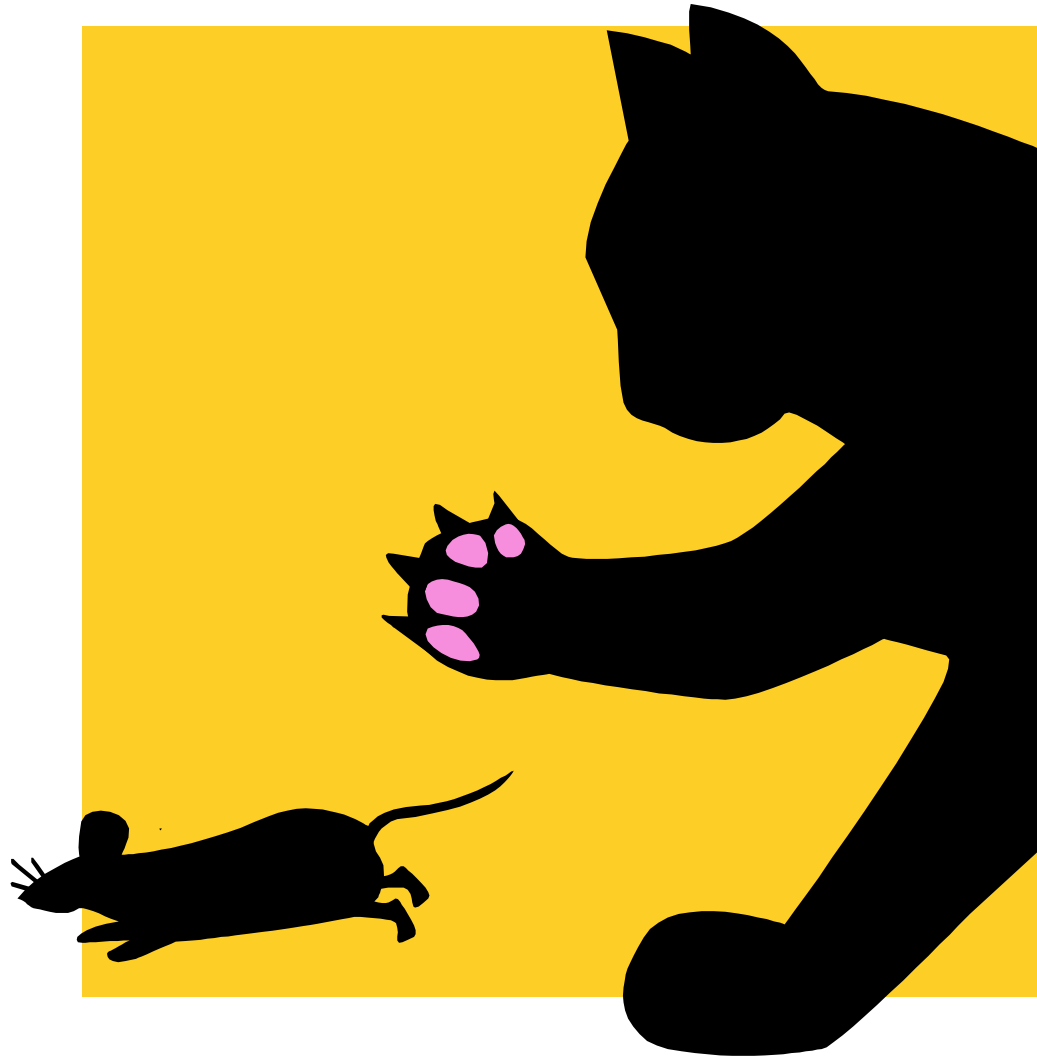


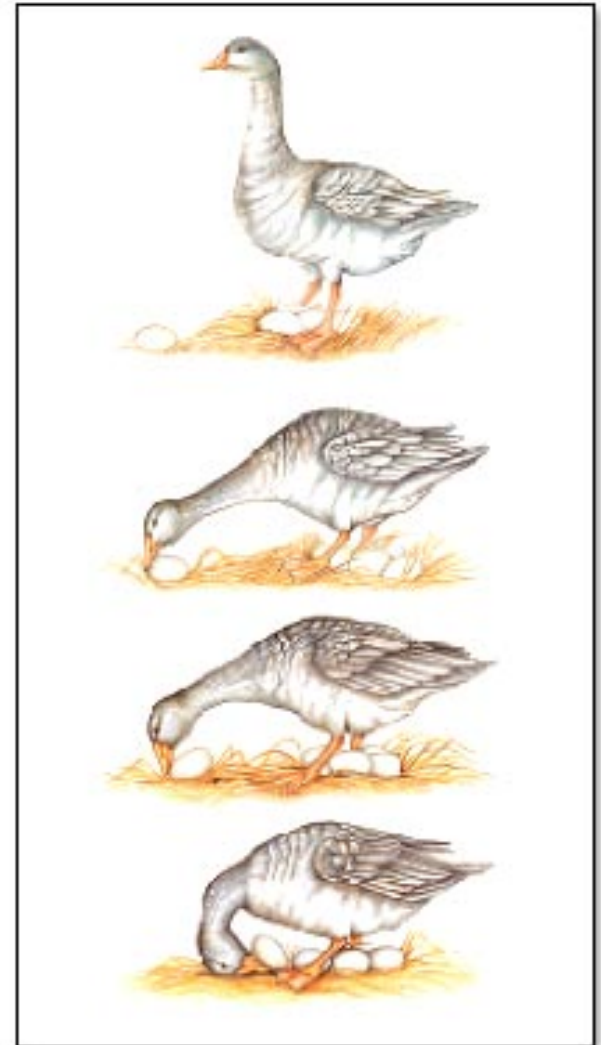
Chapter 34

Animal Behavior



What is behavior?

- **Response to an environmental stimulus**
- **Response = a single, specific reaction to a stimulus**
- **Stimulus = any kind of signal that carries information and can be detected**
- **Individuals with behaviors that make them more successful at surviving & reproducing will produce more offspring**

