Motivation

Homeostasis

Stability in body state maintained through self-regulation
Involves set points
E.g., 98.6 degrees F

Hunger

- Example of a drive state
  - State of internal tension
  - The system behaves so as to reduce the tension
- Determined by a complex set of signals
  - Many involving the endocrine system (hormones)
  - E.g., fat cells secrete leptin when full, and leptin suppresses appetite
- Signals are monitored and integrated by the hypothalamus

Some appetite-related signals

- Leptin from fat cells
- Glucose readings
- Nutrient readings
- Cognitive, emotional (e.g., depression)
- Sensory

Weight set points

- We all have a weight that is easy to maintain
  - Increases a pound or two a year, on average
- When we lose weight, our metabolism slows
  - Keeps us alive when food is scarce
    - Example of a negative feedback loop
  - If you gain again, your metabolism may stay low
  - Making it difficult to keep the weight off
**Nature vs. nurture**

**Sexual orientation**

- Influenced by genes and environment
  - [whomyoulove.com](http://whomyoulove.com) (Marc Breedlove, MSU)
- **Concordance rate of a characteristic:**
  - The probability that one member of a twin pair has the characteristic, given that the other does
  - Identical vs. fraternal twins:
    - 100% vs. 50% shared genetic material

**The older brother effect**

- The more older brothers a male has, the more likely he is to be gay
- One possible mechanism:
  - Chromosomes: Girls are XX, boys are XY
  - Mom’s body views new proteins on the Y chromosome as invaders
    - Generates antibodies that affect later male fetuses
    - Somehow making them more likely to be gay