

Learned & Social Behavior

I. Learned Behavior

A. Classical Conditioning

1. A kind of Associative Learning
2. Definition - a change in an animal's behavior as a result of the association of external stimuli. (the association of a normally irrelevant stimulus with a fixed behavioral response.)
3. Ivan Pavlov (Russian ~ 1920) -
 - a. When dogs smell or taste food, they salivate.
 - b. Pavlov first rang a bell, then fed them meat.
 - c. Eventually the dogs began to salivate at the sound of the bell alone.
 - d. **Unconditioned stimulus** - meat.
 - e. **Unconditioned response** - salivating to meat.
 - f. **Conditioned stimulus** - sound of bell.
 - g. **Conditioned response** - salivating after the bell, but before the meat.

B. Operant Conditioning

1. A kind of associative learning, also known as "Trial and Error Learning"
2. Definition - behavior that develops as a result of the association of reinforcement with a particular response, on a proportion of occasions. (associative learning which directly affects behavior in a natural context.)
3. B.F. Skinner -
 - a. Special cage, the "Skinner Box" when a rat pushed a lever, a small amount of food was delivered.
 - b. When a rat is put into the box, it explores the environment.
 - c. When it accidentally pushes the lever, down comes the food
 - d. Soon it learns that pushing the button gives it food.
 - e. **Reinforcement** - the food
 - f. **Operant response** - pressing the lever
 - g. The more quickly the reward is given, the more quickly the response develops.
 - h. If the reinforcement is not always given after the operant response, operant conditioning develops more strongly than if it is always given.

C. Imprinting

1. Definition - a type of learned behavior with a significant innate component, acquired during a limited critical period.
2. Konrad Lorenz -
 - a. He took greylag goose eggs, incubated them.
 - b. He ensured that he was with them for the first few hours after they hatched.
 - c. So he was the first moving object they saw.
 - d. They followed him around instead of their mother.
 - e. **Sign stimulus** - the moving object
 - f. **Innate releasing mechanism** - ability to filter the stimuli they are receiving and select the sign stimulus.
 - g. **Critical period** - the time during which an animal can be imprinted

D. Learning improves chances of Survival

1. Birds learn to avoid the bad-tasting Cinnabar caterpillars by conditioning
2. Blue Jay eats a monarch, it tastes AWFUL. The blue jay learns to avoid eating monarchs. (operant conditioning)
3. Grizzly bears learn to catch salmon by operant conditioning
4. Goslings learn who their mother is by imprinting, so avoid predators by remaining close to her.
5. Herring gulls - 1000's nest on the same rocky island. They need to feed their children, not someone else's. So the parents imprint on their children. (Parents 'learn' who the children are.)
6. An animal may learn that a warning signal of another species is followed by the appearance of a predator. This may save its life.