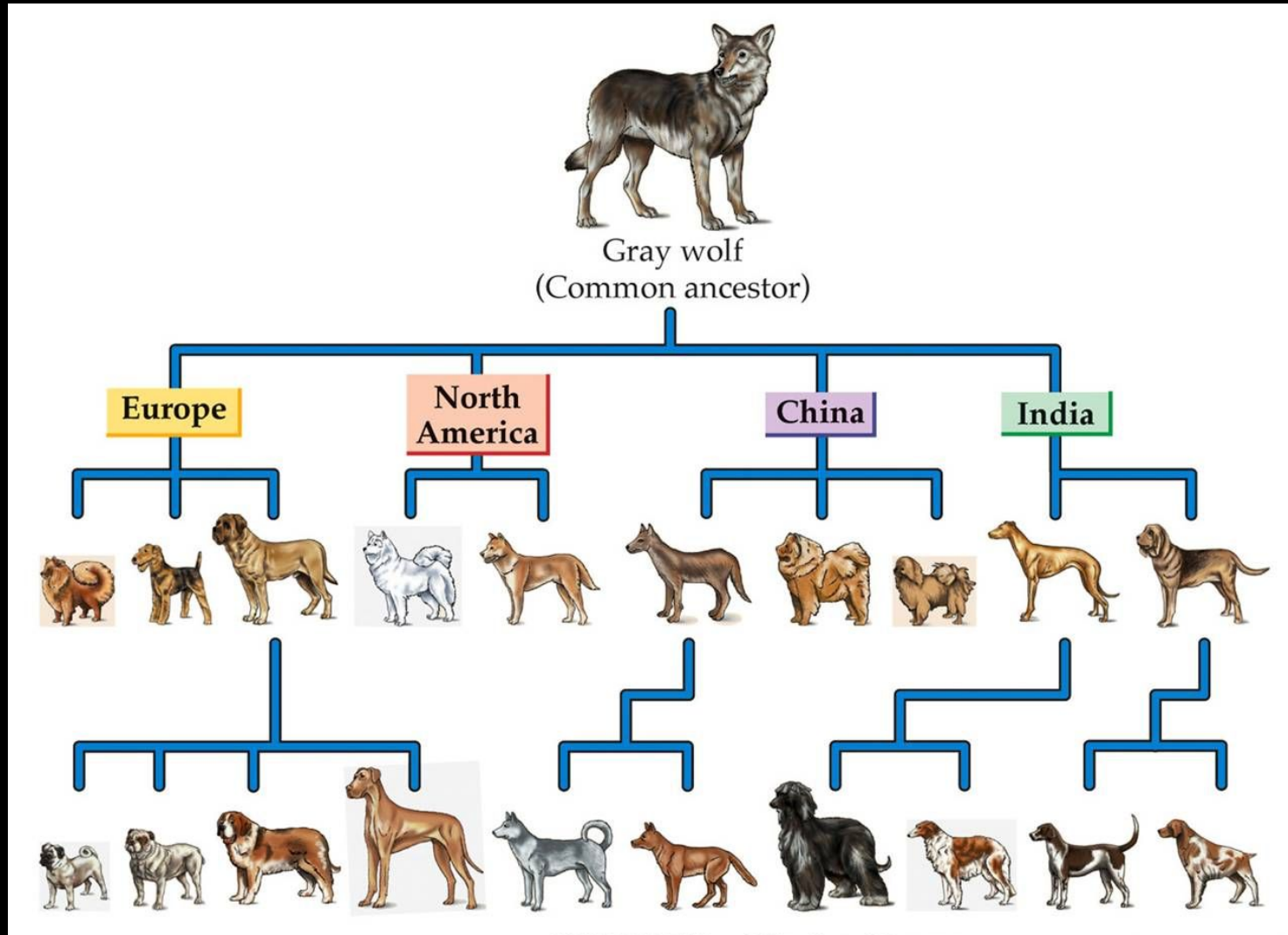


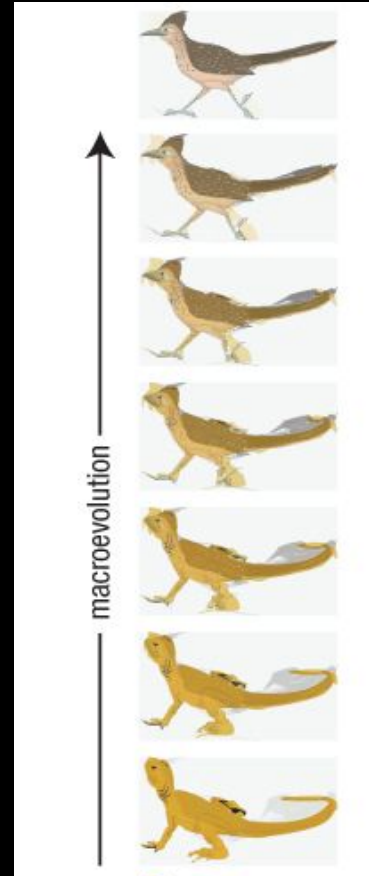
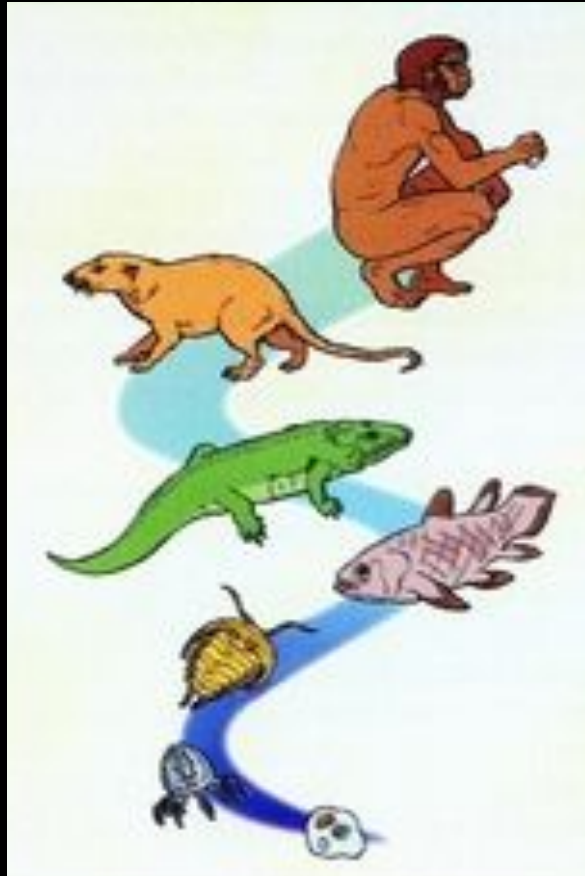
Patterns of Evolution



Learning Objectives

- Describe the different models of evolution
- Explain the difference between convergent and divergent evolution

Macroevolution



Large-scale changes occur over long periods of time.

Microevolution



Small-scale changes that take place over short periods of time.

