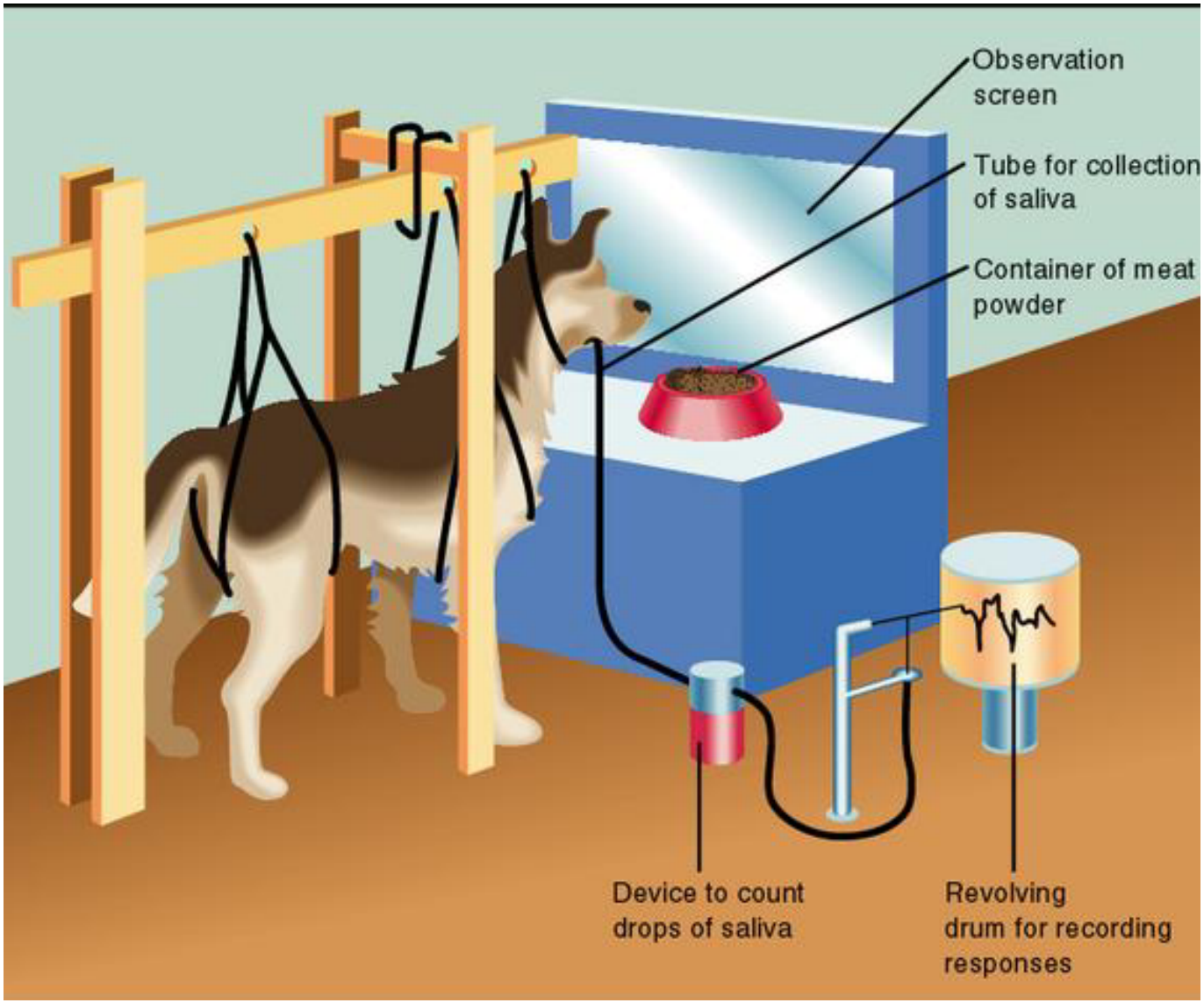
Learning



1. Classical Conditioning
2. Operant Conditioning
3. Radical Behaviorism
4. Observational Learning
5. Studying for the exam

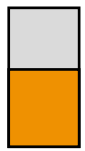
Today's Music Selections:

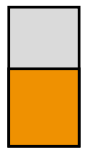

Observation screen
Tube for collection of saliva
Container of meat powder
Device to count drops of saliva
Revolving drum for recording responses

