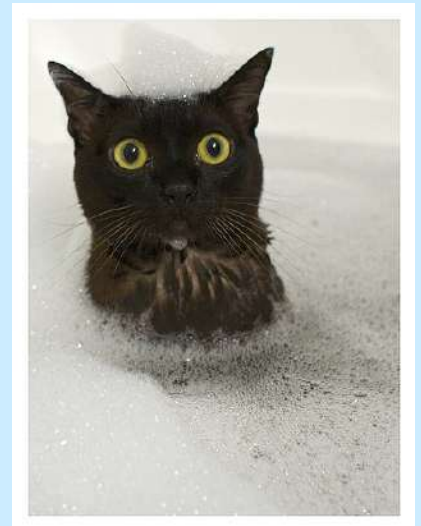


## *Identify UCS, UCR, CS, CR*

**W** Cancer patients who suffer nausea and vomiting after chemotherapy often develop classically conditioned nausea to stimuli associated with taking the drug. After four or five clinic visits, they may react to its sight, sound, and smell with anxiety and nausea.

# *Identify UCS, UCR, CS, CR*

**W** As a child you were playing in the backyard when the neighbor's cat wandered over. Your mother screamed and snatched you into her arms. Her behavior caused you to cry. You now have a fear of cats.



# *Identify the parts of CC*

**w** The first time Joe went to the casino he won a jackpot and was very excited and happy. He won again the next time he went. He has since lost all the money and is gambling more than he can afford to lose.



# Chapter Intro. Warm-up...

## Remember way back in Chapter 1....Which School of Psychology?

1. Are people aggressive because they have an esteem problem?

### Answers

2. What thoughts lead up to episodes of aggression?

If these thoughts are changed will the behavior change?

1. Humanistic

3. Is being overly aggressive a disease? What role does heredity play?

How does it affect the brain?

2. Cognitive

3. Biological

4. Is aggression learned? Can new habits replace aggressive habits?

4. Behavioral

5. Is extreme aggression an indication of some deeper problem or conflict in the unconscious?

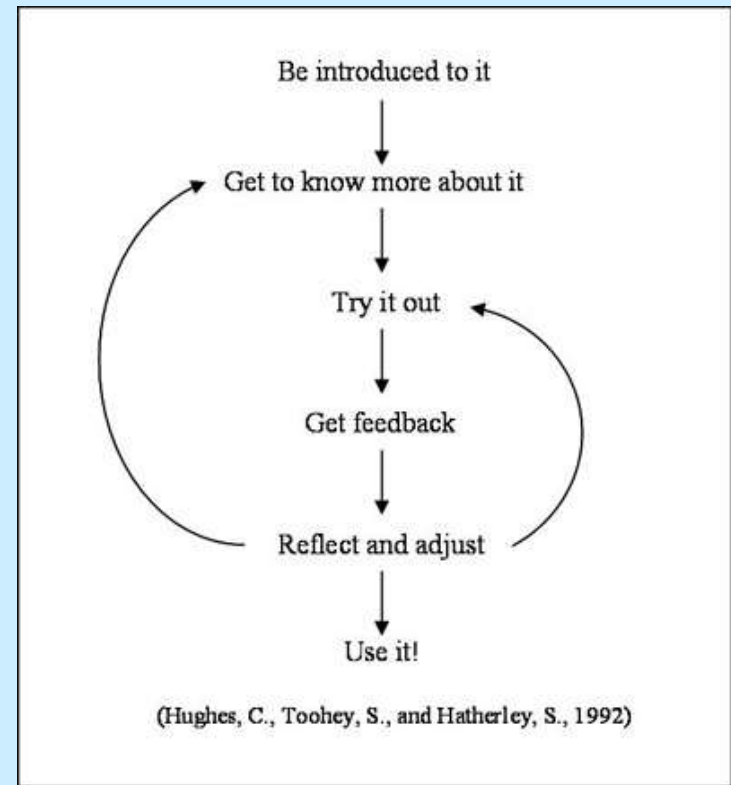
5. Psychoanalytic

In this chapter, we will be talking about learning. Learning is defined as a long lasting change in behavior resulting from experience.

Although learning is not the same as behavior, most psychologists accept that learning can best be measure through changes in behavior

# *Warm-up*

- W** Write a paragraph describing something you learned to do and how you learned it.
- W** Give specifics in your description; stay away from generalizations.



# *Chapter 6: Learning*

Chapter Question: Is generosity, prejudice & everything in between innate or learned?

## **Chapter Breakdown**

### **Classical Conditioning**

(Pavlov & Watson)

### **Operant Conditioning**

(Thorndike & Skinner)

### **Cognitive-Social Learning**

(Insight, Latent, Observational Learning, Scaffolding)

### **The Biology of Learning**

(Neuroscience & Evolution in Learning)

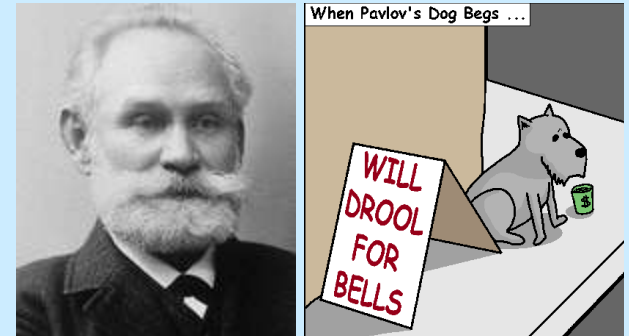
### **Using Conditioning and Learning Principles**

# Classical Conditioning

**W** Definition: A type of learning that occurs when an association is made between a meaningful stimulus & a non-meaningful stimulus

