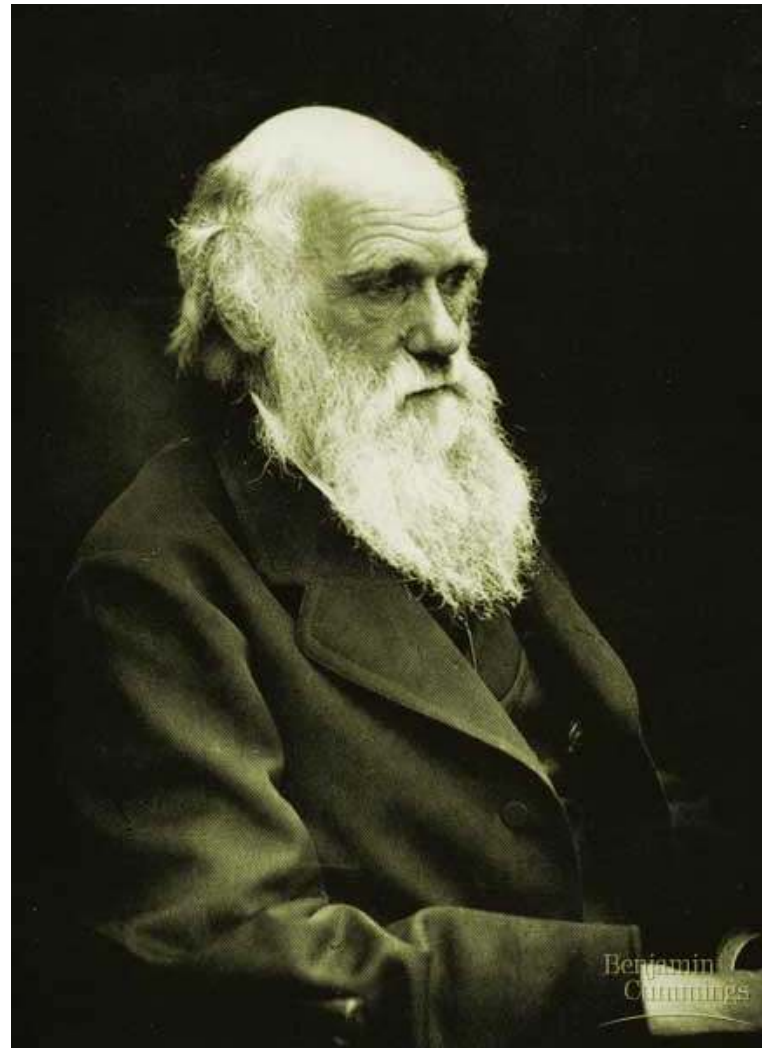


Pre AP Biology

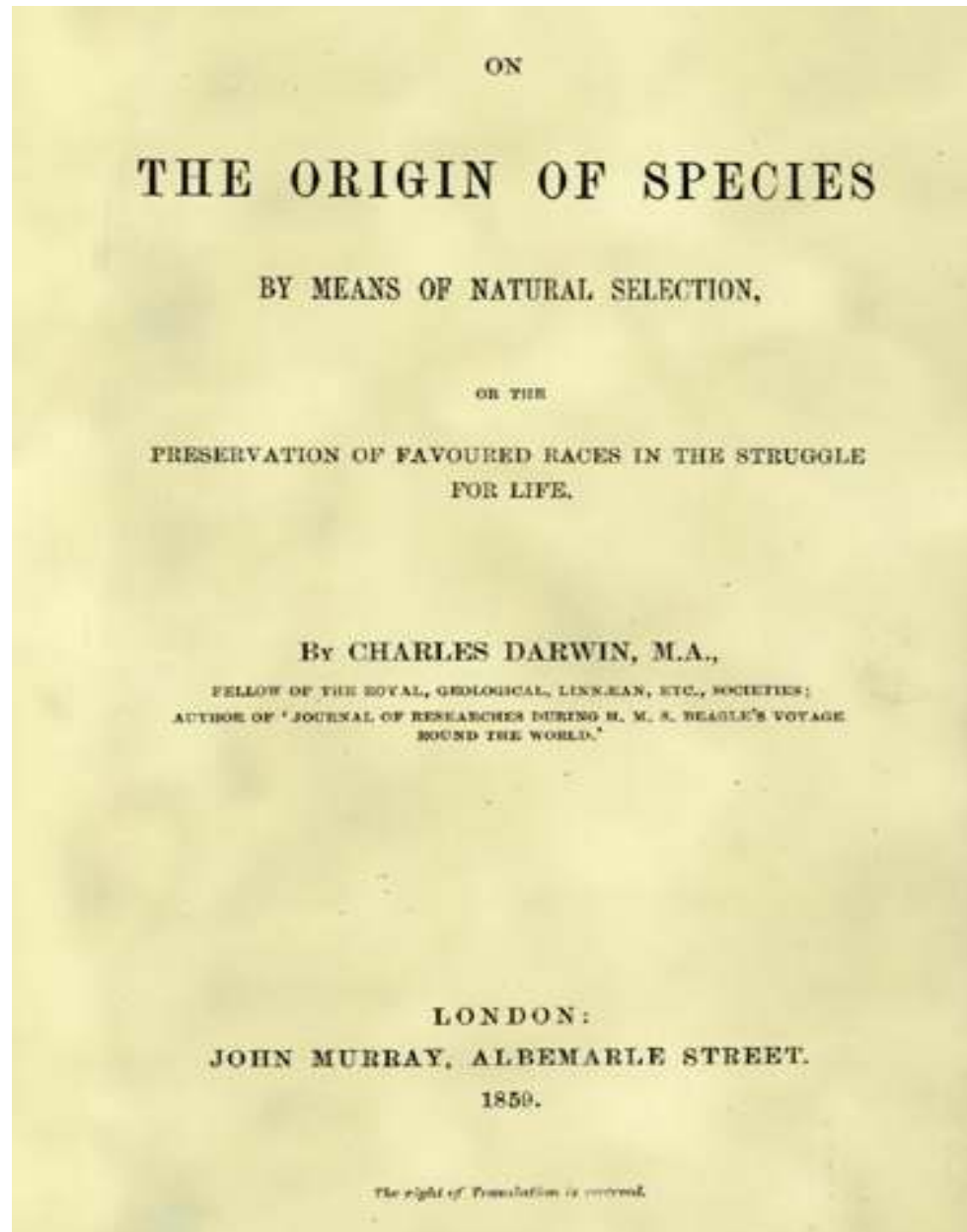
Darwin and the History to his Theory
of Natural Selection (7.1)