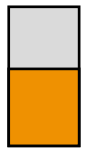
Pavlov's Experiment

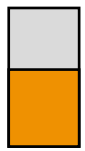
Control Condition

Give Stimulus — Measure

Meat powder on tongue → 

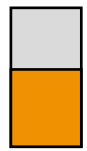
Meat powder on tongue → 

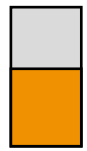
Meat powder on tongue → 

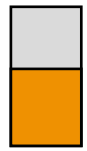
Meat powder on tongue → 

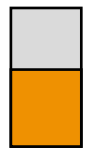
Experimental Condition

Ring Bell — Give Stimulus — Measure

 Meat powder on tongue → 

 Meat powder on tongue → 

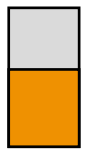
 Meat powder on tongue → 

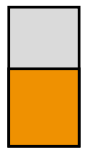
 Meat powder on tongue → 

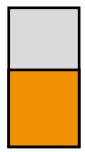
Pavlov's Experiment

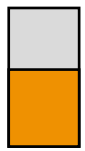
Control Condition

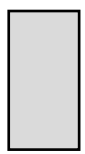
Give Stimulus — Measure

Meat powder on tongue → 

Meat powder on tongue → 

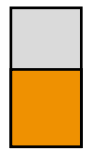
Meat powder on tongue → 

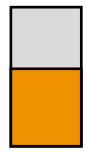
Meat powder on tongue → 

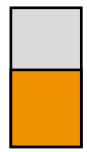
 → 

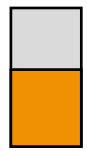
Experimental Condition

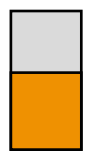
Ring Bell — Give Stimulus — Measure

 Meat powder on tongue → 

 Meat powder on tongue → 

 Meat powder on tongue → 

 Meat powder on tongue → 

 → 

Classical Conditioning



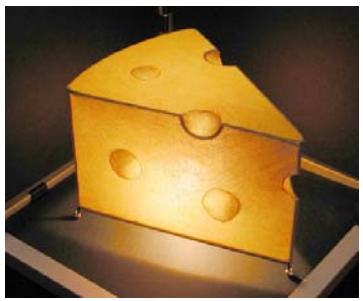


CS

Conditioned Stimulus

CR

Conditioned Response





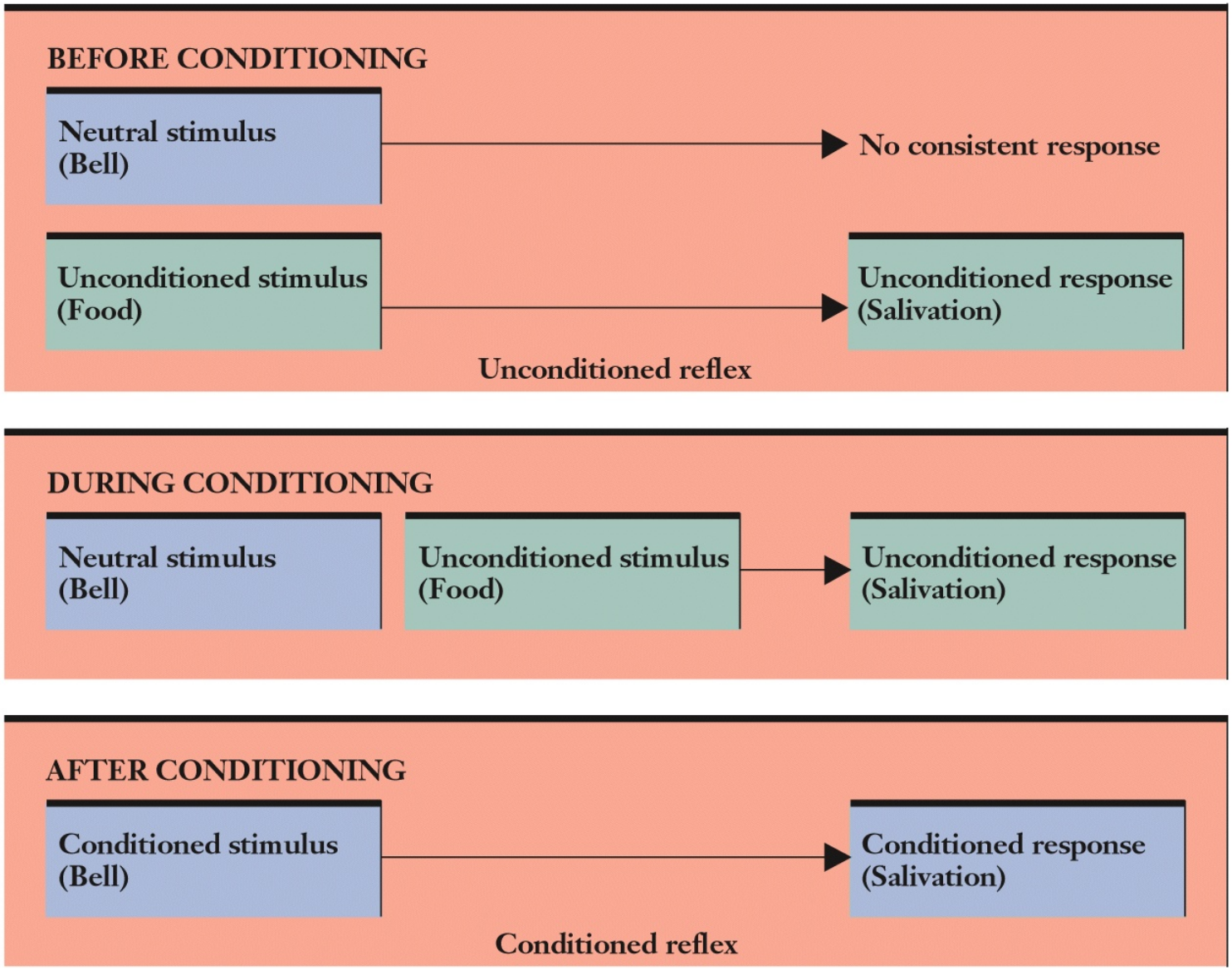
US

Unconditioned Stimulus

UR

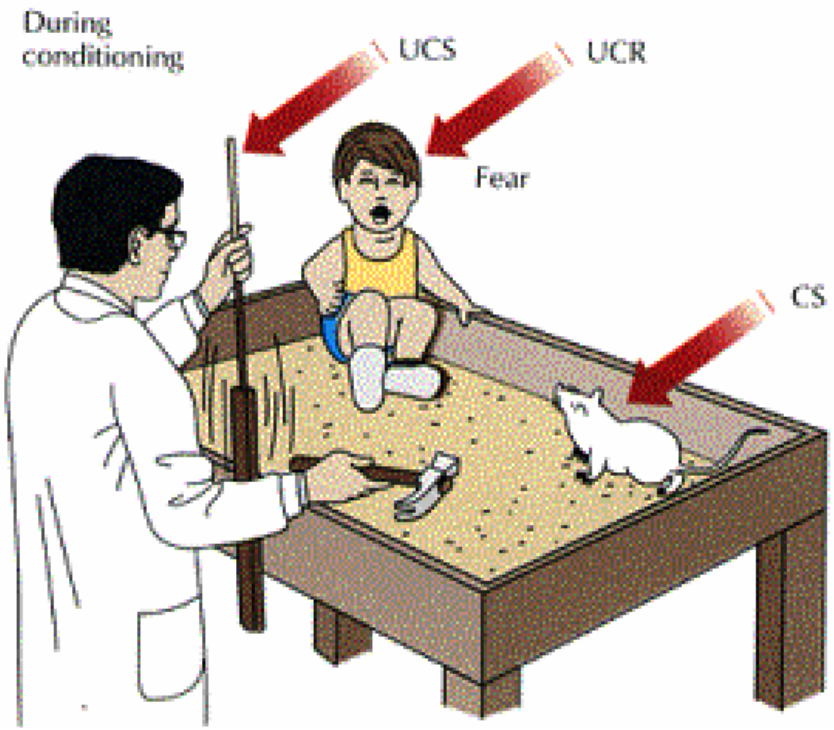
Unconditioned Response

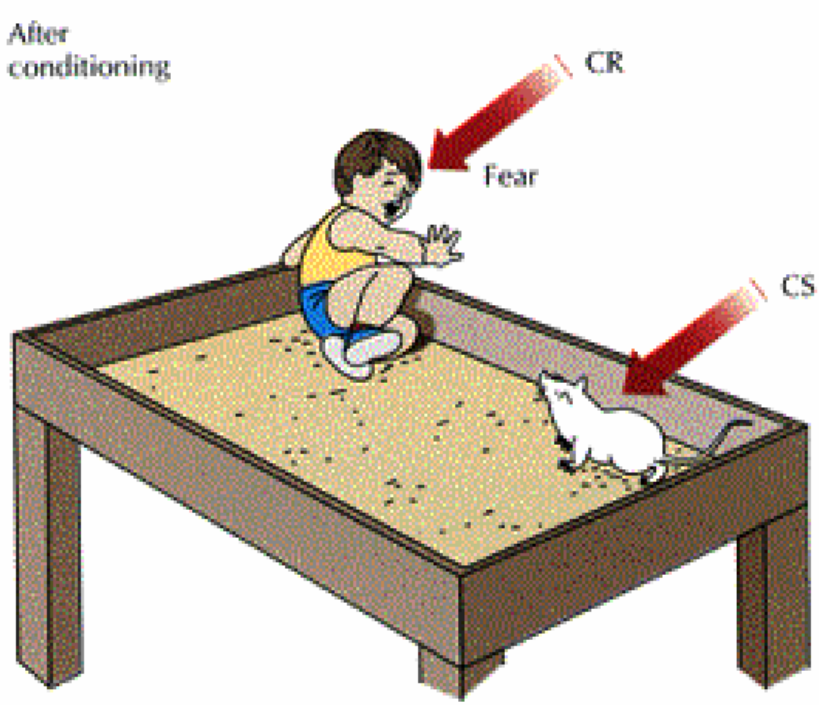
Classical Conditioning : Terms



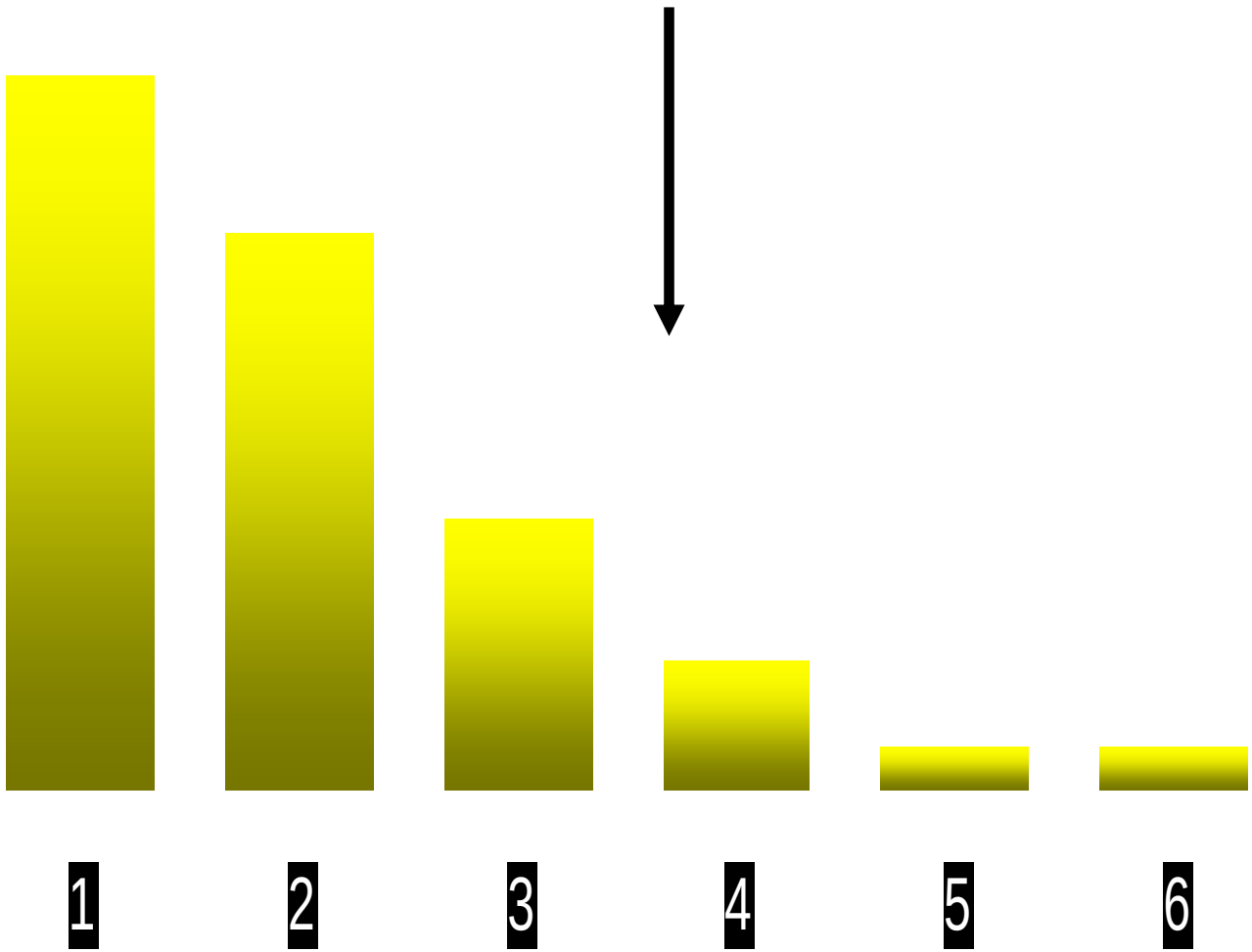


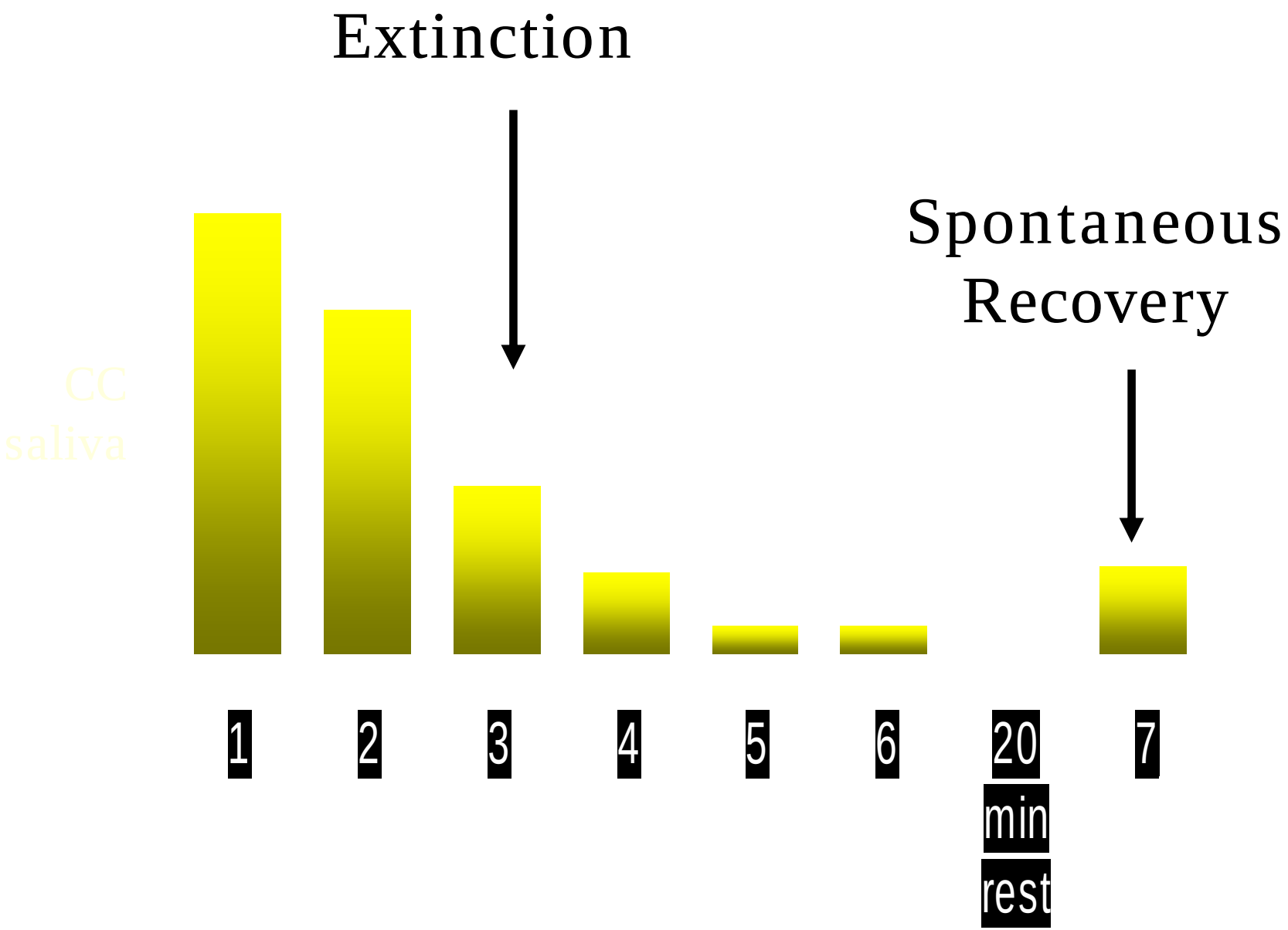
Association is the fundamental form of “prediction”


