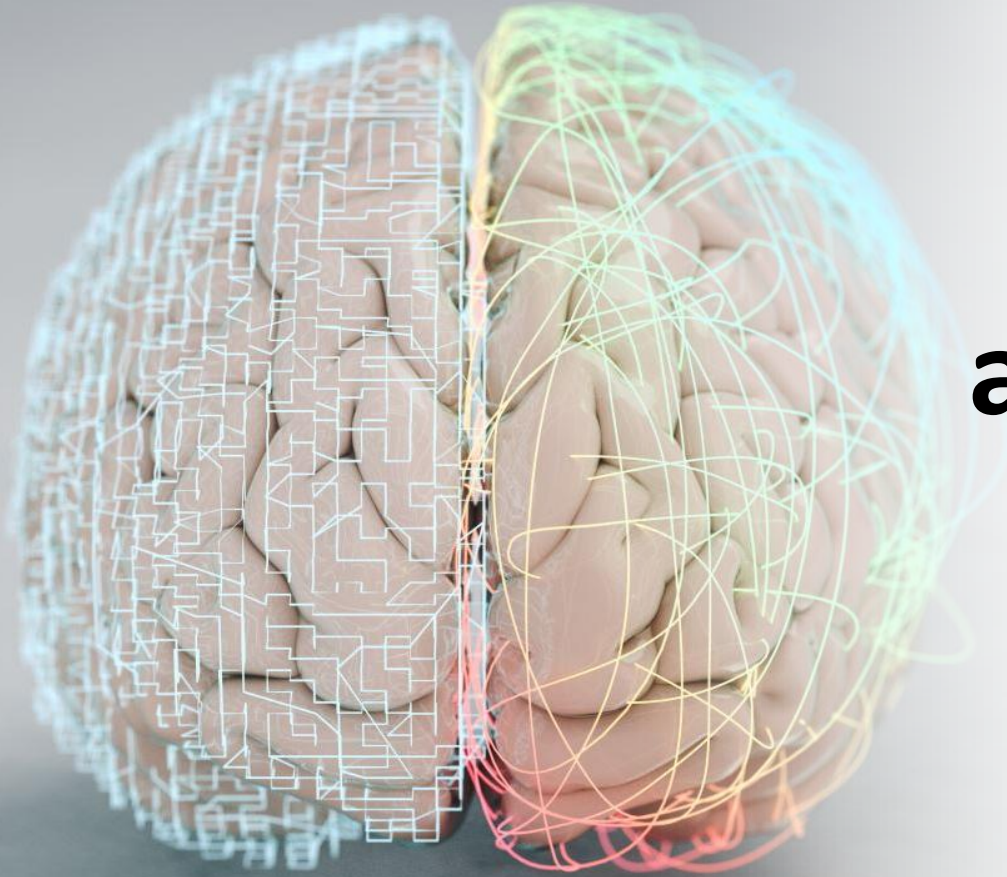




Conceptual and Historical Issues in Psychology

Dr Kate Williams

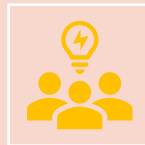
Session Outline:



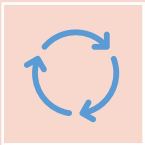
Why study history of Psychology?



Ancient Philosophical Foundation



The birth of Scientific Psychology



Key Era's within Psychology

Why Study the History of Psychology?

How did we get
from here?



To here?



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.

Why Study History of Psychology?

- **Context of Knowledge**
- Must consider time research/ideas were carried out/formed
 - Aristotle – pre-science
 - Descartes – religious upheaval
 - Milgram – McCarthyism in US
 - Term referring to senator John McCarthy: Americans accused of being communist and subsequently investigated.



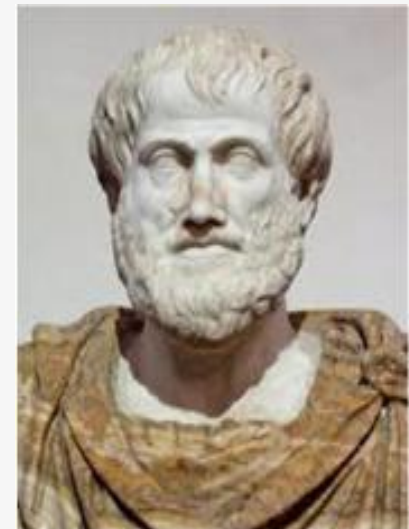
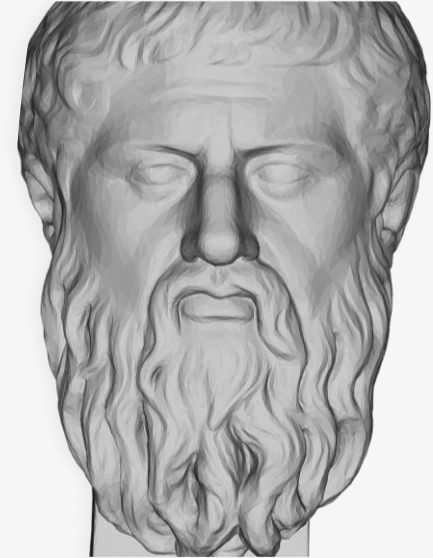
Ancient Philosophical Foundations

- 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
 - Ironic-wisdom
 - Trial and death – nature of soul



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



Ancient Philosophical Foundations

Hippocrates (460–370 BCE)



"Father of Medicine,"
ideas lay ground for
understanding
behaviour and mental
health.