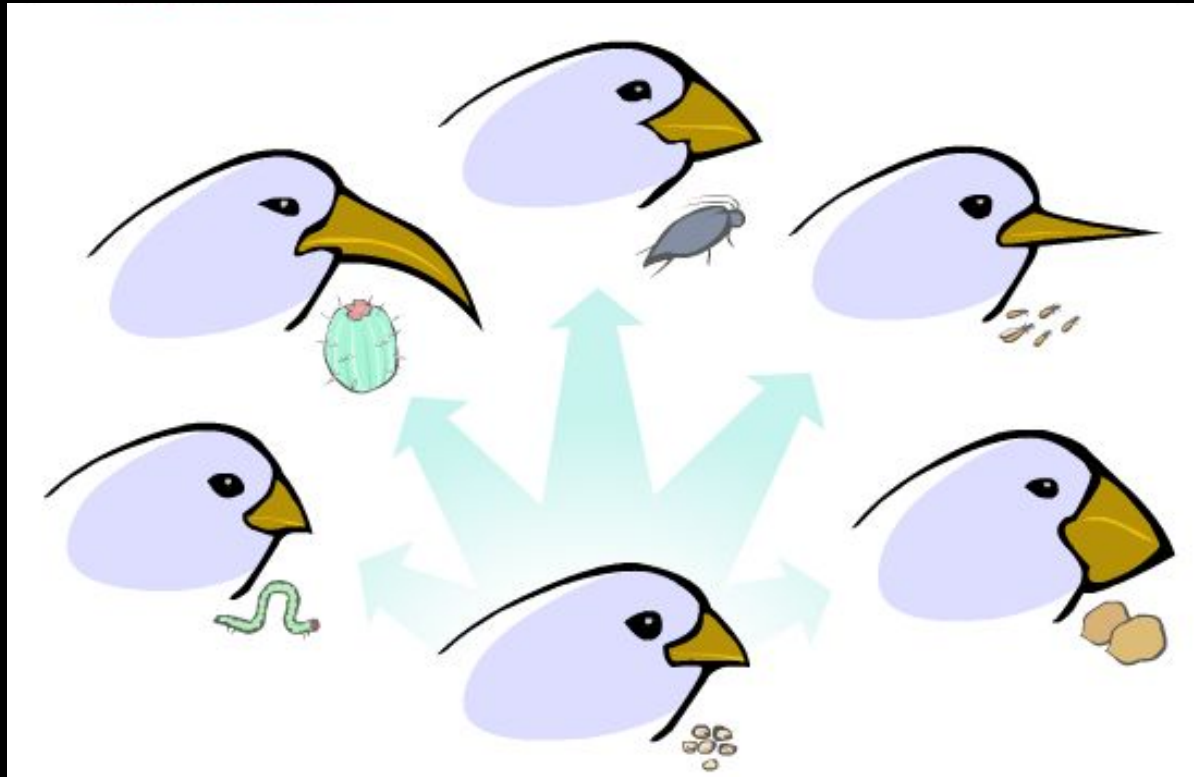
Mass Extinction



Event in which **many** types of living things become extinct at the **same time**.

Adaptive Radiation

(aka Divergent Evolution)



Many new species diversify from a common