

# Classical Conditioning

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Learning → Change in behavior potentiality → from experience.

Conditioning → Condition in which associative learning takes place. → It requires Trial & error

[Conditioning is a type of learning but not all type of learning are conditioning.]

## Pavlov Conditioning / Respondent Conditioning.

1) Form of learning in which a neutral stimuli get the capability to elicit a response through their association with the stimuli that naturally elicit the response

Neutral Stimuli (Bell)

Stimuli (Food) → unconditioned stimulus

Response (Salivation)

2) A type of learning in which a stimulus gets a capacity to produce a response that was originally produce by some other stimulus (Food)

3) A procedure wherein the response that were elicited by one stimulus are also elicited by the substitute stimulus, when it is paired with the original stimulus, by consistently presenting it just prior to the original stimulus over a no. of trials.

→ Before classical conditioning

CS  
(Bell) → No response.

US  
(Food) → Response (salivation)  
(UR)

During Conditioning

CS (Bell) → ~~US~~ <sup>Food</sup> → UR (salivation)

After CC

CS (Bell) → CR (salivation)

Key Phrases

Unconditioned stimulus → A stimulus that can reflexively elicit a response.

UR → A response elicited by an unconditional stimulus.

CS → A stimulus that, after conditioning, is able to elicit a nonreflexive response.

Conditioned Response → A response that after conditioning is elicited by a conditioned stimulus.

CC

P- ②

However it is possible that ~~Cond~~ CR & UR can be different.

↓  
Less Intensive in nature

(ie the amount of Saliva produced is comparatively less than the produced by US)

eg ② ~~Before~~ During Conditioning)

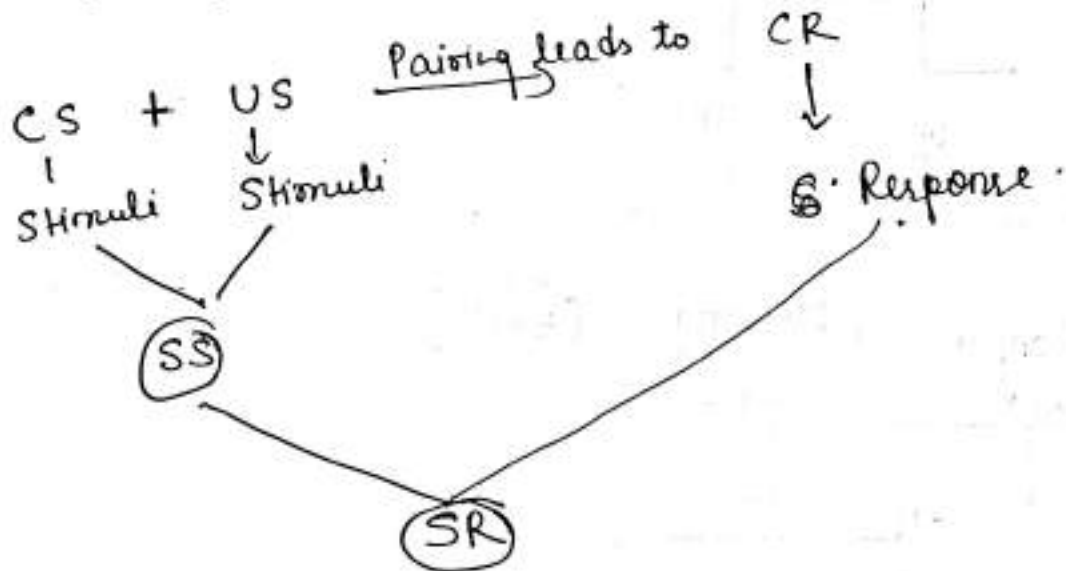
Bell (CS) + Electric Shock (US) → UR (fear)