Humoral Theory:

- Health/disease as balance of blood, phlegm, black & yellow bile - Imbalance = psychological states.

Holistic Approach:

- Psychosomatic medicine = interaction between psychological & physical.

Observation/Case Studies:

- Recording detailed documentation of symptoms.

Naturalistic Explanation:

- Attribute mental disorder to natural cause rather than supernatural/divine

Ethical Considerations:

- Hippocratic Oath = ethical principles for physicians

Over time, these evolved, leading to distinct branches (e.g., clinical psychology, psychiatry, and counselling).

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.

Philosophy of Mind:

René Descartes (1596-1650)



Distinguished between mind and 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 and existence.
- **Mechanical Philosophy:** Body is machine governed by mechanical principles.
- **Reflex Theory:** Explains automatic, involuntary behaviour.
- **Animal Spirits:** Flows from pineal gland to muscles, controlling movement and behaviour.
- Specifics of some ideas incorrect, but idea of physiological basis for behaviour led to scientific study of the brain and nervous system.



The Mind-Body Problem

- Major argument in philosophy and psychology...
- How does non-physical mind influence physical body - and vice-versa?
- Was groundwork for discussion on consciousness, perception, and interplay between biological and psychological factors.

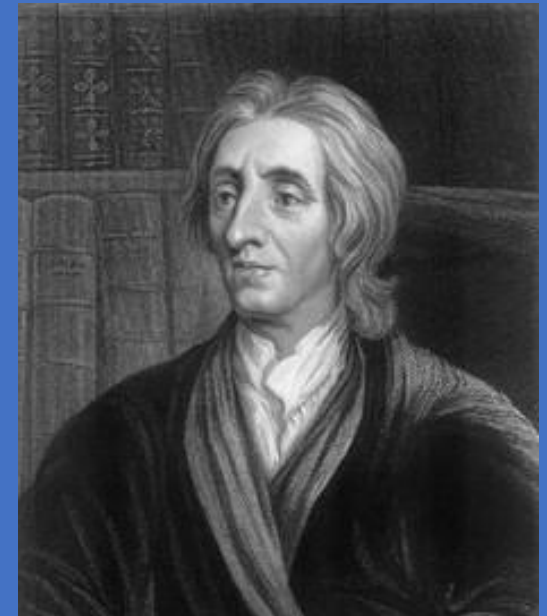
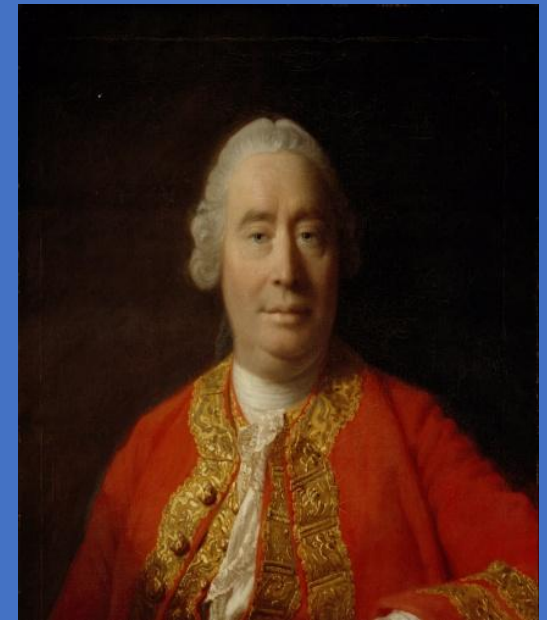
A photograph of laboratory glassware, including an Erlenmeyer flask and a graduated cylinder, both containing a blue liquid. The glassware is on a reflective surface, and the background is blurred.

Possible Explanations

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

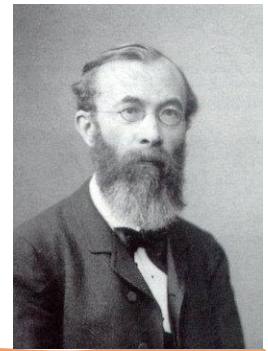
Philosophy of Mind

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



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

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



Father of experimental psychology – psychology as a science.

Established 1st Psychology Lab

- University of Leipzig, Germany (1879).

Experimental Methods:

- Use same rigorous scientific methods as natural sciences.

Psychology as an Independent Discipline

Structuralism:

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

Psychological Journal:

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

Marks shift away from philosophy and speculative approaches

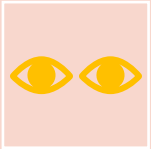
Introspection:

- Trained observers systematically analyse own thoughts in response to stimuli to break down conscious experiences

Criticisms of Introspection



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



Use of trained observers meant they may be looking for specific things in experiences.



