Opening the “Evolution Debate”

Natural History Forum

Barriers to Truth

- Believing what we want to believe
- Retaining what we already believe, including reading our own beliefs into authors we respect
- Believing what is currently respected in our own community (more a danger for believers or scientists?)

Critics of Darwinism

- Creationists (including “new earth creationists”): first explicitly religious anti-Darwinism, then “scientific creationism”
- Intelligent design (ID): claims to be based on scientific evidence against Darwinism
  - Discovery Institute [http://www.discovery.org/]
  - Center for Science and Culture (sponsored by Discovery Institute)
    (formerly “Center for Renewal of Science and Culture” referred to by Forrest)
Michael Behe:
“irreducible complexity”

- Sometimes considered “new design theory”
- Behe: complex systems that cannot be explained by Darwinian “numerous, successive slight modification”
- Example of mousetrap; in nature flagella of bacteria, mechanisms of blood clotting
- “many scientists frankly admit their bewilderment…but refuse to entertain the obvious hypothesis…[design]

Kenneth Miller

- Author of *Finding Darwin’s God*, comparable to Francis Collins. Both “believers and Darwinists”
- Complex systems: earlier parts had different but useful functions
- Highlights contingency of natural selection
- Scientists have explained how many complex systems evolved

William Dembski

- Specified complexity: e.g., a pattern we specify in advance that is exhibited in a natural process over time. Sequence of prime numbers from outer space creatures
- Undirected (e.g., Darwinian) processes could not generate the specified complexity found in biological systems
Robert Pennock answers Dembski

- No way to talk about what sequences would be specified in advance against which to compare evolved biological organisms
- Claim that evolution violates second law of thermodynamics (no increased complexity...tendency toward entropy) ignores that the law only applies in closed systems

Methodological vs metaphysical

- Pennock: Dembski’s hypotheses are not testable
- Supernatural processes cannot be part of science (hence, no scientific “intelligent design”)
- Two possibilities:
  - Metaphysical: no reality to supernatural
  - Methodological: cannot be studied by science; leaves open whether there are realms or reality knowable in a different way
- Might alternatives to Darwinism be taught in schools but outside science classes or in philosophy of science?

Wells vs Scott: “microevolution”

- Jonathan Wells: Darwin’s undirected processes cannot account for all features of living things
- Even the Grants’ studies only showed minor changes, not new species
- Eugenie Scott: “adaptive radiation” a fact of science. DNA evidence (e.g., HOX genes) do explain the kind of changes that can produce new species
But even if we didn’t…

- “…science only has tools for explaining things in terms of natural causation.”
- Again raises question of methodological vs metaphysical

Barbara Forrest: it’s about politics and religion, not science

- Johnson, a law professor, whose “religious conversion catalyzed his antievolution efforts”
- Discovery Institute’s “Center for Renewal of Science and Culture” seeks “nothing less than the overthrow of materialism and its damning cultural legacies.”
- Aim is to “renew” American culture by grounding society’s major institutions, especially education, in evangelical religion.”
- Wells “influenced by Unification Church (Moonies)
- How should we evaluate challenges to anti-evolutionists based on their motives?