**W** Ivan Pavlov (1903 Pavlovian Conditioning)

- Russian physiologist/digestion in dogs

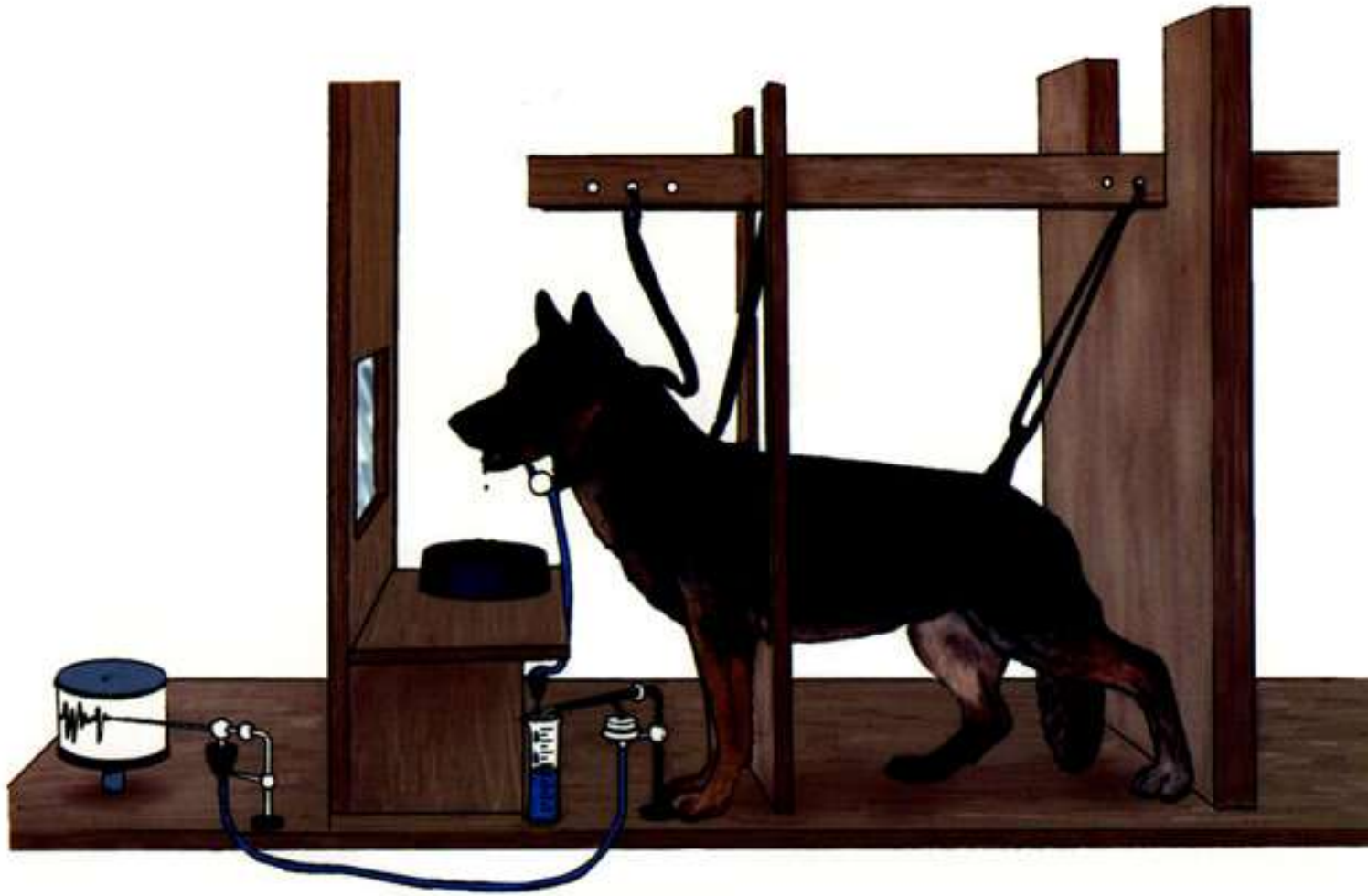


**W** John Watson (1925)

- Little Albert

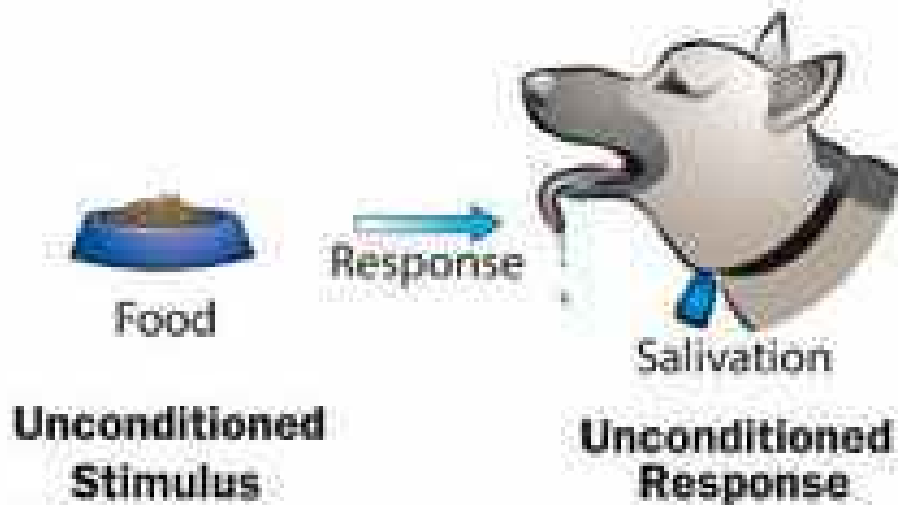


## Classical conditioning apparatus





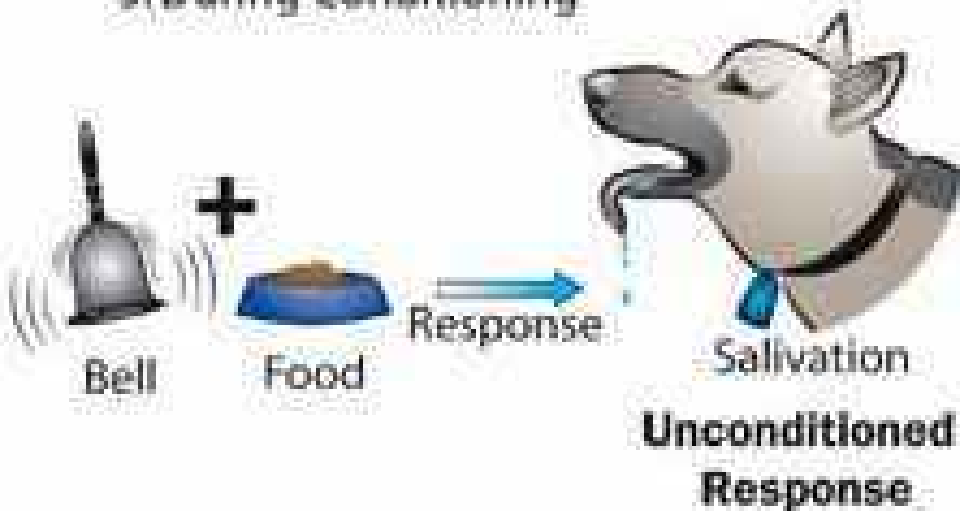
1. Before Conditioning



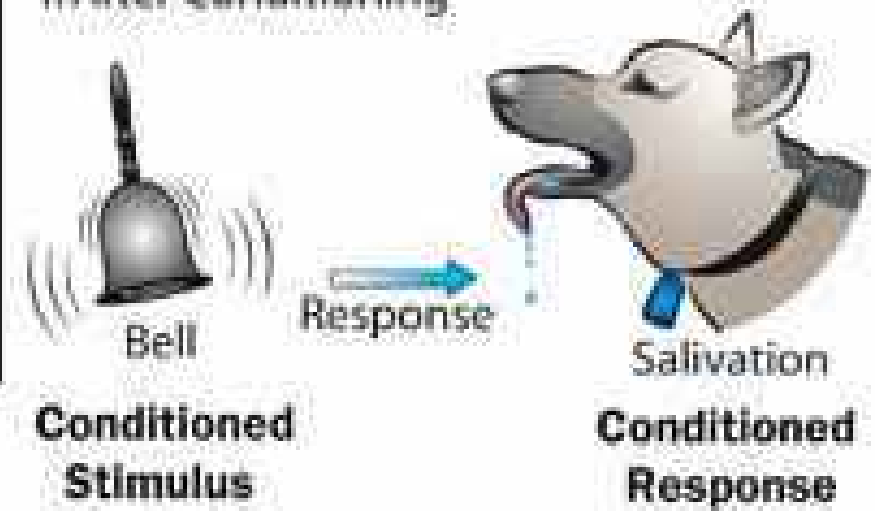
2. Before Conditioning



3. During Conditioning

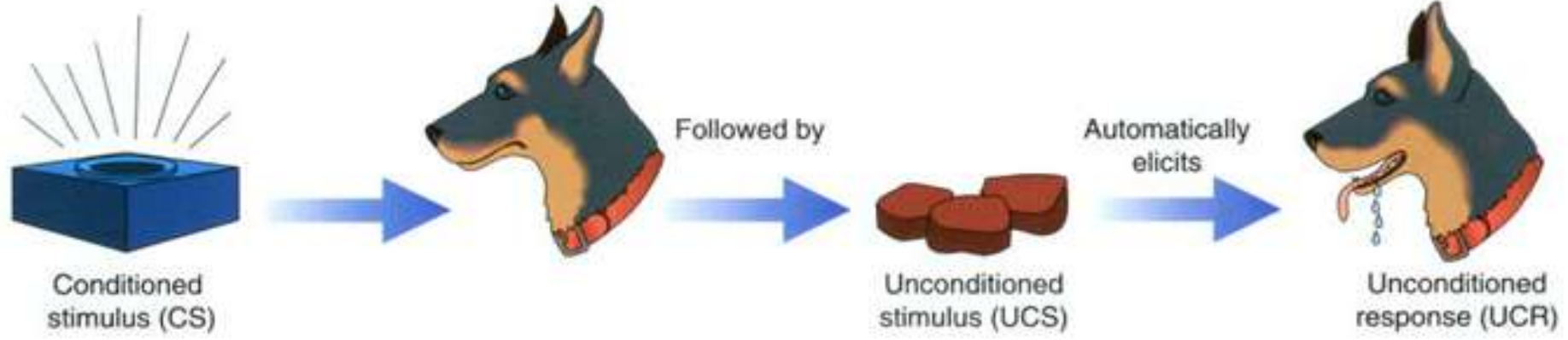


4. After Conditioning

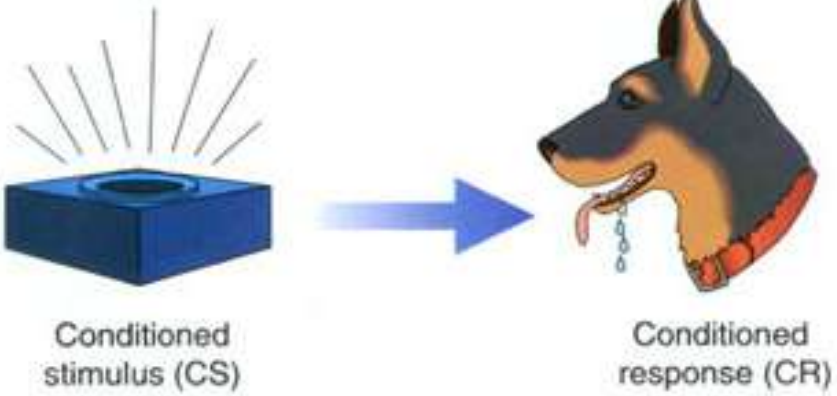


# Classical conditioning

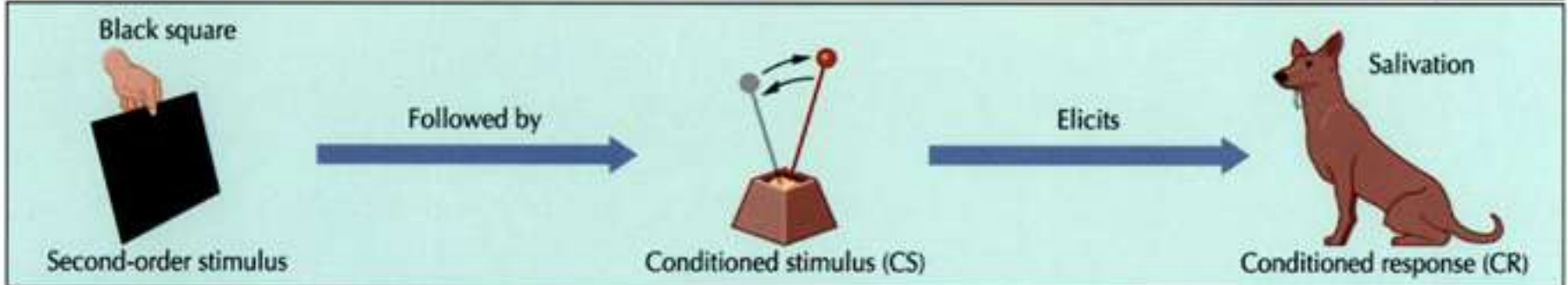
At first,



After some number of repetitions,



# Second-order conditioning



# *Terminology*

- w Unconditioned Stimulus (UCS):** Stimulus that evokes an unconditioned response (automatic)
- w Conditioned Stimulus (CS):** Previously neutral stimulus that has, through conditioning, acquired the capacity to evoke a conditioned response
- w Unconditioned Response (UCR):** Unlearned reaction to an unconditioned stimulus that occurs without previous conditioning
- w Conditioned Response (CR):** Learned reaction to a conditioned stimulus that occurs because of previous conditioning

# *Procedures in Classical Conditioning*

## **W** Conditioning or Acquisition

- Presenting the CS and the UCS together

## **W** Testing and Extinction

- Presenting the CS alone

# *Processes in Classical Conditioning*

- w Acquisition:** initial stage of learning (Pairing CS and UCS)
- w Extinction:** the gradual weakening and disappearance of a conditioned response tendency  
CS repeatedly presented without UCS
- w Spontaneous Recovery:** a reappearance of an extinguished response after a period of nonexposure to the conditioned stimulus
- w Stimulus Generalization:** a similar CS makes a CR
  - Classic Study: “Little Albert”
- w Stimulus Discrimination:** no CR with a similar CS

