**Psychology 1A. Unit 2 Expanded Outline. S 21**

**Unit 2. Behaviorism, Learning and Memory:** 18-19, Chapter 5, 398-399, 429-430.

 **Introduction:** 18-19: The Behavioral Perspective

 **Learning:** a change in behavior resulting from experience

 **Classical Conditioning:** 169-175 Reflex Behavior

 Reflex: an inborn, automatic observable, measurable response (UR) to an observable, measurable stimulus (US) for example, the response, salivation (UR), to the stimulus, food in the mouth (US).

 Unconditioned Stimulus (US)

 Unconditioned Response (UR)

 Conditioned Stimulus (CS)

 Conditioned Response (CR)

The reflex is the US and the UR



Aplysia and other gastropod molluscs exhibit complex behaviors that can be modified by associative learning. We have now produced classical conditioning in the defensive siphon and gill withdrawal reflex of Aplysia. We used as a conditioned stimulus (CS) a light tactile stimulus to the siphon, which produces weak siphon and gill withdrawal. As the unconditioned stimulus (US), we used a strong electric shock to the tail, which produces a massive withdrawal reflex. Specific temporal pairing of the CS and US endowed the CS with the ability of triggering enhanced withdrawal of both the siphon and the gill. Random or unpaired presentations of the CS and US, as well as presentations of the CS or US alone, produced either no enhancement or significantly less enhancement than paired presentations of the CS and US. The conditioning is acquired rapidly (within 15 trials) and is retained for several days.



 **Principles of Classical Conditioning**

 **Preparedness:** 175





 **Timing:** 171

 **Extinction and Spontaneous Recovery in Classical Conditioning:**

173-174



 **Generalization and Discrimination in Classical Conditioning:** 174

 **Higher Order Conditioning**

 **A neutral stimulus is paired with an already established CS and comes to elicit the CR.**

 **Experimental Neurosis:**

**Presenting a stimulus midway between a + CS and a – CS, or a stimulus that has been associated both with a + UCS and with a – UCS.**

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 **Operant Conditioning:** 177-186

(Doc: Unit 2 op cond Skinner, et al)

 Can Pigeons Read <https://youtu.be/I_ctJqjlrHA>

Fruit Fly

 **Reinforcement and Punishment:** 178-180

 **Positive and Negative Reinforcements.** 180

Positive Reinforcement: anything whose presence following a response leads to an increase in that response. A student gets an A on a paper and works even harder on the next paper.

Negative Reinforcement: Anything whose removal following a response leads to an increase in that response. While I am reading your papers, I hear the sound of a motor that annoys me. I look around and find it’s a fan. I turn the fan off. The next time I hear that sound, I immediately turn the fan off. (True story)

 **Primary and Secondary Reinforcements.**

Primary Reinforcement: Positive: e.g.,Food, Water, Optimal temperature,

 Smile

Negative: e.g, pain, loud sound

Secondary Reinforcement: Anything associated with a primary reinforcement and/or an already established secondary reinforcement. E.g., money



 **Punishment:** 180

 **Principles of Operant Conditioning**

 **Timing**

 **Extinction and Spontaneous Recovery**



 **Paradox of avoidance conditioning:** the more frequently an avoidance response is made, the more likely is a failure to make the avoidance response

 **Generalization and Discrimination:** 184

 **Schedules of Reinforcement:** 182-184 Fixed ratio, Fixed Interval, Variable Interval, Variable Ratio

 **Shaping:** 186

 **Superstitious Conditioning:** accidental conditioning

<https://youtu.be/2ZgeGke5ckU>

 **Pros and Cons of Punishment:** 181-182

 Pro: stops undesirable behavior immediately

 Cons: 1. Person and place of punishment become aversive (secondary negative reinforcers)

 2. Punished individual learns force as problem solution

 3. Punished behavior goes underground

 4. lowered self esteem

 **Learned Helplessness:** 429-430 Inescapable punishment leads to learned helplessness

 **Personality:** 398-399

 Finale: Operant conditioning in a Sea Turtle

Some may find it strange to see video of a turtle in the marine mammal blog, but the marine mammal staff has the opportunity to train a sea turtle as well. The principals of operant conditioning and positive reinforcement can work with any animal, as long as you learn what it is that they find rewarding. Myrtle, a [green sea turtle](http://www.neaq.org/animals_and_exhibits/animals/green_sea_turtles/index.php), finds fish and Brussels sprouts absolutely fabulous! Myrtle is approximately 75 years old and has been at the aquarium almost as long as we've been open. We began by teaching Myrtle to "target" or touch a white PVC pipe, by putting it in front of her and rewarding her for touching it. From there, she learned to discriminate between a white pipe, a black pipe and a black and white striped pipe. She has been stellar at this, always choosing her white pipe when presented with a choice. Now we have moved on to sending her to search for her target around the tank. Her signal to start searching is a sound made by popping a smaller pole in the water and pulling it out.

