism
  - Began to consider clocks as models for the universe
  - Harmony and order in the universe were related to clocks’ regularity
The Renaissance: Working in the Spirit of Mechanism

• Determinism and Reductionism
  o Determinism
    • Acts are determined by past events
  o Reductionism
    • Explains phenomena on one level in terms of phenomena on another level
      – Clock analogy again

• Automata
  o Toy of the 17th century
  o Used as an analogy for human behaviors

The Renaissance: Working in the Spirit of Mechanism

• The calculating engine
  o Charles Babbage
  o Rudimentary computer from the 1820’s-1830’s
    o Analytical Engine
      • Tabulate values of math functions
      • Play chess and checkers
      • Memory capacity that held intermediate results until they were needed to complete a calculation
        – Used punch cards as the memory source

The Renaissance: Working in the Spirit of Mechanism

• Working on a Difference Engine but ran out of funding
  • Subtract, multiply and divide
• British government finished the engine in 1991
  • It worked flawlessly
• Again, this was used as an example of mechanism
The Beginnings of Modern Science

- **Empiricism and Descartes**
  - **Empiricism**
    - Pursuit of knowledge through the observation of nature and the attribution of all knowledge to experience
    - Focused on experimentation
  - Strong proponent was Rene Descartes
    - Symbolized the transition to the modern era of science
    - Ushered in era of modern psychology
      - If he didn’t create it, he sure set the stage for it to occur

- **Rene Descartes**
  - Interested in applying scientific knowledge to practical concerns
  - Mathematical principles can be applied to all of the sciences
    - Wrote extensively on mathematics and philosophy

- **Mind-Body Problem**
  - The question of the distinction between mental and physical qualities and how the two types of qualities interact
  - Before Descartes, the accepted theory was that the mind exerted enormous influence on the body, but not vice versa
### The Beginnings of Modern Science

**Descartes’ position**
- Mind and body are distinct but each influence the other
  - Body exerts a much greater effect than previously thought
  - Body takes on greater importance
    - Functions such as reproduction, perception and movement were attributed to the body rather than the mind
  - Mind has single function:
    - Thought

**Diverted attention from abstract theological discussion of the soul to the scientific study of the mind and mental processes**
- Methodology changed
  - Body has extension—takes up space
  - Mind is unextended and lacking in physical substance

**The Nature of the body**
- Because the body is composed of physical matter, it must possess the characteristics of matter

**Extension in space and capacity of movement**
- Laws of physics and mechanism must apply to the body
- Body is like a machine
  - Compared to automata
  - Undulatio reflexa
    - Movement not supervised or determined by a conscious will to move
  - Theory of reflex action
    - An external object can bring about an involuntary response
The Beginnings of Modern Science

• The Mind-Body Interaction
  o Mind is nonmaterial
  o Capable of thought and consciousness
  o Provides us with information about our external world
  o Most important quality is its ability to think
  o Mind can be influenced by the body

The Beginnings of Modern Science

o Point of interaction between mind and body
  • Mind is unitary; therefore it must interact with only one part of the body
  • Must be in the brain
  • Only one brain structure that is unitary
    † Pineal body

• Doctrine of Ideas
  o Mind produces two kinds of ideas:
    • Derived ideas
      † Ideas produced by the direct application of an external stimulus

The Beginnings of Modern Science

• Innate ideas
  † Ideas that arise from the mind or consciousness, independent of sensory experiences or external stimuli
  o Led to the idea that perception is innate rather than learned
Empiricism and Associationism:
Acquiring Knowledge Through Experience

- Advancing in Psychological Study
  - Positivism
    - The doctrine that recognizes only natural phenomena or facts that are objectively observable
    - Everything that was speculative, inferential or metaphysical was not science
    - August Comte (1798-1857)
      - Limited work to those facts which were determined solely through the methods of science

- 2 kinds of propositions
  - Sense
  - Nonsense

- Materialism
  - Doctrine that considers the facts of the universe to be sufficiently explained by the existence and nature of matter
  - Even human consciousness

- Empiricism
  - Pursuit of knowledge through the observation of nature and the attribution of knowledge to human experience

- All knowledge comes through the senses
  - Operational definition
    - Centers on the notion that the concept being referred to must be, in principle, observable

- Positivism, materialism, and empiricism became the philosophical foundations of the new science of psychology
Empiricism and Associationism: Acquiring Knowledge Through Experience

- John Locke (1632-1704)
  - Philosopher
  - Champion of liberalism in government
  - *An Essay on Human Understanding* (1690)
    - Beginning of British empiricism
    - Concerned with how the mind acquires knowledge
    - Rejected the existence of innate ideas
      - At birth, humans have no knowledge whatsoever
        - Aristotle—tabula rasa

