

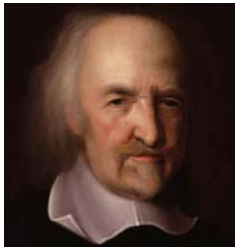
**PSY 3360 / CGS 3325  
Historical Perspectives  
on Psychology  
Minds and Machines since 1600**

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**The British Empiricists**

- Francis Bacon (1561-1626)
- John Locke (1632-1704)
- Thomas Hobbes (1588-1679)
- George Berkeley (1685-1753)
- David Hume (1711-1776)

**Thomas Hobbes (1588-1679)**



- All knowledge is derived from observation.

*“There is no conception in man's mind which hath not at first, totally or by parts, been begotten upon the organs of sense.”*

**British Empiricism**

- Hobbes
  - All knowledge derived from experience
  - Material monism
  - Drives: “appetites” and “aversions”
  - Principle of association
  - Hedonism and rational self-interest
  - Leviathan and the social contract

**Political and social writing**

- *Leviathan* – “great beast”
  - view of mankind in the “natural state”
  - laws and rules are the product of fear of the consequences of everyone acting out of self-interest
  - laws and rules are conventions, not binding in any absolute sense
  - rational self-interest leads to support of a strong monarch



**John Locke (1632-1704)**



- Empiricist view of the construction of human knowledge
- The mind at birth is a “tabula rasa” (blank slate)
- There are no innate ideas

## John Locke (1632-1704)

- *Idea* – basic unit of perception and thought (mental image)
- *Operations of the mind* – mental abilities



## John Locke (1632-1704)

- *Simple ideas and complex ideas*
  - Simple ideas are the “building blocks” of thought; cannot be broken down or analyzed further



## John Locke (1632-1704)

- *Simple ideas and complex ideas*
  - Some simple ideas come from **sensation** (color, taste, smell)
  - Some come from **reflection** (memories, thoughts, intentions)



## John Locke (1632-1704)

- *Simple ideas and complex ideas*
  - Complex ideas are composites of simple ideas; the mind can form unlimited combinations of ideas



- **Primary Qualities**—According to Locke, *solidity, extension, figure, and mobility*; material objects in the world truly “have” these qualities, which accordingly constitute the fundamental units for constructing a true picture of the world.
- **Secondary Qualities**—According to Locke, the qualities the mind perceives in objects, such as sounds, colors, temperatures, tastes, and odors—characteristics that derive as much from the perceiving sense organs as from the objects themselves.
- **Association of Ideas**—The linkage of ideas or memories such that the thought of one tends automatically to bring the other to mind.

## John Locke (1632-1704)

- *Primary qualities* – perceived attributes resemble the physical objects that cause them
- *Secondary qualities* – perceived attributes do not correspond to any physical properties



## John Locke (1632-1704)

- Paradox of the basins
  - Does warmth reside in the water basin or in the mind?
  - Warmth is a secondary quality



## John Locke (1632-1704)

- Physical realism
  - physical objects stimulate the sense organs and cause the mind to form an accurate representation of external reality
- Copy theory of perception (Democritus, 460-370 BC)



## Molyneux's problem

*“Suppose a man born blind, and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal, and nighly of the same bigness, so as to tell, when he felt one and the other, which is the cube, which the sphere. Suppose then the cube and sphere placed on a table, and the blind man be made to see: quaere, whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube?”*

## Molyneux's problem

- Based on their philosophical positions, how would each of the following respond to the question?
  - Descartes
  - Leibniz
  - Locke

## Molyneux's problem

- English surgeon and anatomist William Cheselden (1688-1752) published an account of a congenitally blind boy's experiences after cataract removal.
- At first the boy found it difficult to distinguish shapes and recognize objects.
- Critics suggested that the boy did not have enough time to recover from the operation.

## Molyneux's problem

- Infant studies
- Visual deprivation experiments
- Experiments with sensory substitution systems show that participants need some time to learn to distinguish and identify objects

## John Locke (1632-1704)

- Blind people cannot comprehend color terms
- Private language of sensory experience
- Problem of other minds



## Locke's contributions

- Animals have memory, form simple ideas through sensation and perception; but do not form abstract concepts or thoughts
- Early development in children
  - learning and personality development in children determined entirely by their experiences

## Locke's contributions

- Problem of personal identity
  - “personal identity is the consciousness of being the same thinking being at different times and places.”

## Locke's political writings

- *Two Treatises on Government*
  - government as a social contract
  - all people are born equal
  - universal education as a right



## Locke's Influence

- **Thomas Hobbes (1588-1679)**—An English philosopher who promoted the notion of the social contract, and the idea that human reasoning is a form of mathematical-like calculation.
  - **Social Contract**—A theory initiated by Hobbes and elaborated upon by Locke and others, that individuals come together in groups and submit to a centralized authority for purposes of mutual protection.
- **British Associationism**—A form of mental philosophy largely initiated by Locke, that focused on associationism.
- **George Berkeley (1685-1753)**—An Irish bishop who applied Locke's associationistic principles to the systematic analysis of visual depth perception.

## George Berkeley (1685-1753)



- Born in Kilkenny, Ireland
- Lecturer at the University of Dublin
- Traveled to America, hoping to set up a new college in Bermuda
- Bishop of Cloyne for last 18 years of his life

## George Berkeley (1685-1753)



- Dissatisfied with the prevailing metaphor of a clockwork universe
- Materialism responsible for decline in morals and religion
- Denied existence of matter (material world)

## George Berkeley (1685-1753)



- Mental monism (idealism) denies the existence of a physical world distinct from our perceptions of it.
- *esse is percipi*  
“to be is to be perceived”

## George Berkeley (1685-1753)



- All we can ever know about the world comes from sensory perception.
- No “external reality” beyond our perceptions of the world.

## George Berkeley (1685-1753)



- Problem: if perception determines existence, then do things cease to exist when we no longer perceive them?
- Do perceptions vary from one individual to another?

*There was a young man who said, “God  
Must think it exceedingly odd  
If he finds that this tree  
Continues to be  
When there’s no one about in the quad”*

*Dear Sir:*

*Your astonishment’s odd  
I am always about in the quad.  
And that’s why the tree  
Will continue to be  
Since observed by*

*Yours faithfully,  
God*

## George Berkeley (1685-1753)



- Human knowledge is based on *ideas*: sensory experience plus reflections of the mind

## George Berkeley (1685-1753)



- Our psychological experiences reflect the world as it actually is
- distinction between primary and secondary qualities makes no sense

## George Berkeley (1685-1753)



### Principle of association

- An *object* is nothing more than a combination of its perceived qualities
- *Apple*=color+smell+taste+shape+size

## George Berkeley (1685-1753)



### There are no abstract ideas.

- Attributes are grouped together on the basis of contiguity and similarity

## George Berkeley (1685-1753)



- (1) the active mind or spirit, perceiving, thinking, willing
- (2) passive objects of mind, ideas derived from sensation, memory or imagination

## Theory of vision



- *An Essay Towards a New Theory of Vision* (1709)
- Molyneux's problem
- Distance perception is **learned**, not **innate**

## Theory of vision



- Distance perception is **not** based on **abstract geometrical relationships**, but on **learned associations** between cues derived from different senses (visual & kinesthetic)
- eye movements (convergence and divergence)