Part 1

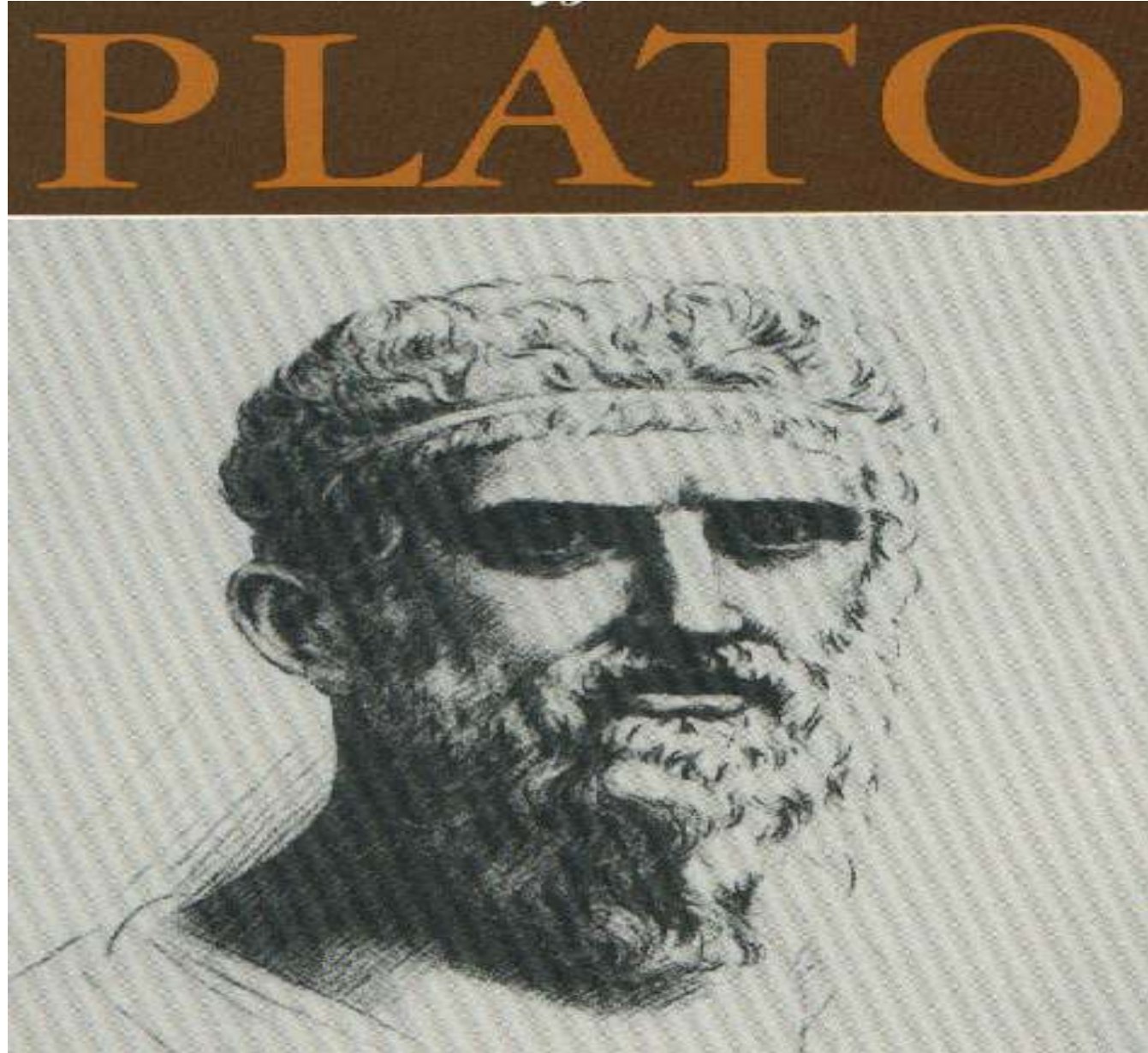
Charles Darwin



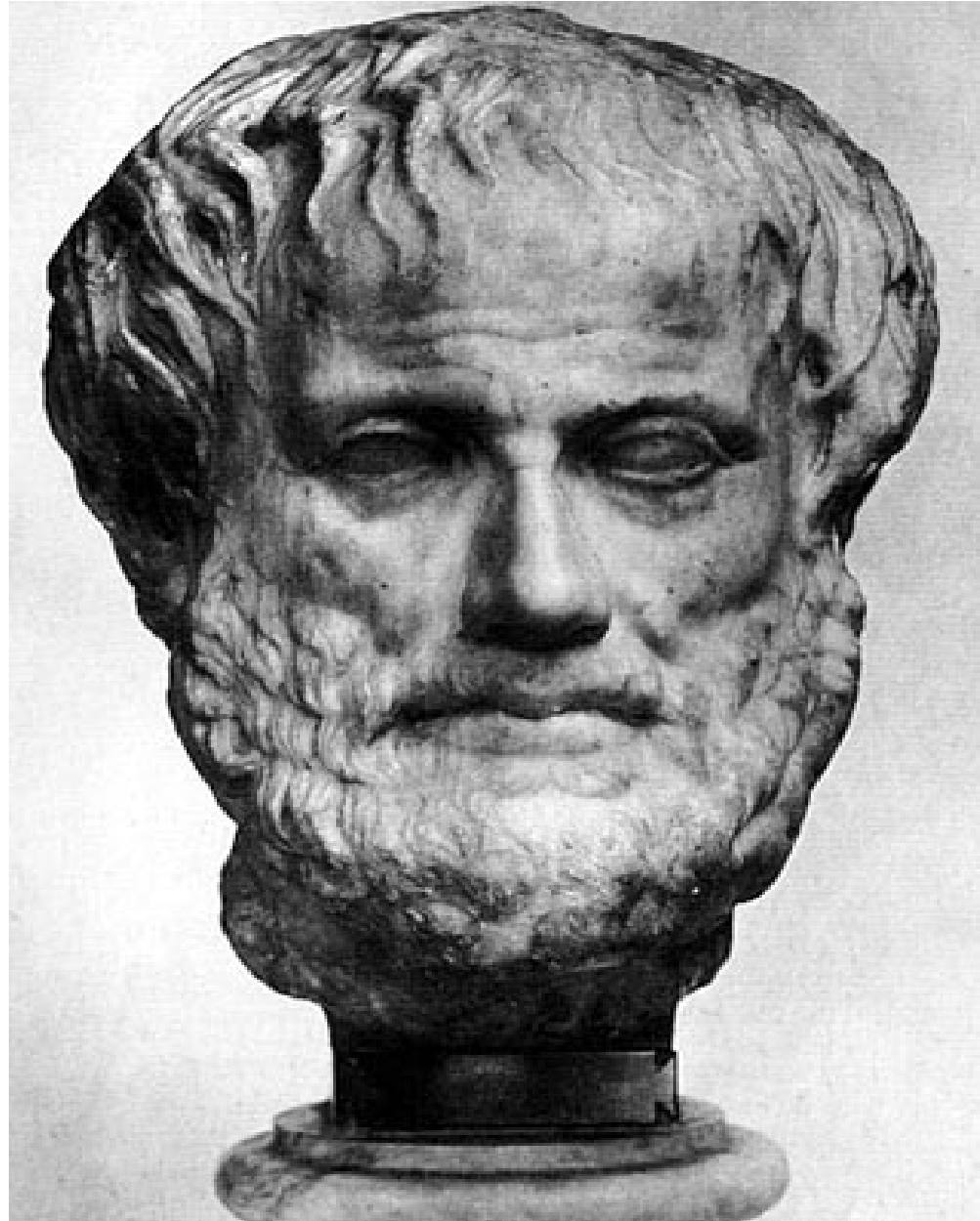
Darwin's Book



Plato



Aristotle



Carolus Linnaeus



