

UNIT III • PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

Classical Conditioning

Ivan Pavlov's Theory of Learning by Association

Presented by

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Where We Left Off

Thorndike's Connectionism

- Learning through trial and error
- Law of Effect, Law of Exercise, Law of Readiness
- Focus: strengthening Stimulus–Response bonds through consequences

Today's Shift

From **learning by consequence**
(Thorndike)

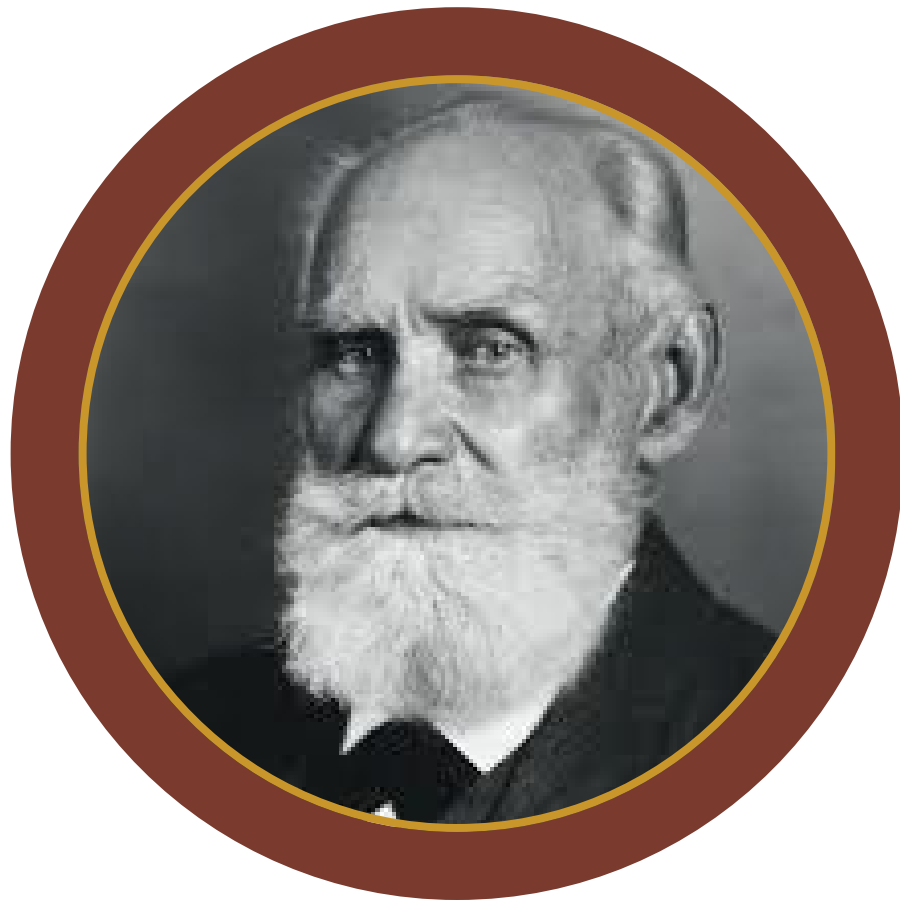
to

learning by association (Pavlov)

Let's meet the man who discovered it — almost by accident.

● BACKGROUND

Who Was Ivan Pavlov?



Russian Physiologist

- Russian physiologist, physician and scientist (1849–1936)
- Awarded the Nobel Prize in 1904 — for his research on digestion, not psychology!
- Originally studied the digestive secretions of dogs using surgically implanted tubes
- Noticed dogs salivated before food even appeared — a “psychic reflex”
- This accidental discovery became Classical Conditioning and helped found Behaviorism

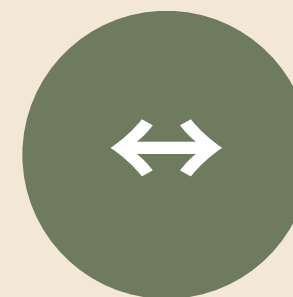
● THE CORE IDEA

What Is Classical Conditioning?

A type of learning in which a neutral stimulus, through repeated pairing with a stimulus that already produces a response, comes to trigger that same response on its own.



