

Learning

□ Learning

- **relatively permanent change in an organism's behavior due to experience**
- **experience (nurture) is the key to learning**

Association

- **We learn by association**

- **Our minds naturally connect events that occur in sequence**

- **Aristotle 2000 years ago**

- **John Locke and David Hume 200 yrs ago**

- **Associative Learning**

- **learning that two events occur together**

- **two stimuli**

- **a response and its consequences**

Conditioning

□ Acquisition

- the initial stage of learning, during which a response is established and gradually strengthened
- in classical conditioning, the phase in which a stimulus comes to evoke a conditioned response
- in operant conditioning, the strengthening of a reinforced response

Classical or Pavlovian Conditioning

□ Classical Conditioning

- organism comes to associate two stimuli
 - **lightning and thunder**
 - **tone and food**
- begins with a reflex
- a neutral stimulus is paired with a stimulus that evokes the reflex
- neutral stimulus eventually comes to evoke the reflex

Classical or Pavlovian Conditioning

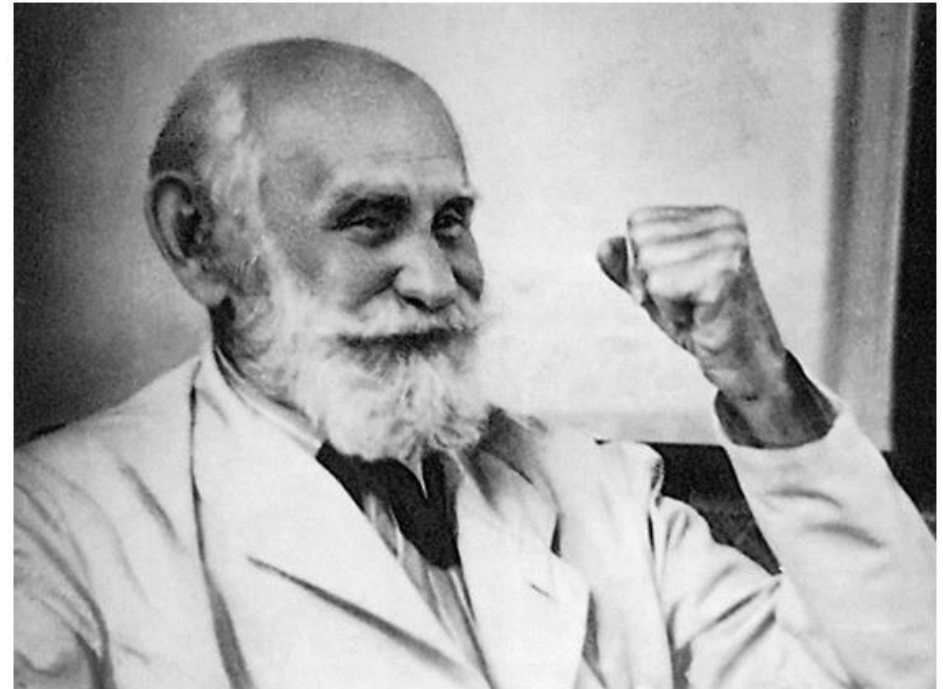
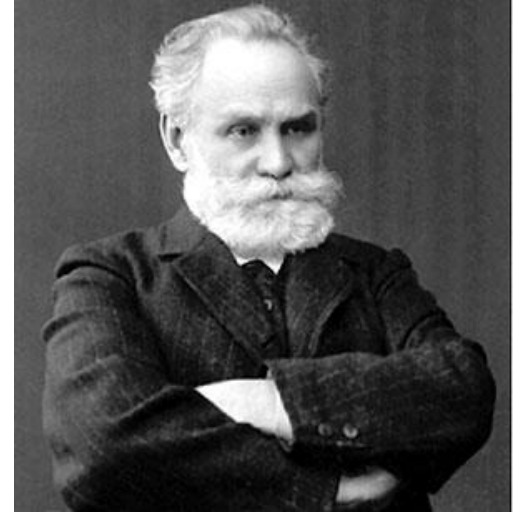
□ Ivan Pavlov