Disagreement between observers.



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

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.



Birth of Scientific Psychology:

William James (1842–1910):

Pragmatism:

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

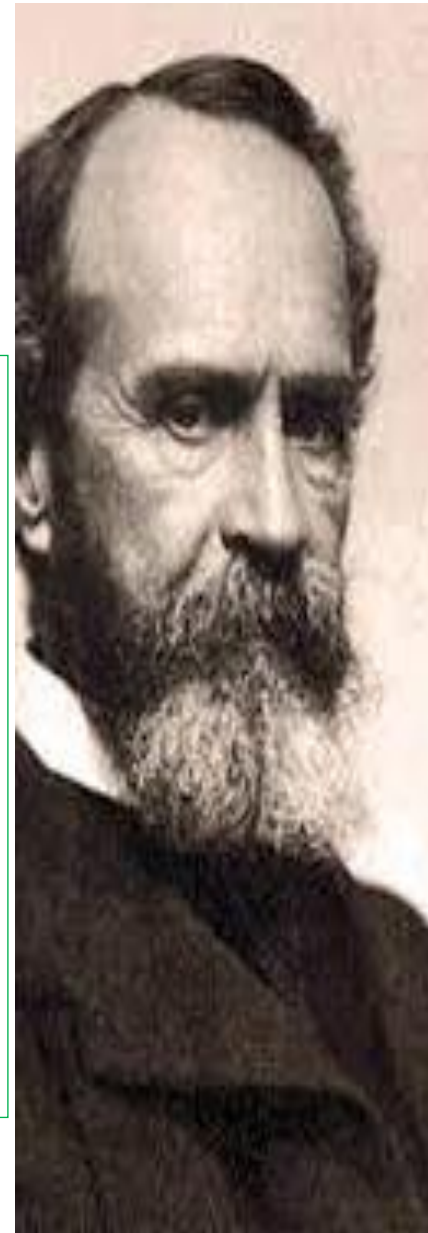


Birth of Scientific Psychology:

William James (1842–1910):

Stream of Consciousness:

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

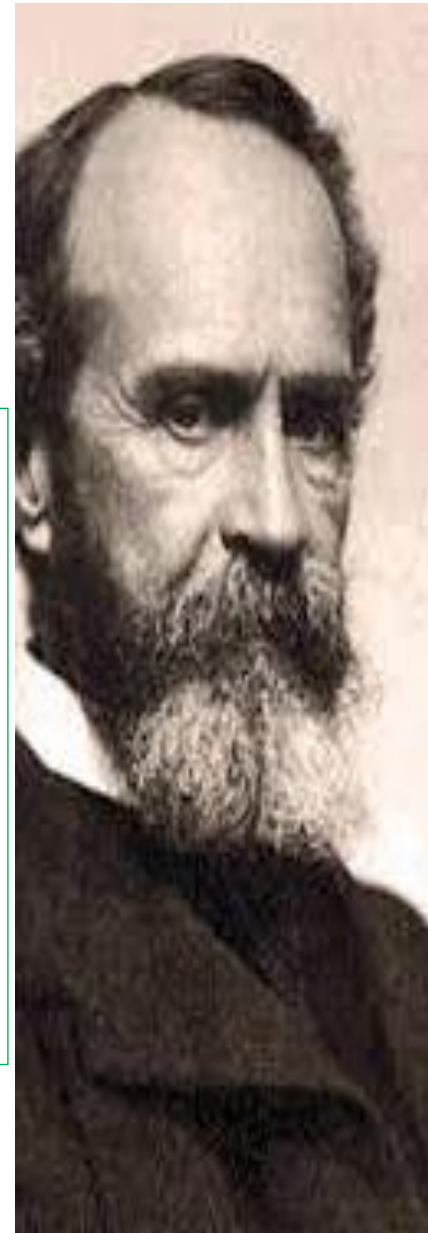


Birth of Scientific Psychology:

William James (1842–1910):

Varieties of Religious Experience:

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

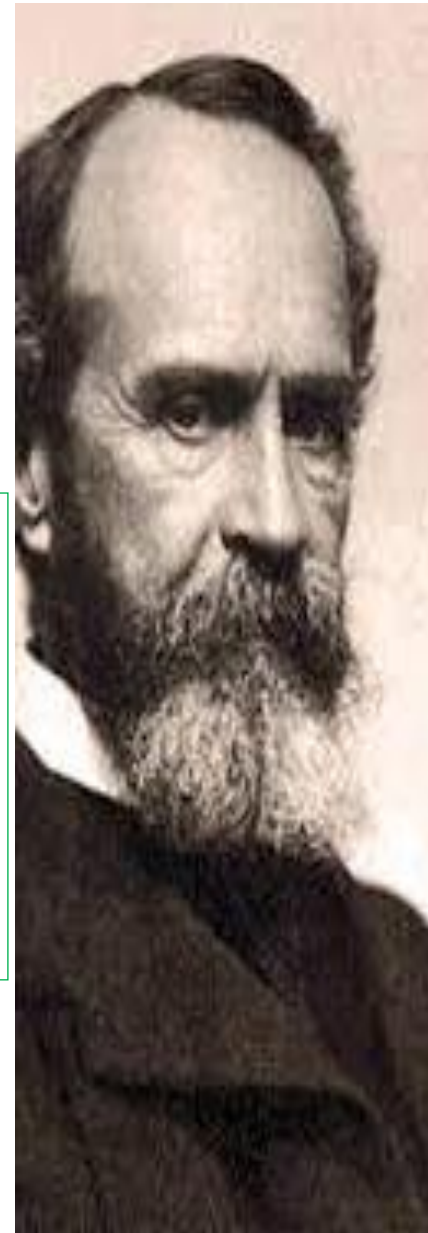


Birth of Scientific Psychology:

William James (1842–1910):

Principles of Psychology (1890):

- Considered one of the foundational texts in psychology.





INTERACTIVE TASK



**INVESTIGATING
CONSCIOUSNESS**

**FOLLOW THE IN-CLASS
INSTRUCTIONS**

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?**



The Rise of Behaviourism

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



Rise of Behaviourism:

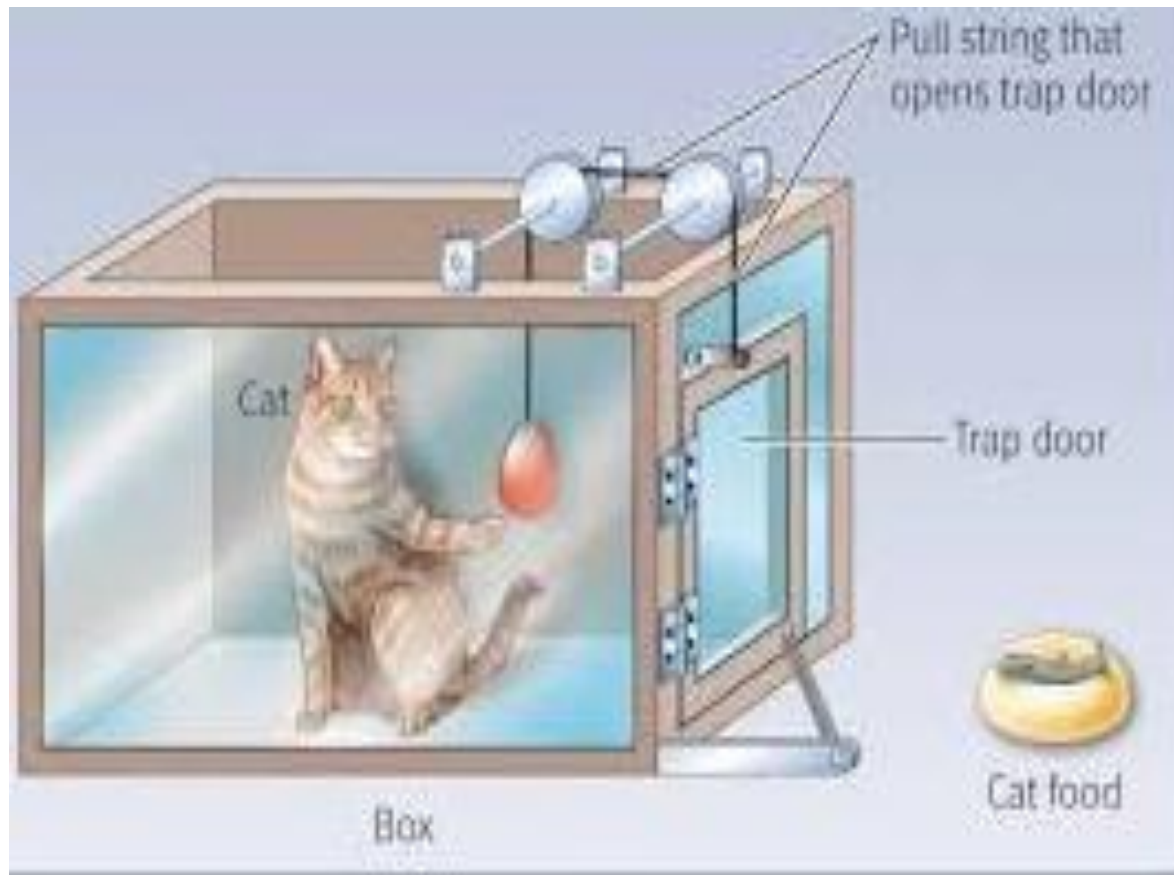
E. L. Thorndike.

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



- Examine associative processes to explain behaviour.
 - **Puzzle box:** hungry animal to escape box to get food
 - Gets quicker with each trial.

- Learning comes from association of ideas:
 - mental image of box, motor representation, & memory.



- Connection is direct, no mediation from mental states or ideas.
- Animal perceives situation and enacts appropriate behaviour.

The Behaviourist Manifesto

- 1913: John B. Watson announced his behaviourist programme in a paper:
 - “*Psychology as the behaviourist views it*”.
- Argued 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?



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!!!

