Animal Intelligence and Cognition

* Crows
  + Probability that crows drop nuts when there is no vehicle is higher than where there are vehicles
  + Drops black walnuts from a higher height than English
  + If English nuts are dropped on soil instead of pavement, dropped from a higher height

ETHOLOGY

* Ecocentric
  + Relationship of animals to their ecosystems
* Begin studies in the wild

COMPARATIVE PSYCHOLOGY

* Anthropocentric
  + Approaching from what we know about ourselves
* Begin studies in the lab

Proximate

* Mechanism
* Development
  + INTERNAL to EXTERNAL
    - Body plan
    - Brain architecture
    - Pre disposition
    - Associative learning
      * Operant learning, etc.
  + When do crows start to exhibit this behavior (dropping walnuts)
    - Learned through watching?
  + Nest-building is more of an innate behavior
* NATURE VS. NURTURE
  + False dichotomy

Experiments that Suggest Learning is Critical for Songbirds

1. Deafen 🡪 abnormal
2. Isolate 🡪 abnormal
3. X-Fostered 🡪 ½ way between abnormal and normal

ANIMAL COGNITION

* Represents synthesis of ethology and comparative psychology
* 1970s? during cognitive revolution
  + Comp psyc focused on basic cognition
* Environment sensory mechanisms motor
* Food ‘food’ 🡪stimulus response associations🡪 feeding 🡪 favorable/un
* Mates ‘mate’ mating
* Modularity
  + Instead of one explanation, there could be multiple processes and modules

Role of Evolution in Behavior

* Genes program the way that the brain develops
* Brain size seems to correlate with surface area
  + Brain is expensive, uses calories when used
* There seems to be a correlation between brain size and intellectual flexibility
* Telencephalon
  + Part of brain that contains cortex
  + Commonly believed to be related to complex behaviors
* Linear correlation between telencephalon and hippocampus
* ALLOMETRY
  + Unequal grown between different structures