

Questions from last class

- What is evolution
 - How do you define it?
 - What are living examples of evolution?
- Is evolution JUST a theory?
 - What does it mean to say this?

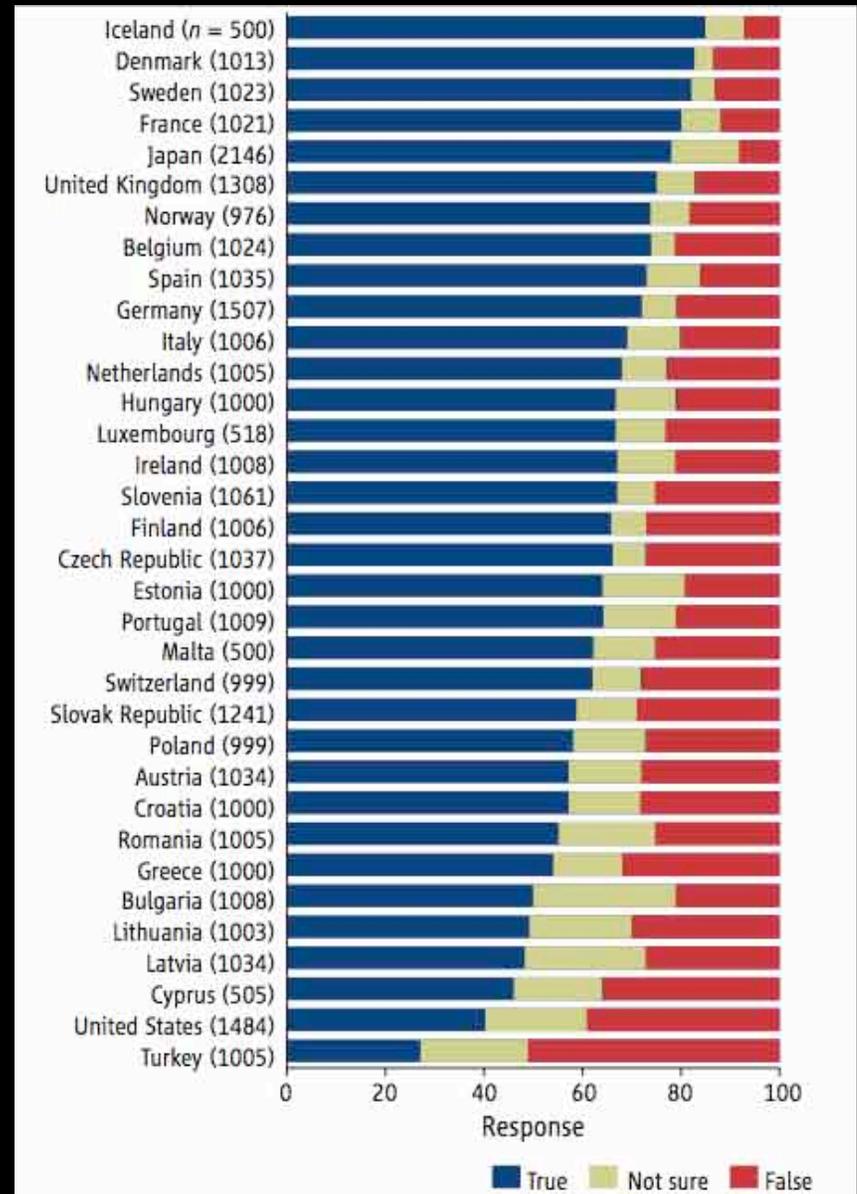
Assignment I

- Essay Assignment
- 3+ pages, typed, double spaced, reasonable font
- Due Monday February 7
- Grading - 15 pts - 10 on content and clarity, 5 on writing

Creationism in School

- <http://www.livescience.com/culture/biology-teachers-avoid-evolution-stance-with-students-110127.html>
- “The majority of high-school biology teachers don't take a solid stance on evolution with their students, mostly to avoid conflicts, and fewer than 30 percent of teachers take an adamant pro-evolutionary stance on the topic, a new study finds. Also, 13 percent of these teachers advocate creationism in their classrooms.”