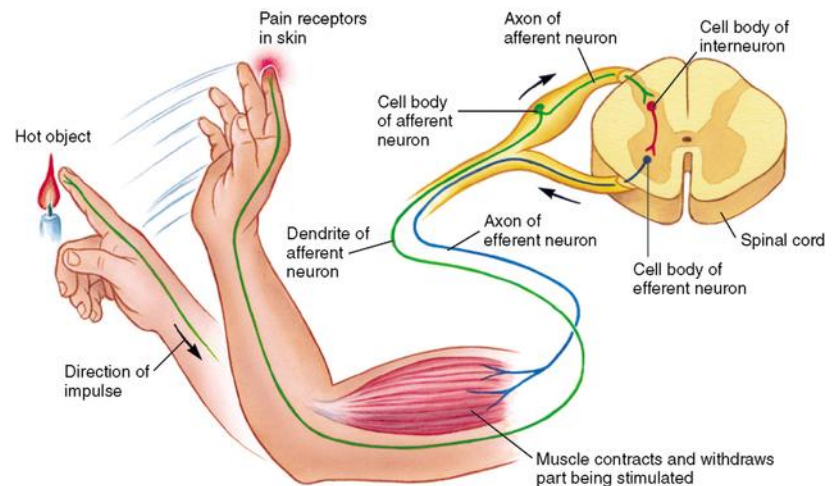


(Organisms respond to a stimulus due to interaction of sense organs, nervous system, endocrine system, and muscles)



Innate behavior

- Inherited, controlled by genes
- **1) Reflexes:**
 - Short & quick, with no conscious control
 - Serves a protective function



- **2) Instinct:**

- Longer, complex pattern of behaviors (may have several parts & take weeks to complete)