During conditioning
UCS
UCR
Fear
CS


After conditioning
CR
Fear
CS

Extinction




Extinction
Spontaneous Recovery
CC saliva
1
2
3
4
5
6
20 min rest
7

Blocking

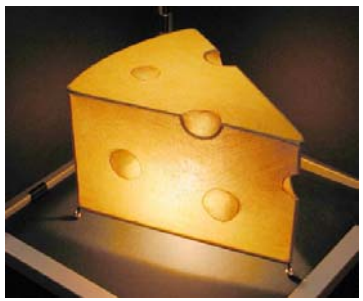


CS^1

Conditioned Stimulus

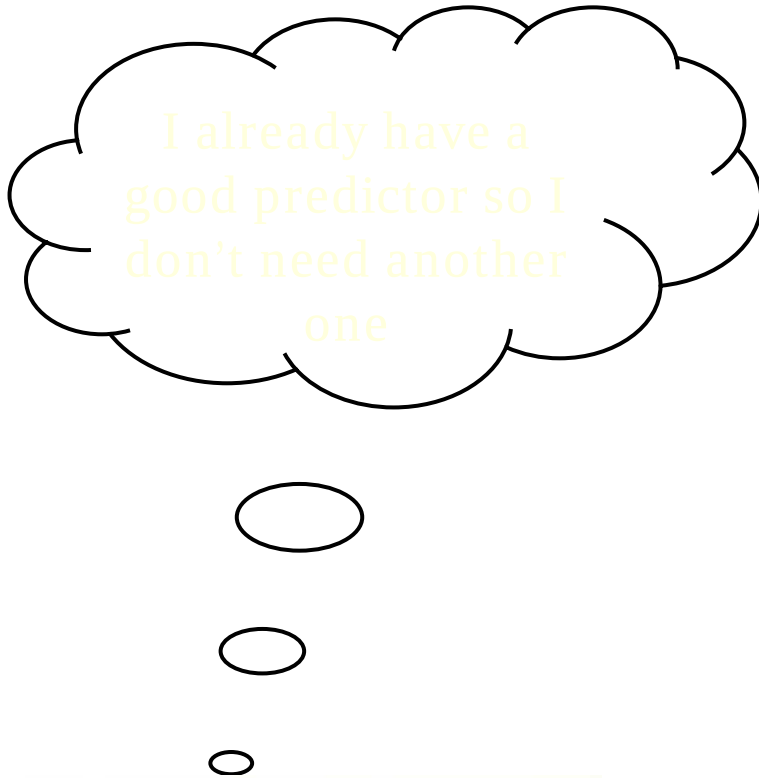


CS^2



US

Unconditioned Stimulus





UR

Unconditioned Response

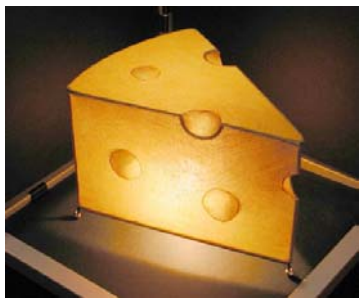
Latent Inhibition



CS

Conditioned Stimulus

This never predicted before so why should it now?



US

Unconditioned Stimulus



UR

Unconditioned Response

Classical Conditioning



Unbeknownst to most students of psychology, Pavlov's first experiment was to ring a bell and cause his dog to attack Freud's cat.

- Much of learning is based on observing associations in the environment
- Classical conditioning involves learning how novel stimuli predict previously unassociated outcomes

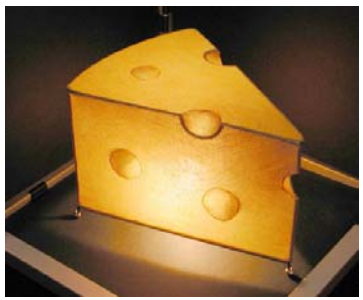
Classical Conditioning

CS



Predicts

UCS



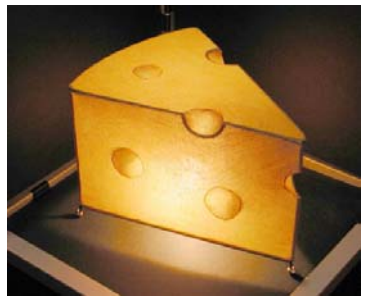
Creates

CR

Pleasure



Operant Conditioning

Operant	Reinforcer	Reinforcement
My behavior		Pleasure

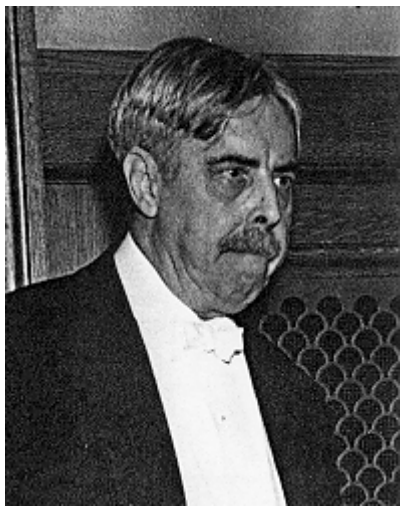
Predicts Creates



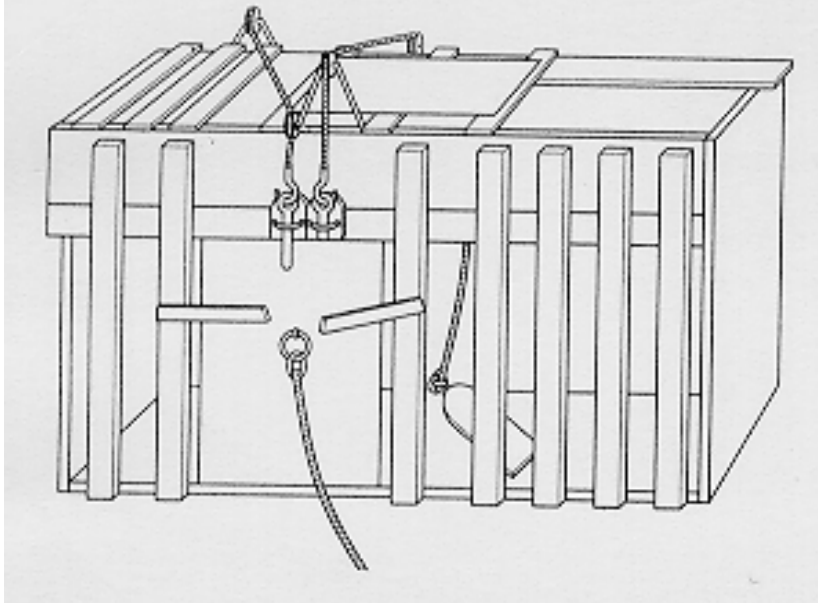
New Rule: If “my behavior” creates pleasure, then do it again!

