Pavlov's Classical Conditioning

- Presented by
- Krithika.T
- Computer Science Department

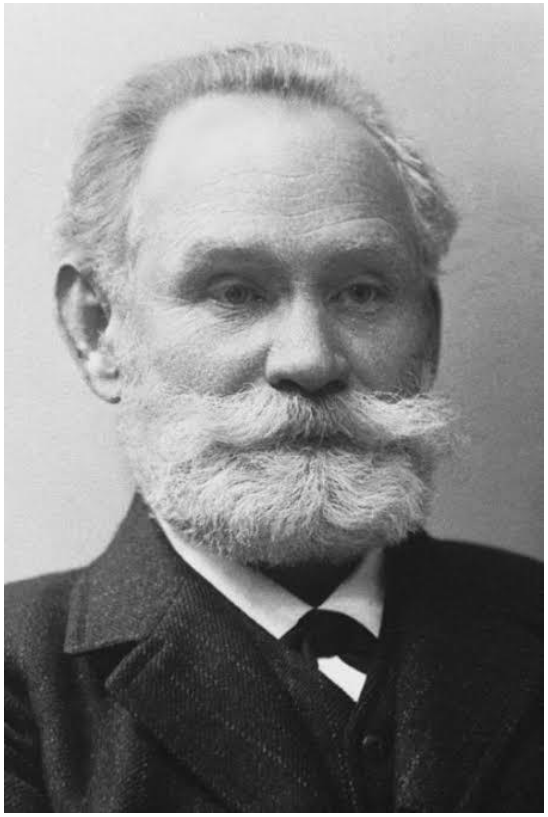
BEHAVIOURIST THEORY

- Stimulus-Response without reinforcement
  - Pavlovs Cassical Conditioning theory
- Stimulus-Response with reinforcement
  - E.L. Thorndike-Trail Error Theory
  - B.F Skinner-Operant Conditioning Theory