Library of Congress

Binomial Nomenclature

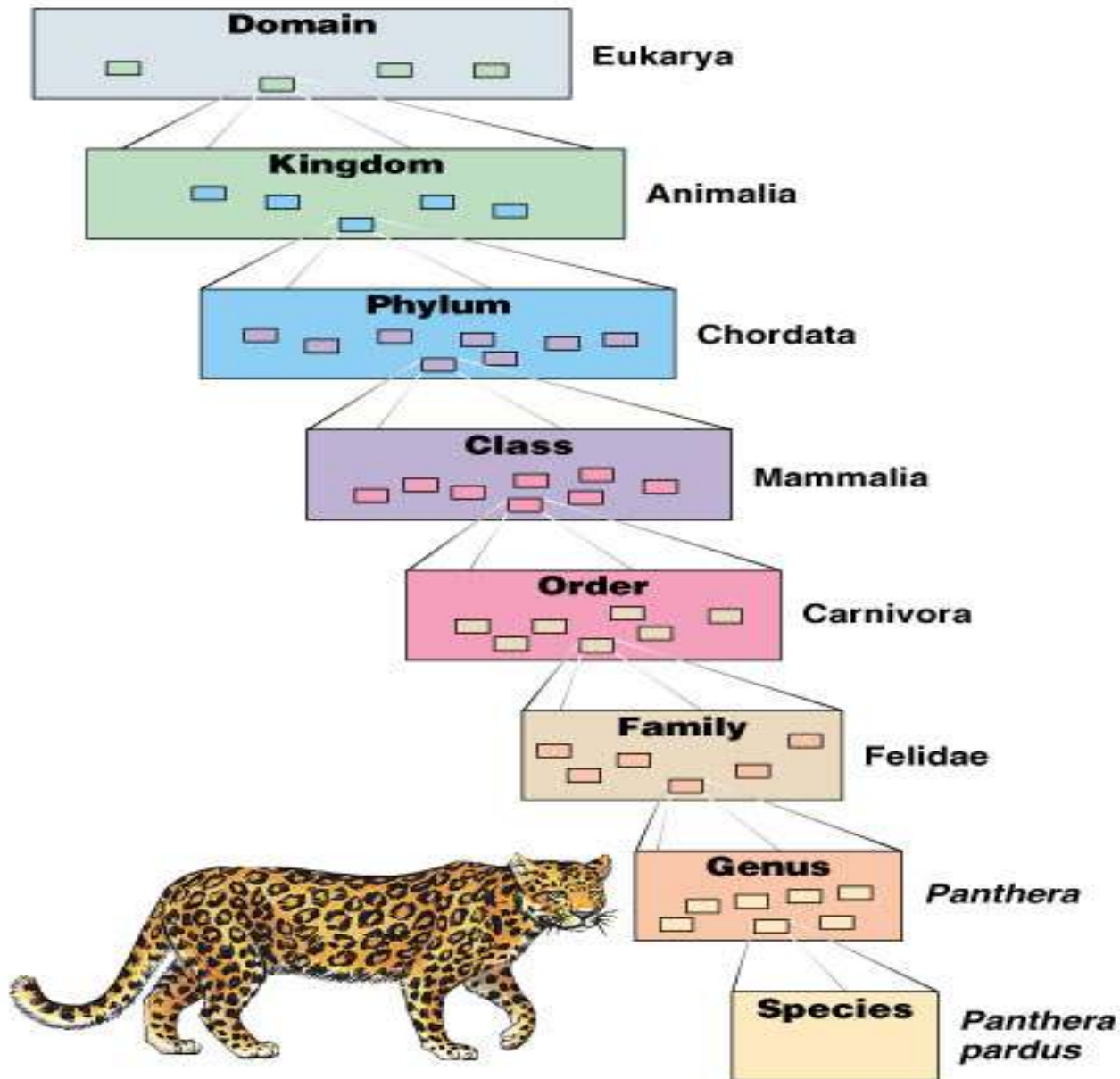
Example: Humans

Homo sapiens

Homo is the Genus part.

sapiens is the Species part.

