

Classical Conditioning (Lecture 7)

III. CLASSICAL CONDITIONING A. Watson and Little Albert

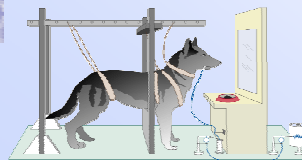
- Operant conditioning concerns freely emitted or voluntary behavior and the environmental conditions (Sd & Sr) that control it.
- J.B. Watson also showed other kinds of behavior that is under environmental control.
 - Gave 11 month-old "Little Albert" a white rat to play with to which he showed no fear.
 - While Albert was watching the rat, Watson struck a steel bar with a hammer which startled and scared Albert who started to cry.
 - This pairing of the rat and a scary, startling sound was continued. After 7 pairings, every time Albert saw the rat, he started to cry!

III. CLASSICAL CONDITIONING A. Watson and Little Albert

- Other physiological (bodily) responses which have become associated with neutral objects.
 - Hospital (neutral object) → sick feeling (physiological response)
 - Snakes (neutral object) → fear (physiological response)
 - Smell of fresh baked cookies (neutral object) → feeling loved (physiological response)
- This is **classical conditioning**: The environmental control of physiological responses or reflexes.

III. CLASSICAL CONDITIONING B. Pavlov's Theory

- Ivan Pavlov was a medical researcher in Russia at the turn of the century.
 - He studied digestion and won a Nobel prize
 - He was exploring the function of saliva in digestion.
 - He discovered that the dog would salivate when seeing the dish, before any food was available.



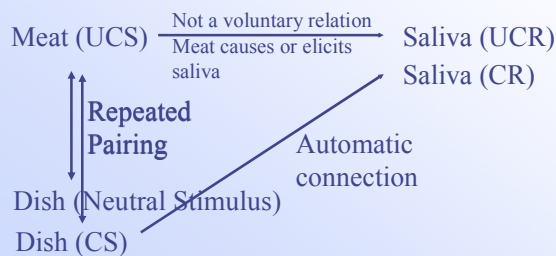
Harness and fistula (mouth tube) help keep dog in a consistent position and gather uncontaminated saliva samples.

The drum recorded when & how much saliva the dog produced.

III. CLASSICAL CONDITIONING

B. Pavlov's Theory

- What Pavlov discovered in was the fundamental principles of Classical Conditioning



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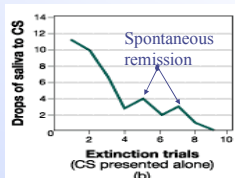
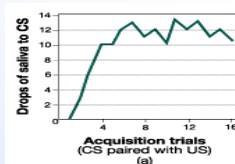
B. Pavlov's Theory

- Definition of terms:
 - Unconditioned Stimulus UCS: A stimulus that elicits a reflexive response in the absence of learning.
 - Conditioned Stimulus CS: An initially neutral stimulus that comes to elicit a CR after being associated with an UCR.
 - Unconditioned Response UCR: A reflexive response elicited by a stimulus in the absence of learning.
 - Conditioned Response CR: A response elicited by a conditioned stimulus. Occurs after the CS is associated with an UCS.

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C. Acquisition and Extinction

- Acquisition:** A neutral stimulus that is consistently followed by an UCR will become a CS
- Extinction:** The weakening and eventual disappearance of a learned response when the CS is no longer paired with the UCR.



III. CLASSICAL CONDITIONING

D. Conditions of Classical Conditioning

- CS plays a signaling function in classical conditioning. If CS doesn't signal (predict) UCS, no classical conditioning
 - CS and UCS presented simultaneously, no CC.
 - Seabiscuit!
 - UCS comes before CS, but CS lasts longer, no CC.
 - CS fails to statistically predict UCS, no CC.

III. CLASSICAL CONDITIONING

E. Generalization and Discrimination

- Classical, like operant conditioning, is subject to generalization and discrimination.
 - **Stimulus Generalization:** After conditioning, the tendency to respond to a stimulus that resembles one involved in the original conditioning.
 - A dog trained to salivate (CR) to one tone (CS), will salivate to a similar one.
 - **Stimulus Discrimination:** The tendency to respond differently to two or more similar stimuli.
 - A dog trained to salivate (CR) to one tone (CS), will not salivate to a dissimilar one.