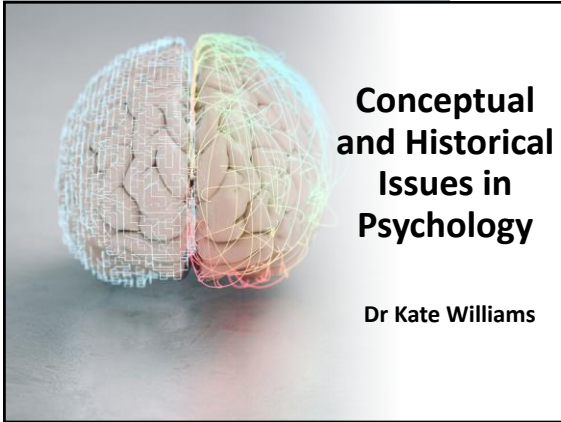




Conceptual and Historical Issues in Psychology

Dr Kate Williams

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Session Outline:



Why study history of Psychology?



Ancient Philosophical Foundation



The birth of Scientific Psychology



Key Era's within Psychology

2

Why Study the History of Psychology?

How did we get from here?



To here?



3

Why Study the History of Psychology?



Reflect on prior issues.



Understand complexities of the mind.



Appreciate challenges/opportunities.



Understand that it is dynamic & ever-evolving.



Understand how prior perspectives influence current practices.

4

Why Study History of Psychology?

• Context of Knowledge

• Must consider time when research/ideas were carried out/formed

- Aristotle – time of pre-science
- Descartes – time of religious upheaval
- Milgram – time of McCarthyism in US
 - Term referring to senator John McCarthy: Americans accused of being communist and subsequently investigated.



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Ancient Philosophical Foundations

• Contribution of early Greek philosophers to understanding of mind

• **Socrates** (469-399 BCE): contributions to ethics & epistemology (theory of knowledge)

• Approach and methods had implications for understanding human mind

- Dialect Method
- Knowledge and Virtue
- Self-examination
- Ironical-wisdom
- Trial and death – nature of soul



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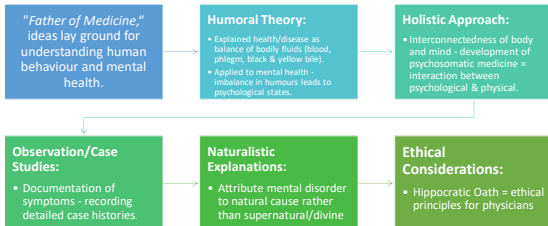
Ancient Philosophical Foundations

- **Plato (427-347 BCE)**
 - Theory of Forms/Ideas
 - Tripartite Soul
 - Immortality of the Soul
 - Knowledge as Recollection
 - Allegory of the Cave
- **Aristotle (384–322 BCE)**
 - The Tripartite Soul
 - Empirical Observation
 - Associationism
 - The Doctrine of the Mean
 - Intellectual Virtues and Reasoning
 - Memory and Recollection



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Ancient Philosophical Foundations Hippocrates (460–370 BCE)



Over time, these concepts evolved, leading to emergence of distinct branches such as clinical psychology, psychiatry, and counselling.

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16th Century



- **The Reformation:**
 - Change in religious viewpoints (protestant schism from Roman Catholic Church)
- **The Renaissance**
 - Change in artistic thinking
- **Montaigne – late 16th Century**
 - 'What do I know?' Doubt as the key to humanity
- **Francis Bacon (empiricist):**
 - Formulation of scientific enquiry – remove all pre-existing beliefs/expectations to make unprejudiced observations.

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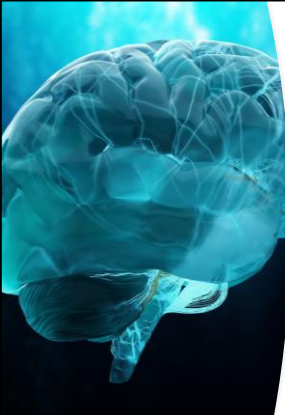
Philosophy of Mind:

René Descartes (1596-1650)

Distinguished between mind & matter

- **Mind-Body Dualism:** Mind/body are distinct - Mind non-physical; body physical.
- **Cogito, Ergo Sum (I think, therefore I am):** Mind is foundation of knowledge & existence.
- **Mechanical Philosophy:** Body is machine governed by mechanical principles.
- **Reflex Theory:** To explain automatic, involuntary behaviours.
- **Animal Spirits:** Flows from pineal gland in brain to muscles, controlling movement and behaviour.
- Specifics of his neurophysiological ideas were incorrect, but notion of physiological basis for behaviour laid groundwork for scientific study of the brain and nervous system.

