

Block 1.4: History & Methods of Psychology

Philosophical Roots of Psychology

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First philosophers

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Thales of Miletus (640–550 BC) and the “Milesian” philosophers

- turned away from supernaturalism
- raised two fundamental topics in philosophy

1. Ontology

- “What is the universe in reality?”

2. Epistemology

- “How is experience generated by it?”

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Ontology

“What is the universe in reality?”

- origins of nature: existing things are formed by **substances**
- Is there both mind and matter, physical and non-physical things?
- **Monism, Dualism, and Pluralism**

Mechanism and Determinism

Early **atomists** such as *Leucippus* (5th century BC) and *Democritus* (460–370 BC)

- everything (body & mind) is just a collection of atoms
- fiery atoms come together with mass → mind, sleep or death: fiery atom loss mass
- qualitative differences are explained by reduction to quantitative differences
- qualitative change reduction to spatial movements

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Elementalism and Reductionism

Elementalism

- seeks to understand a complex phenomenon by breaking it up into component parts.
- body and it's subsystems (e.g. nervous & cardiovascular) and it's component parts (e.g. cellular, molecular & atomic).
- All these components are biological and remain at the same level (non-reductive)

Reductionism

- two different domains or levels of organization
- explains the higher level in terms of the lower-level phenomena
- *Example:* mental functions in terms of the underlying biology/neurology
 - ignoring the influence of development, sociocultural, ect...
 - The impact of language, of ideas and meanings is lost

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Epistemology

“How is experience generated by it?”

- What do/can we know?
- Role of perception in knowledge

Heraclitus

- stressing change
- “**Becoming**” in contrast to “**Being**”
- “*everything is in constant flux*”

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Parmenides

Appearance versus Reality

- impossible to have knowledge of that which is changing continuously
 - How can one know with any certainty whether something different tomorrow?
 - In order to arrive at a true understanding one must seek what is eternal and constant (**Being**)
 - The material world revealed by the senses is of appearance and illusion and of **Becoming**.
 - Truth, which is in **Being** is revealed not by the senses but by reason

Rationalism

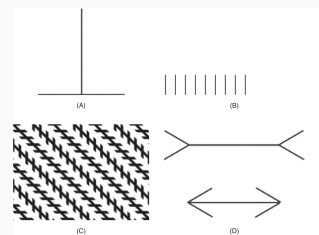
- we can only access true knowledge via reasoning (cf. Plato)
- determiner of truth was reason
- **Idealism** (cf. mind-body problem) because the ultimate principle of ‘Being’ is a concept

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Appearance versus Reality in Modern Psychology

The problem of knowledge or epistemology is a psychological problem!



(A) Vertical-Horizontal Illusion (1852): Despite being the same length the vertical line appears longer.
(B) Oppel Illusion (1854): Despite being the same length the hatched-in portion appears longer than the blank portion.
(C) Zöllner Illusion (1802): Despite being parallel the hatch-marked lines appear to converge.
(D) Müller-Lyer Illusion (1889): Despite being the same length the upper horizontal line appears longer than the lower.

Helmholtz (1866)

- distal stimulus (objective object, “reality”)
- proximal stimulus (sensory representation, appearance).

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Mind-Body Problem

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What is the Mind-Body Problem?

Inconsistent tetrad

1. The mind is a nonphysical thing.
2. The body is a physical thing.
3. The mind and the body interact.
4. Physical and nonphysical things cannot interact.

One notion must be wrong

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Dualism

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Rène Descartes (1596–1650): Cartesian Dualism

Law of Contradiction

- Opposites are mutually exclusive.
- holds that something cannot both *be* and *not-be* ($A \neq \text{not-}A$).

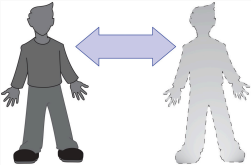
1. Sensory experience could be deceptive (illusions) or we could be dreaming. Thinking must be completely independent of the body.
2. Different identities
 - **Body: spatial** (location and extended) and **divisible**
 - **Mind: non-spatial** (no location, no extend) and **indivisible**
 - They must be two distinct entities
3. Mind and body must be considered incommensurable (having nothing in common).

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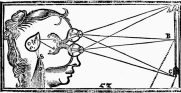
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Descartes: Interactionism

- **Mind and body interact**
- *Example:* hand on fire \rightarrow pain



- Pineal gland in the brain is the “contact point” between mind and brain



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Critique

How can physical and non-physical things interact?

1. **The mind is a nonphysical thing.**
2. **The body is a physical thing.**
3. **The mind and the body interact.**
4. Physical and nonphysical things cannot interact.