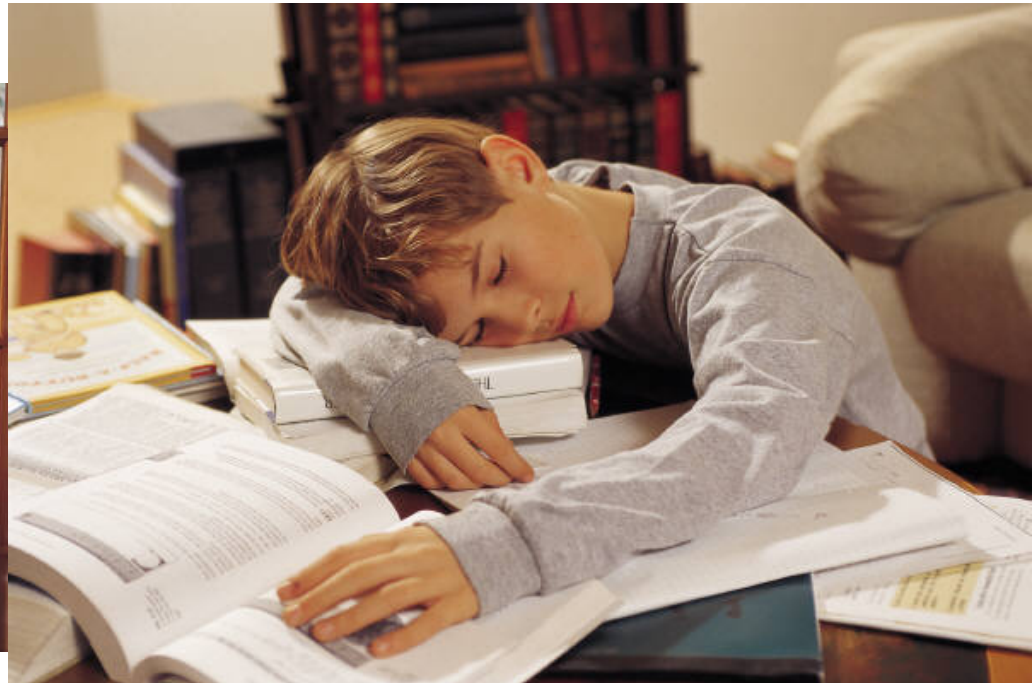


Learning

- Not controlled by genes, can be changed through practice or experience
- How might this be of survival value?



(This...



...not this!)