Taxonomy of Life



Georges Cuvier



Examples of fossils

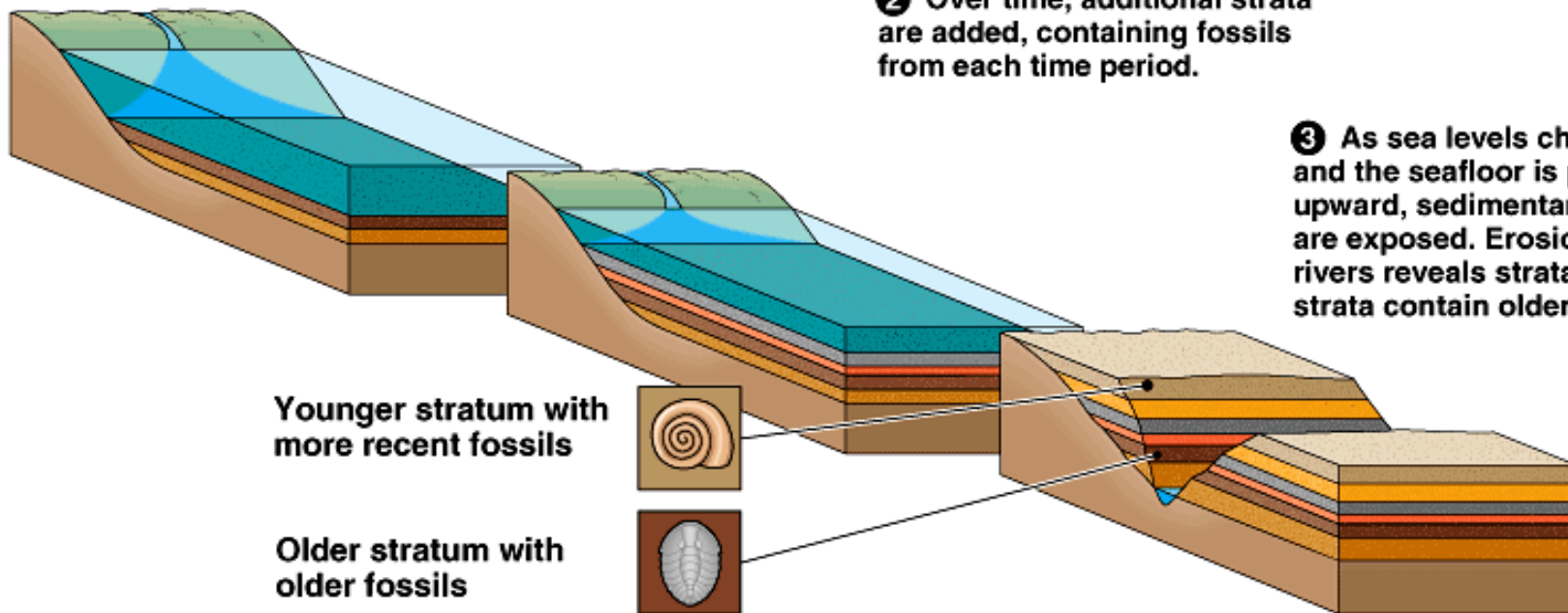


Fossil Formation

1 Rivers bring sediment to the ocean. Sedimentary rocks containing fossils form on the ocean floor.

2 Over time, additional strata are added, containing fossils from each time period.

3 As sea levels change and the seafloor is pushed upward, sedimentary rocks are exposed. Erosion by rivers reveals strata; older strata contain older fossils.



Younger stratum with more recent fossils



Older stratum with older fossils



Jean Baptiste Lamarck



Pre AP Biology

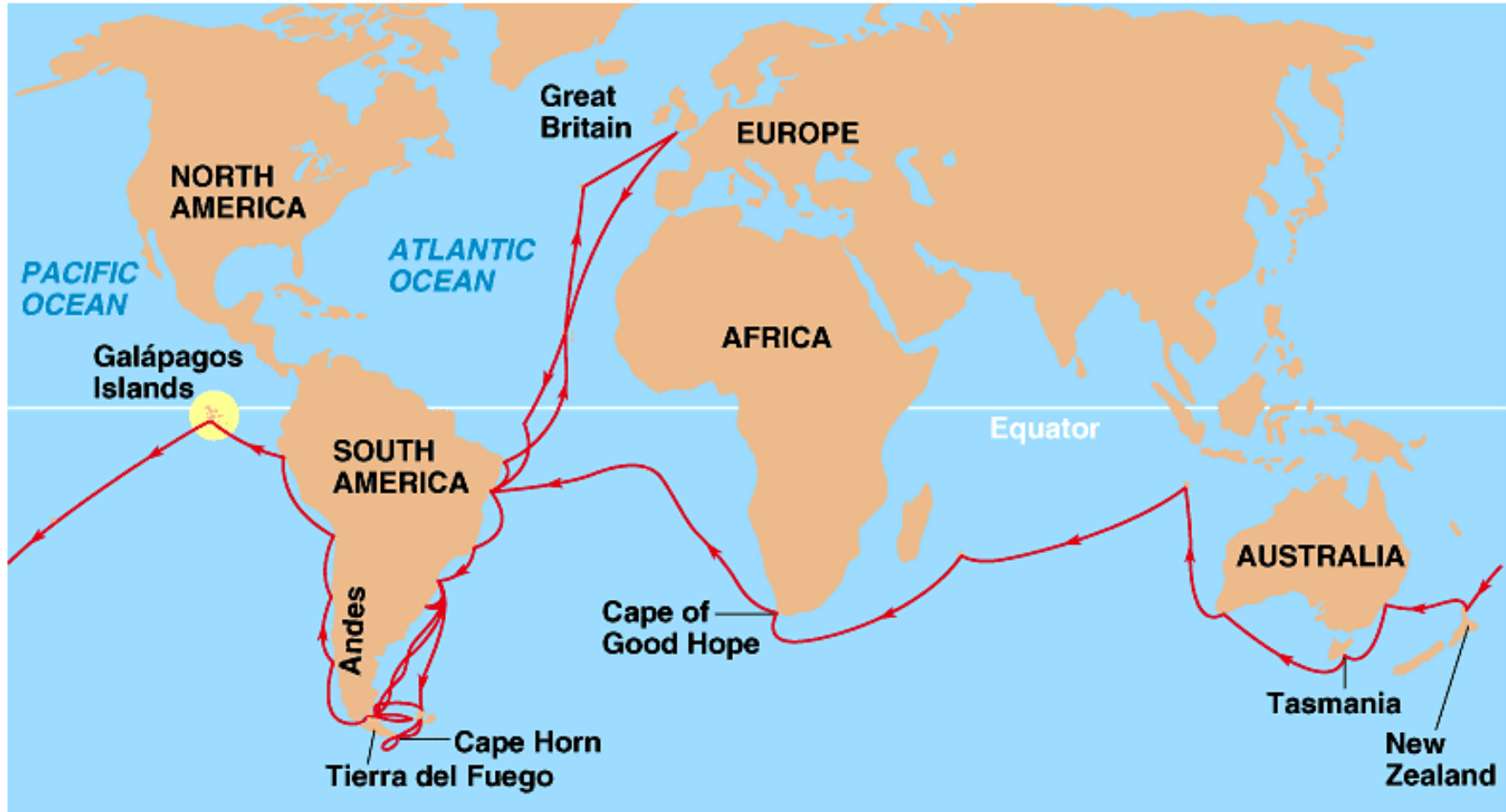
Darwin and the History to his Theory
of Natural Selection (7.1)