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The Mind-Body Problem

- Major argument in philosophy and psychology...
- How does a non-physical mind influence a physical body (and vice-versa)?
- This debate laid groundwork for future discussions on consciousness, perception, and interplay between biological and psychological factors.

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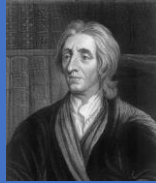
Possible Explanations

- **We don't understand the substance yet**
 - The mind exists, but we have not discovered or understand what it is
 - Science does not know everything yet...
- **Property Dualism**
 - Mind and body are same substances, but mind has **emergent** properties
 - Properties that go above and beyond properties of the substance
 - E.g., a molecule of water H_2O is not wet, but when you put enough of them together you get the property of wetness

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Philosophy of Mind

- 17th – 18th C: Empiricism (British philosophers – e.g., Locke, Hume)
- Only source of true knowledge about the world is sensory experience
 - What reaches us through our senses or can be inferred about relationship between such sensory facts.
- **Tabula Rasa:** Blank slate - we are born with minds that are blank/devoid of innate content
 - **Environment and experience determines our behaviour**
- 'Empirical' ('through the senses') used to mean 'scientific'.



Prior to 1870s, no laboratories devoted specifically to researching how we experience the world.

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Birth of Scientific Psychology: Wilhelm Wundt (1832–1920):



Father of experimental psychology and key in establishment of psychology as a science.

Establishment of First Psychological Laboratory

- At University of Leipzig, Germany (1879).

Focus on Experimental Methods:

- Use same rigorous scientific methods as used in natural sciences.

Development of Psychology as an Independent Discipline

Structuralism:

- Identify/understand fundamental components of mind, like chemists studying elements of matter.

Psychological Journal:

- Dedicated to psychology, "Philosophical Studies," in 1881.

Marked shift from philosophical and speculative approaches prevalent before.

Introspection:

- Trained observers systematically analyse own thoughts, feelings, and sensations in response to stimuli to break down conscious experiences into basic elements.

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Criticisms of Introspection



Too difficult to ask observers to report on sensations with data unmodified by experience.



Use of trained observers meant they may have been looking for specific things in their experiences.



Often disagreement between observers.



Used retrospection – recalling experience some time after it occurred may lead to report errors.

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Birth of Scientific Psychology:
William James (1842–1910):

Functionalism:

- Adaptive functions of mental and behavioural processes.
- Understand how mind and behaviour function in real-life.
- Study function of mental processes and behaviours.

Pragmatism:

- Practical consequences of ideas and consider usefulness of beliefs.
- Focus on practical outcomes of mental processes and behaviour.

Stream of Consciousness:

- Continuous flow of thoughts and feelings in the mind.
- Consciousness is not static and unchanging but dynamic.

Varieties of Religious Experience:

- Personal and subjective nature - Psychological dimension of religious beliefs and impact of experiences on individual's life.

Principles of Psychology (1890):

- Considered one of the foundational texts in psychology.

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INTERACTIVE TASK



INVESTIGATING CONSCIOUSNESS

FOLLOW THE IN-CLASS INSTRUCTIONS

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Gestalt Psychology (Early 20th Century):
Max Wertheimer, Wolfgang Köhler, & Kurt Koffka, emphasised importance of studying whole experience rather than breaking it into isolated components.

What do you see here?



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The Rise of Behaviourism

• Functionalism:

- Mental states to be understood by functions they performed (enabling organism to survive)
- Rejected idea of pure realm of consciousness devoid from practical demands of action.
- Instead, mental states could only be studied in connection to behaviour.
- These ideas taken in **radical** manner by behaviourists.
 - Specifically: J. B. Watson and B.F. Skinner
- For them, functionalism had not gone far enough
 - Mental states were nothing more than types of behaviour.



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Rise of Behaviourism: E. L. Thorndike.

- Psychology should investigate observable behaviour.
- Did not deny mental states existed, but their examination would be unproductive.
- Argued against introspection.
 - Cannot tell us anything of child or animal psychology.

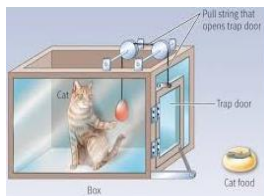


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• Examine "associative processes" in animals to explain human behaviour.

- **"Puzzle box"**: hungry animal to escape box to get food
 - Gets quicker with each trial.

- Learning comes from association of ideas:
 - mental images of box, motor representations, and memories.
- Connection is direct, with no mediation from mental states or ideas.
- Animal perceives the current situation and enacts the appropriate behaviour.



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The Behaviourist Manifesto

- 1913: John B. Watson announced his behaviourist programme in a paper:
 - "Psychology as the behaviourist views it"*.
- Argued that psychology should focus exclusively on behaviour.
- Psychologists should *"never use the term consciousness, mental states, mind, content, introspectively verifiable, imagery and the like"* (p.166).
- Did not believe consciousness existed – so, how could introspection claim to investigate it?



