

Introduction to Human Evolution

Anthropology 12
Dr. Tracey O'Rourke

Important Syllabus Items

- Office Hours
- Class and Assignment Schedule
- Exam Dates
- Class Rules
- Grading Policy

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What is Evolution?

- Definition?
- Examples?
- Theory?
- Human vs. other organisms

Definition?

Biological evolution ... is change in the properties of populations of organisms that transcend the lifetime of a single individual. The ontogeny of an individual is not considered evolution; individual organisms do not evolve. The changes in populations that are considered evolutionary are those that are inheritable via the genetic material from one generation to the next. Biological evolution may be slight or substantial; it embraces everything from slight changes in the proportion of different alleles within a population (such as those determining blood types) to the successive alterations that led from the earliest protoorganism to snails, bees, giraffes, and dandelions."

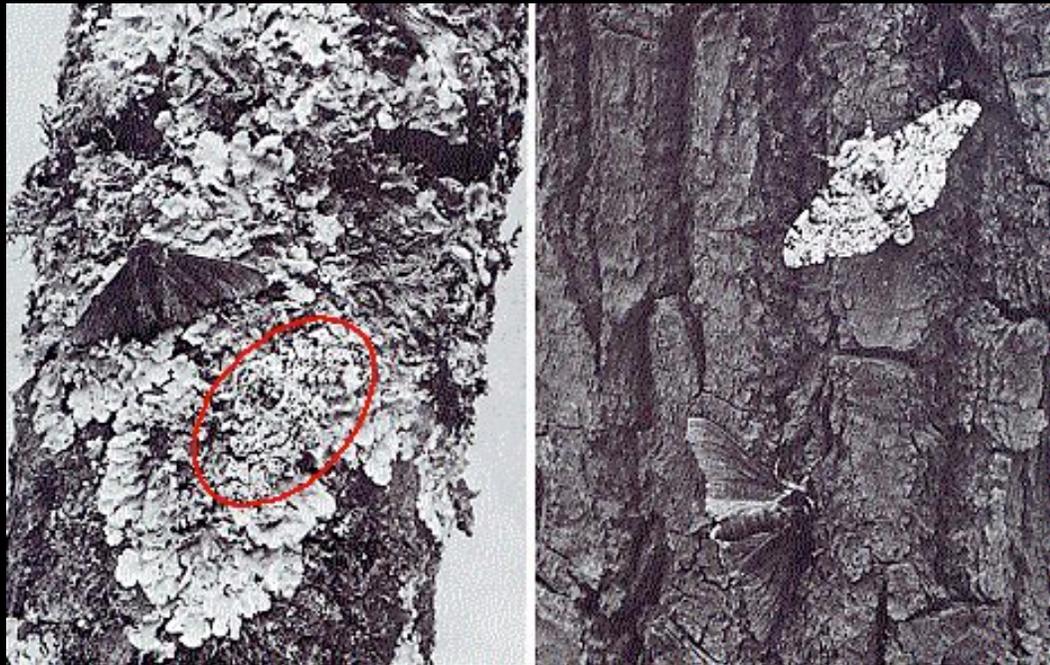
- Douglas J. Futuyma in *Evolutionary Biology*, Sinauer Associates
1986

“changes in gene frequencies over time”

“a process that results in heritable changes in a population spread over many generations”