Part 2

England



Darwin's Voyage around the world on the H.M.S. beagle with Captain Fitzroy

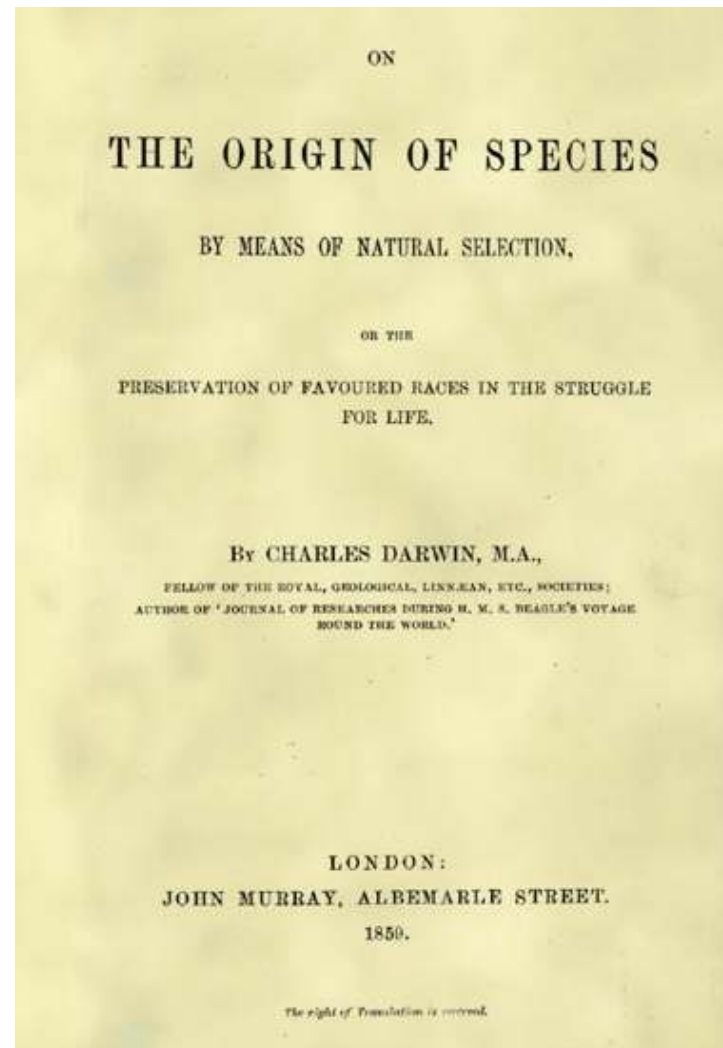


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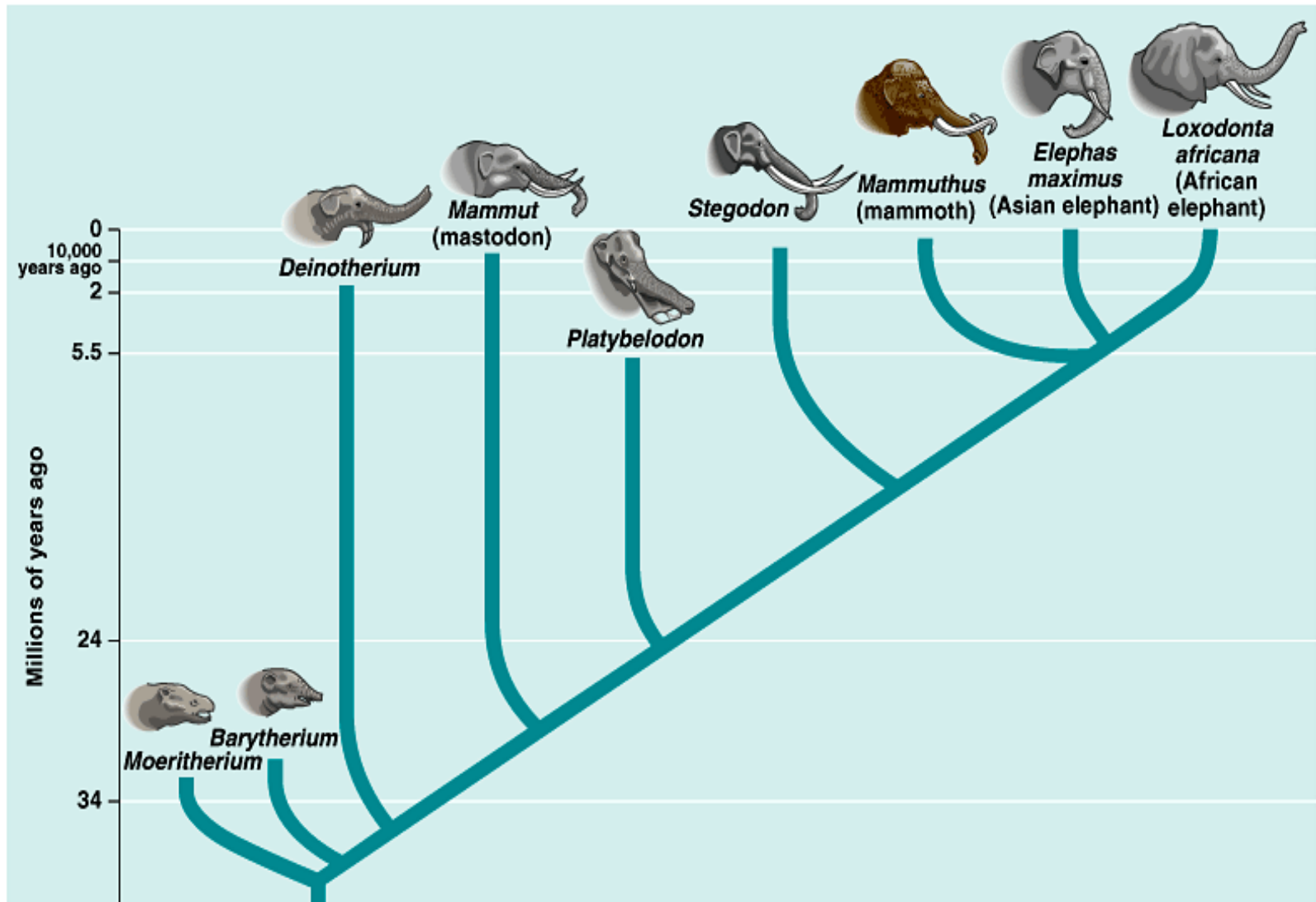
H.M.S. Beagle



