

Introduction of Psychology

Tutorial 5 Learning and Behaviour



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Schedule

1. Associative learning
 - classical conditioning
 - operant conditioning
2. Types of reinforcement and punishment
 - positive vs negative, reinforcement vs punishment
3. Reinforcement schedule
 - fixed vs variable, ratio vs interval
4. In-class group exercise

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Learning Defined

- relatively permanent change in an behavior due to experience
- e.g. social, work, emotion

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Associative Learning

- Learning that two events occur together
- either two stimuli
 - or a response and its consequences

Two Kinds of Associative Learning

1. Classical Conditioning
2. Operant Conditioning

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Classical Conditioning

Two related events:

Stimulus 1
Lightning



Stimulus 2
Thunder

We learn to associate two stimuli

Result after repetition

Stimulus
We see lightning



Response
We will anticipating thunder

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Operant Conditioning

Event 1

Event 2



Seal learns to expect a snack for its show-off behavior

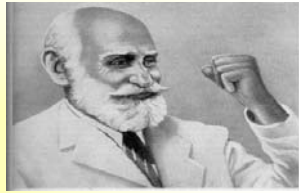
Learning to associate two events

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Classical or Pavlovian Conditioning

Ivan Pavlov

- 1849-1936
- Russian physician / neurophysiologist
- studied digestive secretions
- invented Classical Conditioning



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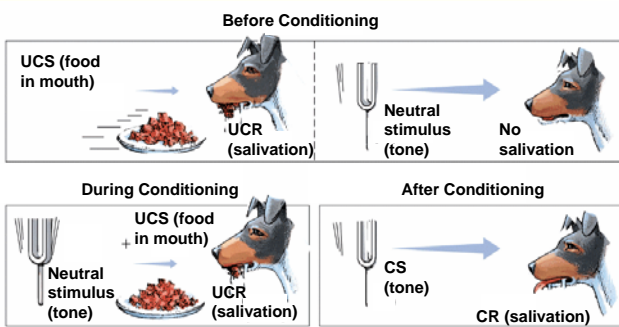
Classical or Pavlovian Conditioning



Pavlov's device for recording salivation

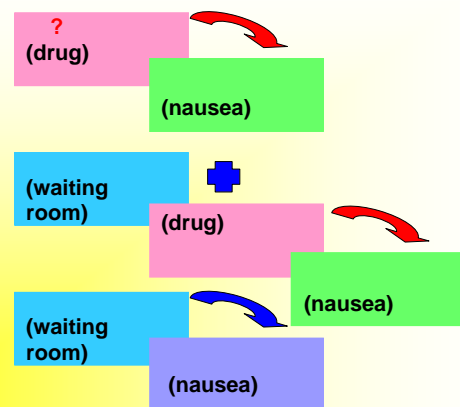
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Pavlov's Classic Experiment



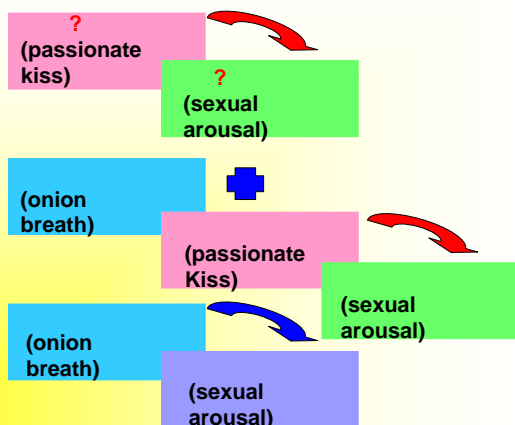
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Nausea Conditioning among Cancer Patients



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Classical or Pavlovian Conditioning



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Classical or Pavlovian Conditioning

1. Unconditioned Stimulus (UCS)

- stimulus that automatically triggers a response

2. Unconditioned Response (UCR)

- unlearned, automatic response to the unconditioned stimulus

- salivation when food is in the mouth

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Classical or Pavlovian Conditioning