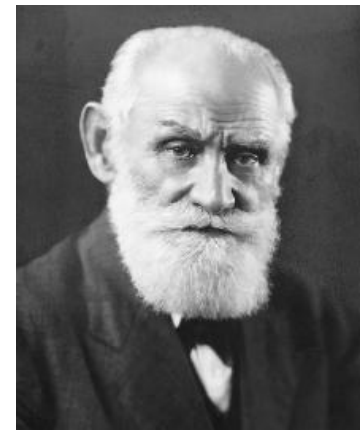


John B. Watson

- 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 moulds 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).
- S-R learning he thought could mould behaviour was based on principles of conditioned reflexes investigated by Ivan Pavlov (1849-1936).....

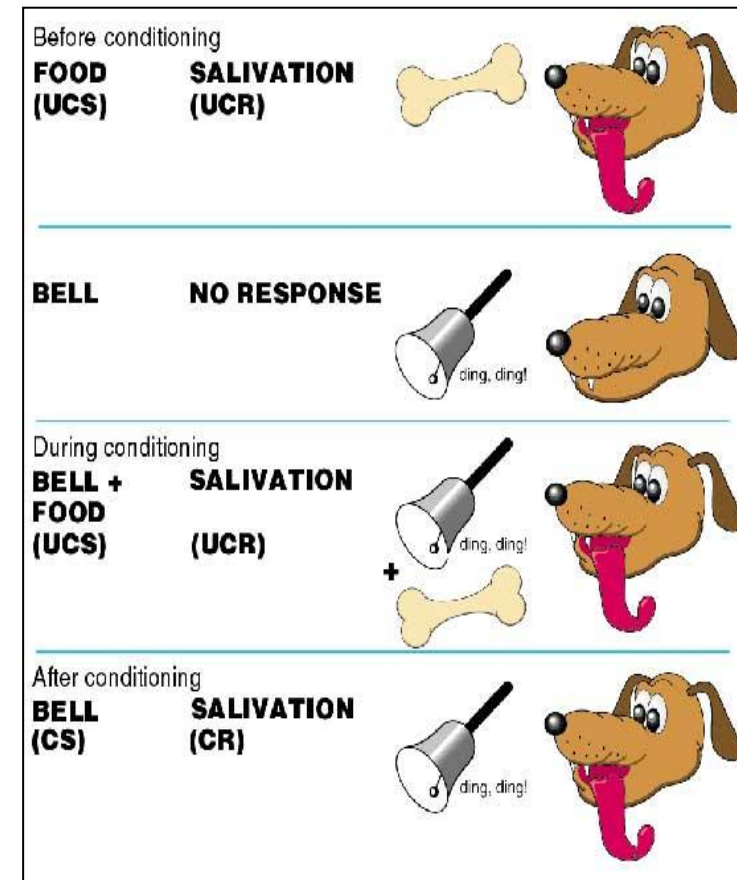


Pavlovian (Classical) conditioning (1904/1923)



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 from pair with stimulus that naturally evokes response:
- US = unconditioned stimulus (e.g., food)
- UR = unconditioned response (e.g., salivate)
- CS = conditioned stimulus (e.g., bell)
- CR = conditioned response (e.g., salivation)
- When UR = CR = **Classical Conditioning**



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 (and other animals) whenever it came close.
- [Little Albert Experiment](#)



Group Activity

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

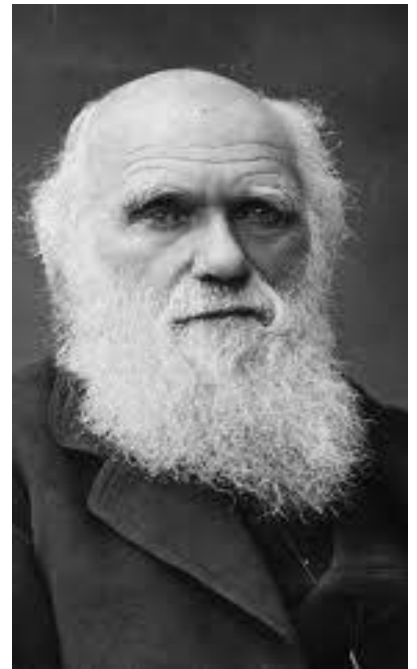
Skinner's Operant Conditioning

- Did not believe in existence of mental states
- Radical behaviourist - goal of behaviourism = 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 term '**Operant**' rather than reflex is used.
- But where does 'purpose' come from?
 - Traditional mentalist suggest inner act of free will
 - But Skinner rejected mental events.