Belief in Evolution



Evolution and the Vatican

- 1950 - Pope Pius XII - Evolution is a valid scientific approach to the development of humans
- Reiterated by Pope John Paul II in 1996
- Sept. 2008 The theory of evolution is compatible with the Bible.
- Theistic evolution: accepts evolution as a scientific theory and sees no reason why God could not have used a natural evolutionary process in the forming of the human species



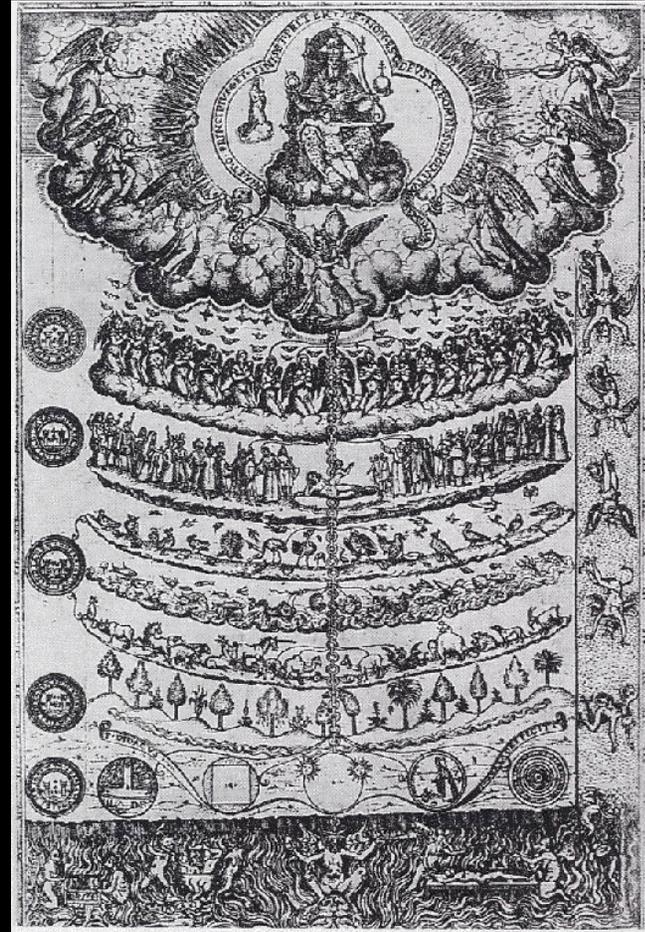
Debate over Evolution



NYTimes 1-23-09

The Great Chain of Being

- Every animal that could exist, did exist
- Every species can be organized along a line
- Every species on that line grades imperceptibly into the species above and below it



Ussher and Lightfoot

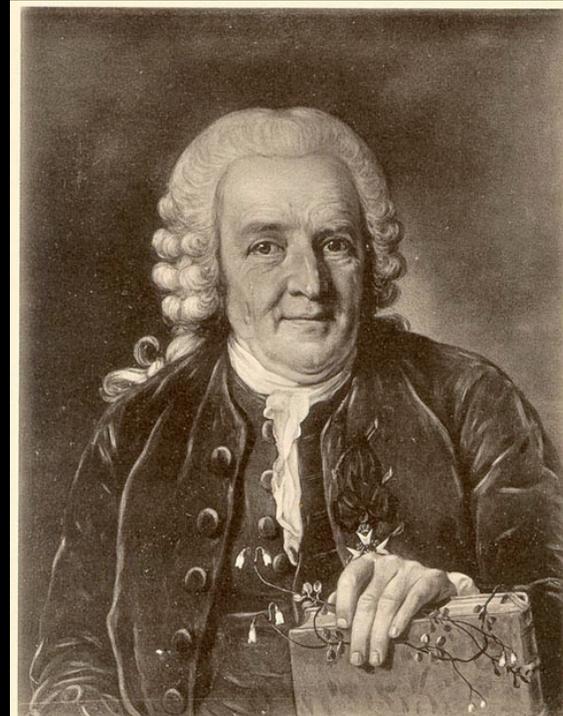
- Ussher calculated the age of the earth in 1658
- Lightfoot actually did it first - 1644



“the result of his most profound and exhaustive study of the Scriptures, that "heaven and earth, centre and circumference, were created all together, in the same instant, and clouds full of water," and that "this work took place and man was created by the Trinity on October 23, 4004 B.C., at nine o'clock in the morning."

Linnaeus

- NEW Taxonomy
WAY of
organizing
- Binomial
Nomenclature



LINNE
OLJEMÅLNING AF P. KRAFFT D. Å. 1774
TILLHÖR KUNGL. VET. AKADEMIEN.