Also called Pavlovian Conditioning or Respondent Conditioning



Learning happens through association between two stimuli — not through reward for a behaviour

Key Terms You Need to Know

NS	Neutral Stimulus	Produces no relevant response by itself	<i>Bell sound</i>
UCS	Unconditioned Stimulus	Naturally & automatically triggers a response	<i>Food</i>
UCR	Unconditioned Response	Natural, unlearned reaction to the UCS	<i>Salivation to food</i>
CS	Conditioned Stimulus	Former NS that now triggers the response	<i>Bell (after training)</i>
CR	Conditioned Response	Learned reaction to the conditioned stimulus	<i>Salivation to bell</i>

● THE LANDMARK STUDY

The Famous Dog Experiment

- Conducted in Pavlov's laboratory in the early 1900s
- Dogs were harnessed, and a tube was attached to measure saliva
- A bell (or metronome/buzzer) was sounded just before food was presented
- Goal: originally to study the salivary reflex triggered by food
- Pavlov noticed something unexpected — dogs began salivating at the mere sound of footsteps, before food ever appeared

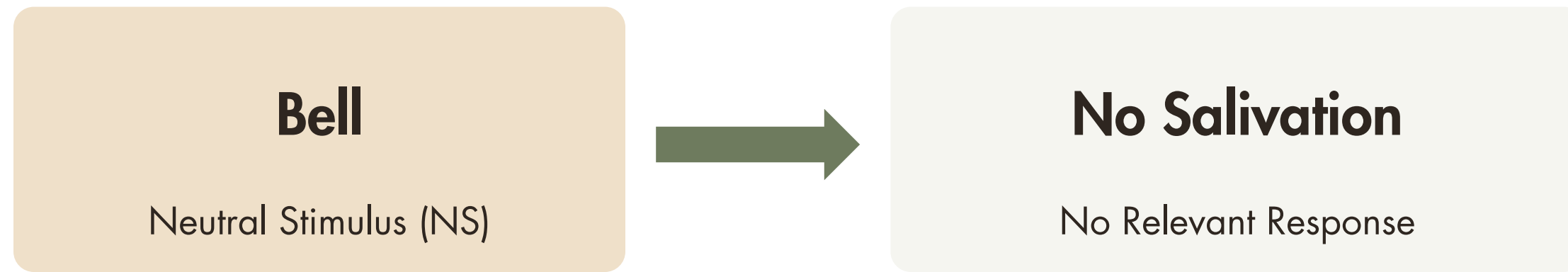


An accidental discovery in a digestion lab became one of psychology's most important theories of learning.

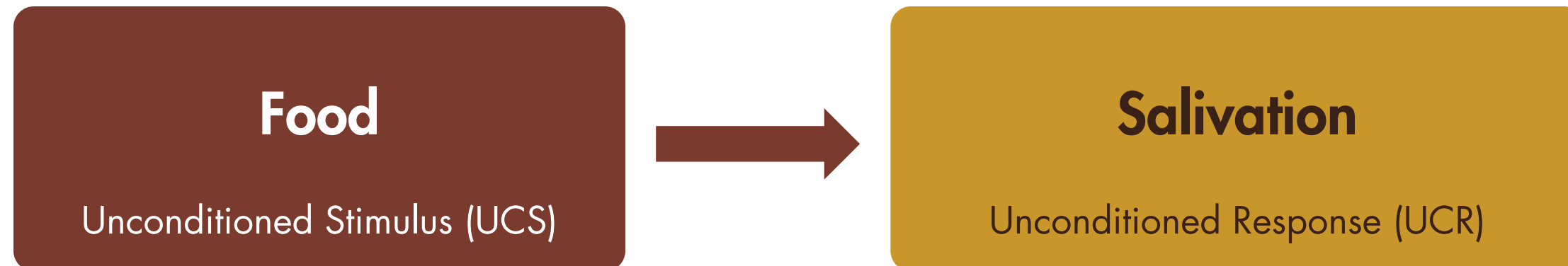
● STAGE 1

Before Conditioning

Row A



Row B

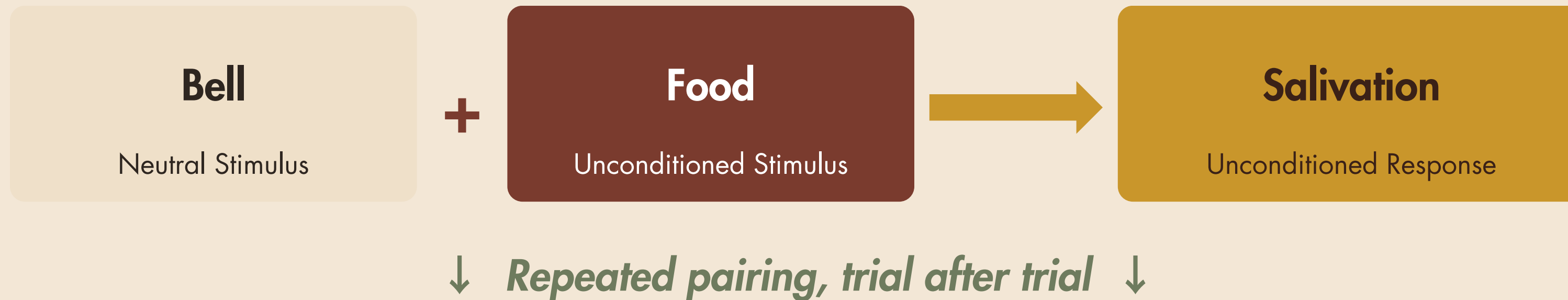


The bell means nothing to the dog yet.