1. Conditioned Stimulus (CS)

- an originally neutral stimulus that becomes associated with an UCS and therefore triggers a conditioned response

2. Conditioned Response (CR)

- learned response to a previously neutral conditioned stimulus

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Classical or Pavlovian Conditioning

1. Acquisition

- the initial stage of learning, during which a response is established and gradually strengthened (smoking, drug, video game, gambling, hen phobia)

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Classical or Pavlovian Conditioning

2. Extinction

- diminishing a conditioned response
- occurs when an unconditioned stimulus does not follow a conditioned stimulus

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Classical or Pavlovian Conditioning

3. Spontaneous recovery

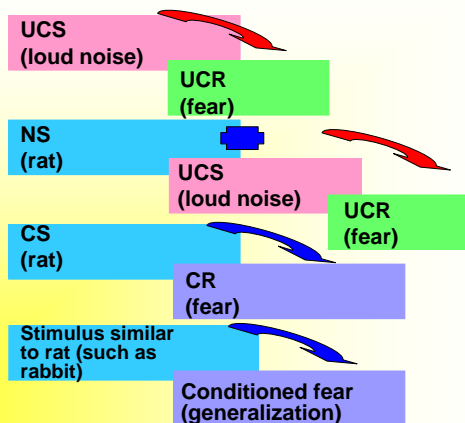
- reappearance, after a rest period, of an extinguished conditioned response

4. Generalization

- tendency for stimuli similar to the conditioned stimulus to evoke similar responses

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Little Albert's Fear Conditioning



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Operant Conditioning

Behavior (???) → Consequence (???)

Application:

「操作過程 (operant procedure) 對兒童及青少年來說是有有效的治療策略，包括社會增強 (social reinforcement)、活動增強 (activities as reinforcement)、代幣增強 (token reinforcement)、團體偶發事件、物質增強 (material reinforcement)

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Types of Reinforcement and Punishment		
Type	Definition	Effect
Positive reinforcement	Delivery of a <u>pleasant stimulus</u> that follows a behavioral response	↑ the behavior
Negative reinforcement	Removal of an <u>unpleasant stimulus</u> after a behavioral response	↑ the behavior
Positive Punishment	Presentation of an <u>unpleasant stimulus</u> after a behavioral response	↓ the behavior
Negative Punishment	Removal of an <u>unpleasant stimulus</u> after a behavioral response	↓ the behavior

Activity- 4 kinds of reinforcement

Determine which kind of reinforcement or punishment is exercised to the following behaviour?

組員每節出席小組活動皆可獲發3張貼紙(____)。唯每次違反小組守則或破壞小組秩序，則會收到1個口頭警告(____)，並記錄在黑板上，當收到3個警告後，則該節最多只能取得1張貼紙(____)。若組員再次積極投入參與小組活動，幫助組員，就能減去黑板上的1個警告(____)。

Operant Conditioning— Schedules of Reinforcement



1. Fixed ratio schedule
2. Variable ratio schedule
3. Fixed interval schedule
4. Variable interval schedule

Activity - 4 kinds of reinforcement schedules

Determine which kind of reinforcement schedules is applied to the following behaviors?

1. Every month, I shall give \$500 pocket money to my grandma.
2. Every time I pay visit to my grandma, I shall give her \$500.
3. Depending on my financial situation, I shall give my grandma sometimes \$500, \$800, \$1000 or nothing at every visits.
4. A company issues bonus to her employees irregularly across the last financial year.

In-class group assignment

1. The aim of the assignment is to encourage you to **apply** what you have learnt in the lecture to your **daily life**.
2. Try to think of examples in your daily life to explain the following concepts / theories. Do **not** use the examples **quoted** in the **lecture** or **tutorial**. You can illustrate your examples by using **figures** and **text** description.



The end