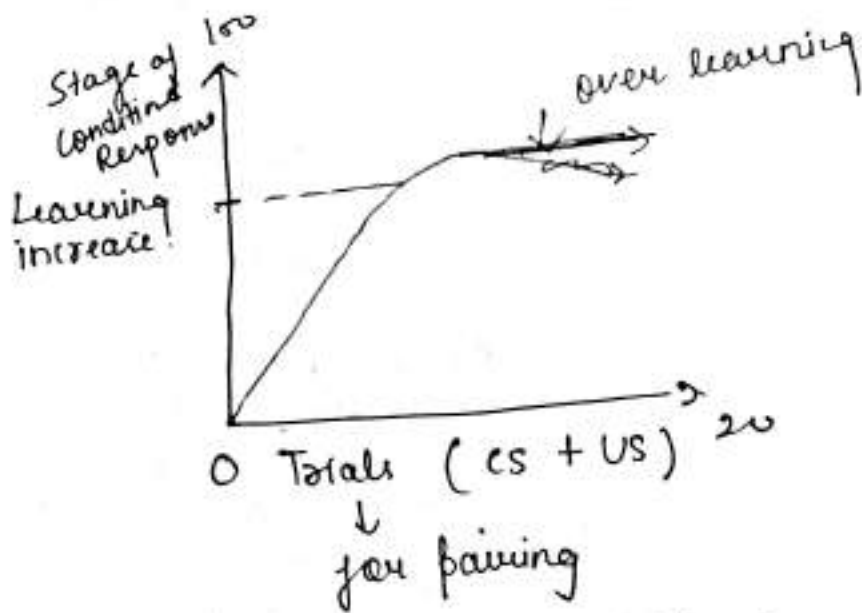
After conditioning:

Bell (CS) & eventually leads Fear (CR)

Ques → Is this SR conditioning or SS conditioning?

Ans → It is SS conditioning that eventually result in CS SR



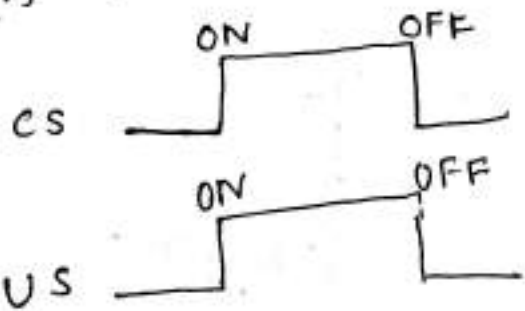


### Factors Influencing Classical Conditioning.

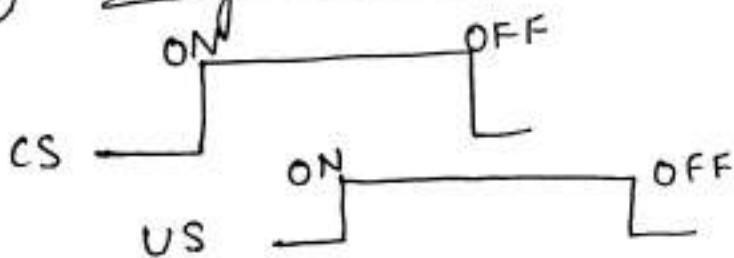
- ① Contiguity → The closer the two stimuli in time & space the stronger is the association blw them. (continuous connection)

2 sub) 4 types of contiguity based on Temporal arrangement (CS, & US pairing) Contingency (Earlier - 1960's)

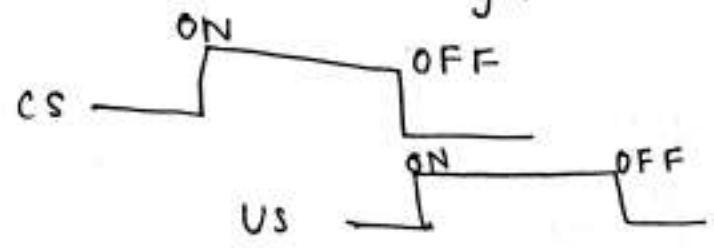
(1) Simultaneous Conditioning = come together and leave together



② Delayed Conditioning (Best)

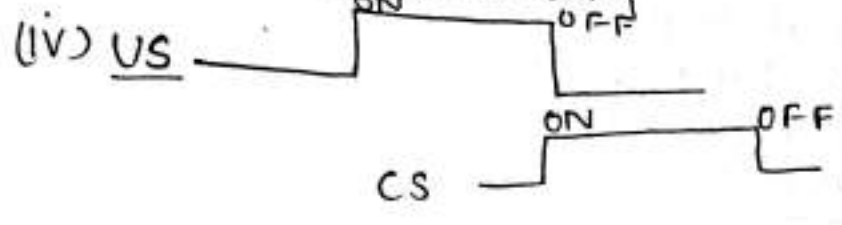


(iii) TRACE Conditioning.