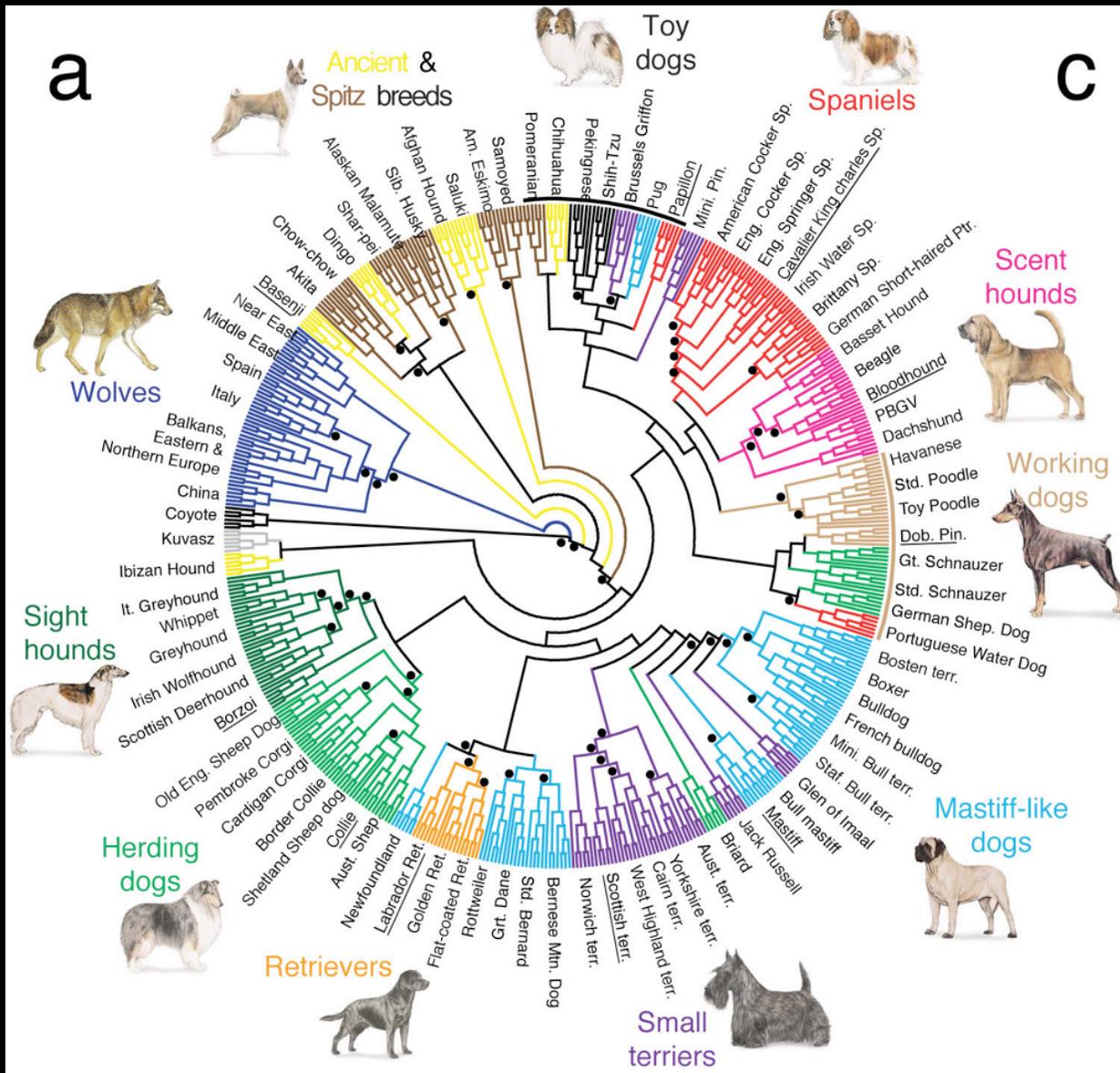
-interesting discussion of evolution definitions @ <http://www.talkorigins.org/faqs/evolution-definition.html>

