

Evolution

Science, politics, religion

DDR debate, July 17, 2005

Theodosius Dobzhansky

- Evolution comprises all the stages of the development of the universe: the cosmic, biological and human or cultural developments. Attempts to restrict the concept of evolution to biology are gratuitous. Life is a product of the evolution of inorganic nature, and man is a product of the evolution of life.

National Academy of Sciences

- What is evolution?
- Evolution in the broadest sense explains that what we see today is different from what existed in the past. Galaxies, stars, the solar system, and earth have changed through time, and so has life on earth.
- Biological evolution concerns changes in living things during the history of life on earth. It explains that living things share common ancestors. Over time, evolutionary change gives rise to new species. Darwin called this process "descent with modification," and it remains a good definition of biological evolution today.

Michael Shermer

- In March of 2001 the Gallup News Service reported the results of their survey that found 45 percent of Americans agree with the statement “God created human beings pretty much in their present form at one time within the last 10,000 years or so,” while 37 percent preferred a blended belief that “Human beings have developed over millions of years from less advanced forms of life, but God guided this process,” and a paltry 12 percent accepted the standard scientific theory that “Human beings have developed over millions of years from less advanced forms of life, but God had no part in this process.” [June 2005]

James Watson

- Today, evolution is an accepted fact for everyone but a fundamentalist minority, whose objections are based not on reasoning but on doctrinaire adherence to religious principles.
- From his textbook, *The Molecular Biology of the Gene*

College Biology class

Human Biology



From actual class slides

Darwin's Deductions

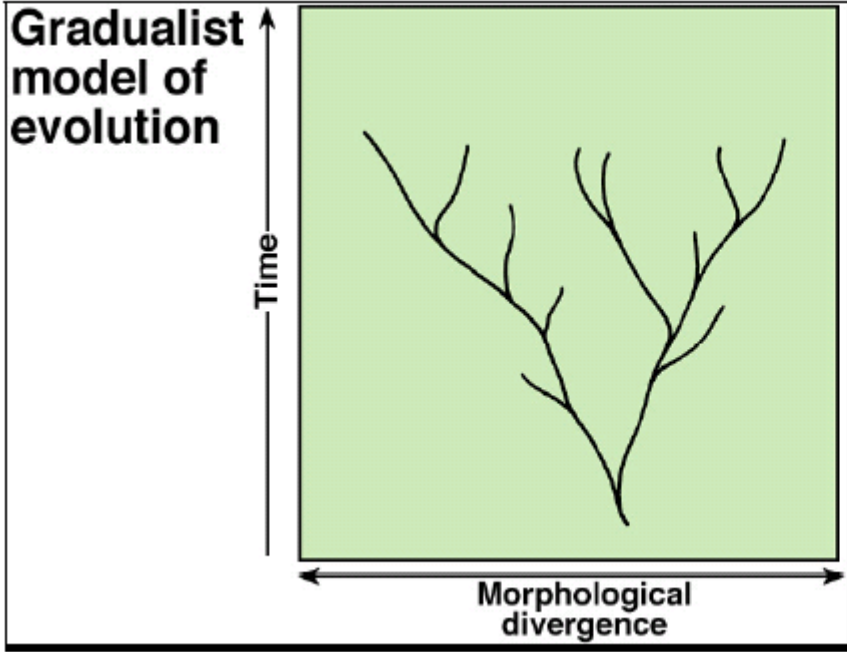
- **Deduction 1:** Individuals must compete for resources, and only some will survive.
- **Deduction 2:** Individuals with variations more suited to the environment will be more likely to survive and reproduce.
- **Deduction 3:** Over many generations and long periods of time, these variations accumulate in the population, resulting in **evolution, or change over time.**