November 24, 1859



Example of Descent with Modification and Natural Selection



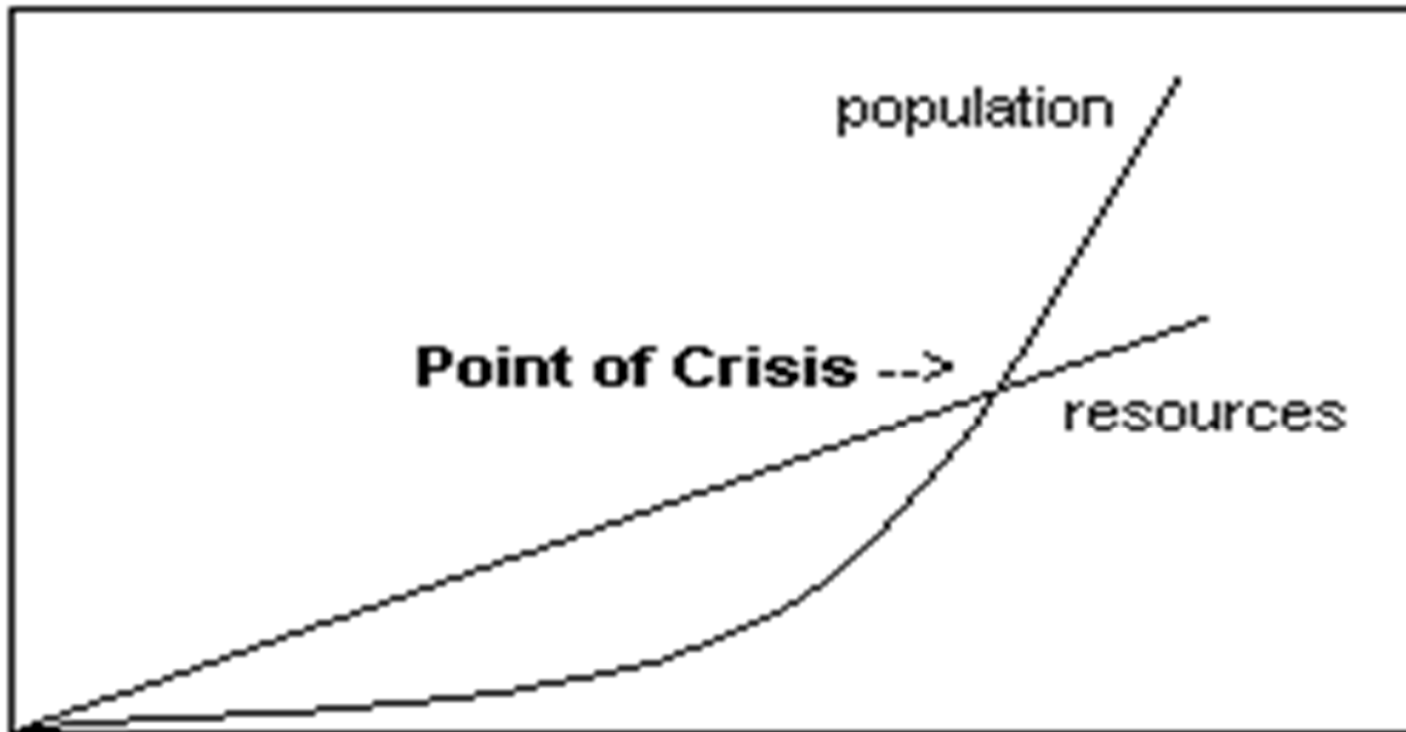
Thomas Malthus

Principles of Population



Malthus's Hypothesis

Life is a struggle to exist



Malthus' Basic Theory

Artificial Selection in food



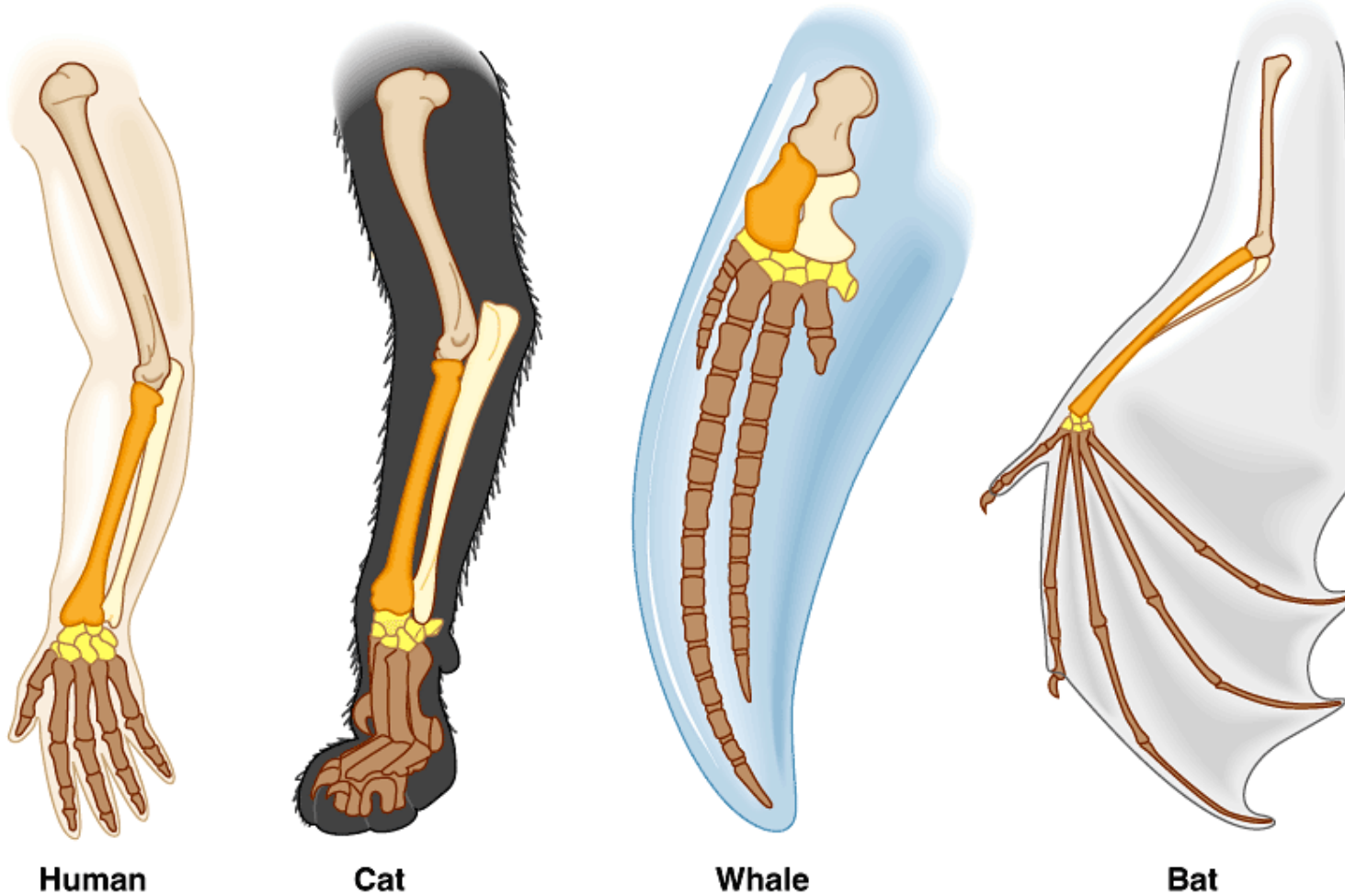
Artificial Selection in Animals



Population

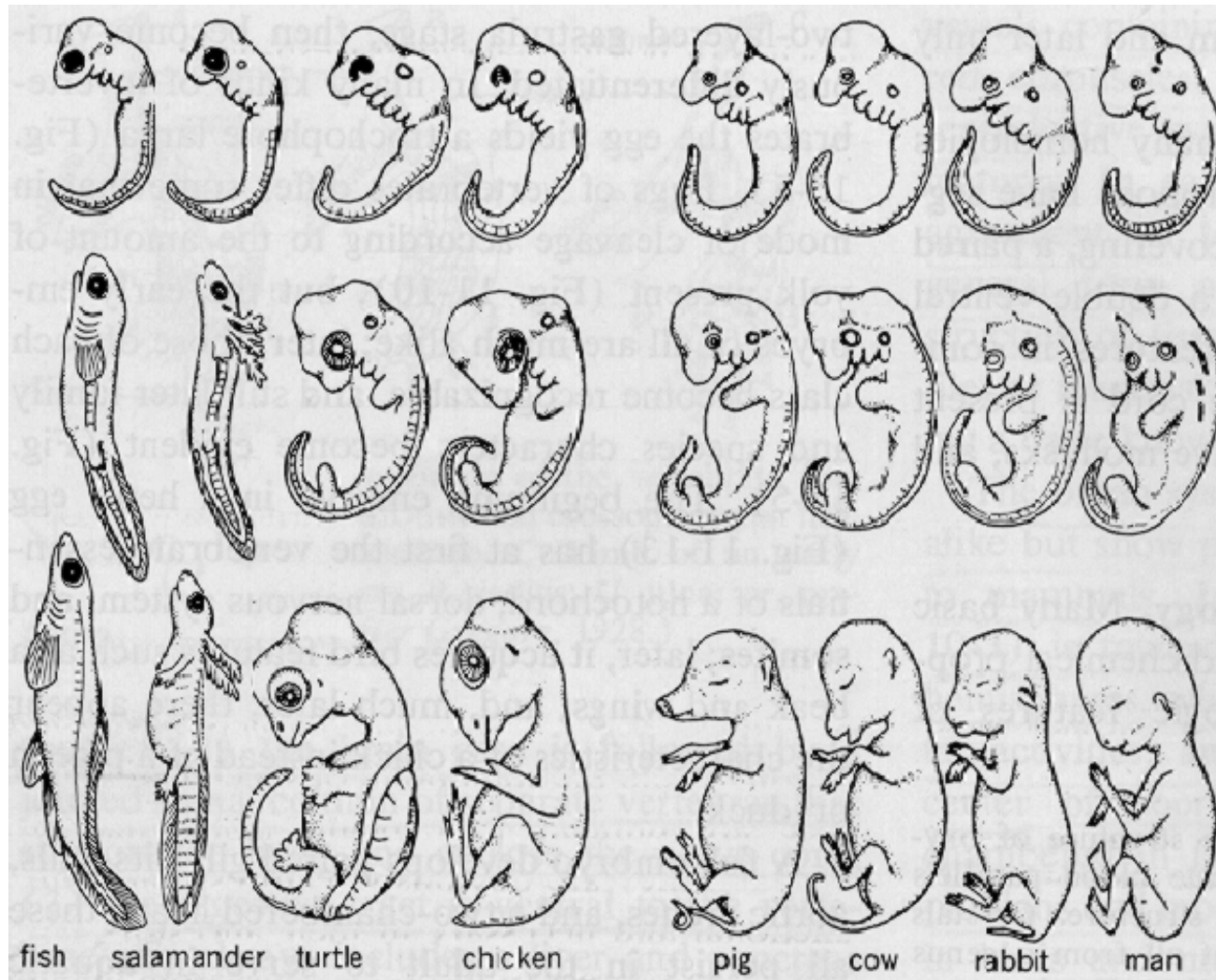