# Idealized Curve of Acquisition, Extinction, and Spont. Recovery Curve

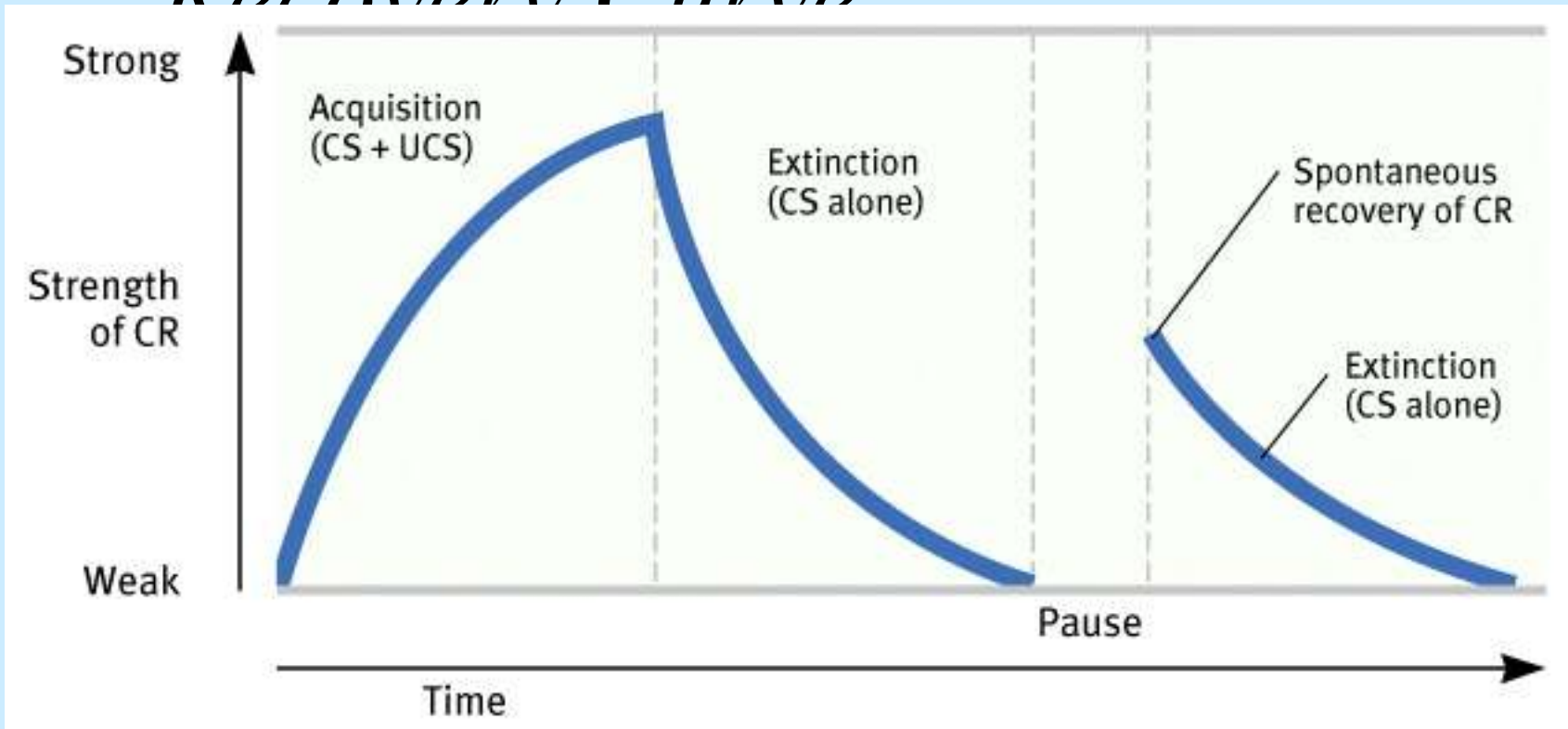
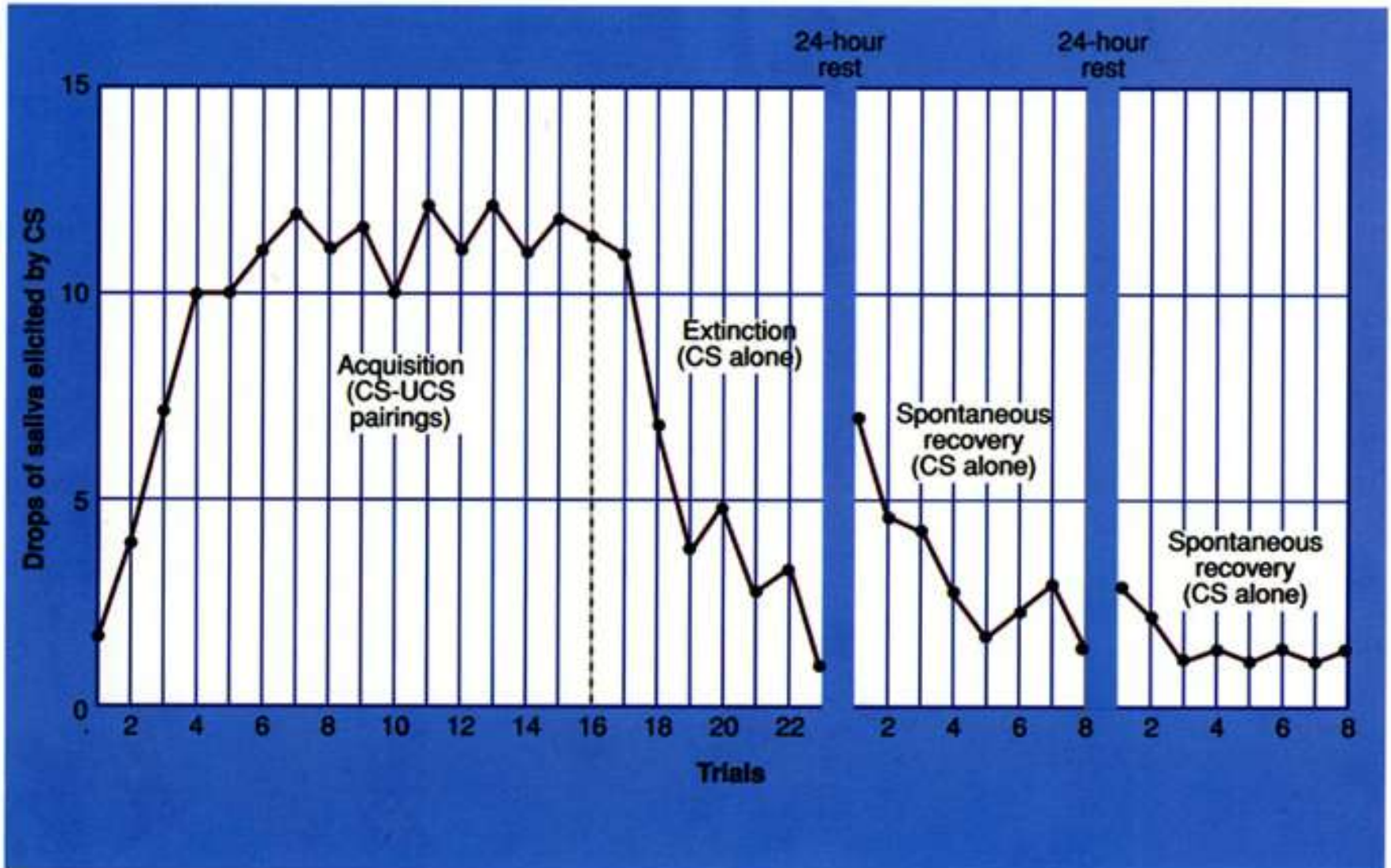


Figure 6.8 page 223

### Acquisition, extinction, and spontaneous recovery





# *Applications of Classical Conditioning*

**W** Fears

**W** Addictions

**W** Advertising

- Pairing good looking models with products
- Music and product

**W** Aversion Therapy

- Taste Aversion
- Antabuse/Alcoholism

MCI, security, raise hand

# Operant Conditioning



## W Thorndike's Law of Effect

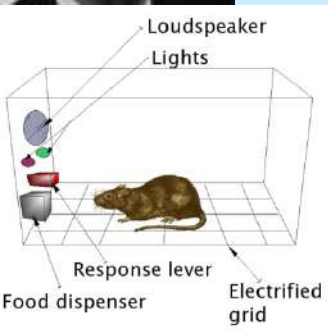
Behavior preceding positive reinforcement increases