ancestor, each adapted to a different habitat

Convergent Evolution

Hummingbird Hawkmoth



Hummingbird



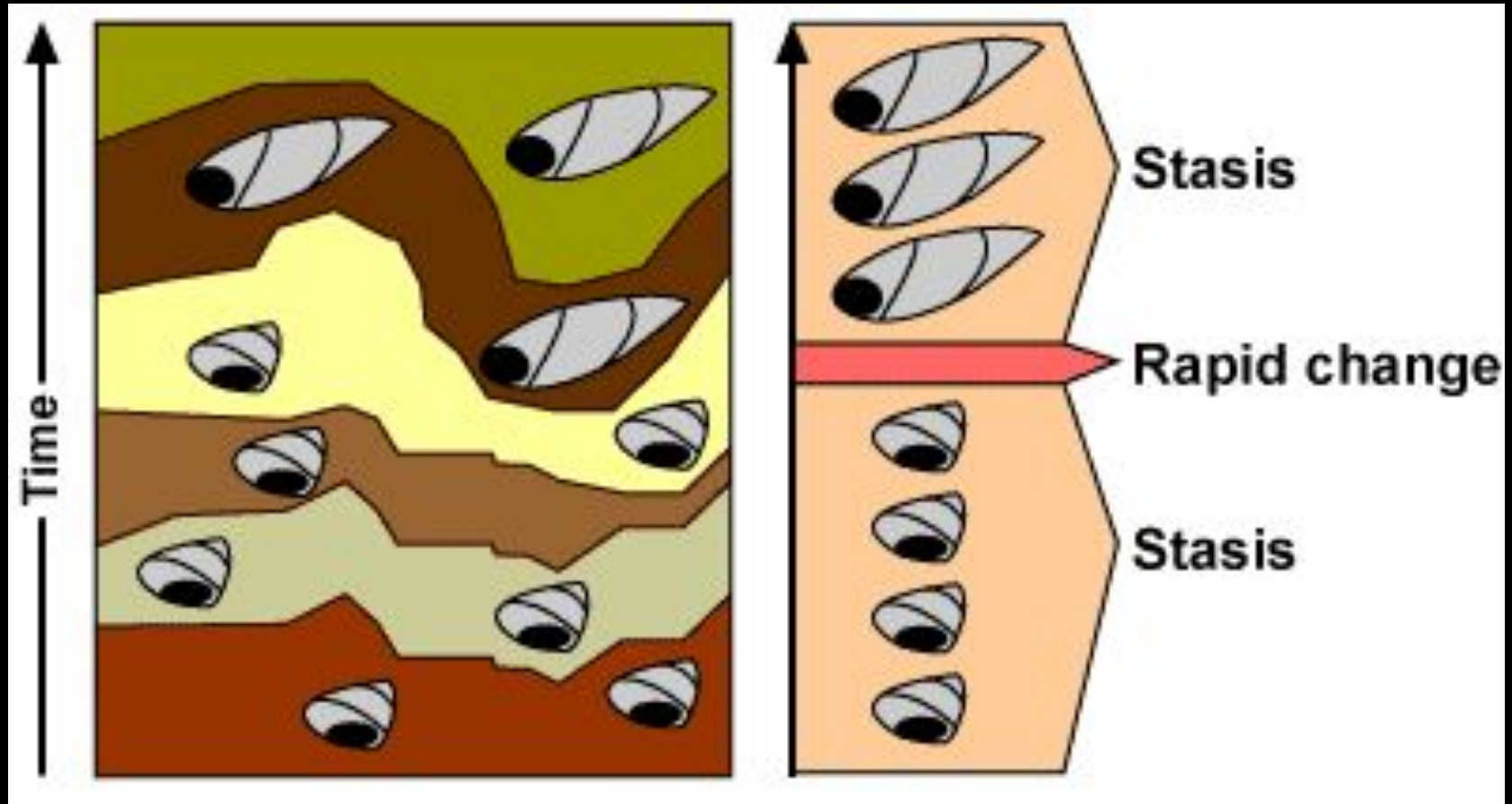
Unrelated organisms independently evolve similarities when adapting to similar habitats