Repeat Pleasure: The Law of Effect

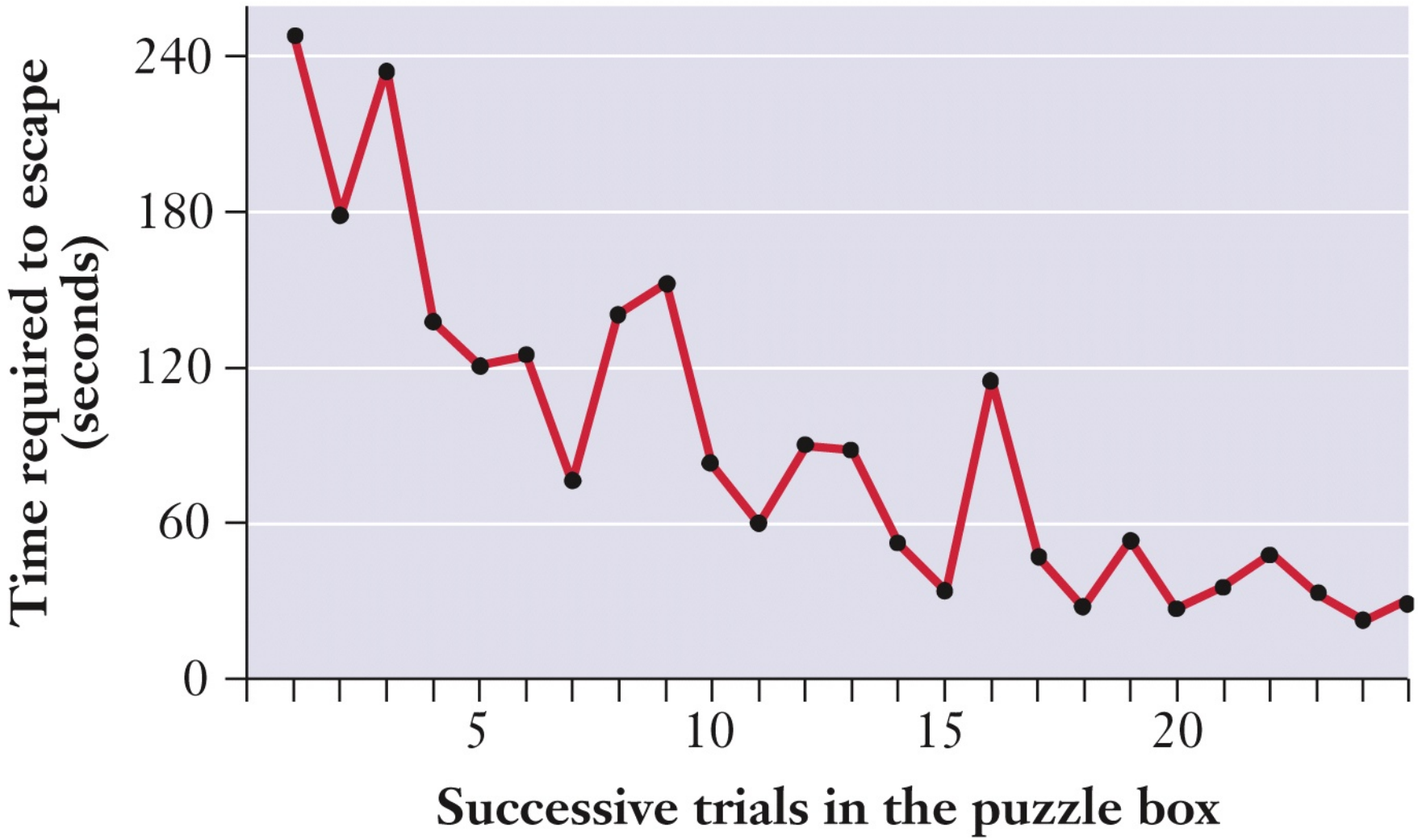
"If the response in the presence of a stimulus is followed by a satisfying event, the association between the stimulus and the response is strengthened. If the response is followed by an annoying event, the association is weakened."



Edward Thorndike



Puzzle Box


Time required to escape (seconds)
240
180
120
60
0
5
10
15
20
Successive trials in the puzzle box

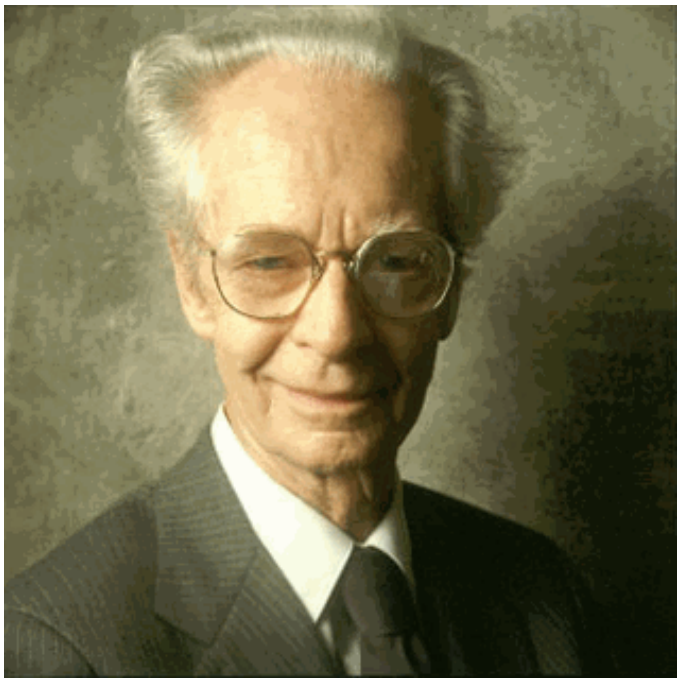
Classical vs. Operant Conditioning

CLASSICAL

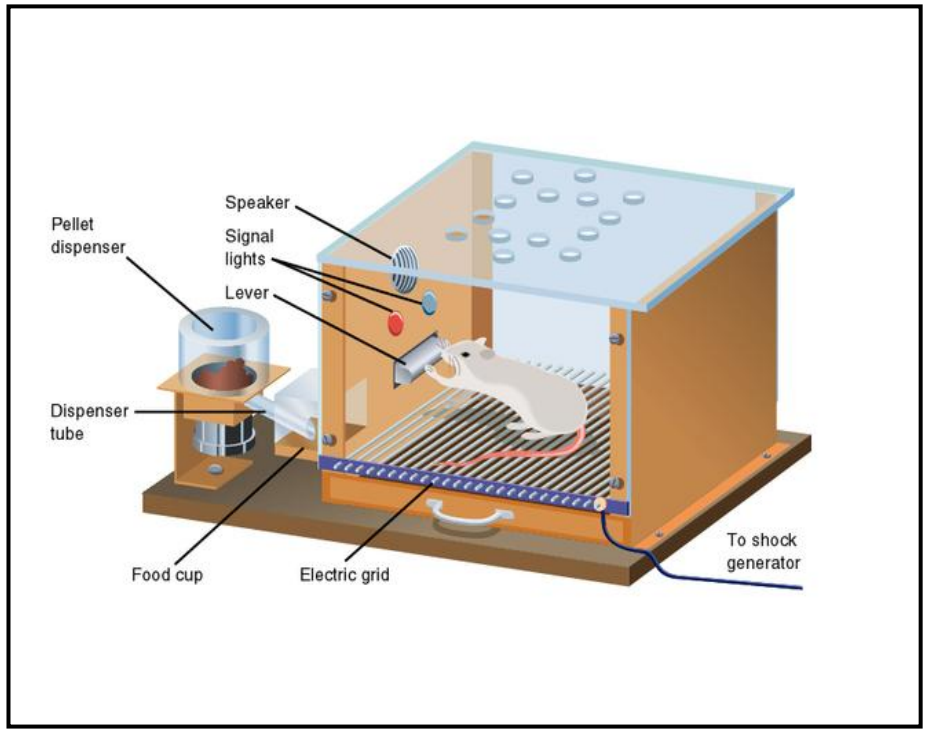
- Stimulus precedes the response and elicits it
- Elicited responses
- Pavlov