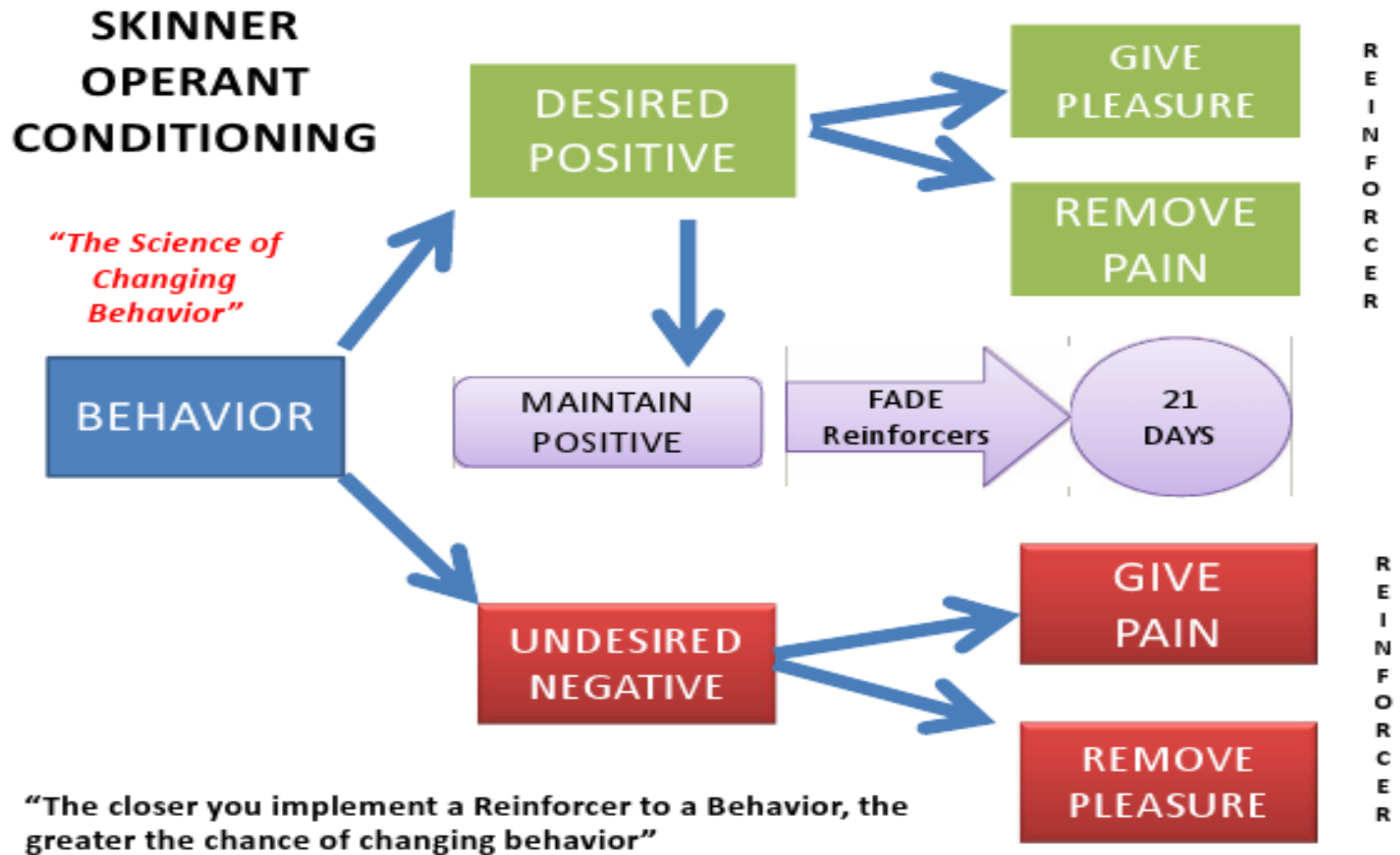


Evolutionary Principles of Operant Conditioning

- Rejected S-R cause of behaviour.
- Views in line with Darwin.
 - Causal forces from past, not present.
 - Organisms produce variations, some more successful than others.
 - Successful variations selected by environment and continue to exist.
- Applied this reasoning to behaviour.
 - Behavioural variations selected by environment – successful ones allow organism to survive.
- These behaviours are **Reinforced**
- Positive consequences that strengthen successful behaviour = **Reinforcers**.



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



Simple Guide to Operant Conditioning

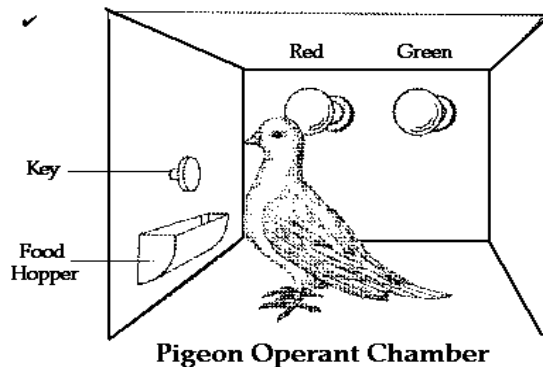
- <https://www.youtube.com/watch?v=teLoNYvOf90>