 Sea Turtles: <https://youtu.be/HG4c8d2C88A>

Operant conditioning exercises:

What is the liklihood of recurrence of the behavior in dark print (for example, **volunteers)?** What principle is involved – positive reinforcement, negative reinforcement or punishment?

1. 1) A student **volunteers** to answer a tough question in class; the teacher comments favorably on the student’s answer.

2) If the students now volunteers to answer tough questions in other classes, what principle of operant conditioning is involved? If, in the other classes, the teachers do not comment favorably, what is the likely recurrence of volunteering in those classes? What principle? The student now volunteers only in the original class. What principle?

1. 1) A wife brings home flowers to her husband because of the special dinner he **cooked** for her.

2) The husband cooks dinner the very next night. What is the likelihood of her bringing flowers? What principle is involved?

1. 1) A child is sent to his room with no supper after **presenting a bad report card**.

2)The child brings home good report cards the next two occasions, then a not so good report card and the 4th report card is not good. What principle? How might good report cards be maintained?

1. 1)Dad and tot are at the supermarket. When the child **screams** for candy, Dad pops a sucker in her mouth to quiet her.

2)Every time the child screams at the supermarket, Dad pops a sucker in her mouth. What principle?

1. 1)Child **spills milk** on the supper table and Mom spanks him.

2)Several occasions of drinking milk and no spills. Then the child spills the milk again. What principle? How might Mom maintain no spilling behavior?

1. 1)A student has a terrible headache after intense exam preparation. He **takes two aspirin** and the headache goes away.

2)The student takes an aspirin before intense test preparation. What behavior is this? After doing this several times, the student forgets to take the aspirin. What principle is involved?.

g. 1) A child screams for French fries at a fast food restaurant. The parents **surrender** and give her a big batch of fries; the child stops screaming.

 2)Her parents give her French fries on random occasions driving by the fast food restaurant. What schedule of reinforcement is this? If they stop giving her French fries when they pass the restaurant, will extinction of screaming occur more quickly or less quickly after this schedule than if she had been given French fries every time they passed the restaurant?

h. 1) A terrorist applies an electric current to the feet of a spy so the spy will confess. The spies **tell the terrorist everything.**

 2) The terrorist continues to use electric current to the feet of spies. What principle?

 **Social Learning Theory:** 194-196:

 Observational Learning: learning by imitating

 Vicarious learning:

 vicarious reinforcement: imitating the behavior of someone seen

 reinforced for that behavior.

 vicarious punishment: NOT imitating behavior seen punished for

 that behavior.

 Characteristics of a model which increase likelihood of imitation:

 Warm and nurturing

 Holds the power to reinforce and punish

 Attractive, appealing

 Familiar

 Characteristics of imitator

 Emotional arousal

 Aggression

 Gender role

 **Culture and Learning**: 197-198: Exploring Diversity

 **Memory:** xxxvi-xlix, Chapter 6

 **Textbook Learning and Memory:**

 **Levels of Processing:** 219-220

 **Reinforcement**

 **Rehearsal:** 209

  **Active Responding**

 **State Dependence:**

 **Sensory Modality**

 **Chunking.** 208

 **Overlearning**

 **Distribution of Practice:**

 **Primacy and Recency:** 230: Proactive and Retroactive Interference

 **Flashbulb Memories:** 221-222

 **Mnemonics:** 209

 **Memory Reconstruction:** 222-224: Constructive Processes in Memory

 **Forgetting:** 229-230: Why We Forget

 **The Seven Sins of Memory**

By Daniel Schacter, published on May 1, 2001 - last reviewed on March 1, 2011

**Transience, Absentmindedness/Distraction**, Blocking, **Bias**, Persistence, Misattribution, **Suggestibility** (Eye Witness Testimony)

 **Improving memory:** xxxvi-xlix**,** 233-234

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