Conditioning occurs because of the traces available in the neural system.

Backward Conditioning



No learning because no motivation to hear the bell because the food is given prior.

Delayed (Best) → Trace → Simultaneously → Backward

Until 1960 most believed that CC occurs because of CS and the UCS were presented in Succession

However in late 1960's Robert Rescorla performed some brilliant experiments that suggested CC was a matter of learning signals for the UCS. To the extent that the CS is a good signal and that it has informational value, or is a good predictor of UCS, the CS and UCS will become associated & CC will occur. His approach is sometimes called a Contingency explanation of CC.

↓  
So it is the 2nd factor.

Contiguity (contiguous) VLS  
 ↓  
 CS co-occur with US, they are contiguous or close together, in space and time.

Contingency (contingent) in conditioning  
 ↓  
 the CS predicts the US: the occurrence of the US is contingent on the prior occurrence of the CS

- \* Conditioning is best when the CS and US are both contiguous and contingent.  
 eg In the standard paradigm, where CS predict US will occur shortly.
- \* Conditioning is also good when the CS & US are contingent (predict) but not contiguous  
 eg As in delay and trace conditioning, where the CS predicts that the US will occur after some delay.
- \* Cond<sup>ns</sup> is poor when the CS and US are contiguous but not contingent →  
 eg Simultaneous conditioning, where the CS cannot predict the US, becoz the two stimuli occur simultaneously.
- \* Conditioning is actually inhibited in backwards conditioning, where the CS occurs close in time to US, but the CS actually predicts the absence of the US.

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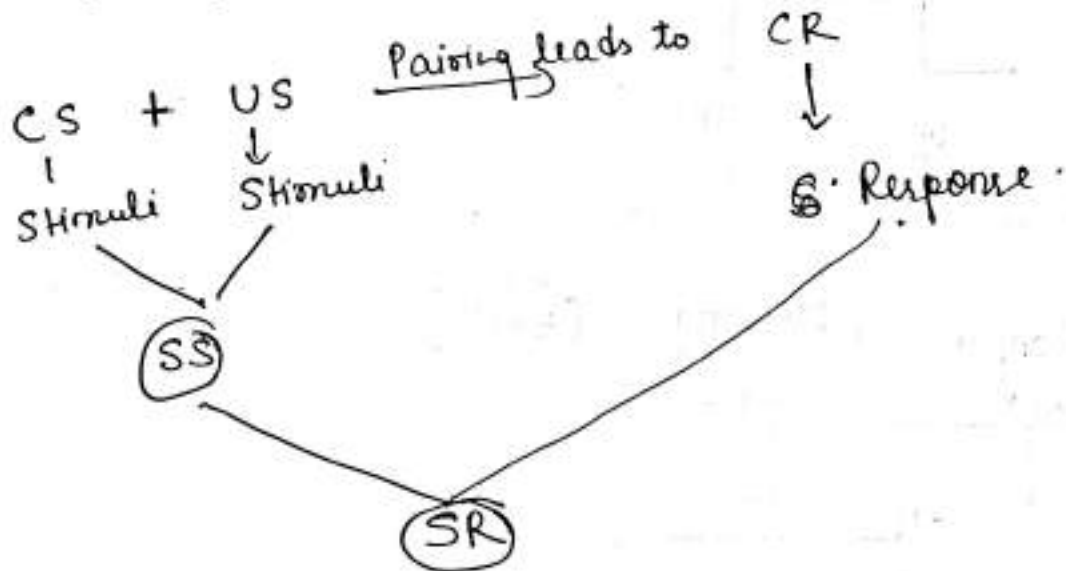
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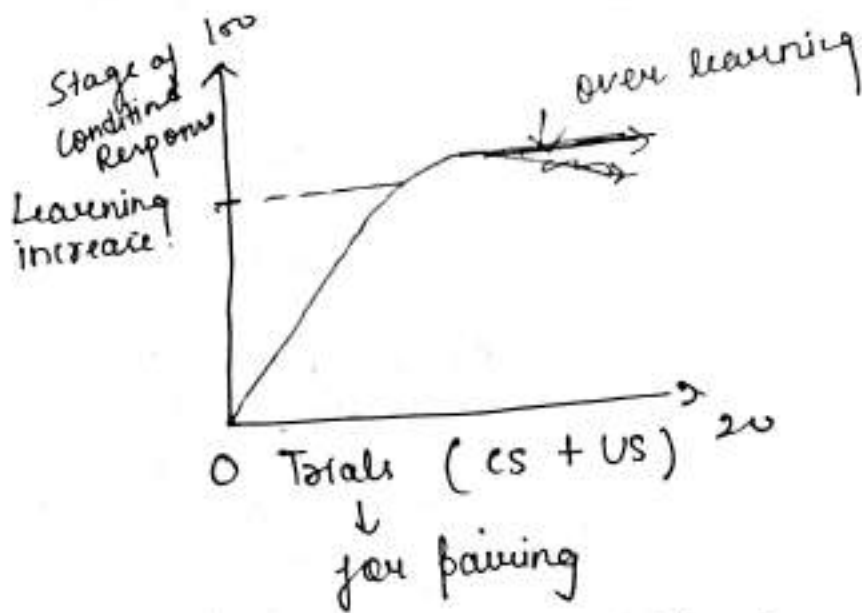
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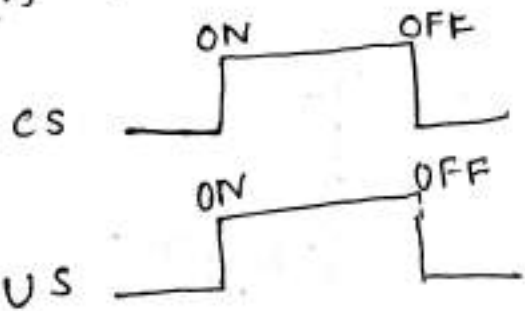