OPERANT

- Stimulus follows the response and strengthens it
- Emitted responses
- Skinner



B. F. Skinner

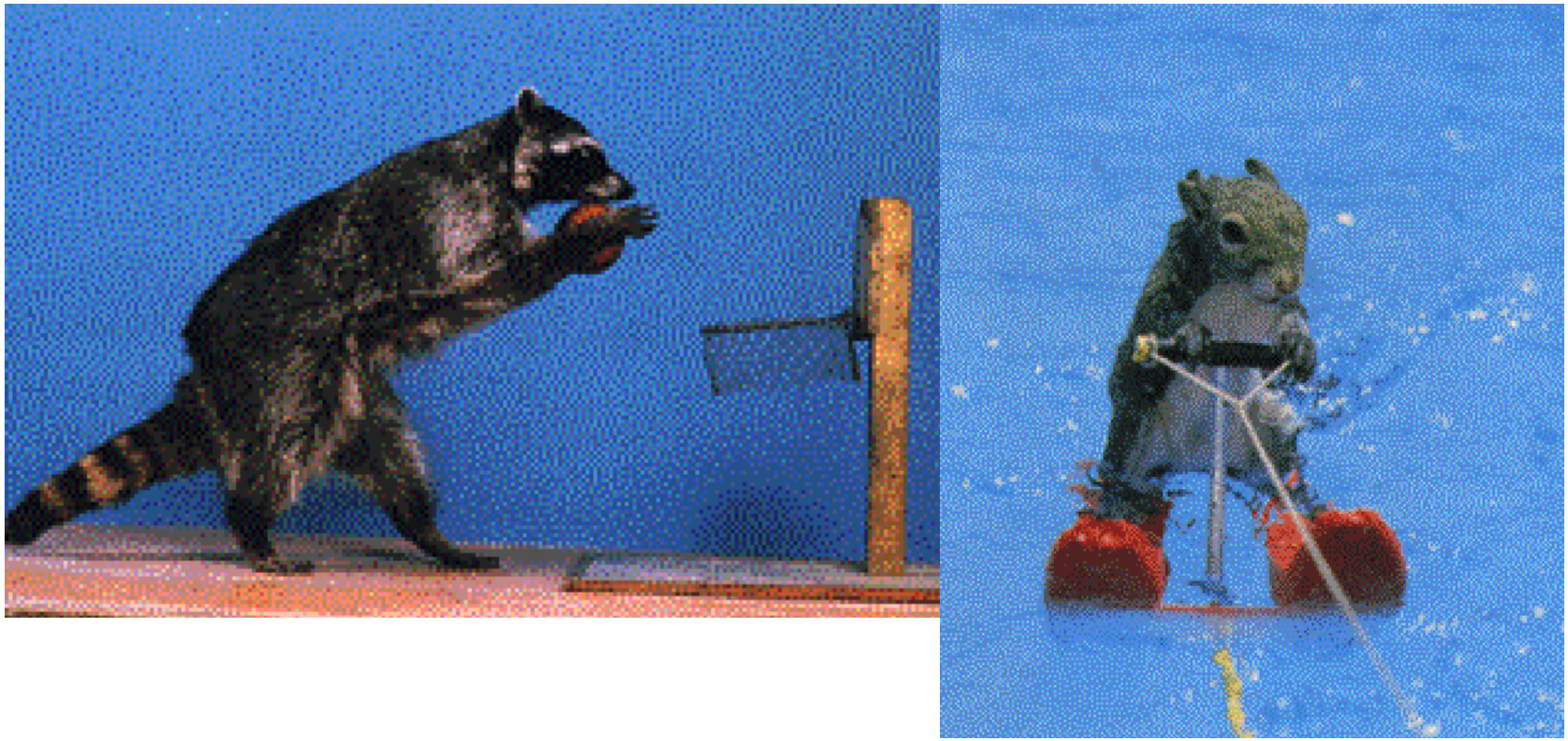


Skinner Box

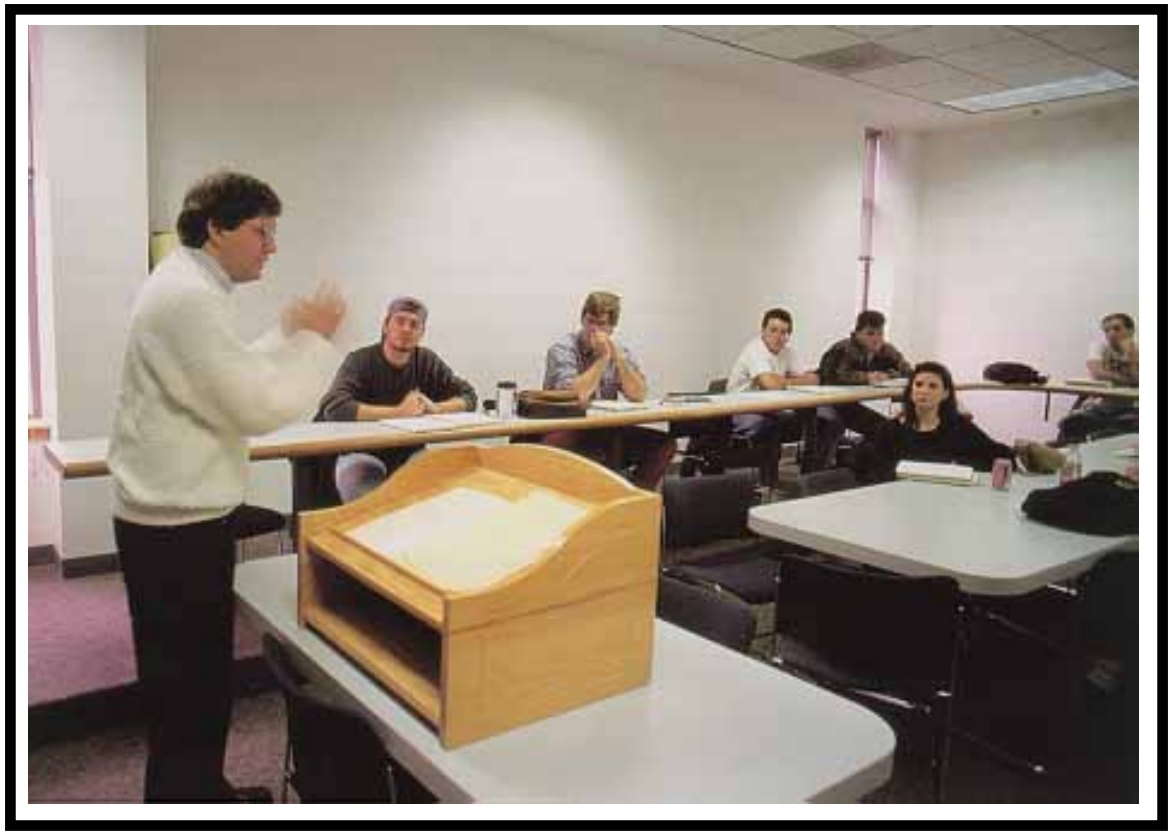
Operant Conditioning Phenomena

- Shaping
- Reinforcement Schedules

Shaping: Method of Successive Approximations



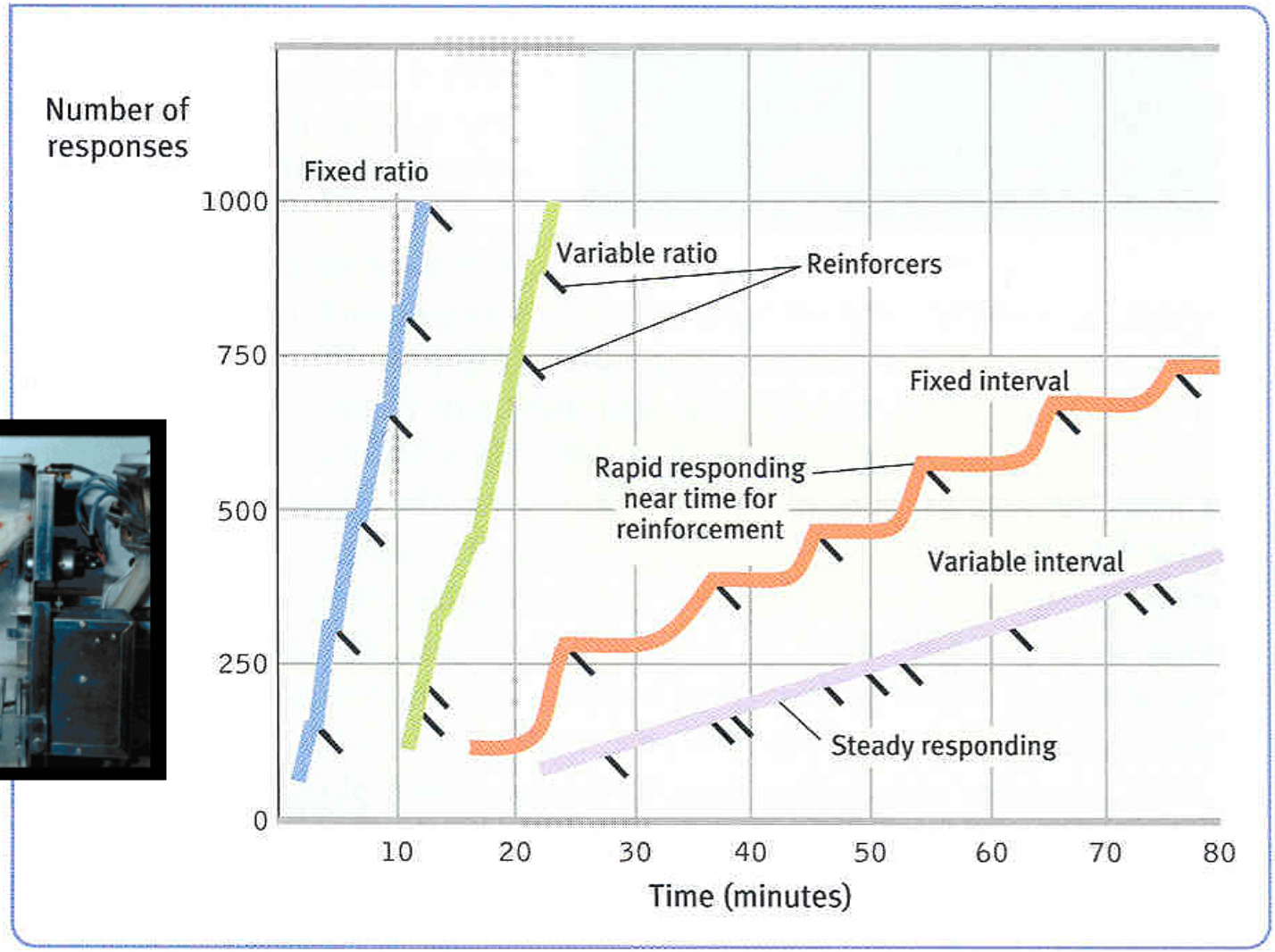
reward behaviors that increasingly resemble desired behavior