Typical college lesson

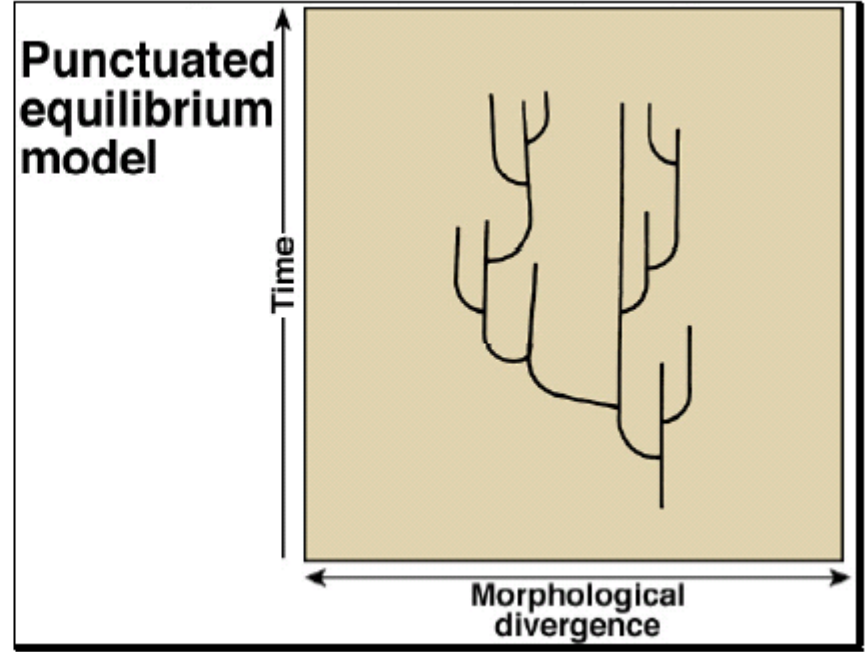
The big picture

- The theory of evolution was derived at through the scientific method
- REMEMBER: this makes evolution testable!
- After more than 100 years of intensive testing, Darwin's theory has only been slightly altered
- Evolution explains the diversity of life on earth

Class lesson conclusion



Creeps



Jerks

Kansas 2005

Change the mission of science education to add the word “informed”:

“Kansas science education contributes to the preparation of **all** students as lifelong learners who can use science to make **informed and** reasoned decisions that contribute to their local, state, national and international communities.”

Kansas 2005

Change the definition of science.

Current definition: "Science is the human activity of seeking natural explanations for what we observe in the world around us."

Proposed change: "Science is a systematic method of continuing investigation that uses observation, hypothesis testing, measurement, experimentation, logical argument and theory-building to lead to more adequate explanations of natural phenomena."

Kansas 2005

Added: "Natural selection and other processes can cause populations to change from one generation to the next, a process called 'microevolution'... Whether microevolution can be extrapolated to explain macroevolutionary changes (such as new complex organs or body plans...) is not clear. These kinds of macroevolutionary explanations generally are not based on direct observations and are historical narratives based on inferences from indirect or circumstantial evidence."

Kansas 2005

Topic 3: The Origin of Life

Current: [Topic is not included.]

Added: "Students will be able to explain proposed scientific explanations of the origin of life as well as scientific criticisms of those explanations."

Georgia

The stickers read, “This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully and critically considered.”

The federal court ruled this unconstitutional in Jan. 2005.

Missouri

If scientific theory concerning biological origin is taught, biological evolution and biological intelligent design shall be taught and given equal treatment.

Kansas 1999

Learn about falsification. Example: What would we accept as proof that the theory that all cars are black is wrong? How many times would we have to prove the theory wrong to know that it is wrong? Answers: One car of any color but black and only one time. No matter how much evidence seems to support a theory, it only takes one proof that it is false to show it to be false. It should be recognized that in the real world it might take years to falsify a theory.

Kansas 1999

If a student should raise a question in a natural science class that the teacher determines to be outside the domain of science, the teacher should treat the question with respect. The teacher should explain why the question is outside the domain of natural science and encourage the student to discuss the question further with his or her family and other appropriate sources.

[removed by evolutionists in 2001]

Ohio 2002

Added: “Describe how scientists continue to investigate and critically analyze aspects of evolution.”

Added: Language saying that the above clause did not mandate the teaching or testing of intelligent design.

Santorum Amendment to NCLB

The conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.

Bruce Alberts, President National Academy of Sciences

In evolution, as in all areas of science, our knowledge is incomplete. But the entire success of the scientific enterprise has depended on an insistence that these gaps be filled by natural explanations, logically derived from confirmable evidence. Because "intelligent design" theories are based on supernatural explanations, they can have nothing to do with science.

National Academy of Sciences

This concept of heliocentrism initially ran counter to the positions of religious authorities. The view of Christianity over most of its history, based on a literal interpretation of the Bible, was that the earth is the center of the universe around which the celestial bodies revolve.

Karl Popper

"There is a difficulty with Darwinism... it is far from clear what we should consider a possible refutation of the theory of natural selection. If, more especially, we accept that statistical definition of fitness which defines fitness by actual survival, then the survival of the fittest becomes tautological and irrefutable."

Prof Dini, Texas Tech U

- If you set up an appointment to discuss the writing of a letter of recommendation, I will ask you: "How do you account for the scientific origin of the human species?" If you will not give a scientific answer to this question, then you should not seek my recommendation.