Homologous Structures









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Embryological Homologies

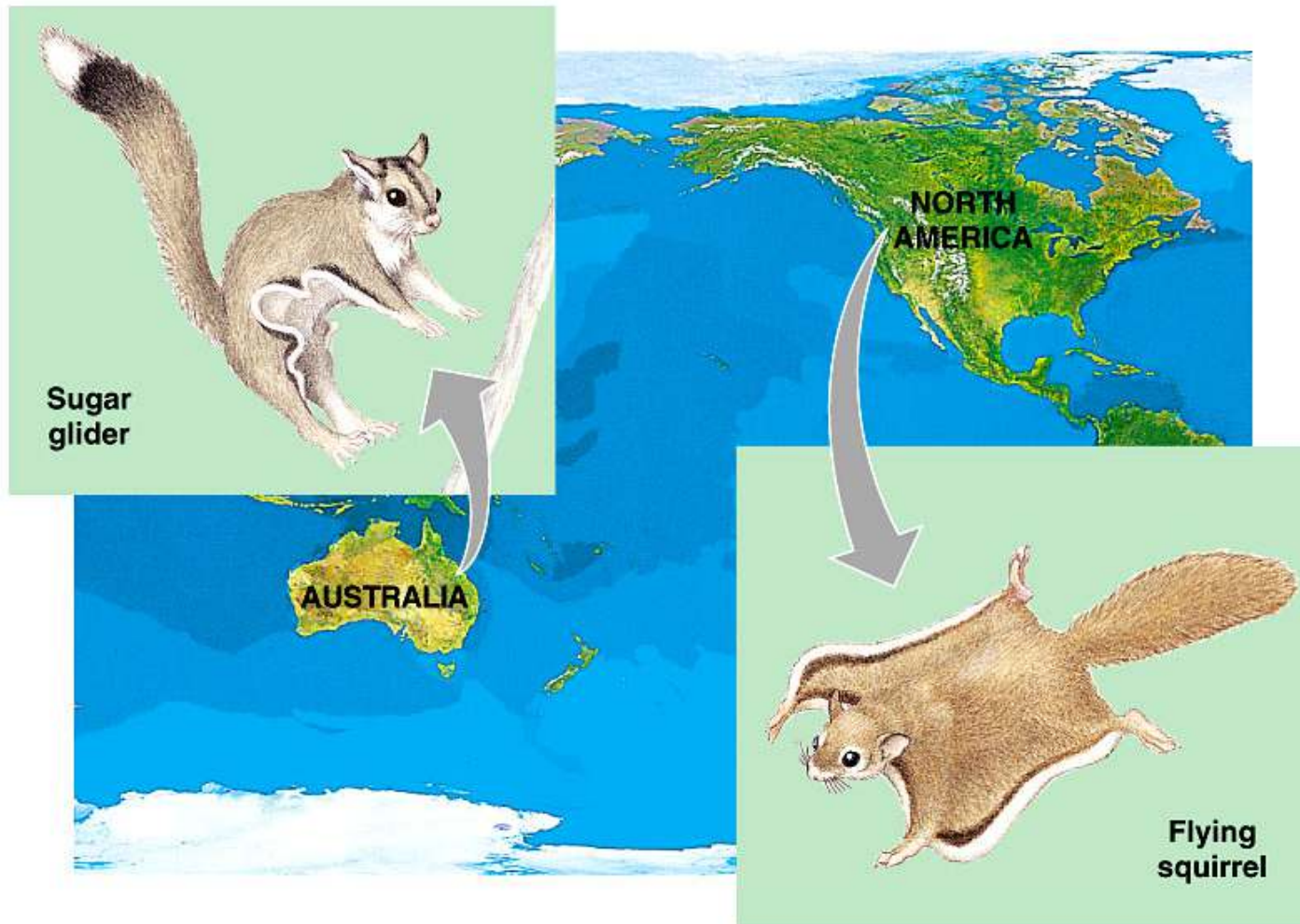


Molecular Homologies

Table 22.1 Molecular Data and the Evolutionary Relationships of Vertebrates

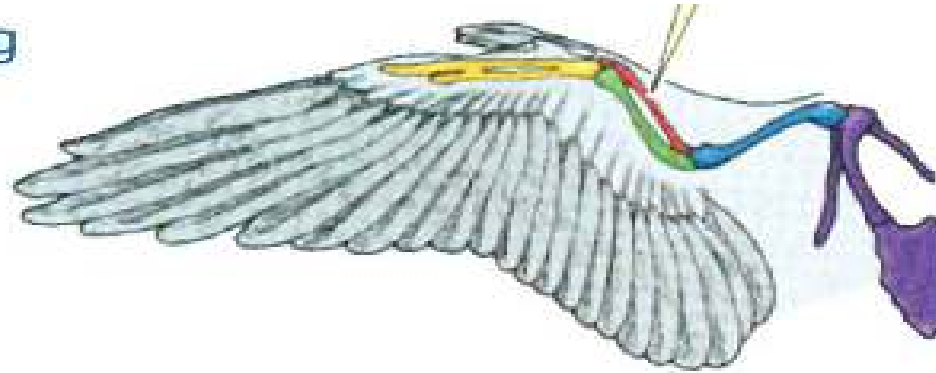
Species	Number of Amino Acids That Differ from a Human Hemoglobin Polypeptide (Total Chain Length = 146 Amino Acids)
Human 	0