Behavior preceding punishment or no reinforcement decreases

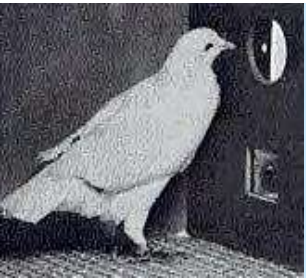
- **Puzzle Box**



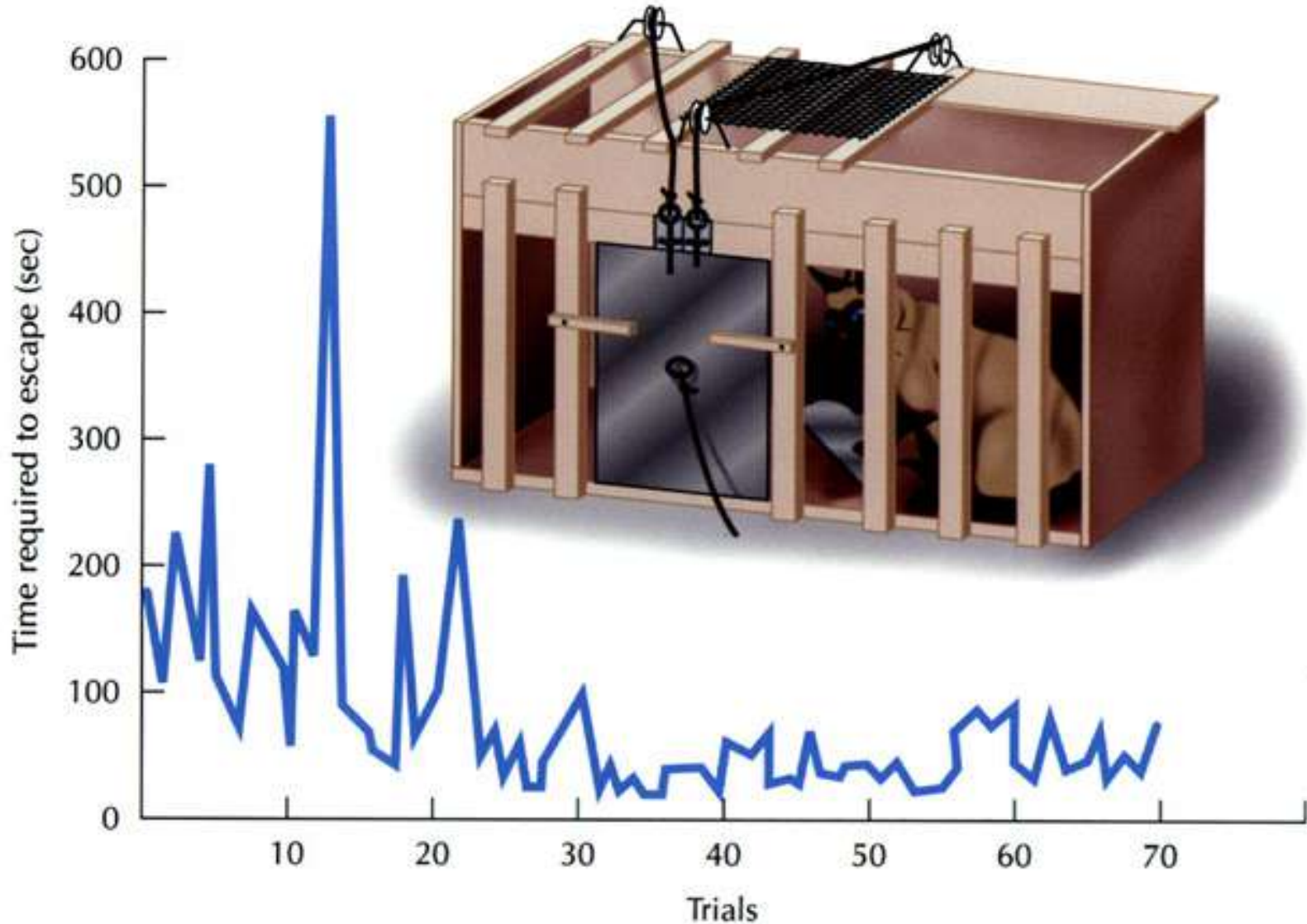
## W Skinner



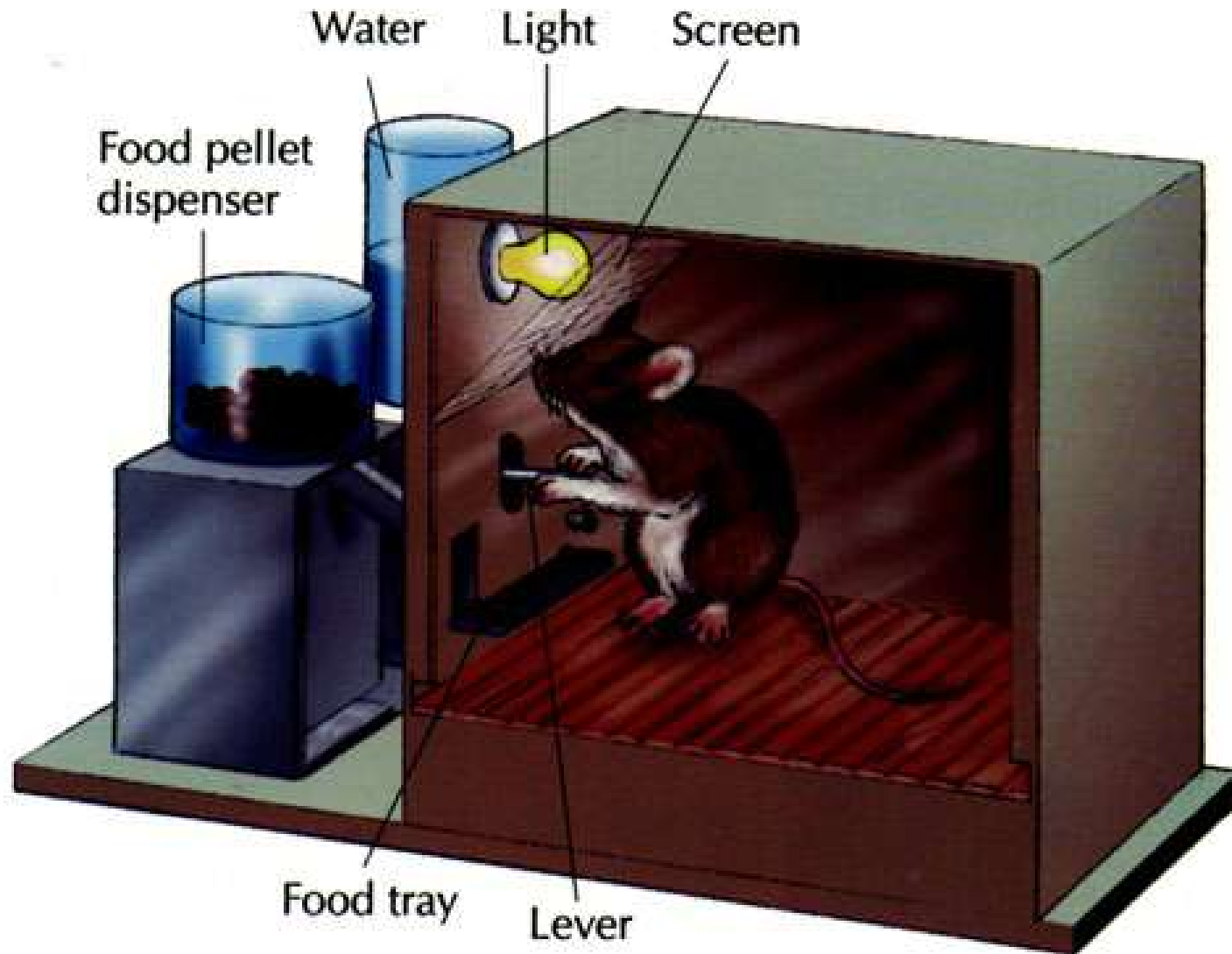
- **Skinner Box**
- **ABC-** antecedent, behavior, consequence
- **Shaping:** Reinforcing small steps toward more complex behavior
- **Discriminative Stimulus:** signals availability of reinforcement or punishment (light, sound, parent)