Professor Pigeon

Reinforcement Schedules: Partial Reinforcement





Partial Reinforcement Effect:

Partially reinforced behaviors resist extinction

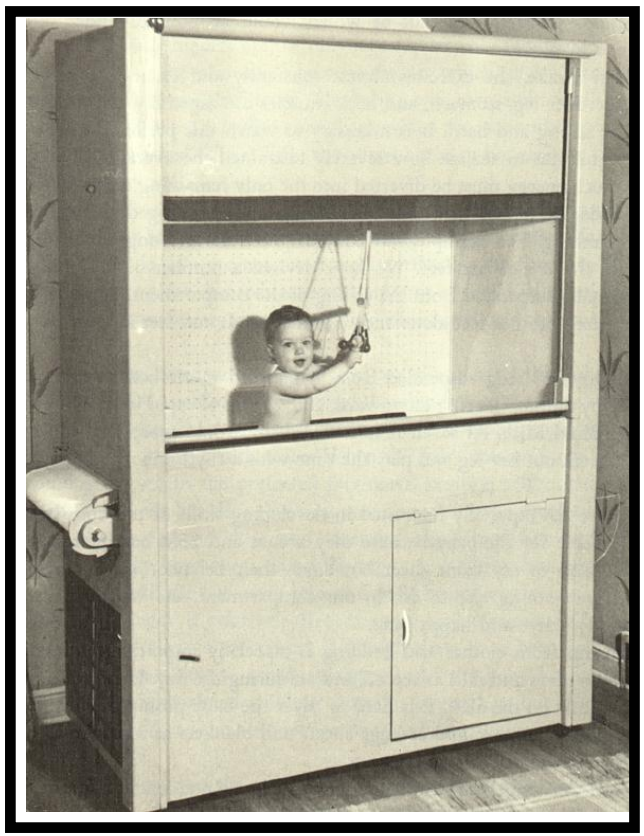


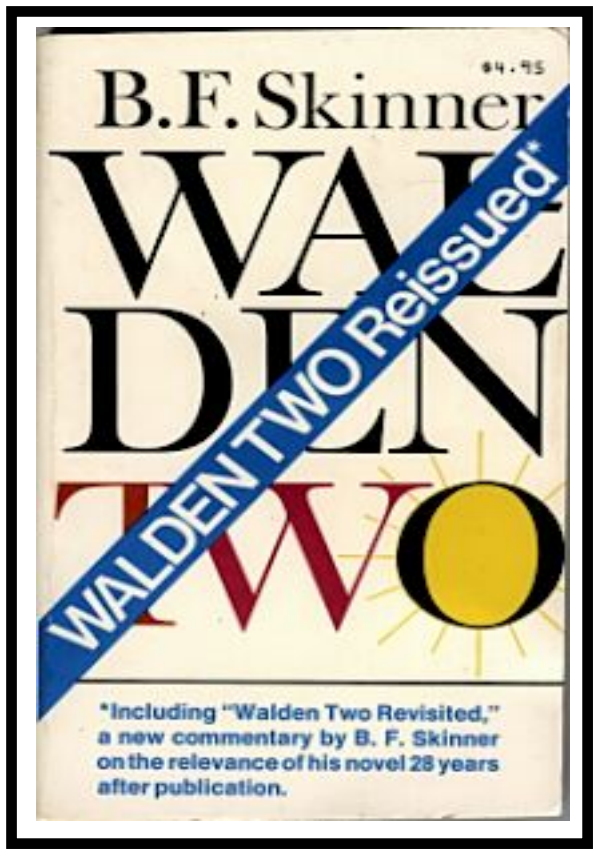


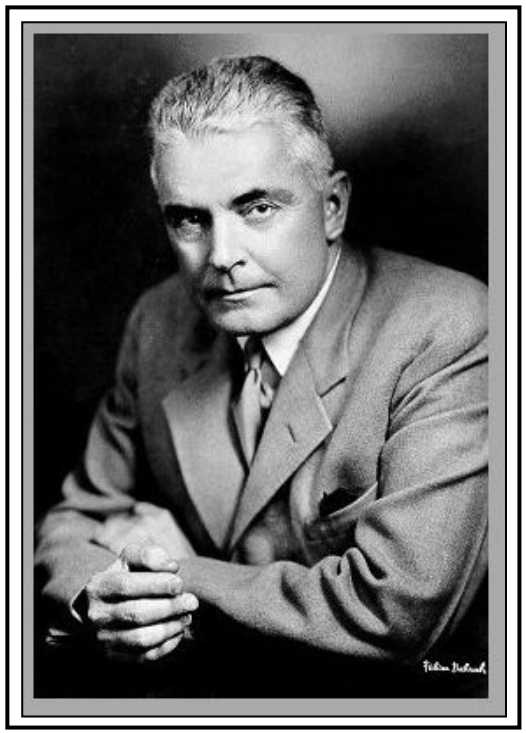
Continuous Reinforcement – Quick learning; Quick extinction
Partial Reinforcement – Slower learning; Slower extinction