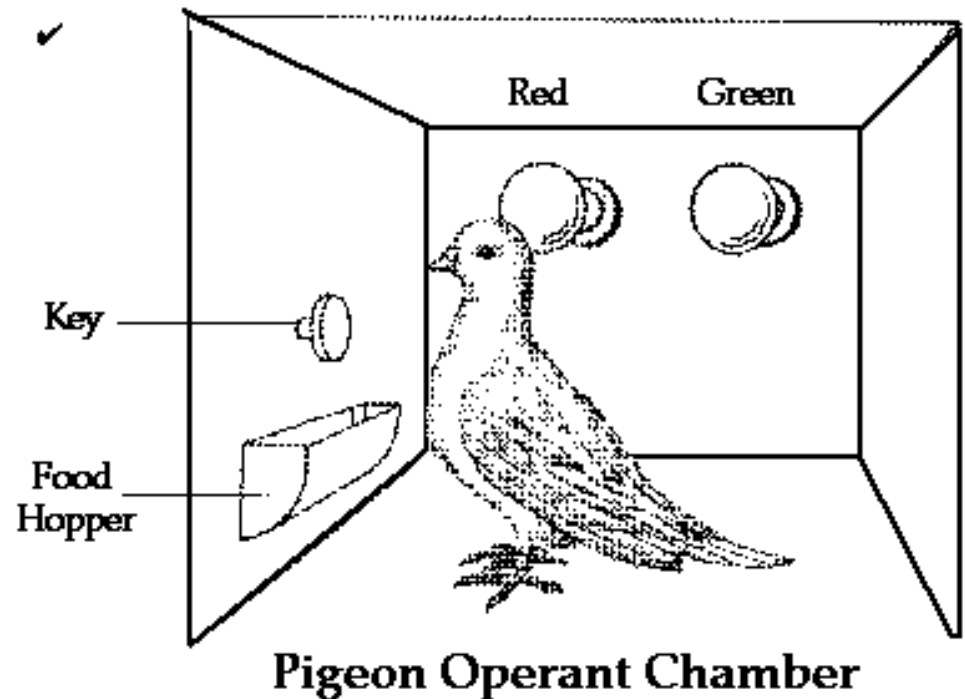
1) Habituation

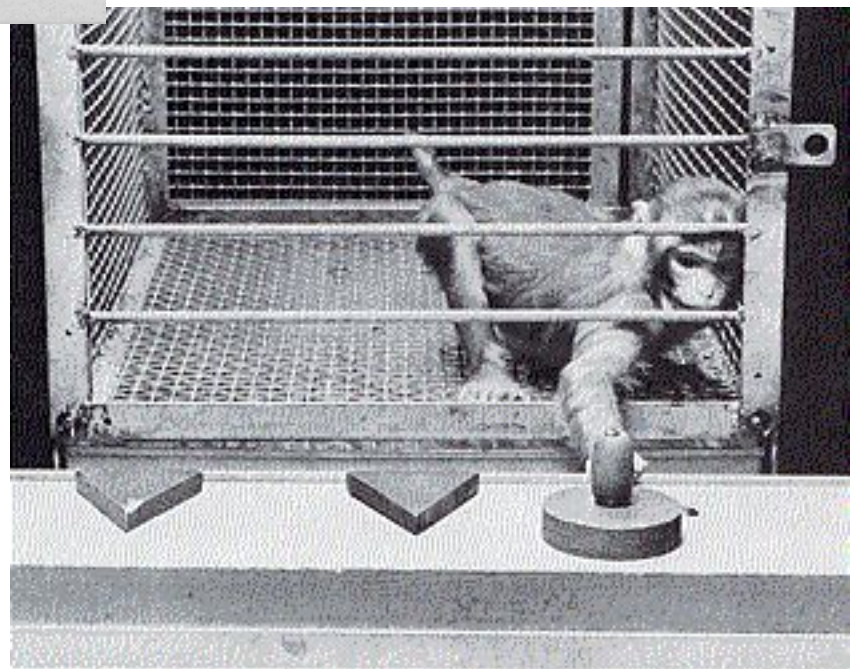
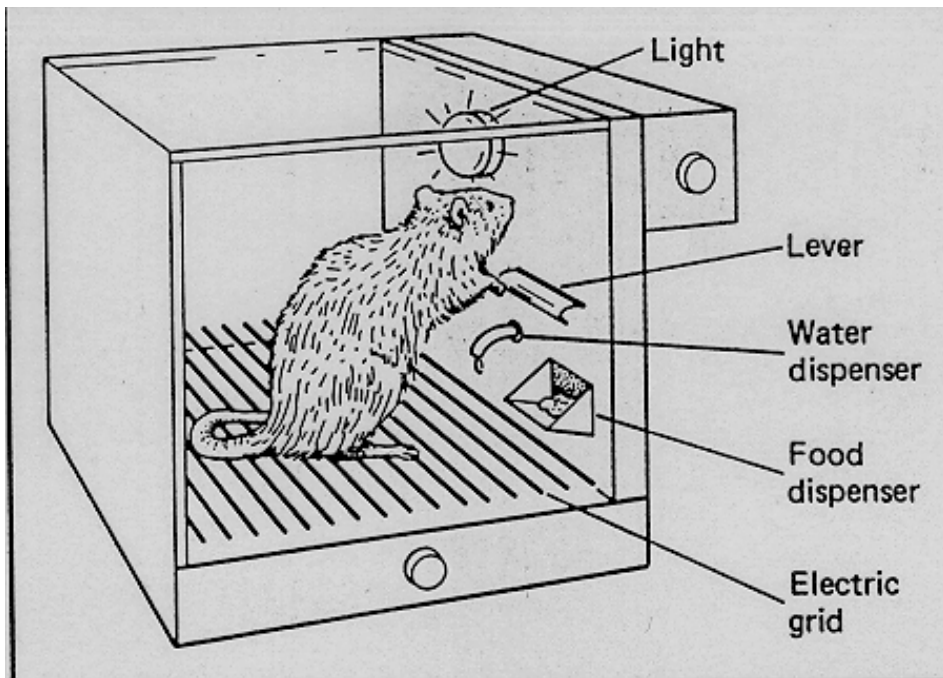
- Learning to “ignore” a repetitive stimulus that neither harms nor rewards the organism



2) Conditioning (associative)

- **A) operant (trial & error)**
 - Begins with a random behavior
 - “Skinner” boxes