## Thorndike's experiment on instrumental conditioning



## The Skinner box



# *Terminology and Consequences*

## **W Reinforcement: consequences that strengthen responses**

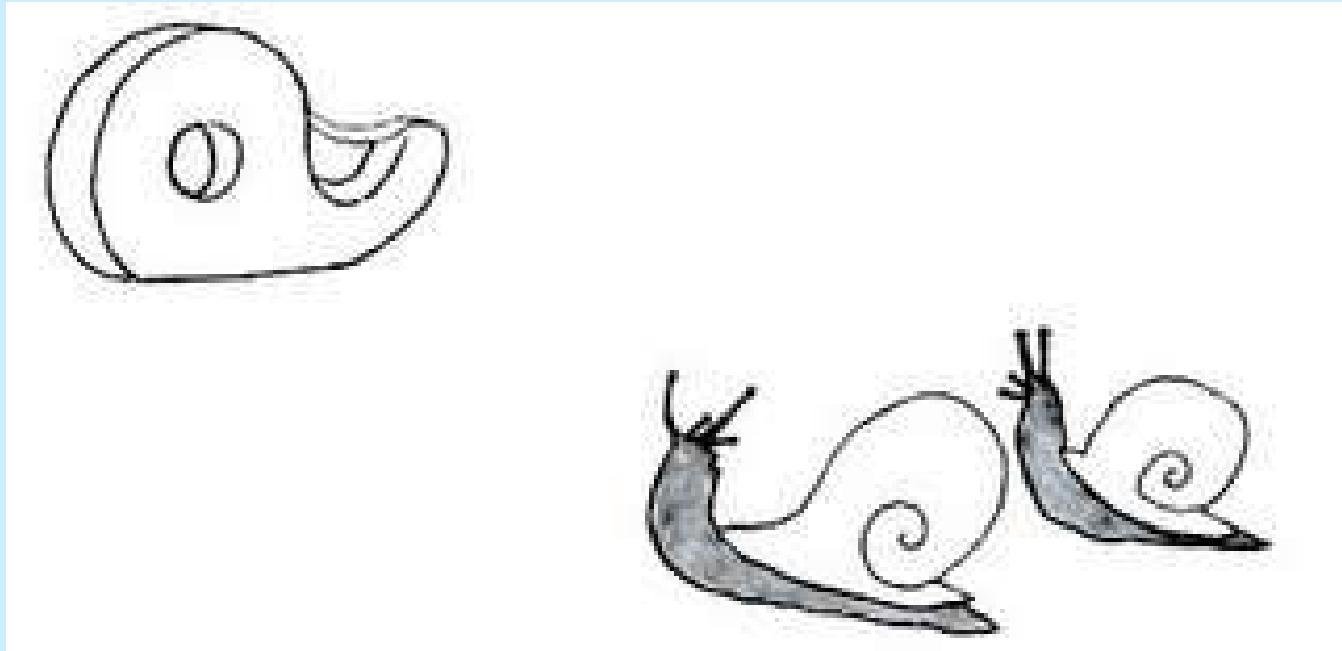
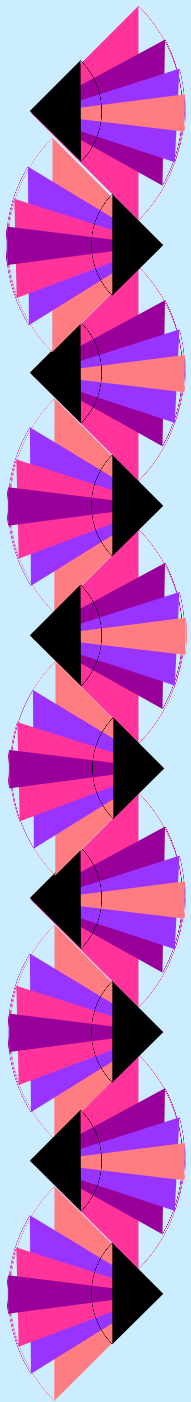
- Positive Reinforcement: A response is strengthened because it is followed by the presentation of a rewarding stimulus
- Negative Reinforcement: A response is strengthened because it is followed by the removal of an aversive stimulus (buzzer for seat belt)
- Conditioned Reinforcement
  - *Primary Reinforcers*: Inherently reinforcing satisfy biological needs (food, water, shelter)
  - *Secondary Reinforcers*: Acquire reinforcing qualities by being associated with primary reinforcers (money, stickers, praise)

# *Punishment*

- w Positive Punishment:** Occurs when an aversive stimulus follows a response and decreases the tendency to make that response
- w Negative Punishment (omission):** Taking away something of value (grounding, no car, no scholarship)

# *Processes in Operant Conditioning*

- w Acquisition:** Initial stages of learning through reinforcement
- w Extinction:** The gradual weakening and disappearance of a response tendency because the response is no longer followed by a reinforcer
- w Generalization:** When responding increases in the presence of new stimuli that resembles the original discriminative stimulus
- w Discrimination:** When responding does not increase in the presence of a new stimulus that resembles the original discriminative stimulus