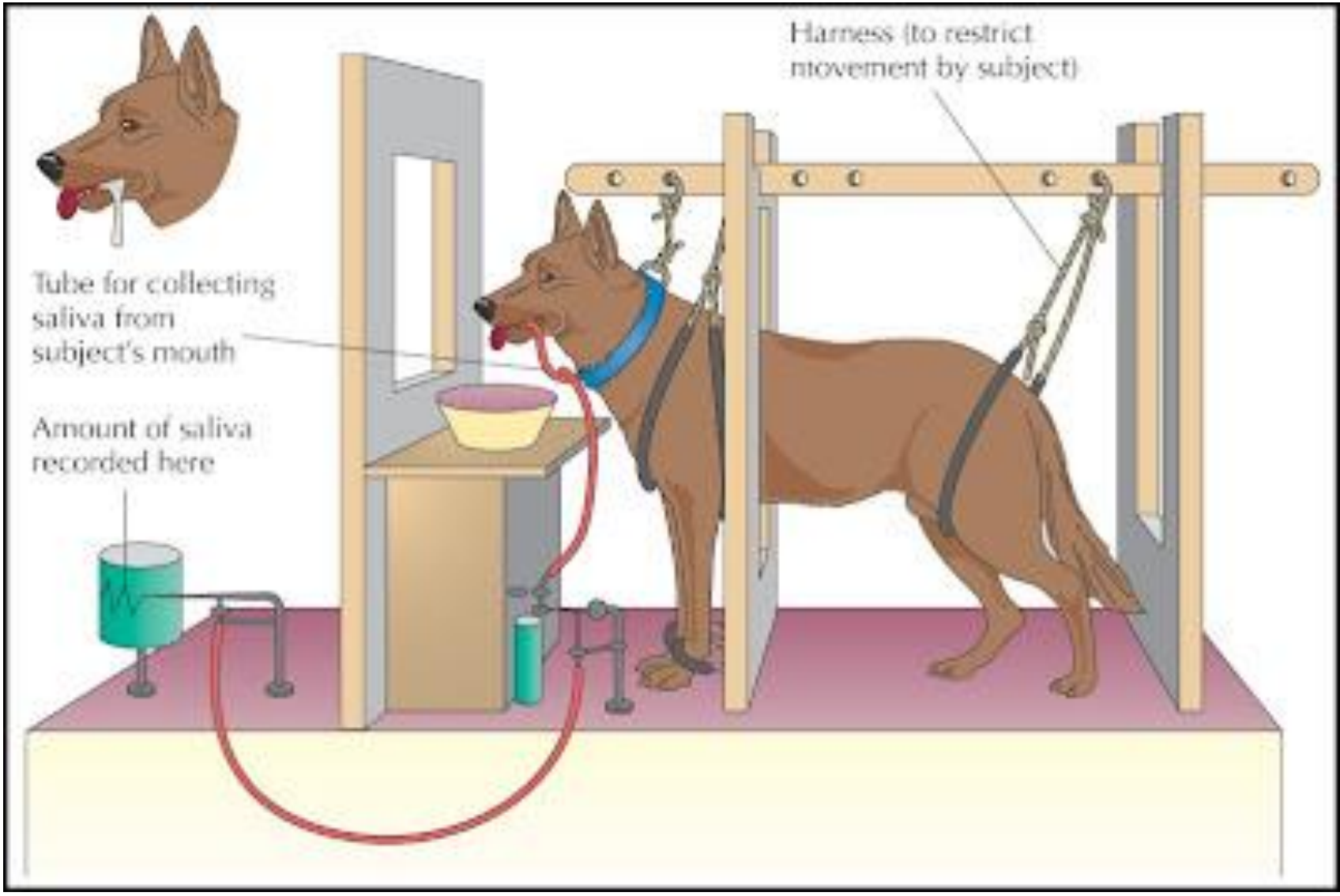
Classical Conditioning

- Conditioning is defined as a process in which is not associated with any specific natural response, on paring with a natural stimulus, acquires all the characteristics of natural stimulus.
- Learning acquired through experience.

Pavlov's Classical Conditioning



- In 1904, Russian Psychologist Ivan Pavlov made experiments on dogs.
- In this Pavlov trained his dogs to salivate when they heard a bell sound.


Harness (to restrict movement by subject)
Tube for collecting saliva from subject's mouth
Amount of saliva recorded here

Components

UCS (Unconditional Stimulus):

UCS is anything which evoke a response without prior learning or conditioning.

Eg: Food.

CS(Conditional Response):

It is created by learning and therefore does not create a response without prior conditioning.

Eg: bell sound.

UCR(UnConditional Reflex / Response):

Reflex that happens automatically and you do not have to learn how to do it.

Eg :Salivation

CR(Conditioned Reflex):

Response which you have learnt to associate with something.

Can be evoked in response to a conditional stimulus.

Eg: Salivation when ringing a bell.

Stage 1 : Before conditioning

- Bell (CS) ⟹ Listening, No salivation (UCR)
- Food (UCS) ⟹ Salivation (UCR)

Stage 2 : During conditioning

- Bell (CS) + Food (UCS) ⟹ Salivation (UCR)

Stage 3 : After conditioning

- Bell (CS) ⟹ Salivation (CR)