Pepper Moths

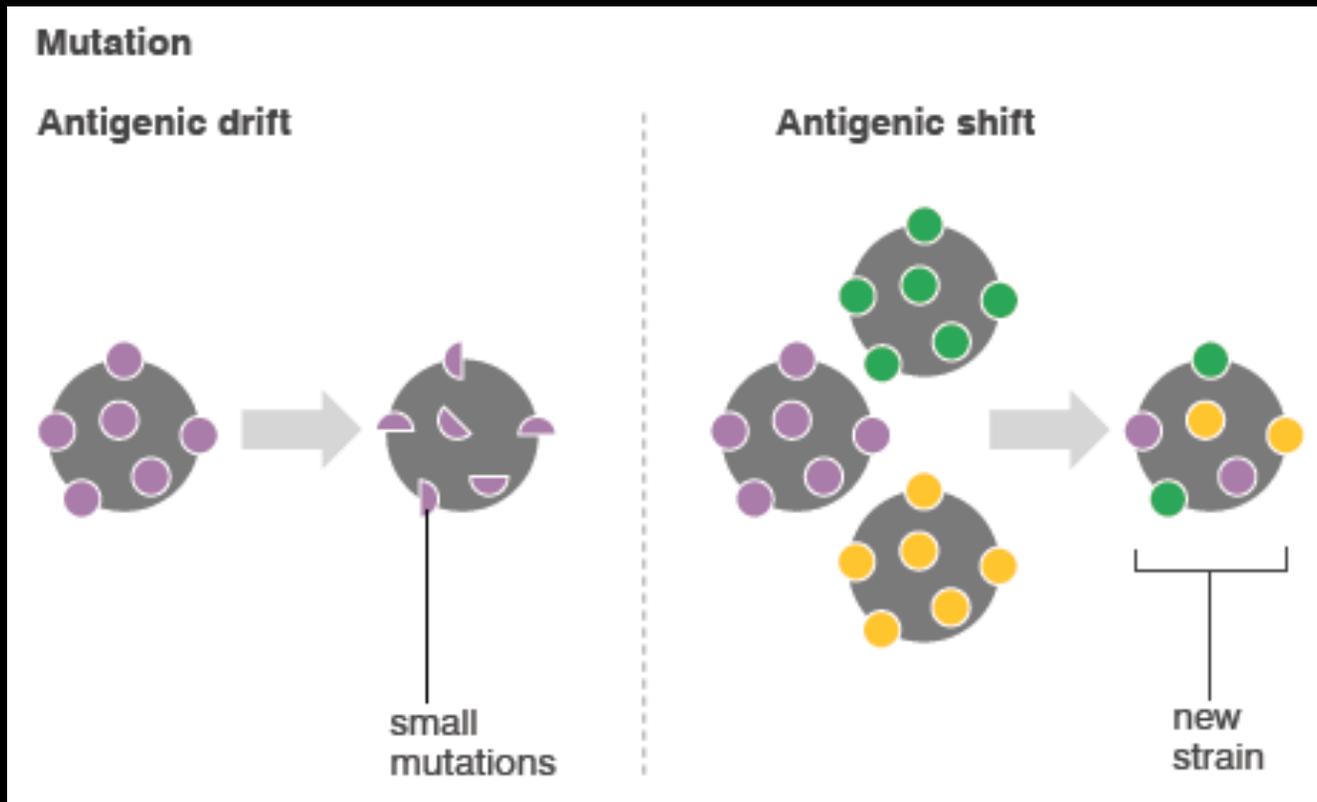


Dog breeds





The flu



Bedbugs



<http://www.npr.org/2011/01/19/133057071/bed-bug-genome-reveals-pesticide-resistance>

Hybrids



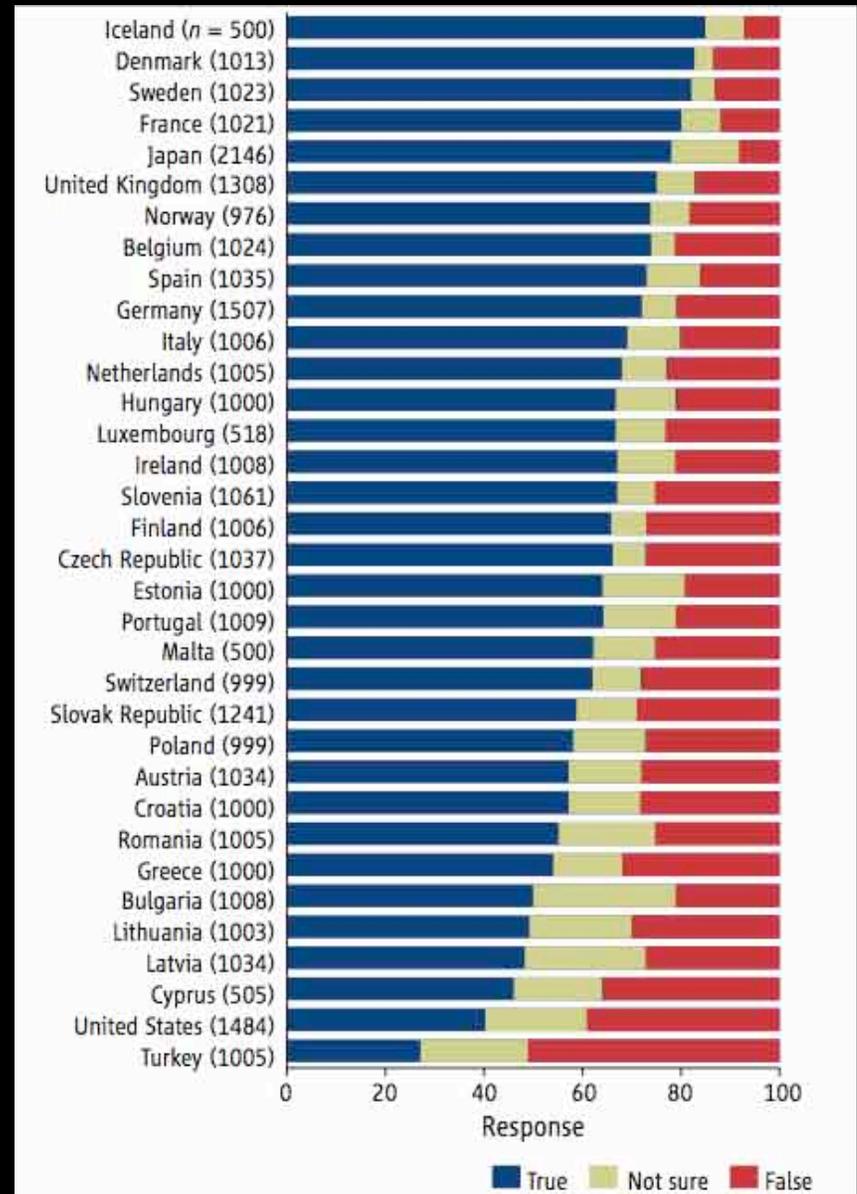


Debate over Evolution



NYTimes 1-23-09

Belief in Evolution



Other Scientific Theories

- Modern Atomic Theory
- Kinetic Molecular Theory
- Germ Theory of Disease
- Cell Theory
- Theory of relativity
- Plate tectonic theory
- String Theory
- Quantum Mechanics
- Big bang theory