*“I do not care if she is a tape dispenser. I love her anyways”*



# *Schedules of Reinforcement*

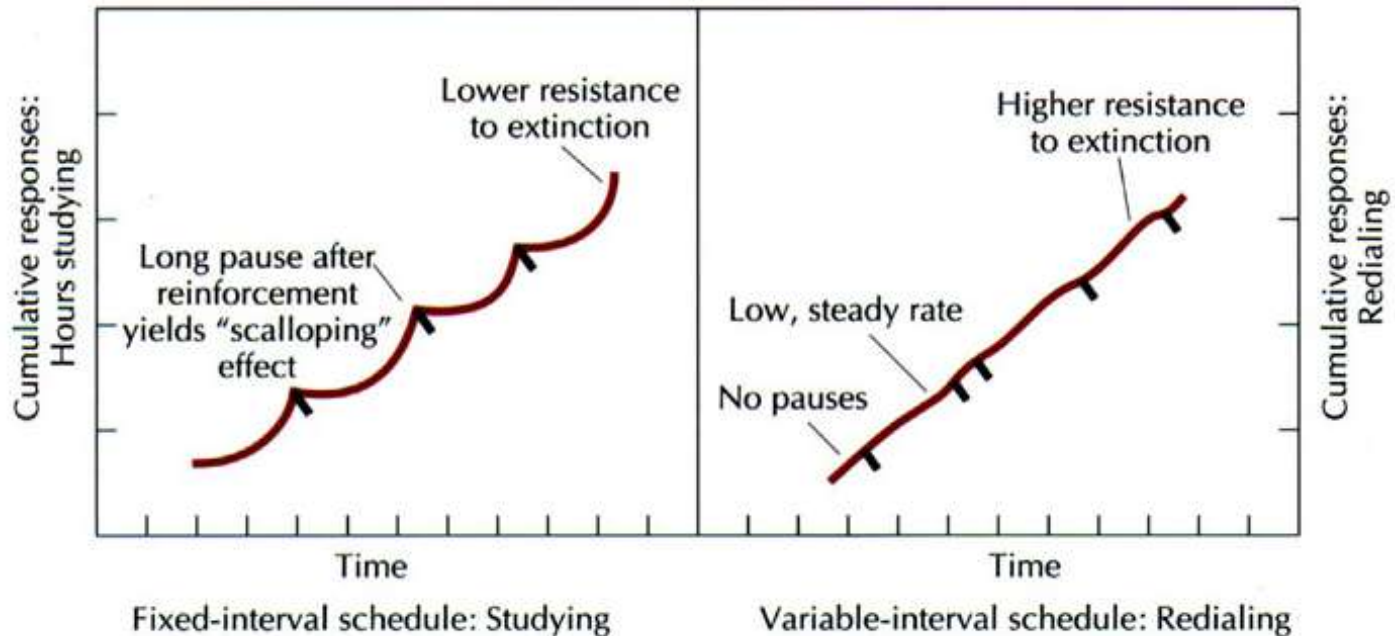
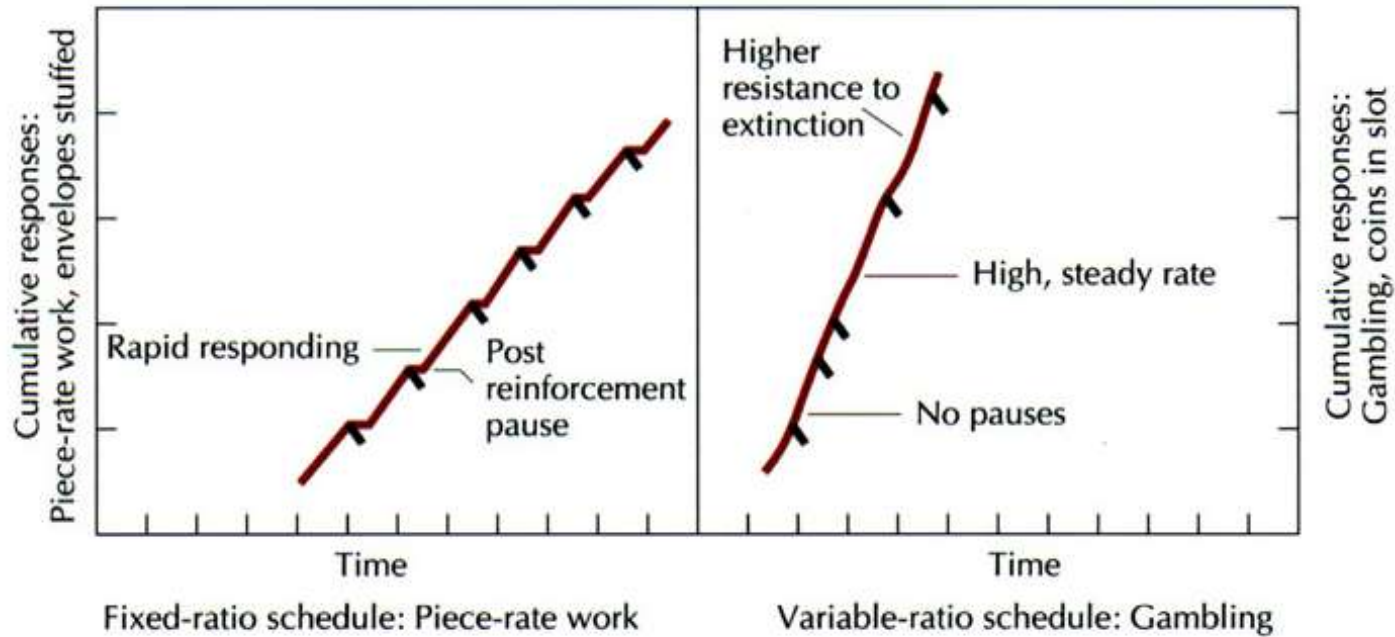
Continuous: Reinforce every time (fastest, but quickest to extinction)

## Partial Schedules

- Variable Ratio: Reinforcer after a variable number of nonreinforced **responses**
- Variable Interval: Reinforcer is given for the first response after a variable **time** interval has elapsed
- Fixed Ratio: Reinforcer is given after a fixed number of nonreinforced **responses**
- Fixed Interval: Reinforcer is given for the first response that occurs after a fixed **time** interval has elapsed

# Schedules of Reinforcement

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# *Extinction*

- w** Variable schedules are most resistant to extinction
- w** Ratio schedules cause the greatest amount of response

# *Applications of Operant Conditioning*

## **W** Day to Day Life Examples

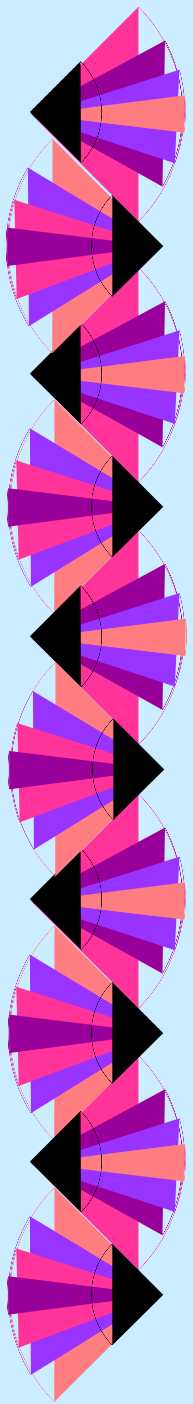
- Escape/Avoidance Learning
- Learned Helplessness (constant punishment)
- Almost all your behavior is affected by reinforcement, lack of reinforcement, or punishment

# *Learning*

- W** A relatively permanent change in behavior that results from experience
- W** WARM-UP
- W** How have you learned to do things more often? Less often? How has your behavior or personality been influenced? (NOTES)

# *Observational Learning*

- W Defined: Occurs when an organism's responding is influenced by the observation of others (model)
- W Works with operant and classical
- W Four Processes (Bandura)
  - Attention
  - Retention
  - Reproduction
  - Motivation