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>

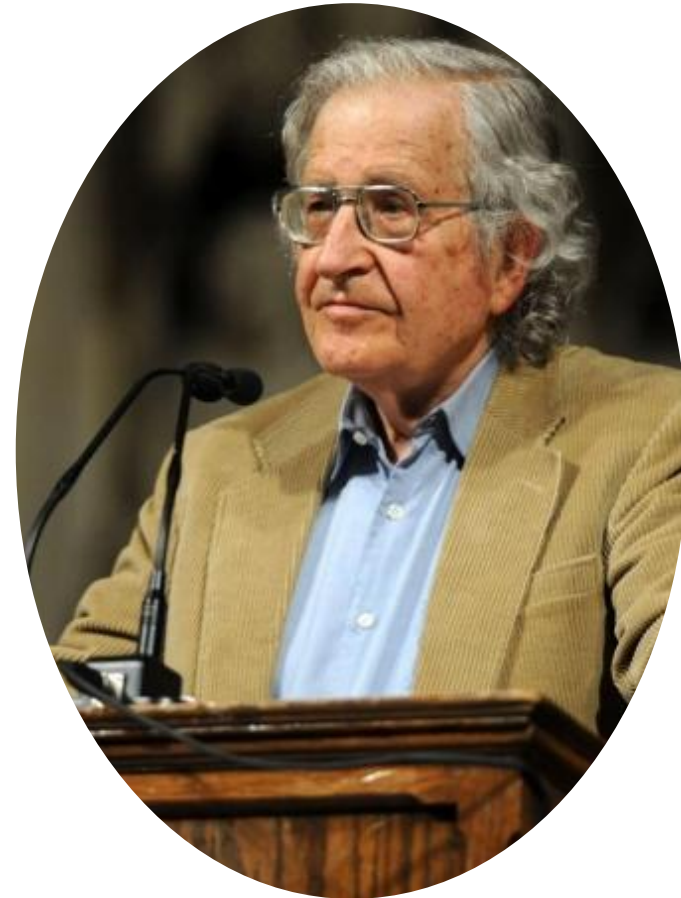


Fall of Behaviourism

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.

