

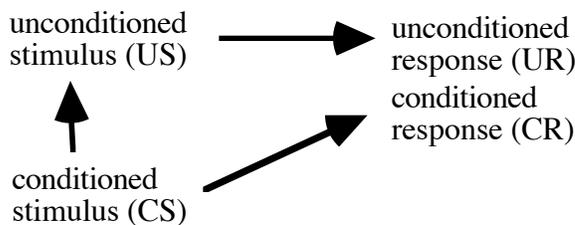
Lecture Three: Association Learning and Behaviorism

The abstract: In this lecture, I will make four main points.

- 1) Classical conditioning (learning of stimulus-stimulus associations) is a very rule-governed phenomenon.
- 2) Operant (or instrumental) conditioning (learning the consequences of your actions) has many fundamental similarities with classical conditioning.
- 3) Association learning exerts an important influence on human as well as animal behavior.
- 4) However, Behaviorism, the effort to build a complete psychology out of association learning, went too far and is an interesting and important failure.

The outline:

POINT 1: CLASSICAL (PAVLOVIAN) CONDITIONING



What is being learned here?

A word about consciousness

Several words about constraints on learning

1. What is a stimulus? This sounds trivial but isn't.
2. **Overshadowing** shows that you need to notice the stimulus - stimulus connection: What is the paradigm?
3. **Contingency**: Relationships must be predictive. Mere contiguity is not enough,

3.5 **Extinction** (of a response, not the organism):
Why is extinction a subhead under contingency?

4. **Preparedness** shows that we are not just general purpose association learners.
5. **Timing** is critical - specifically, the CS->US interval.
6. **Sensory Pre-conditioning** points the way to more complex learning.

POINT 2: OPERANT CONDITIONING

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Remember the cat in the puzzle box?

Let's do this again with a pigeon (rats are good, too)

Lecture 3 - Learning

We use the **Law of Effect** to **shape** the animal.

Now we can use reinforcement to control the *behavior of the organism*
"The Behavior of Organisms" B F Skinner (1938)

In fact, contingencies of reinforcement rule the pigeon's behavior
"Contingencies of Reinforcement" B F Skinner (1969)

You should be able to describe the effects of
Fixed and Variable Ratio (FR, VR) schedules of reinforcement
and **Fixed and Variable Interval (FI, BI)** schedules of reinforcement

Extinction in operant conditioning

POINT 3: YOU ARE A SLAVE TO THESE RULES, TOO.

Example 1: Food aversion

Garcia, J., & Koelling, R. A. (1966). Relation of cue to consequence in avoidance learning. *Psychonomic Science*, 20, 313-314.

Example 2: Superstitious Behavior

Example 3: Parents and Children - who is conditioning whom?
Extinction & schedules of reinforcement revisited

Example 4: "Getting to yes"
schedules of reinforcement in sexual behavior

POINT 4: BEHAVIORISM

John Watson: "founder" of Behaviorism

"I believe that we can write a Psychology; define it as...the science of behavior... and never go back upon our definition: never use the terms consciousness, mental states, mind, content, introspectively verifiable, imagery, and the like... It can be done in terms of habit formation, habit integration, and the like." {Psych Rev., 1913, 20, 158-77}

A sketch of radical (Watsonian?) behaviorism.

1. RULES
2. AUTOMATIC RULES (and a note about consciousness)
3. ENVIRONMENTALLY-DRIVEN RULES
4. GENERAL RULES - Of course, there are some biological constraints but...

Today, **Evolutionary Psychology** begs to differ

Why aren't we all Behaviorists?