Coevolution



Two species evolve in response to changes in each other

Punctuated Equilibrium

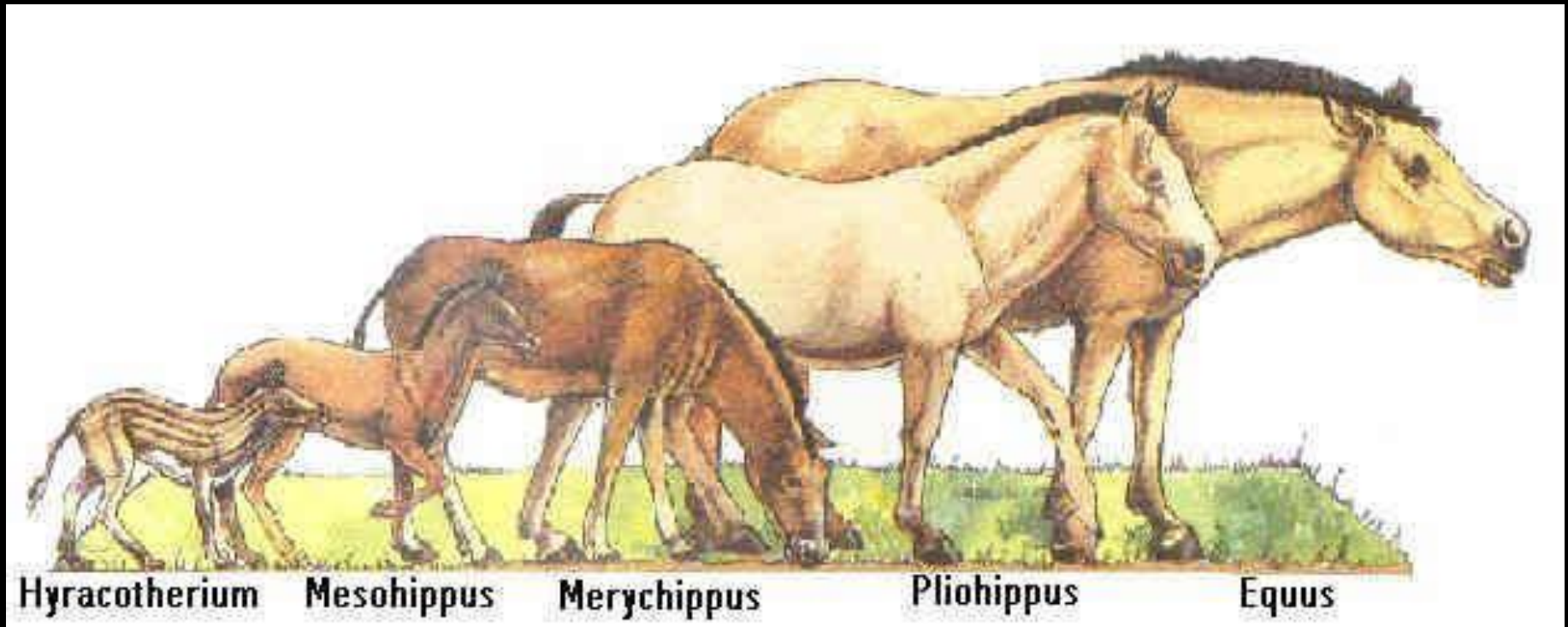


Stable periods of no change interrupted by rapid change involving many lines of descent

Stop Here



Gradualism



Gradual accumulation of small genetic changes over long periods of time