Food alone naturally causes salivation — this is a built-in, unlearned reflex.

● STAGE 2

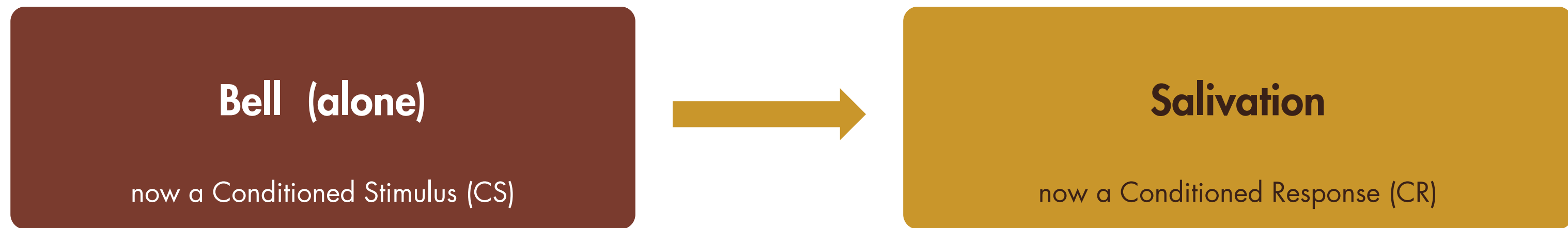
During Conditioning



The bell is sounded just before food is presented — again and again. Over many trials, the dog begins to link the two events together in its mind.

● STAGE 3

After Conditioning



The dog has learned. The bell — once neutral — now triggers salivation entirely on its own, even without food present. Learning has occurred through pure association.



THINK ABOUT IT

Can you think of a sound or smell that makes you feel hungry
— even when no food is around?



● DEEPER INTO THE THEORY

● **Acquisition** The initial stage — forming the CS–CR link through pairing

● **Extinction** The CR weakens and fades when the CS is repeatedly shown without the UCS

● **Spontaneous Recovery** A weakened CR can reappear suddenly after a period of rest

● **Stimulus Generalization** Responding in the same way to stimuli that resemble the CS

● **Stimulus Discrimination** Learning to respond only to the specific CS, not similar ones

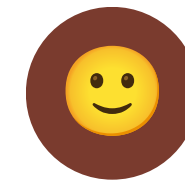
● WHY THIS MATTERS TO TEACHERS

Educational Implications



Classroom as a Stimulus

A pleasant or unpleasant classroom environment becomes associated with the subject itself, shaping the learner's attitude toward it



First Impressions Count

A teacher's warmth and friendliness in early lessons can condition positive feelings toward that subject for years to come



Fear Conditioning

Harsh scolding or punishment can create lasting anxiety linked to a subject, teacher, or even the school itself



Pairing With Positive Stimuli

Praise and rewards paired consistently with learning tasks build positive associations that boost engagement



Habit Formation

Discipline, punctuality, and classroom routines can be built through consistent, repeated association



Boosting Motivation

Pairing dull or difficult tasks with enjoyable stimuli increases learner interest and effort



Generalization of Attitudes

A positive attitude toward one subject or teacher can transfer to similar subjects or situations



Reducing Fear (Extinction)

Removing negative pairings gradually can reduce learned fears — the basis of systematic desensitization

QUICK REFLECTION

Have you ever developed a positive or negative feeling toward a subject because of a teacher's behaviour?

How does that experience connect with what we just learned about classical conditioning?



Pavlov vs Thorndike: A Quick Comparison

Pavlov — Classical Conditioning

- Response is involuntary / reflexive
- Learning = stimulus–stimulus association
- The response already exists; a new stimulus comes to trigger it
- Passive learner

Thorndike — Connectionism

- Response is voluntary / active behaviour
- Learning = stimulus–response bond via consequence
- New behaviour is discovered through trial and error
- Active learner

Criticism of Classical Conditioning

- Overemphasizes involuntary, reflexive behaviour — ignores voluntary and complex human learning
- Based largely on animal experiments — limited direct generalizability to humans
- Ignores cognitive processes such as thinking, reasoning, and insight
- Cannot fully explain creative, novel, or purposeful human behaviour
- Reduces the rich process of learning to a mechanical stimulus–response link



A theory can be groundbreaking and still incomplete.

Pavlov gave us a powerful lens
— but not the whole picture of
human learning.

● BRINGING IT TOGETHER

Conclusion

- Pavlov showed that emotions and attitudes can be "learned" through simple association
- His work became a foundation stone of Behaviorism in psychology
- For teachers: every classroom experience can shape lifelong attitudes toward learning

“Every bell, tone, and classroom moment can become a Conditioned Stimulus in a learner's mind.”

Thank You



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