Rhesus monkey 	8
Mouse 	27
Chicken 	45
Frog 	67
Lamprey 	125

Biogeography and Convergent Evolution

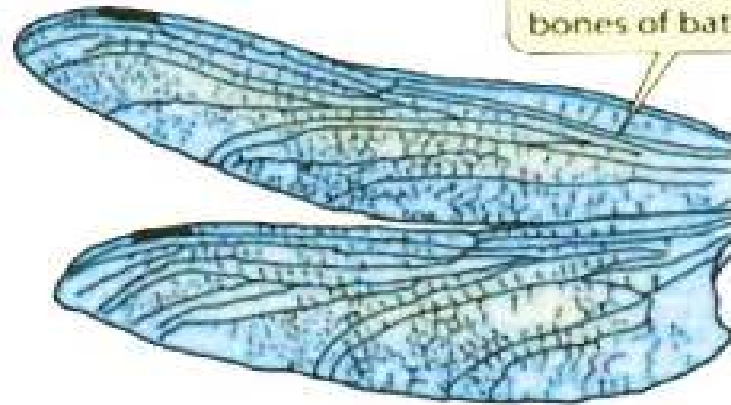


Analogous Structures

Bird wing

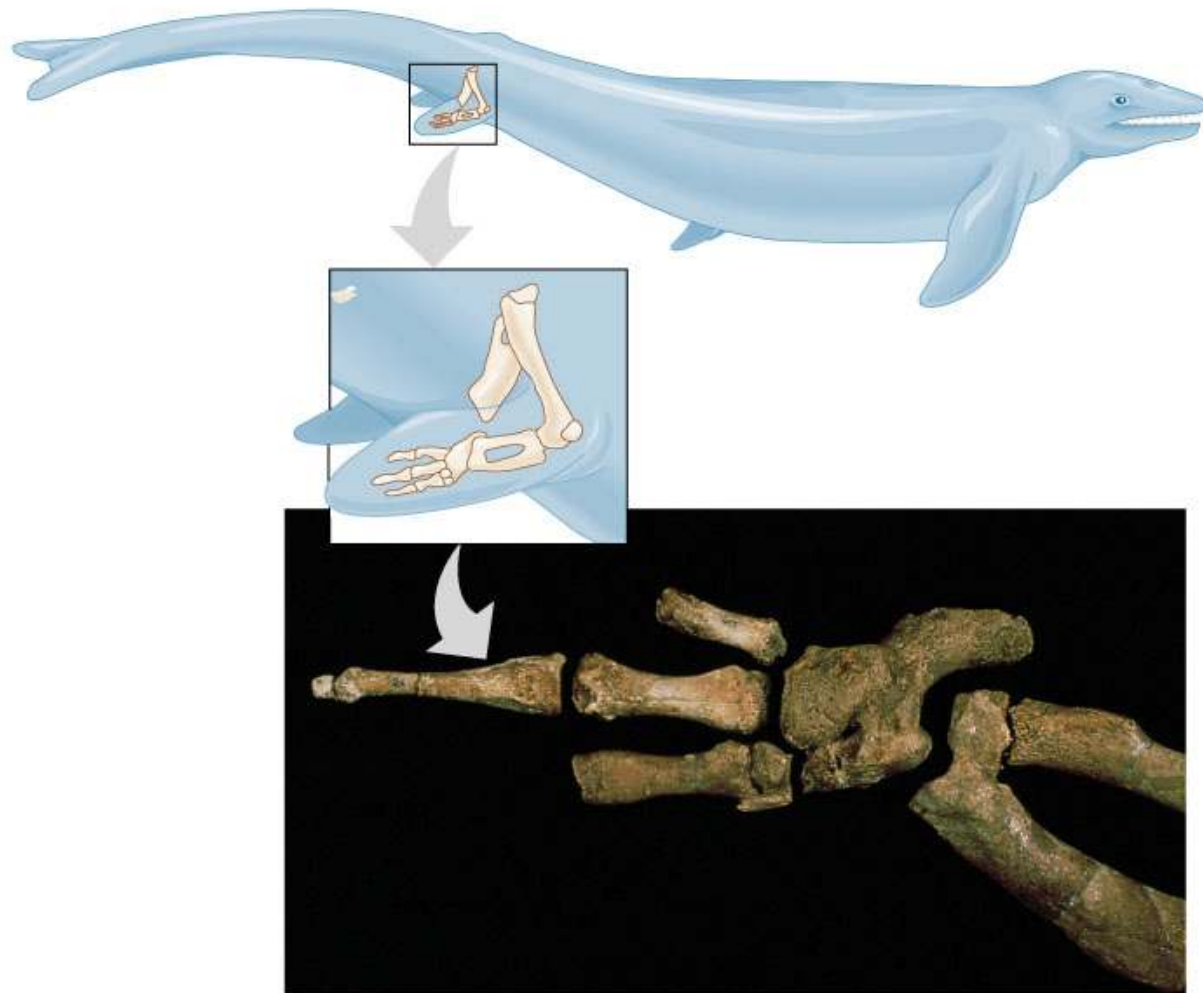


Insect wing



The supports for insect wings are not homologous with the bones of bat and bird wings.

Whale fossil showing evidence of legs



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