Questions from Last Class

- What is the Great Chain of Being? Why is it important?
  - When did ideas about the world change from this?
- What impact did each of the following people have on evolutionary thought? What ideas are associated with them?
  - Linnaeus
  - Buffon
  - Cuvier

And Lamarck...

- What was Lamarck’s contribution to evolutionary thought?
- What was right and what was wrong about his evolutionary explanation?

Jean-Baptiste Lamarck

Inheritance of Acquired Characteristics

proposes that changes occur during the lifetime of an individual, through use or disuse, can be passed on to the next generation

Elephant’s Child?
Inheritance of Acquired Characteristics

1. Frequent and continuous use of an organ strengthens and enlarges it; permanent disuse causes it to weaken, deteriorate and disappear.
2. Acquisitions and losses are preserved through reproduction.

Influences on Darwin

- Buffon
- Cuvier
- Lamarck
- Malthus
- Lyell

Thomas Malthus

“A struggle for existence”
Uniformitarianism
the same processes
that act on the earth
today acted on the earth in the past

Hutton

Lyell

Charles Darwin

Voyage on the Beagle
1831-1836

Some of the Finches of the Galapagos
Organizing the finches

Letter to Hooker

Letter to Wallace, 1857

The Origin of Species
Elements of the Theory

- All species are capable of producing offspring faster than the food supply increases - there will be a struggle for existence

- All living things show variation

- Favorable variations will offer an advantage in the struggle for existence

- These variations, when heritable will be passed on to the next generation and will increase in frequency over time, changing the population
Natural Selection

- Competition
- Variation
- Heritability
- Differential Reproduction

Example

- Two kinds of Sneeches
- Those with bellies without stars and those with stars upon theirs

In the beginning....

The Star Belly Sneetches had more fun on the beaches
Elephant's Child?