□ 1849-1936

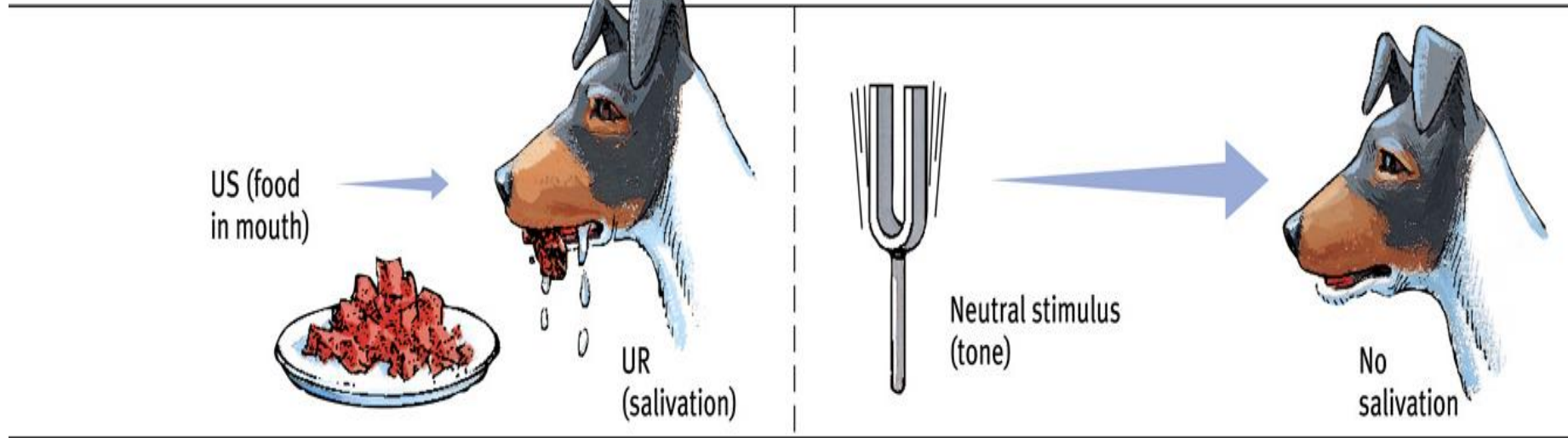
□ Russian physician/
neurophysiologist

□ Nobel Prize in 1904

□ studied digestive secretions



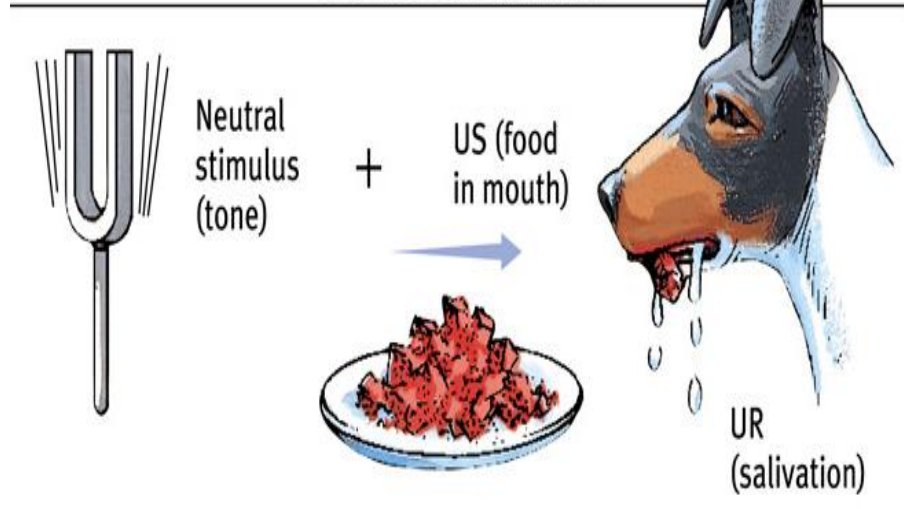
BEFORE CONDITIONING



An unconditioned stimulus (US) produces an unconditioned response (UR).

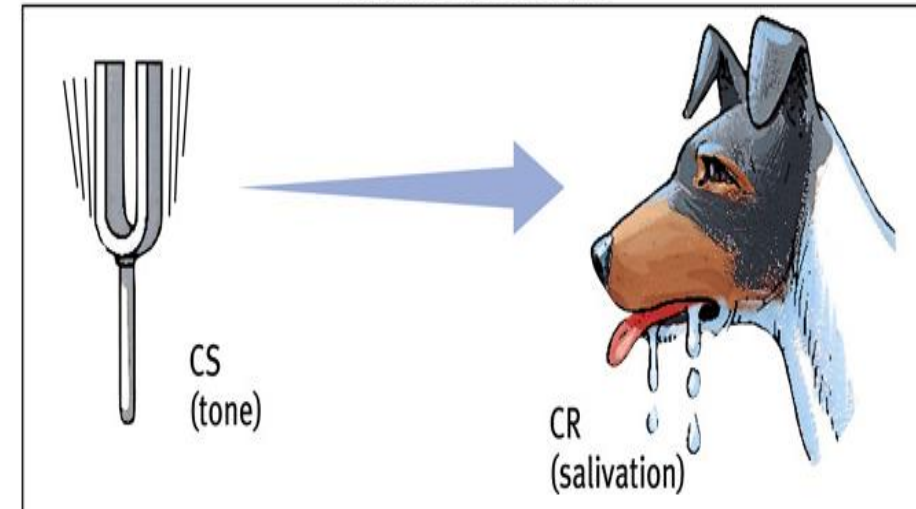
A neutral stimulus produces no salivation response.

DURING CONDITIONING



The unconditioned stimulus is repeatedly presented just after the neutral stimulus. The unconditioned stimulus continues to produce an unconditioned response.

AFTER CONDITIONING

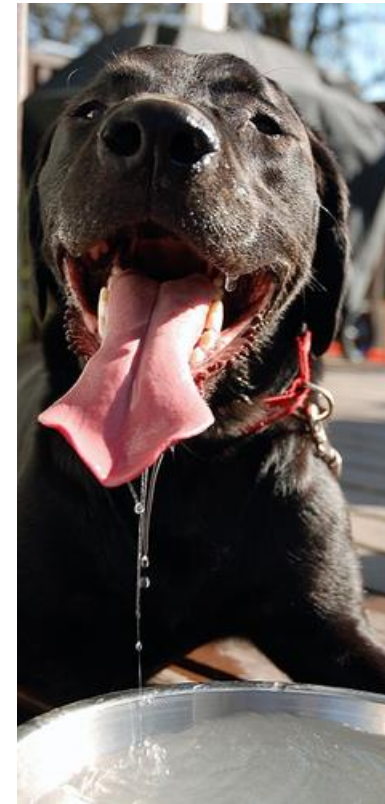


The neutral stimulus alone now produces a conditioned response (CR), thereby becoming a conditioned stimulus (CS).

Unconditioned Stimulus (UCS): a stimulus that naturally and automatically triggers a response.



Unconditional Response (UCR): the unlearned, naturally occurring response to the UCS.



Neutral Stimulus (NS): an unrelated stimulus that will become the Conditioned Stimulus



Conditioned Stimulus (CS): an originally irrelevant stimulus that, after association with the UCS, comes to trigger a response.



Conditioned Response (CR): the learned response to a previously neutral stimulus.