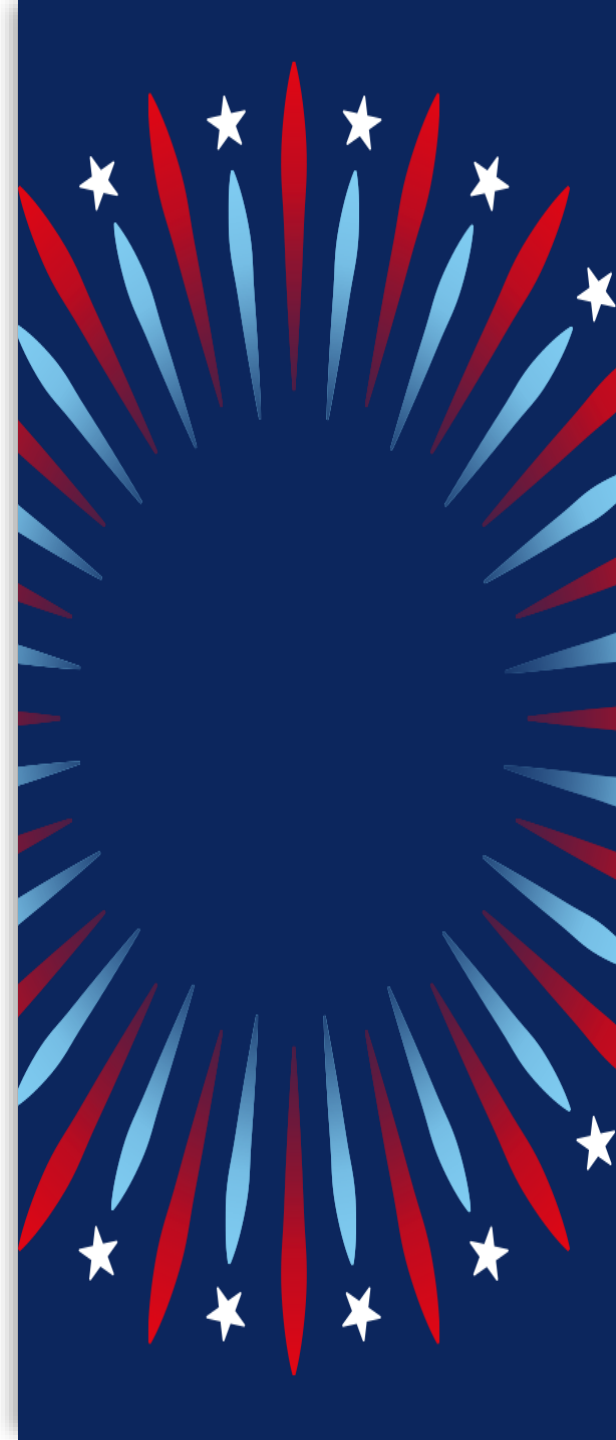
Destruction of Behaviourism

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



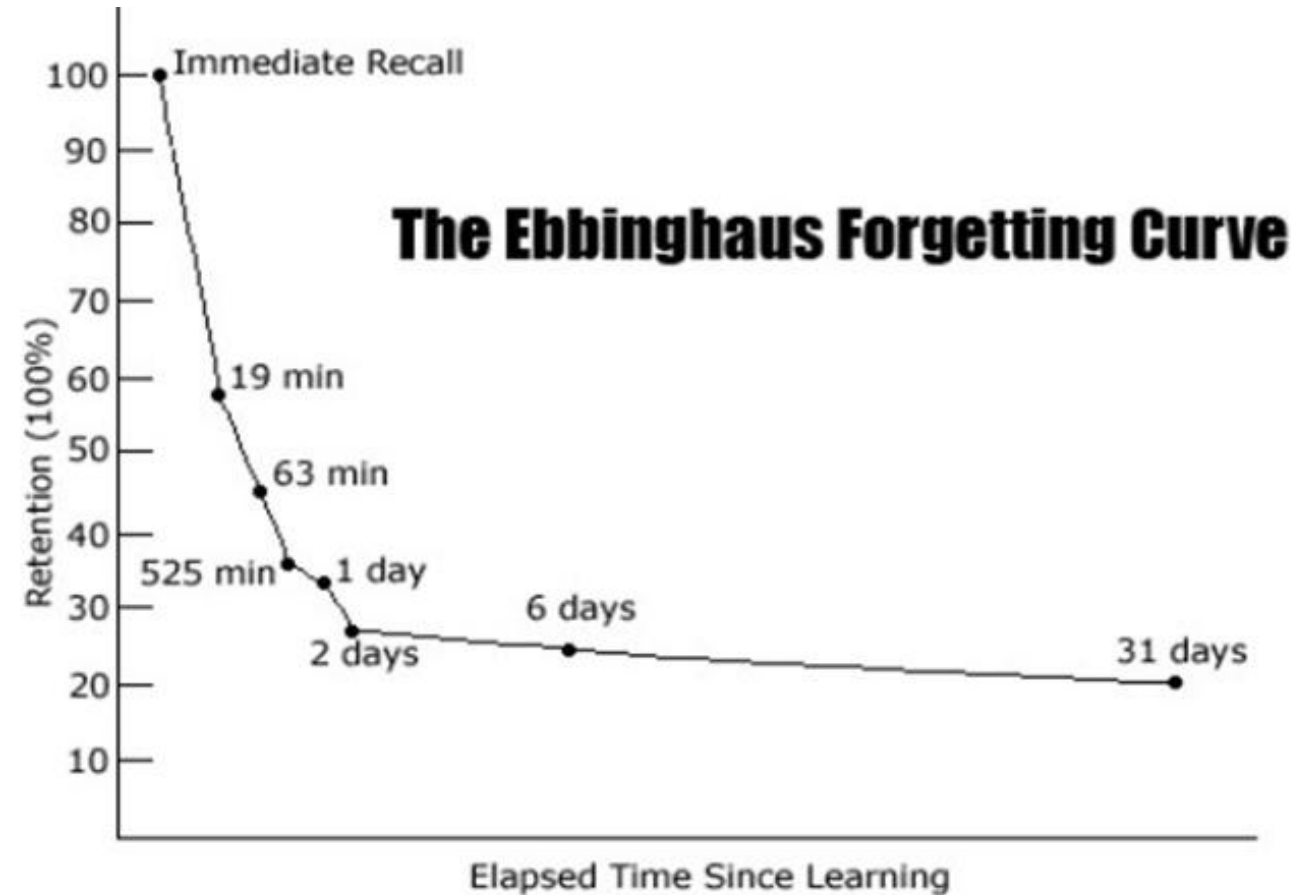
The Cognitive Revolution

- Psychology frustrated with restrictions of behaviourists as to what should be focus of study.
- So, shift into cognitive research emerges during late 1940s and took hold in 1950s.
- Though, work tapping on to what we would consider cognitive processes had been studied as early as the 1800s.



Hermann Ebbinghaus (1885)

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





- Speed of mental operations:
 - In the 1850s, Johannes Müller predicted that speed of neurons would never be measured
 - Faster than speed of light.



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

1956!

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



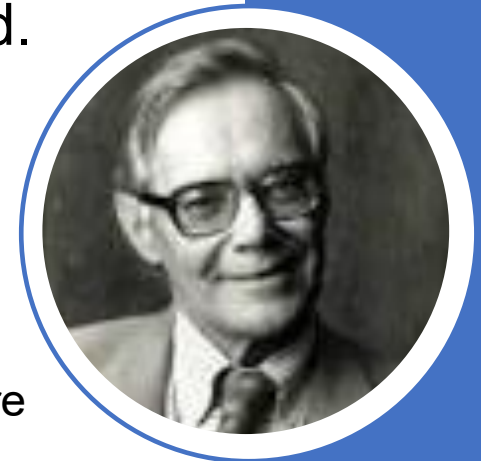
The computer metaphor

- 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



Neisser (1967)

- Seen as *Father of Cognitive Psychology*
- Openly attacked behavioural accounts and 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 more cognitive processing abilities (cognitive load)
 - Observable behaviour - poorer ability to carry out task than when tasks are separate or dissimilar tasks used
- In more (for the time) controversial book *Cognition and reality* he suggested memory is not a snapshot of a moment but a reconstruction.



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 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?