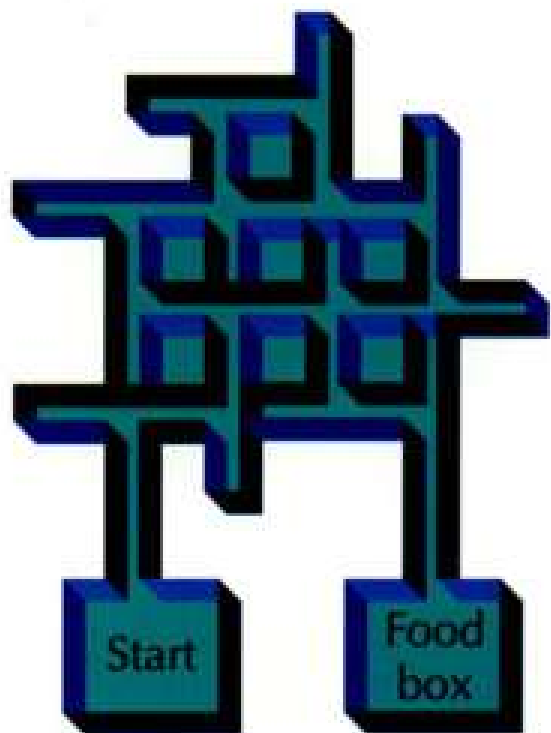


# *Other Forms of Learning*

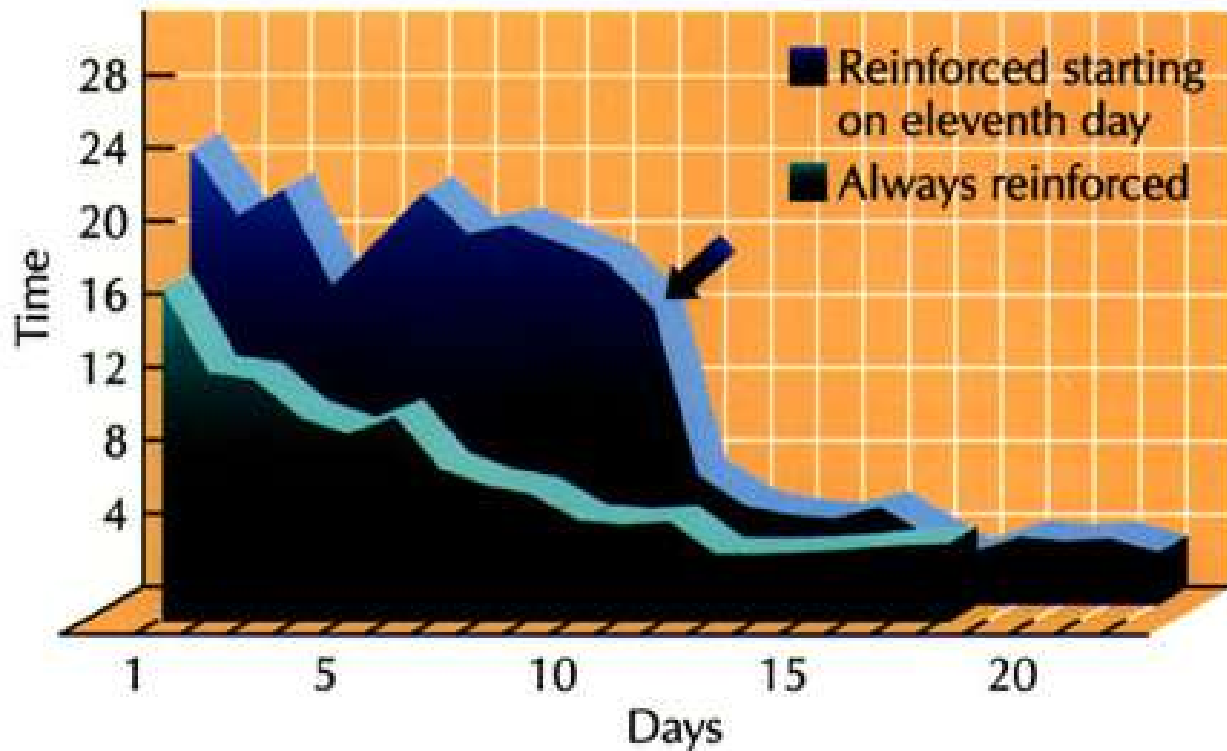
- w** Cognitive Mapping: A mental representation of spatial orientations (experience or map)
- w** Latent Learning: Learning that has occurred but has not been expressed



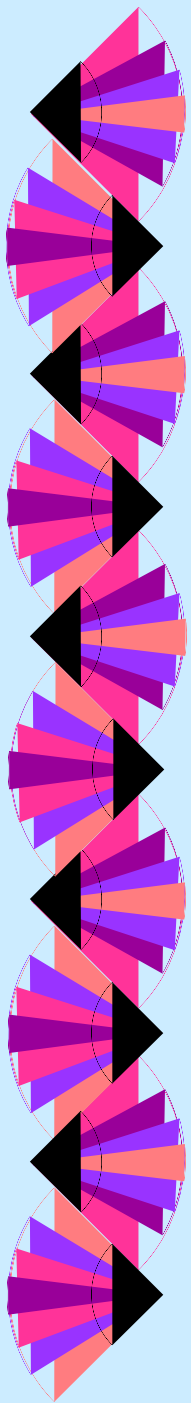
## Latent learning



(a)



(b)



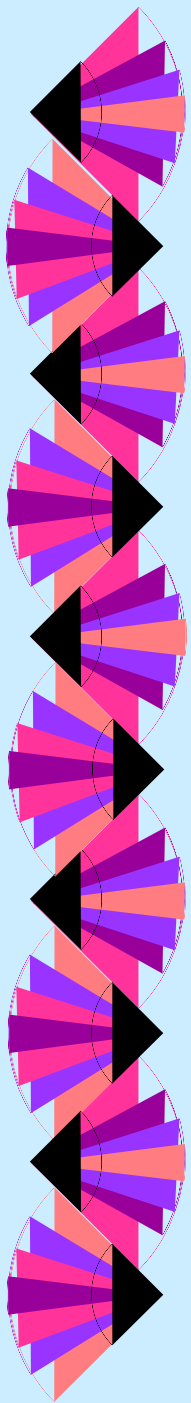
# *Using rewards and punishments*

1. Immediately after behavior for best results
  2. Appropriate (overjustification) degree and length
  3. Consistent for punishment, random for reinforcement
  4. Reinforce/punish the behavior not the person- be specific, give explanations, keep emotions low
- W** Use reinforcement, extinction, and punishment together- reinforcement does work best



## *Problems with rewards*

1. Takes away intrinsic motivation
  2. Discourages risk taking and creativity (fear of failure)
  3. Maybe rewarding inappropriate behavior
  4. Person feels manipulated
  5. People expect something for all behavior
  6. Rewards have to get bigger and bigger
- W** Can make unhealthy competition if comparing to others



## *Problems with punishment*

1. Does not teach what to do
2. May learn physical responses to frustration
3. Suppresses behavior (fear of failure, learned helplessness)
4. Becomes “normal”, thus does not change behavior
5. Anger and resentment towards punisher
6. Punishment may actually be a reinforcer (attention, escape learning)
7. Teaches lying and deceit