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John B. Watson

- Believed all behaviour could be understood in terms of **Stimulus-response relationships (SR)**.
 - Stimulus:** object/event in environment or internal organs that causes a response.
 - Response:** bodily movement/action
 - Organism is not initiator of behaviour – it is causal effect from environment that elicits response.
- Understanding relationship between cause and effect in predicting behaviour was one aspect of Watson's view.
- He also wanted to control it!!!



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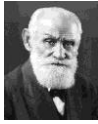
John B. Watson

- To do this, behaviour needed to be malleable
- If behaviour was result of innate instinct, control would not be possible.
 - Other than basic drives (food), he rejected idea that complex aspects were innate.
 - Echo's empiricist views of Locke that mind is blank slate at birth and education person molds us - **Tabula rasa**.
- Watson – *"[I]f you decide that the human organism should behave in this way, you just arrange situations of such and such kinds"* (1913, p.7).
- The S-R learning he thought could mould behaviour was based on principles of conditioned reflexes investigated by Ivan Pavlov (1849-1936).....



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Pavlovian (Classical) conditioning (1904/1923)

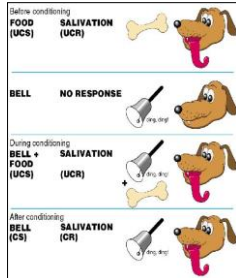


Differentiated between:

- **Unconditioned reflexes:** simple, direct, natural responses to specific stimuli
- **Conditioned reflexes:** not an inbuilt part of the organism but was a learned response.

• Stimulus evokes response by being paired with stimulus that naturally evokes response:

- US = unconditioned stimulus (e.g., food)
- UR = unconditioned response (e.g., salivation)
- CS = conditioned stimulus (e.g., bell)
- CR = conditioned response (e.g., salivation)
 - When UR = CR = classical conditioning



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Watson and Rayner (1920) – Little Albert

- Attempted to use Pavlovian principles to condition fear into an infant - 'Little Albert'

- Albert had been happy to play with a white rat, but after Watson made loud banging noise with hammer and metal bar, every time Albert touched the rat, he started to cry and showed fear towards the rat whenever it came close.

- [Little Albert Experiment](#)



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Group Activity

In small groups discuss what type of ethical issues you think the "Little Albert" Study presents

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Skinner's Operant Conditioning

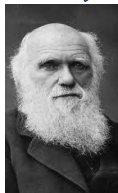
- Did not believe in existence of mental states
- A "radical behaviourist" suggesting goal of behaviourism was to predict and control behaviour.
- However, Skinner's views differed to Watson:
 - Skinner viewed organism as active, purposefully producing behaviour, rather than passive recipient of stimuli.
 - Why he used term '**Operant**' rather than reflex.
- But where does this 'purpose' come from?
 - Traditional 'mentalist' would suggest inner act of free will
 - But Skinner rejected idea behaviour was outcome of mental event.



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Evolutionary Principles of Operant Conditioning

- Rejected idea behaviour is caused by S-R.
- His views more in line with Darwin.
 - Causal forces that shape evolution are from past, not present.
 - Organisms produce variations, some are more successful than others.
 - Successful variations are selected by environment and continue to exist.
- Applied similar reasoning to explain behaviour.
 - Behavioural variations are selected by environment – successful ones allow the organism to survive.
- These behaviours are "**Reinforced**"
- Positive consequences that strengthen successful behaviour are called "**Reinforcers**".



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- Consequences of a behaviour determine if it will occur again
 - Positive and negative reward
 - Positive and negative punishment

SKINNER OPERANT CONDITIONING

"The Science of Changing Behavior"

BEHAVIOR

DESIRED POSITIVE

MAINTAIN POSITIVE

UNDESIED NEGATIVE

GIVE PLEASURE

REMOVE PAIN

GIVE PAIN

REMOVE PLEASURE

FADE Reinforcers

21 DAYS

REINFORCER

REINFORCER

"The closer you implement a Reinforcer to a Behavior, the greater the chance of changing behavior"

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The Simple Guide to Operant Conditioning

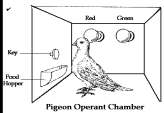
- <https://www.youtube.com/watch?v=teLoNYvOf90>

Pigeon table tennis

- Break down complex behaviours into small components
- Reinforce correct moves
- Do not reinforce incorrect moves

'Free will as an illusion' (Skinner, 1938)

- <https://www.youtube.com/watch?v=vGazyH6fQQ4>



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Group Activity:

What about behaviour and learning in humans?