Richard Dawkins

- Although atheism might have been logically tenable before Darwin, Darwin made it possible to be an intellectually fulfilled atheist. [1986]

Favorite evolutionist arguments

- Columbus v Flat Earth, 1492
- Copernicus v Ptolemy, 1543
- Galileo v Pope, 1616, 1633
- Scopes & Darrow v W. J. Bryan, 1925
- Epperson v. Arkansas, 1968
- Edwards v Aguillard, Louisiana, 1987

Subject	protagonist	Dubious conclusion
History	K. Marx	Communism
Computer Sci., strong AI	Godel, Turing	Human mind is just a computer
Economics	Keynes, Galbraith	socialism
Astronomy	C. Sagan	Intelligent life on other planets

Subject	protagonist	Dubious conclusion
Anthropology	M. Mead	Abolish sexual taboos
Psychology	Skinner	Behavior determined by social conditioning
	Freud	unconscious, not repress impulses, sex

Subject	protagonist	Dubious conclusion
Genetics	F. Galton	eugenics
Gay gene	A. Kinsey	Homosexuality is natural, normal
Ecology, population	P. Ehrlich	Must not have kids
Climate change	A. Gore	Stop using carbon

Subject	protagonist	Dubious conclusion
Quantum mechanics	Heisenberg	Nothing certain, no objective reality
		No free will, life is random
Many worlds	Everett	No responsibility for actions
Copenhagen interpretation	N. Bohr	Reality depends on consciousness

Subject	protagonist	Dubious conclusion
Philosophy of science	T. Kuhn	no progress, science is irrational
Mechanics, dynamics	I. Newton	Determinism, action at a distance
Thermodynamics		Rise of social disorder
Relativity	A. Einstein	No absolutes, moral relativism

Subject	protagonist	Dubious conclusion

Stephen Jay Gould

Sigmund Freud often remarked that great revolutions in the history of science have but one common, and ironic, feature: they knock human arrogance off one pedestal after another of our previous conviction about our own self-importance. In Freud's three examples, Copernicus moved our home from center to periphery, Darwin then relegated us to 'descent from an animal world'; and, finally (in one of the least modest statements of intellectual history), Freud himself discovered the unconscious and exploded the myth of a fully rational mind.

Stephen Jay Gould

The most important scientific revolutions all include, as their only common feature, the dethronement of human arrogance from one pedestal after another of previous convictions about our centrality in the cosmos.

Dubious evolution conclusions

- eugenics
- we are animals, no better than a worm
- materialist atheism
- random chance, chaos
- life has no purpose
- various leftist and Marxist causes

Scopes textbook, 1925

- “and finally, the highest type of all, the Caucasians, represented by the civilized white inhabitants of Europe and America.”

Evolution applied to race, 1925

- "... if such people were lower animals, we would probably kill them off to prevent them from spreading. Humanity will not allow this, but we do have the remedy of separating the sexes in asylums or other places and in various ways of preventing intermarriage and the possibilities of perpetuating such a low and degenerate race. Remedies of this sort have been tried successfully in Europe and are now meeting with success in this country." (pp. 263–265).

Modern evolutionists on race

- Several centuries ago, some "very light-skinned" people were shipwrecked on a tropical island. After "many years under the tropical sun," this light-skinned population became "dark-skinned," says *Biology: The Study of Life*, a high-school textbook published in 1998 by Prentice Hall
- "Race is social concept, not a scientific one," -- Dr. Craig Venter, first to sequence the human genome [NY Times, 2005]

Evolutionary Biology, by Futuyma

- The profound, and deeply unsettling, implication of this purely mechanical, material explanation for the existence and characteristics of diverse organisms is that we need not invoke, nor can we find any evidence for, any design, goal, or purpose anywhere in the natural world, except in human behavior.
- Without question, our knowledge of the history and mechanisms of evolution is completely incompatible with a literal reading of the creation stories in the Bible's Book of Genesis

Biology 5th ed, by Raven, Johnson

- Many take a more extreme position, accepting the biblical account of life's creation as factually correct. This viewpoint forms the basis for the very unscientific "scientific creationism" viewpoint discussed in chapter 21.

Life on Earth, by Audesirk & Byers

- The principle of natural causality has an important corollary: The evidence we gather about the causes of natural events has not been deliberately distorted to fool us. This corollary may seem obvious, yet not so very long ago some people argued that fossils are not evidence of evolution but were placed on Earth by God as a test of our faith. If we cannot trust the evidence provided by nature, then the entire enterprise of science is futile.

Life on Earth, by Audesirk & Byers

- Creationism, however, is contrary to both natural causality and uniformity in time. The overwhelming success of science in explaining natural events through natural causes has led almost all scientists to reject creationism.

Slides, references

Available at:

www.schlafly.net/evolution