

EVOLUTION

Biology 150

Prof. K. V. Kardong

Email: kkardong@wsu.edu

Web: [kkardong@wsu.edu/~kkardong](http://kkardong.wsu.edu/~kkardong)

EVOLUTION

Language

Organic Evolution

- 1) Fact
- 2) Course
- 3) Mechanism

TODAY—

- | | |
|--------------|-------------------|
| 1) Fact | Yes |
| 2) Course | Taxonomy |
| 3) Mechanism | Natural Selection |

Ancient Greeks (6-5 B.C.E.)

Charles Darwin

Conditions

- 1) Increase in population
- 2) Competition
- 3) Survival of the few

Mechanism

Natural selection

Preservation of Favorable Characteristics leading to, ...

Descent with modification.

Schools of Thought--



FIGURE 1.3 Carolus Linnaeus (1707–1778). This

Schools of Thought--

1) Carl von Linné (1707-1778)
Linnaeus

--Fixity



FIGURE 1.5 (a) J.B. de Lamarck (1744-1829) and (b)

Schools of Thought--

1) Carl von Linné (1707-1778)
Linnaeus

--Fixity

2) Jean Baptiste de Lamarck (1744-1829)

--Evolution

2) Jean Baptiste de Lamarck (cont.)

- a) opposed fixity \Rightarrow evolution
- b) spontaneous generation
- c) need/use--disuse
- d) acquired characteristics inherited



Physiology vs.
Evolution

Somatic cell--
body cell

Germ cell--
reproductive cell

Function creates
structure

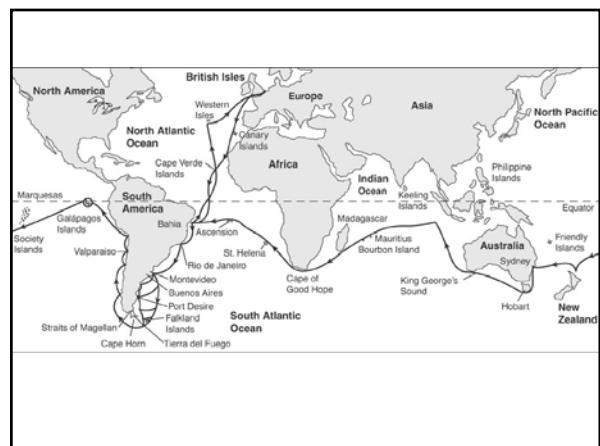
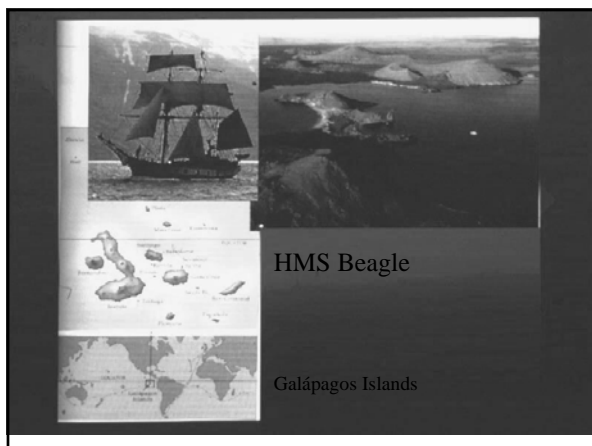
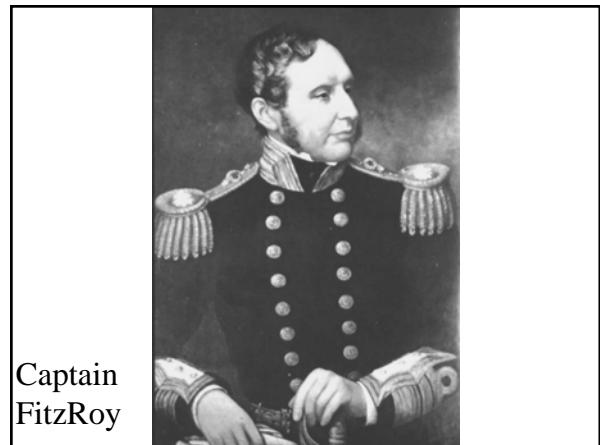
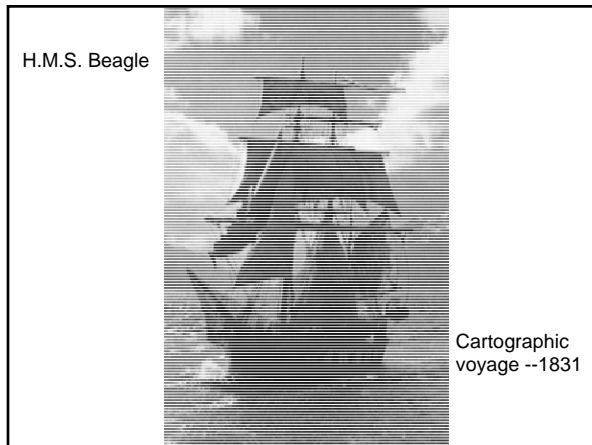
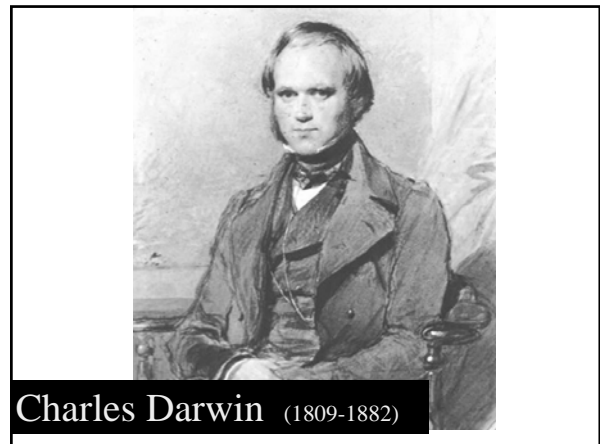
2) Jean Baptiste de Lamarck (cont.)