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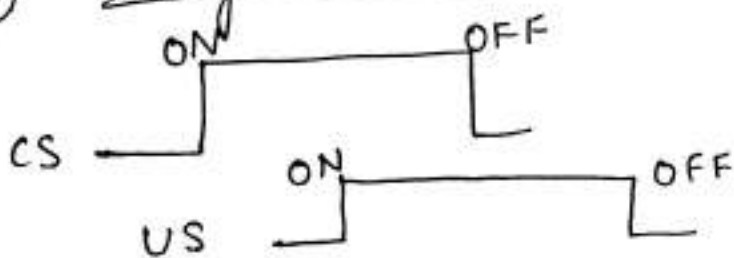
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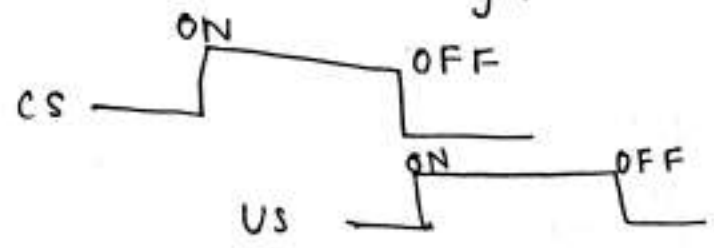
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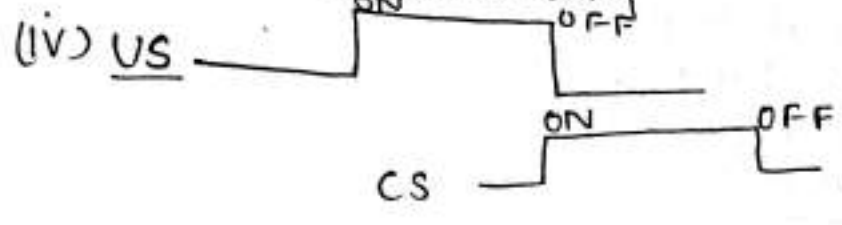


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