Comte de Buffon (1707-1788)

Accepted the notion of
biological change

Animals change in
response to new
environments



Musée Buffon à Montbard



Georges Cuvier

Catastrophism

There have been multiple
creations interspersed by
great natural disasters

Jean-Baptiste Lamarck



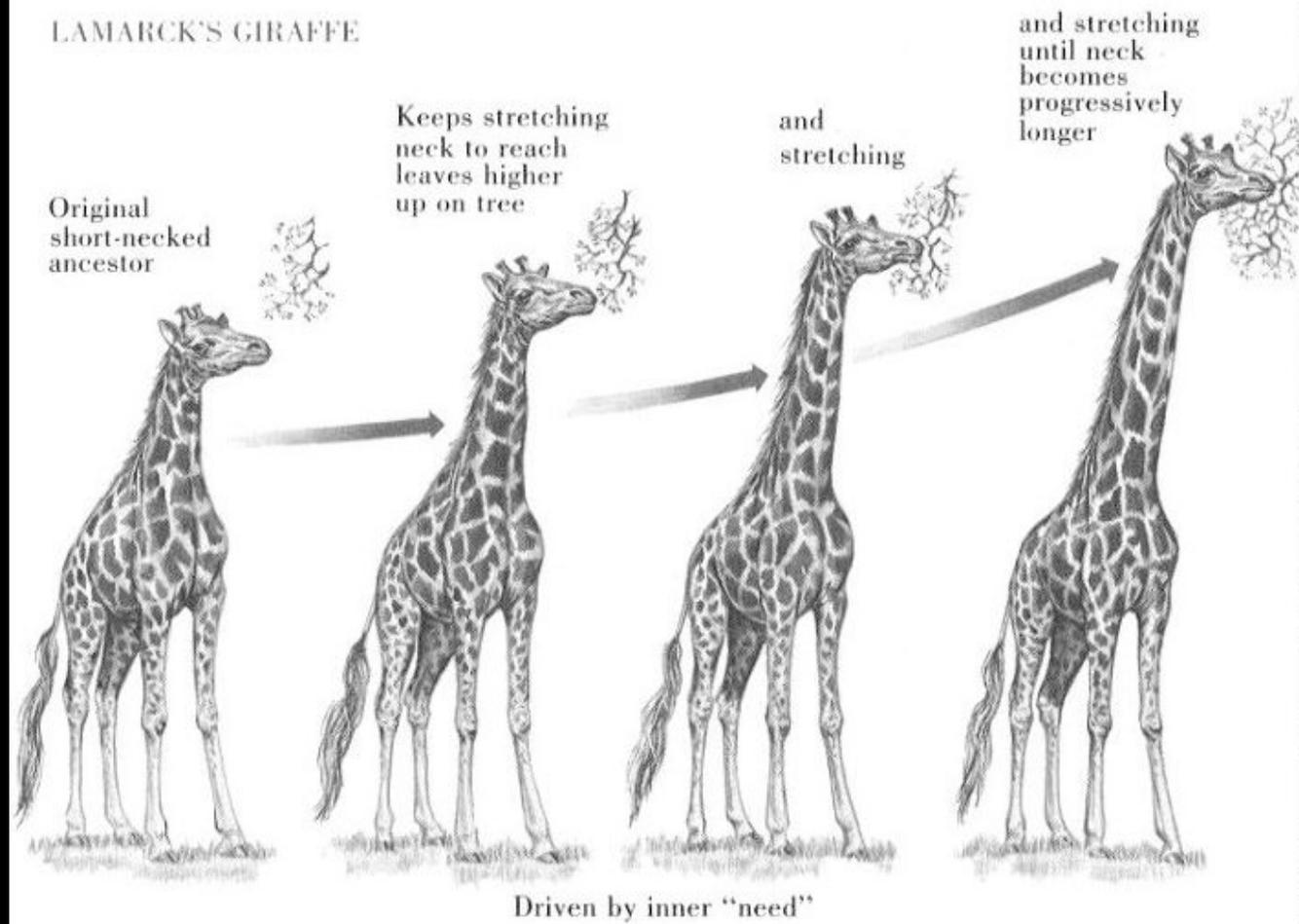
Inheritance of Acquired Characteristics

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?



LAMARCK'S GIRAFFE



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