- **B) Classical (stimulus → reward or punishment)**

Pavlov's dogs



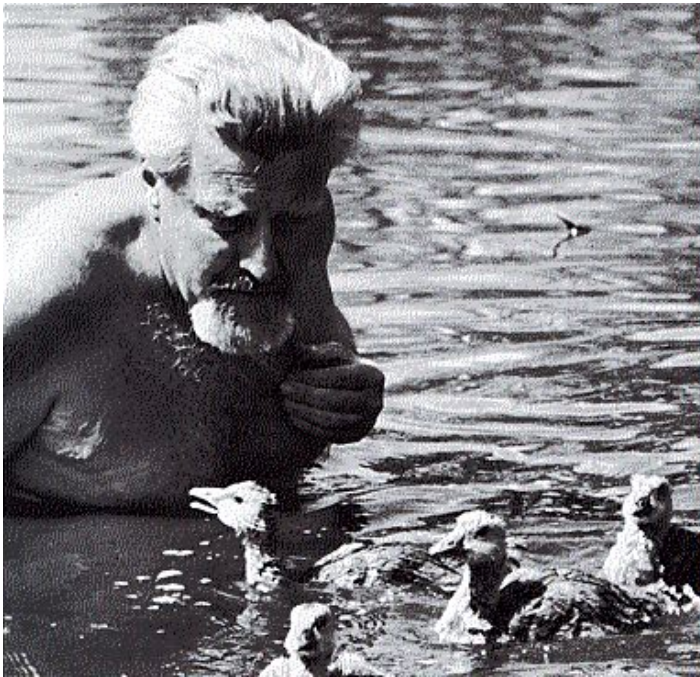
4) Insight

- An animal uses previous experience to respond to a new situation
 - Chimps finding ways to use tools to get the banana



Instinct & Learning Combined

- **Imprinting**
- An animal forms a social attachment (innate drive) to another organism (not just Mom) soon after birth (learn from experience)
- Konrad Lorenz' geese



5) Behavioral Cycles

- Many animals respond to periodic changes in the environment with daily or seasonal cycles of behavior
- A) Migration
- B) Hibernation
- C) Circadian rhythms – daily patterns



6) Courtship

- Part of an overall reproductive strategy that helps many animals identify healthy mates



7) Social Behavior

- A group of related animals of the same species that interact closely and often cooperate with one another
- (Helping a relative survive increases the chances that the genes will be passed along)



