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 cried.
  - 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.

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.

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 salivated 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.
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B. Pavlov’s Theory

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

<table>
<thead>
<tr>
<th>Meat (UCS)</th>
<th>Not a voluntary relation</th>
<th>Meat causes or elicits saliva</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dish (Neutral Stimulus)</td>
<td>Repeated Pairing</td>
<td>Automatic connection</td>
</tr>
<tr>
<td>Dish (CS)</td>
<td>Saliva (UCR)</td>
<td>Saliva (CR)</td>
</tr>
</tbody>
</table>

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.

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.

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.