Radical Behaviorism:

All behavior is a result of its reinforcement history



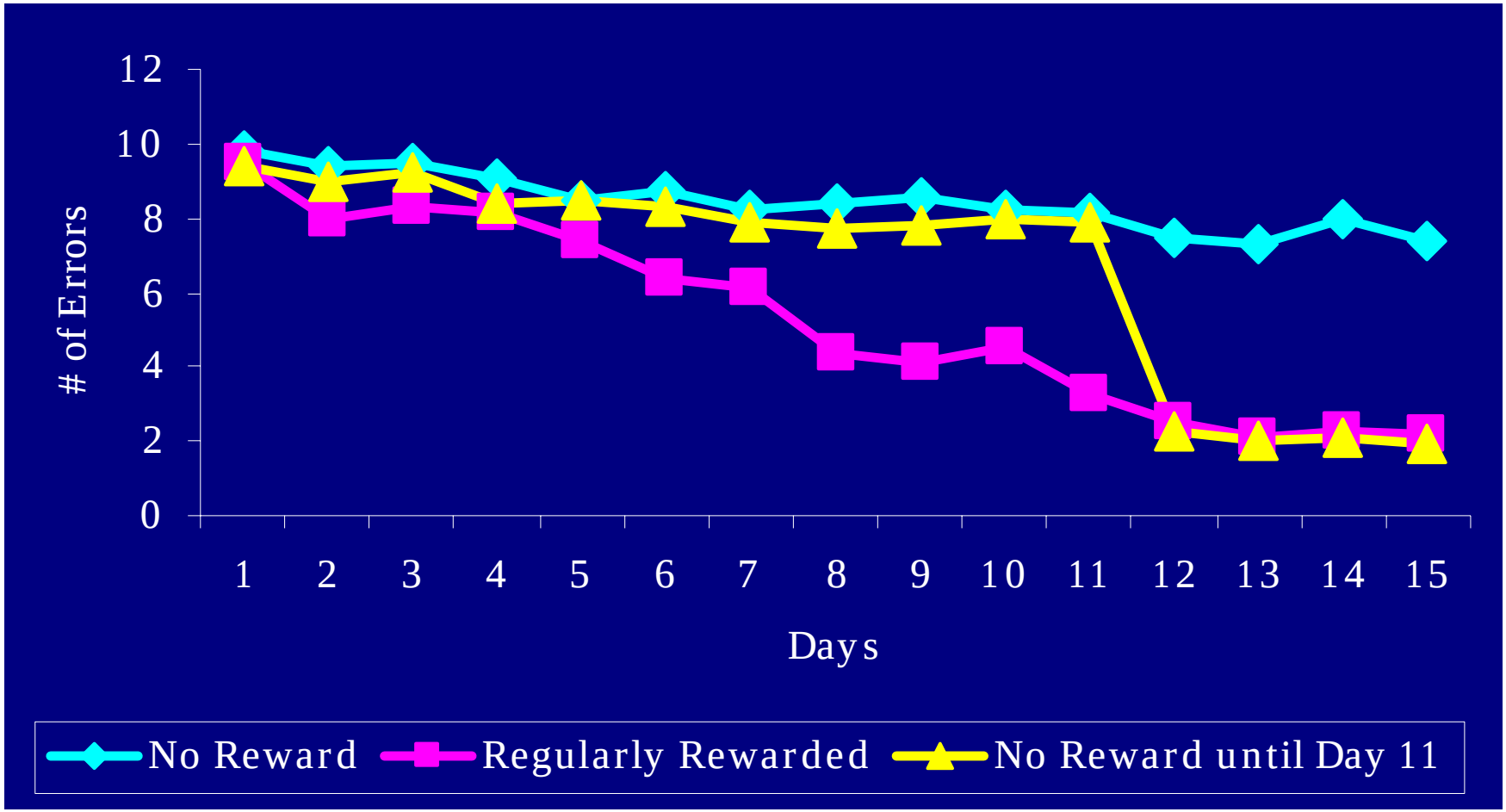




John B. Watson

"Give me a dozen healthy infants, well formed, and my own specified world to bring them up in and I'll guarantee to take any one at random and train him to become any type of specialist I might select—doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations, and race of his ancestors."

Can learning occur without reinforcement? Rats wandering a maze



Observational Learning

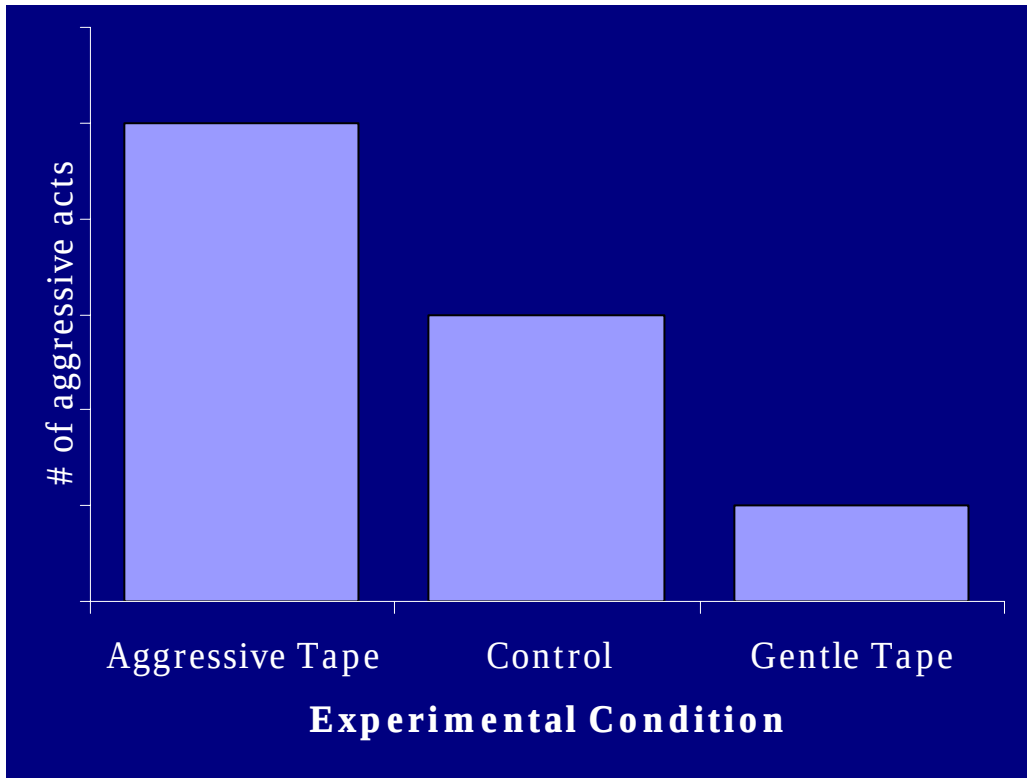
- Watching others affects learning





Observational Learning: Bobo Doll Study

- Kids watch TV of adult with Bobo
- 3 groups (IV):
  - Aggressive actions
  - Gentle actions
  - No tape (control)
- Kid alone with toys including Bobo
- DV = number of aggressive acts toward Bobo



Learning - Summary

1. Behaviors that are reinforced increase in frequency; behaviors that are punished decrease in frequency
2. Radical Behaviorists argued that all behavior could be explained via reinforcement histories
3. Radical Behaviorists were wrong

Next time: Consciousness

Exam Prep Notes

- During class hour and in this room
- Split – Book and Lecture
- Book
  - Focus Questions
  - Names and dates less important; content and themes more important
- 50 Multiple Choice