CAUTION--

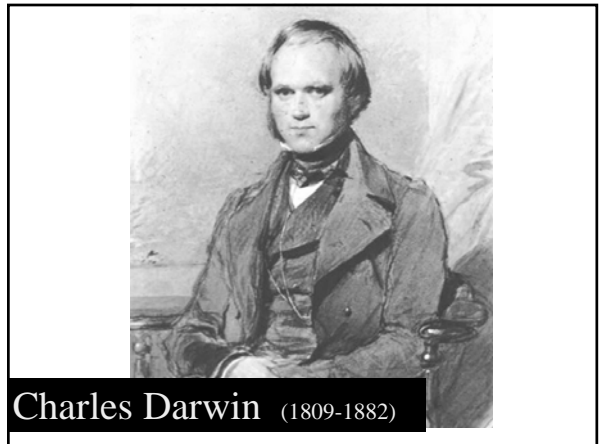
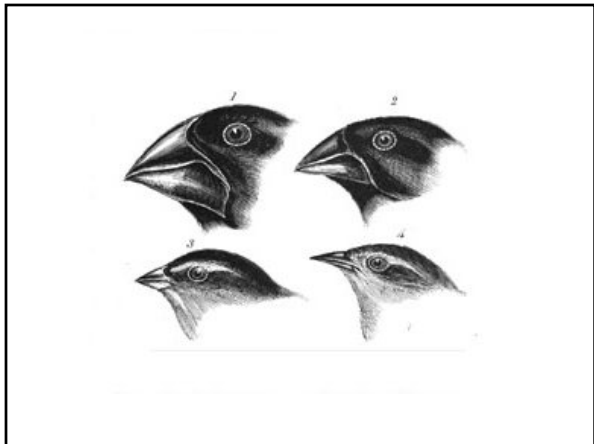
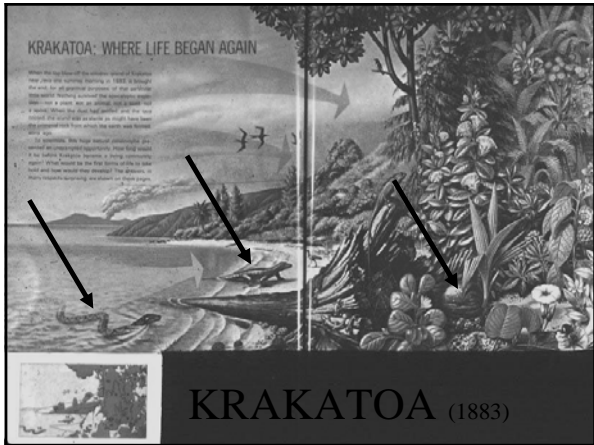
Need/Disuse

technical terms

	Linneaus	Lamarck	Darwin
Fact	NO	YES	YES
Course	X	YES	YES
Mechanism	X	Need—Acq. Characteristic	Natural Selection







T. Malthus

1838

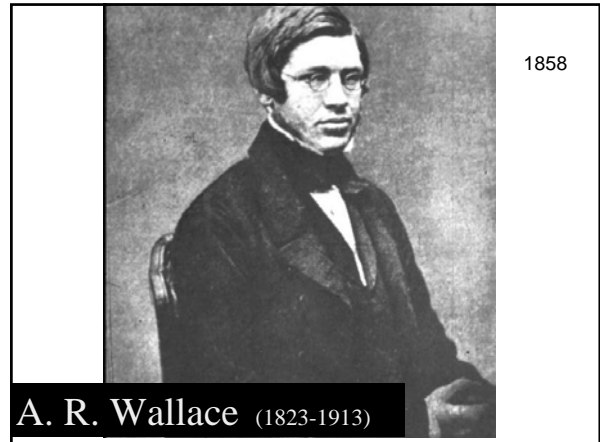
amusement

Anglican minister (sociologist)

Plants and Animals

- 1) increase
- 2) competition
- 3) survival of few

Mechanism—Natural Selection



1858

A. R. Wallace (1823-1913)

Charles Darwin

A. R. Wallace

Charles Darwin

—Origin of Species (1859)

Scientific Obstacles

1) Source of New Variation

(Preservation)

2) Time

Lord Kelvin

20 million years