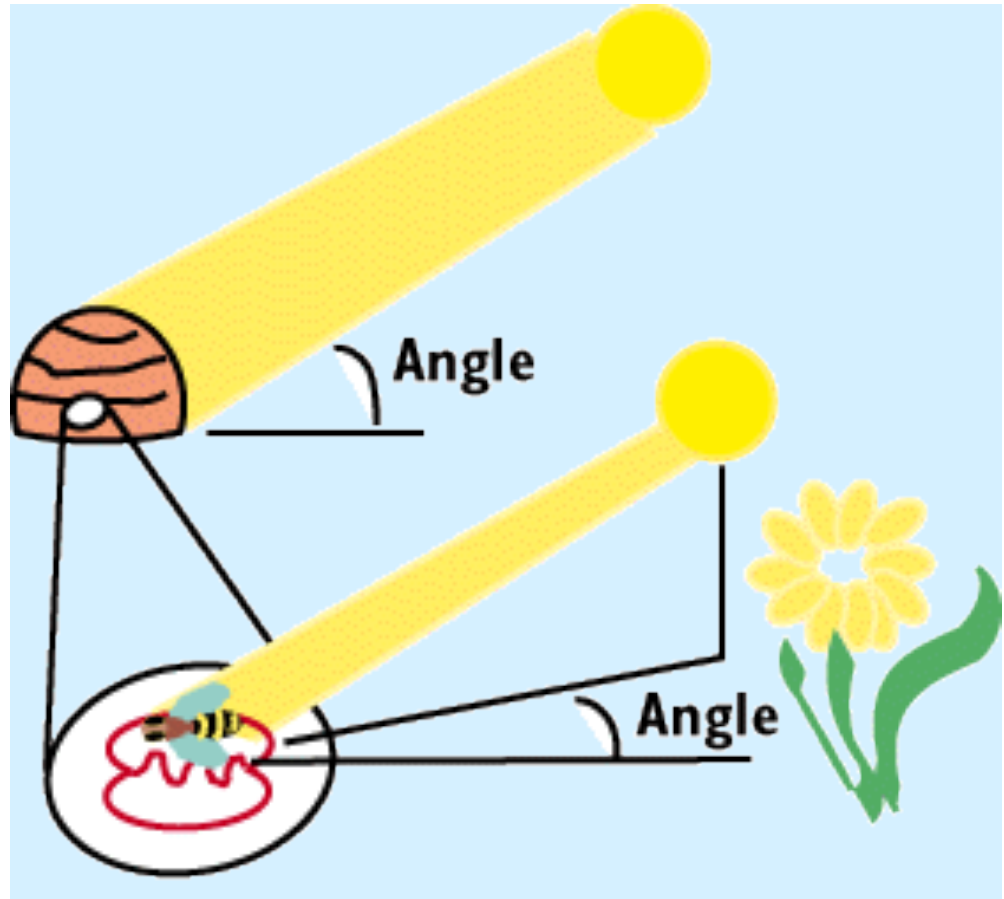
8) Competition

- Some animals have behaviors that help prevent others from using limited resources
- A. Territoriality
- B. Aggression



5) Communication

(bee dance discovered by Carl von Frisch)



a) Chemical

- Pheromones
 - Hormones secreted by organisms that are recognized by others of the species



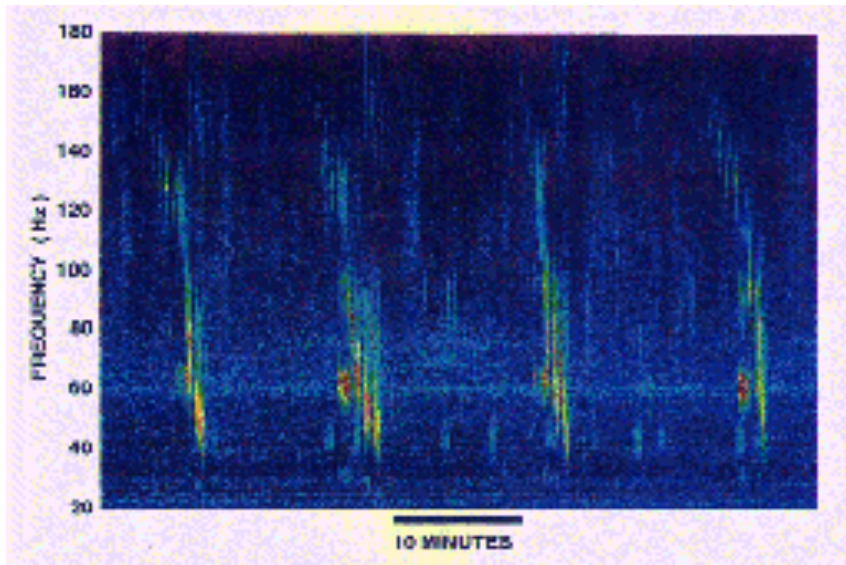
b) Visual

- Using “displays” to communicate without language
- Baring teeth, etc.



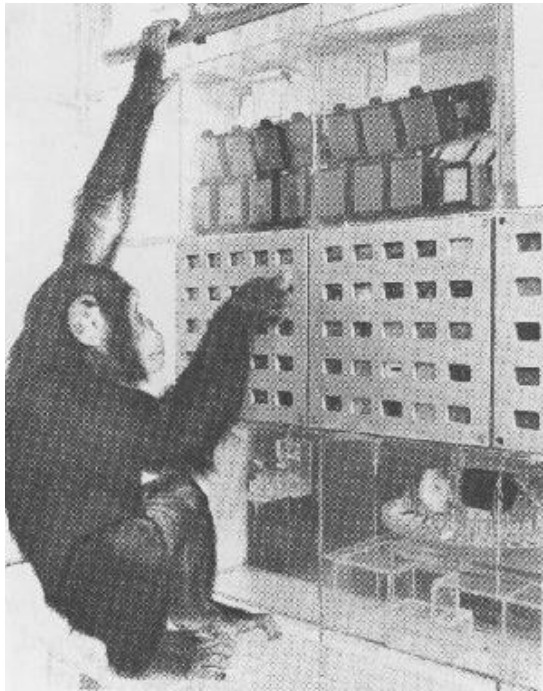
c) Auditory

- Using sounds or songs to mark territory, etc.
- Whale's song



d) Language

- Using symbols to represent ideas (primarily in animals with complex nervous systems, memory & insight)





"Koko-Love"



"Baby"



"Gorilla"



"Good"

Questions?