In small groups, discuss how we are different to animals.



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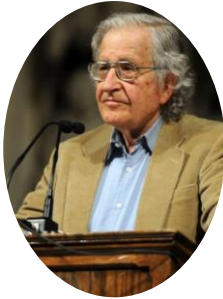
The Fall of Behaviourism

Reductionism:	Reduces complex behaviours and ignores richness of human experience Neglect of Mental Processes: thoughts, feelings, and motivations
Ignores Internal thought:	Mind-Body Dualism: Focuses solely on observable behaviours but cognition is integral to behaviour
Environmental Determinism:	Limited Role of Genetics and Biology: This is an oversimplification, and biological factors play a crucial role in shaping behaviour.
Failure to Explain Novel Behaviour:	Creativity and Insight: Does not account for emergence of novel behaviours that cannot be directly linked to previous stimuli and responses.
Ethical Concerns:	Manipulation and Control: May lead to reductionist view of human autonomy and dignity.
Ignoring Individual Differences:	One-Size-Fits-All Approach: Assumes same principles of learning apply to all individuals - neglects individual differences in cognitive abilities and personality.
Limited Predictive Power:	Inability to Predict All Behaviour: Why do people still engage in behaviour with negative consequences?
Focus on Observable Behaviour:	Exclusion of Subjective Experience: Drawback in understanding the full spectrum of human consciousness and emotion.

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Destruction of Behaviourism

- Nativist theory: biological theory - humans are pre-programmed with innate ability to develop language.
 - Previously, language was considered cultural effect based on imitation
 - But Chomsky felt more emphasis should be on our innate ability to learn language.
- Chomsky (1959) Language acquisition device (LAD)
 - Language organ hardwired in our brain at birth and once we encounter language, LAD is activated.
 - Language was shown to be systematic, rule-based and generative.
- More likely to be interactionist
 - Combination of innate processes and social learning



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The Cognitive Revolution

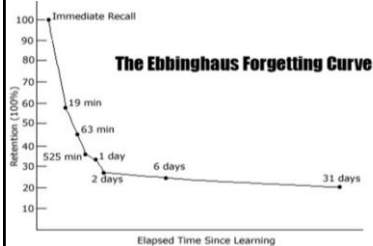
- Psychology was becoming frustrated with the restrictions placed by behaviourists as to what should be the focus of study.
- So, a shift into cognitive experimental research started to emerge during the late 1940s and took hold in the 1950s.
- However, work tapping on to what we would consider cognitive processes had been studied as early as the 1800s.



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Hermann Ebbinghaus (1885)

- Wanted an objective measure of mental operations
- Studied forgetting in detail by learning a list of nonsense syllables (e.g., dap, sul), and then recall them at various intervals of time
- However, most of his studies were carried out on himself as the only participant!!!



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- **Speed of mental operations:**
 - In the 1850s, Johannes Müller predicted that the speed of neurons sending messages in the body would never be measured
 - It was faster than the speed of light.



- Within a decade, his own student, Hermann von Helmholtz had shown it to be only 100 meters a second.

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1956!

- An important year for Cognitive Psychology
 - Noam Chomsky gave a paper on his theory of language
 - George Miller discussed the "magic number 7 +/- 2"
 - Newell and Simon discussed the "thinking computer"
 - First systematic attempt to study concept formation from a cognitive perspective (Bruner, Goodnow, & Austin).



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The computer metaphor

- Neisser (1967)
 - "The task of....trying to understand human cognition is analogous to that of... trying to understand how a computer has been programmed" (p.6).
- Hardware = brain structures etc.
- Software = mental processes and abilities



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Neisser (1967)

- Seen as the “*Father of Cognitive Psychology*”
- Openly attacked behavioural accounts and instead believed mental process could be measured and analysed.
- Wrote the book *Cognitive psychology*
 - Measurement and hypothesising observable behaviour
 - E.g., dual-task process
 - Cognitive hypothesis: two similar tasks will take up cognitive processing abilities ('cognitive load')
 - Observable behaviour: poorer ability to carry out task than when separate or dissimilar tasks
- In his more controversial book *Cognition and reality* he suggested memory is not a snapshot of a moment but a reconstruction.



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Paradigms and Paradigm Shifts

- **Thomas Kuhn**
 - Book *The Structure of Scientific Revolutions*
 - Concerns progress of scientific knowledge
 - Suggests Scientific fields undergo periodic paradigm shifts
 - Rather than progressing in linear way and accumulative way
 - Paradigm = distinct set of concepts/thought patterns, including theories, research methods, & standards for what constitute legitimate contributions to a field
 - A model or way of doing something
 - Different paradigms are considered as competing & irreconcilable
- Critical question is whether each “way” of conducting psychological science represents a paradigm shift?



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