CONDITIONING

Pavlov's Dog Experiment

BEFORE CONDITIONING

Unconditioned stimulus

Unconditioned response

Neutral stimulus

No response

DURING CONDITIONING

Food + Bell

Unconditioned response

AFTER CONDITIONING

Conditioned stimulus

Conditioned response

EDUCATIONAL IMPLICATIONS

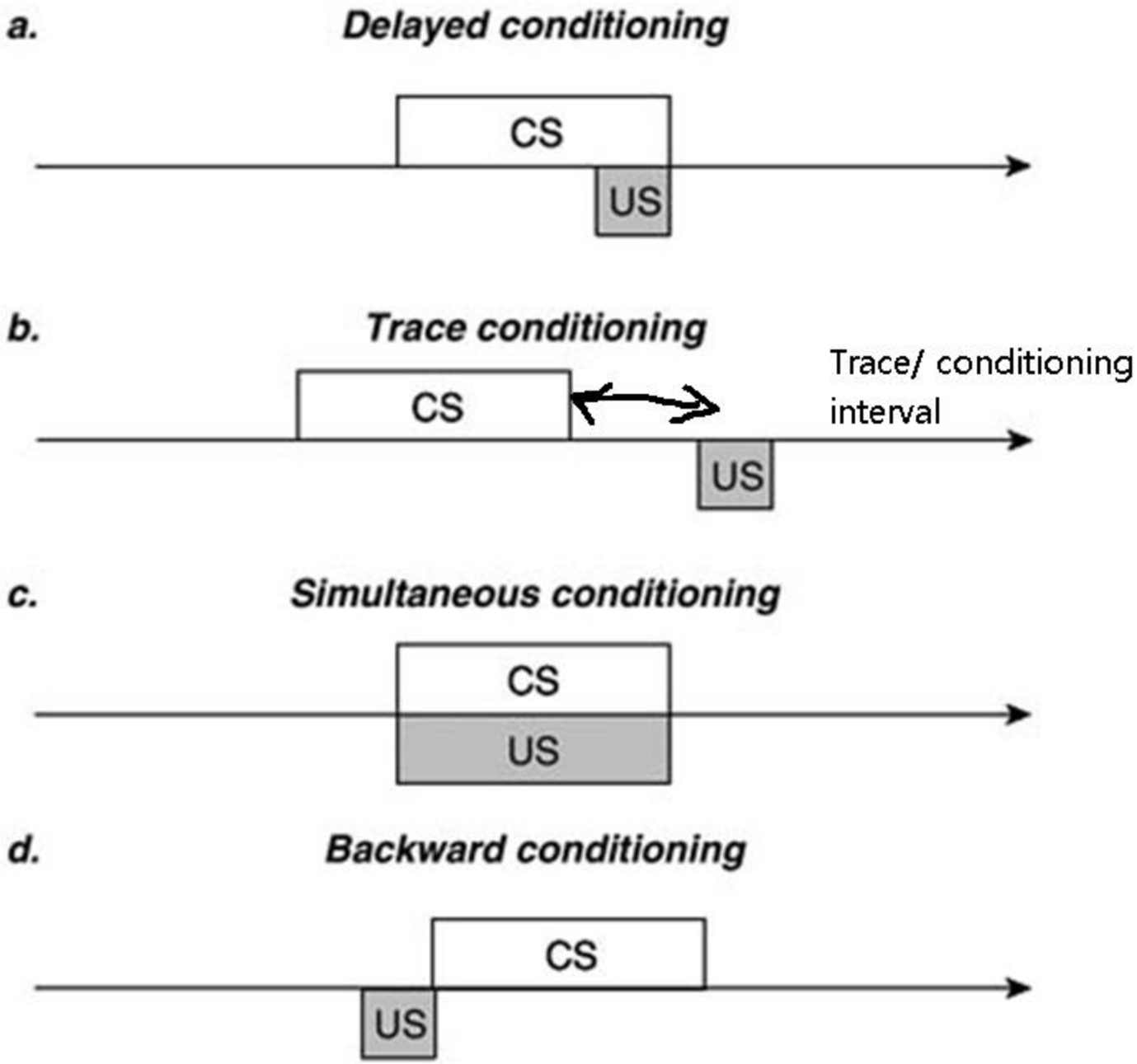
- Associating words with pictures and meanings.
- Develop favorable attitude towards learning , teachers,subjects and schools.
- Develop good habits.
- Deconditioning process: Breaking of bad habits and elimination of conditioned fear.

