Studying the Mind (Psychology History)

Early psychology focused on subjective experience. Freud's approach. Descartes proposed dualist conceptions. However, the renaissance period and an increasing acknowledgement of the 'brain' as the seat of the mind called for more experimental, scientific approaches. Speculation and introspection was no longer enough to satisfy the existing lines of enquiry.

Experimental Psychology We established in the previous lecture that psychology took a scientific approach and that part of this approach was about doing empirical, objective, controlled and systematic studies or experiments.

Behaviourism

Assumed that people are born as **'tabula rasa' (Locke)**. We learn everything from birth and from associations between **stimuli** and **responses**.

Acts as an opposition to structuralism and Wundt. **Wertheimer** saw objects according to all their elements together. Mostly this approach affected psychological views of perception, but it also has history in philosophy and psychotherapy.

Gestalt Psychology "the essence or shape of an entity's complete form."

Learning

Instrumental Learning (Thorndike) is an example of basic learning (also known as operant conditioning). This is used to train animals to perform tricks. This contrasts to classical in that the conditionee must perform a specific task in order to get reinforced.

Classical Conditioning (Ivan Pavlov)

Pavlov trained his dog to salivate in response to stimuli by conditioning them. He noticed that his dogs salivated (**Unconditioned Response (UCR)** in response to an **Unconditioned Stimulus (UCS)** such as meat, and didn't have a **UCR** to a bell. He then rang the bell (**NS**) every time he gave the dog meat (**UCS**). The dog then developed a **Conditioned Response (CR) (salivating)** to the bell, which was now the **Conditioned Stimulus (CS).**

He also noted that the **CR** to the **CS** could be subject to **Extinction**, when no reward was given. But, **CR** could also be subject to **Spontaneous Recovery.** Extinguished CR can also be **reconditioned.**

Examples in humans include the Galvanic Skin Response to loud noise or an electric shock and the **blink reaction** of an eyelid (UCS such as a puff of air) (Kimble, 1961)

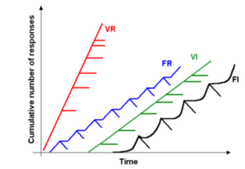
Operant Conditioning (B.F. Skinner)

QUOTE "The body responds to the world at the point of contact" B.F Skinner

A total rejection of any ideas about introspection and mental states. Instead, Behaviourists only measured **observable** behaviour.

In this case the **operant** (specific behaviour or CR) is rewarded. This contrasts to classical in that the CS is not used to elicit a desired response. The response comes first.

Behaviour in this case can be **shaped** so that the organism learns to do more complex behaviours through **successive approximations.** A **schedule of reinforcement** can be used to show that behaviour does not always require a reinforcement. A **variable ratio** will elicit the most desired behaviour, followed by a **fixed ratio. Time intervals** elicit the least desired behaviour, with **varied intervals** being slightly better than **fixed intervals.**



Different Forms of Reinforcement

Skinner proposed **Modified Behaviour Theory** because he argued that classical and instrumental conditioning could not account for the complex nature of human behaviour. He argued that the voluntary nature of some instrumental behaviours were not so much voluntary but **operants**; responses to the environment, **reward-seeking**.

Behaviour is shaped by reinforcement and different forms of reinforcement encourage behaviour in different ways. **Positive reinforcement** is the delivery of a positive reward, to encourage behaviour. **Negative reinforcement** is the removal of something bad to encourage behaviour (e.g. electric shock.

Behaviour is changed by punishment and different forms of punishment change behaviour in different ways. **Positive Punishment** is receiving something bad whereas **Negative Punishment** is removing something good (e.g. food reward).

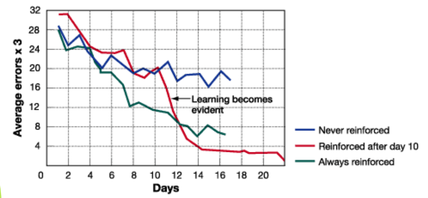
However, Tolman's research and theories from researchers such as **Chomsky** showed both that reinforcement was not enough and that humans are born with **innate propensities.** It became increasingly clear that there were internal processes that were less easy to study. This kickstarted the **cognitive revolution.**

Latent Learning

Lepper, Greene & Nisbett found that children not rewarded after completing drawings continued for the longest amount of time, whereas those rewarded would stop soon after and be less likely to return to the task. Those expecting a reward would be least likely to return to the task. This appeared to undermine the students' intrinsic motivation and supports **Bem's Self Perception Theory** which suggests that people do not know of their motivation for a task until (or if) they are made aware by external contingencies.

Tolman et al. (1930) ran rats through a maze. Some were given a regular reward, others no reward and others a reward after 10 days. Though all of their performance got worse, the performance of those given no reward decreased least. Shattering behaviourist notions that behaviour was improved by reinforcement.

Countered Behaviourist wisdom of reinforcement



Tolman et al. (1930)

Functionalism vs. Structuralism

This directly opposed structuralism, as it was concerned with the minds separate **functions rather than** its **structure**. It was influenced by evolutionary theory. Fundamentally, Functionalism asked **how and why** rather simply wondering **what** happens when an organism does something.

William James was cynical about using introspection to understand the **stream of consciousness**. He likened it to ***"trying to turn up the gas quickly enough to see how the darkness looks"***.

Other influential functionalists include **Edward Thorndike.** Functionalism placed a larger emphasis on **observation** rather than introspection.

Psychophysics (19th Century)

Weber-Fechner Law - attempts to describe the relationship between physical magnitudes of stimuli and the **perceived intensity** of stimuli. Weber tested this by gradually increasing weights on a blindfolded man, the point at which he perceived a difference was called the **Just Noticeable Difference (JND)**. He found that the size of the JND was proportional to the starting weight. Further support for this with brightness of light.

However, these measurements are somewhat subjective as they rely on perceptions. The domain is somewhat restricted, to what extent do these findings generalise to more cognitive states such as moods and motivations?

Mental Chronometry (19th Century)

Donders (1869) measured response times to perceptual-motor tasks. He found that reactions to a single stimulus are faster than reactions to a choice stimulus (react to the red light when two lights are shown). This is a notion still tested and assumed by cognitive psychologists today.

Mental Chronometry

Phenomenology

This approach drew a heavy influence from **subjective experience** and was based on the notion of '**qualia**', which states that people subjectively appraise the same things to different amounts (e.g. the redness of a rose). **Satre** considered this to be a major existential problem and one difficult to resolve. This violates a large assumption of psychological research which is that humans tend to be fairly similar in nature.

Structuralism

Titchener's Structuralism (Late 19th Century) Studying consciousness by **introspection.**

As a student of Wilhelm Wundt, Titchener was very interested in separating the **mind** in to **separate parts**, just as chemists do with the elements. He focused on consciousness and thought that it was only ever worth studying observable things. He argued that the mind could be broken down in to **affections, images and sensations** and that these connected. He was one of the first to study the **Law of Contiguity,** which states that ideas become linked the more you see them together (e.g. Knife and Fork).