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Occasionalism

Nicolas Malebranche (16-38–1715)

- Mind and body are completely separate and independent,
- but an correspondence exists between them,
- (Christian) God as the cause of everything in the universe
- God maintaining the correspondence.



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Double Aspect Theory

Benedictus Spinoza (1632–1677)

- there is only one substance (God)
- the mental and the physical as attributes of God
- dualistic view, attributes do **not interact**
- but they are associated due to the same influence of the natural laws that affect both



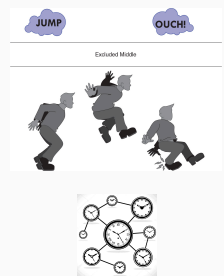
(Psychophysical) Parallelism

Gottfried Leibniz (1646–1716)

- mind and body are parallel (do not interact)
- they are correlated
- **pre-established harmony**
- Examples
 - synchronized clocks
 - Example: multiple choirs singing the same song

Wundt

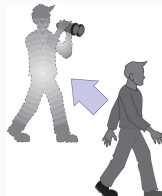
- psychological or psychometric research
- changes in the brain do not correlate with changes in consciousness



Epiphenomenalism

Thomas Huxley (1825–1895)

- epiphenomena appears *in addition* to the basic phenomena
- physical events cause mental events but mental events do not cause physical events.
- mind a by-product of the mechanism of body
 - like steam of a running locomotive
- volition is an emotion that “indicate” physical changes, but that does not cause it
- What about the possibility of free will?



Monism: Idealism & Materialism

The rejection of the proposition that both mind or matter exist.
There is only one thing

Idealism/Anti-materialism

Idealism states that everything, including the body, is non-physical or mental.

- Materialists have difficulties explaining the non-physical experiences of our senses (**qualia**).

How can the body be non-physical?

- **Phenomenalism** tries to solve this
- all statements about physical things (incl. the body) are at bottom statements about experiences.

Excursus: Qualia

Thomas Nagel (1974): “What Is It Like to Be a Bat?”

- *Example:* Even if we know all physical facts about echolocation, we don’t understand what it feels like to be a bat.



Qualia: The concept of **subjective experience** in philosophy

- challenges reductionist theories of the mind
- questioning whether all aspects of the mind can be fully reduced to physical processes

Nagel’s conclusion: organism’s mind and experiences are inherently subjective and can be understood only from its own point of view.

Neutral monism

- the world consists of one primal stuff (neither mental nor physical).
- W. James calls “pure experience”
- Modern concepts might be something like “energy”

Materialism

Eliminative materialism

“There is no mind!”

- Eliminativism resolves the mind–body problem by removing mind
- **anti-mentalism**

Behaviourism in Philosophy and Psychology

- Sensation and perception are discriminatory responses to different stimuli
- the mind is not observable and can't be investigated
- see last lecture:
 - problems of introspection vs.
 - qualitative measurements of the mind (just noticeable difference)

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Eliminative materialism II

Identity Theory

- Neuroscience led to an alternative materialist theory
- Mental states are nothing else than states of the brain (neuronal activity)

Critique

- Eliminativist deny the phenomena like
 - mental images, experiences, pains, desires, beliefs, judging, questioning, inferring, and asserting
- difficult to get around experience (cf. **qualia**) as the basis of knowledge → you to account for awareness and subjectivity

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Naturalism

- “weak” form of materialism
- **not reductive** materialism
- acknowledges thoughts, feelings, emotions, and rational inquiry
- but it would be pure speculation to assume that mental events did not depend on physical processes
- Mental events are contingent on physiological events
- if there is no organized bodies, there would be no mental states

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Is the mind-body problem a useful question?

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Critique: John Dewey (1859–1952)

- asking the question of mind and body is already a mistake
- rejected the absolute disunity
- **tradition** in philosophy and science of **separation and isolation**
- *Example* from personality psychology
 - person and environment/situation treated as “separate” entities
 - as a result, it becomes necessary to explain how these separate separate can be related.
 - conceptual, rather than an actual, separation

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Gilbert Ryle (1900–1976)

- criticized (Cartesian) dualism
- the mind-body problem was a valid question (in contrast to Dewey)
- refutes substance dualism as well as monism (idealism and materialism)



Category Mistake

- Body and mind are different categories (or levels of description) of same thing
- Examples of this logical mistake
 - Visitor at the University of Oxford. After seeing everything there he ask “...and where is the university?”
 - Why is it was wrong to say “there are 3 things in a field: two cows & a pair of cows”

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Questions?

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Thank you very much

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