LAWS OF CONDITIONING

- LAW OF CAUSATION
- LAW OF EXPERIMENTAL EXTINCTION
- LAW OF GENERALISATION
- LAW OF DISCRIMINATION
- LAW OF HIGHER ORDER CONDITIONING

LAW OF CAUSATION

- the CS(bell) and UCS(food) are presented simultaneously


a.
Delayed conditioning
CS
US
b.
Trace conditioning
CS
US
Trace/ conditioning interval
c.
Simultaneous conditioning
CS
US
d.
Backward conditioning
CS
US

LAW OF EXPERIMENTAL EXTINCTION

- CR gets weakened and finally disappears

+

= SALIVA

−

= WEAKENED

DISAPPEAR

LAW OF GENERALISATION

CR will occur even for a buzzer

SALIVA

SALIVA

LAW OF DISCRIMINATION

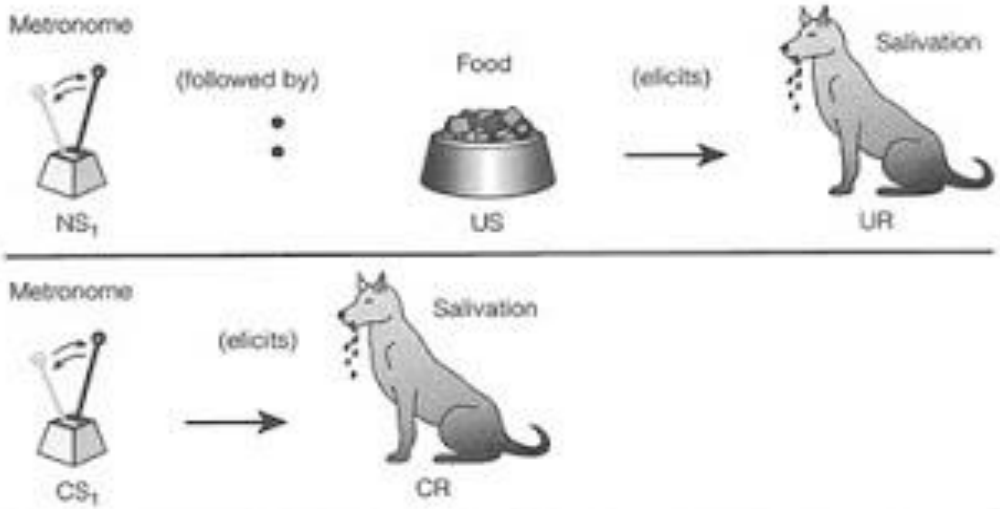
If two stimuli are sufficiently distinguished by the dog, it responds to only one stimulus – which fetches the food

= SALIVA

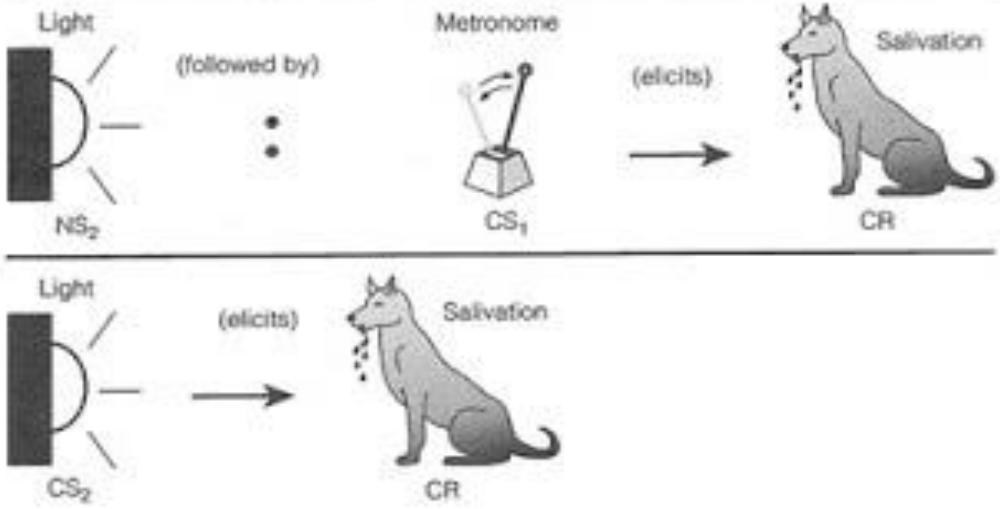
= NO RESPONCE

Law of Higher order Conditioning:

First-order conditioning



Second-order ("higher-order") conditioning




Thank you