Empiricism and Associationism: Acquiring Knowledge Through Experience

- Sensation and perception
  - There are two kinds of experience—one from sensation and one from perception
  - Ideas derived from sensations
    - Come from direct sensory input
    - Simple sense impressions
    - These impressions operate on the mind, but the mind also operates on them and forms ideas
    - Reflection is dependant upon sensation

Empiricism and Associationism: Acquiring Knowledge Through Experience

- Simple and complex ideas
  - Simple idea
    - Elemental ideas that arise from sensation and reflection
  - Complex ideas
    - Derived ideas that are compounded simple ideas

- Theory of Association
  - Knowledge results from the linking or associating of simple ideas into complex ideas
  - Reduction of mental events into simple ideas or elements formed the core of the new psychology
Empiricism and Associationism: Acquiring Knowledge Through Experience

- Primary and secondary qualities
  - Primary qualities
    - Characteristics such as shape and size that exist in an object whether or not we perceive them
  - Secondary qualities
    - Characteristics such as color and odor that exist in our perceptions of an object
  - Taken from Galileo
  - Agrees with mechanistic position
  - Locke recognized the subjectivity of much of human perception

Empiricism and Associationism: Acquiring Knowledge Through Experience

- George Berkeley (1685-1753)
  - Philosopher
  - *An Essay Towards a New Theory of Vision* (1709)
  - *A Treatise Concerning the Principles of Human Knowledge* (1710)
  - Argued that perception is the only reality
    - No such thing as primary qualities; only secondary qualities

Empiricism and Associationism: Acquiring Knowledge Through Experience

- Mentalism
  - Notion that all knowledge is a function of mental phenomena
  - Perception is the only reality of which we can be sure
    - Cannot know with certainty the nature of physical objects in the experiential world
    - Object is the accumulation of sensations experienced concurrently so they become associated in our mind by habit
  - No mental quality of which we can be sure
    - Take away the perception, the quality disappears
Empiricism and Associationism: Acquiring Knowledge Through Experience

• Because all experience is within ourselves, we can never know precisely the physical nature of objects
• God is the only being with perfect perception

○ Association of sensations
  • Knowledge is a construction of simple ideas or mental elements that are bound together by the mortar of association

Empiricism and Associationism: Acquiring Knowledge Through Experience

• David Hume (1711-1776)
  ○ *A Treatise on Human Nature* (1739)
  ○ Supporter of Locke’s notion of compounding simple ideas into complex ideas
  ○ Agreed with Berkeley that the material world did not exist until it was perceived
  ○ Went a step further:
    • Argued that there is no way of knowing whether or not there was anything outside of our own minds

Empiricism and Associationism: Acquiring Knowledge Through Experience

○ Impressions and ideas
  • Impressions
    □ Basic elements of mental life
  • Ideas
    □ Mental experiences we have in the absence of any stimulating object
  • Impressions are strong and vivid while ideas are weak copies of impressions
  • Both may be simple or complex
    □ Simple idea will resemble simple impression
    □ Complex idea may not resemble any complex, or even simple impression
Empiricism and Associationism:
Acquiring Knowledge Through Experience

- Two laws of association
  - Law of Resemblance
    - The more similar two ideas are, the more readily they will be associated
  - Law of Contiguity
    - The more closely linked two ideas are in time or place, the more likely they will be associated

Empiricism and Associationism:
Acquiring Knowledge Through Experience

- David Hartley (1705-1757)
  - Observations on Man, His Frame, His Duty, and His Expectations (1749)
  - Association is made by contiguity and repetition
    - Ideas or sensations that occur together, either simultaneously or successively, become associated such that the occurrence of one leads to the occurrence of the other
    - Used to explain everything from memory to action

Empiricism and Associationism:
Acquiring Knowledge Through Experience

- Influence of mechanism
  - Attempted to explain physiological processes in mechanistic terms
- James Mill (1773-1836)
  - Analysis of the Phenomena of the Human Mind (1829)
  - The mind as machine
    - Applied concept of mechanism to the mind
    - Goal was to destroy the idea of subjective or psychic activities
Empiricism and Associationism: Acquiring Knowledge Through Experience

- Mind is a passive entity that is acted on by external stimuli
  - Mind should be studied by the method of analysis
  - Sensations and ideas are the only mental components that exist
  - Mind has no creative function
    - Association is an automatic, passive process
      - Sensations that occur together will be reproduced as ideas
      - Ideas are merely the accumulation of individual mental elements

Empiricism and Associationism: Acquiring Knowledge Through Experience

- John Stuart Mill (1806-1873)
  - Mental chemistry
    - Argued against the mechanistic position
    - Argued that the mind plays an active role in the association of ideas
    - Complex ideas are not simply the summation of simple ideas through the process of association
      - Complex ideas take on new qualities not found in simple elements

Empiricism and Associationism: Acquiring Knowledge Through Experience

- Creative synthesis
  - Notion that complex ideas formed from simple ideas take on new qualities; the combination of mental elements creates something greater than the sum of the original elements
References