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Science vs. creationism

Scientific community mobilizes defence of evolution

March 11, 2008

I never could understand, as a young television reporter in Saskatchewan, why scientists refused to defend evolution. It was 1980 and a controversy had erupted over creationism being taught in some science classes. I might have been asking scientists to debate the Flat Earth Society, so withering were their responses to my requests for an interview.

Paleontologist David Eberth explained to me last week that scientists used to believe debating the subject would imply creationism and evolution had equal merit.

"After they were done saying what a pile of poo this whole scientific creationism is, [they] basically wiped their hands of it and walked away," said Eberth, a senior research scientist at the [Royal Tyrrell Museum](#) in Drumheller, Alta.

Your Interview

Questions about whether God had a role in creating life directly, indirectly, or at all - and even whether there is a God - can inflame debate and passions. Daniel Fairbanks, author of *Relics of Eden*, a book about the "fossils" in our DNA that show how life evolved, believes no reasonable person who looks at the evidence can deny evolution. Do you have any questions about the fossils in our genetic material? Do you doubt someone can accept evolution and believe in God? If you have a question for Dr. Fairbanks, [post it here](#).

Big mistake. Being left with the ring to itself, creationism reinvented itself as intelligent design, with the claim that life is too complex to have developed randomly. Now, said Eberth, the science community is seeing "the negative education, political and socio-economic fallout for not engaging."

In books, in editorials, in speeches and on the internet, scientists are now defending evolution on any platform they can get. What's got them so rattled?

"It's the threat to science," said [Daniel Fairbanks](#), author of the new book *Relics of Eden*.

The Brigham Young University geneticist — and Christian — writes that creationists and advocates of intelligent design "have successfully promoted history's most sophisticated

and generously funded attack on science, claiming that evolution, human evolution in particular, is a 'theory in crisis.'"

Far from being a "theory in crisis," evolution is a fact.

In the 149 years since the publication of Darwin's *On the Origin of Species by Means of Natural Selection*, scientists have uncovered a veritable Noah's flood of fossil and DNA proof that species evolved.

The evidence is, oh... pick a superlative: overwhelming, irrefutable, incontrovertible, up there with the earth is round and revolves around the sun.

Yet Christian creationism — the belief that the Bible is literally true — isn't just holding its ground in the face of all that evidence. It's seizing new territory, or so Eberth, Fairbanks and many others fear.

In Texas, Florida, Kentucky, Kansas, Arkansas and elsewhere, Fairbanks writes, a powerful Christian fundamentalist movement conducts an "ongoing assault on science ... whose political objectives are to cast doubt on the reality of evolution and to restrict or dilute it in the science curricula of public schools."

Science consistently wins in the courts. The most recent triumph was the 2005 [decision](#) against the Dover, Pennsylvania school district, where the courts ruled intelligent design was religion, not science. And ruled it unconstitutional.

Yet despite winning those battles, science is losing the war, according to Eberth. "We have a whole generation of kids in the U.S. who are having this stuff pumped down their throats," he said.

Evolution not in the curriculum

In Canada, the debate is less noisy. In fact, you might not be aware there is a debate.

Still, I was floored when Banff resident Scott Rowed, a member of the [Centre for Inquiry](#), told me his daughter graduated from Grade 12 in Alberta without ever hearing the word "evolution."

"The underpinnings of our life sciences courses, our curriculum, are all based on the assumptions of evolution," said the Alberta Department of Education's Kathy Telfer. But evolution itself is not part of the core curriculum in most Canadian schools.

"It's not unheard of, in fact [it] may be quite common, for students to go through their entire public education without hearing about evolution," Jason Wiles of McGill University's Evolution Education Research Centre told me.

What else worries scientists?

Consider the ascent of Mike Huckabee, former Arkansas governor and for several startling months a serious challenger for the Republican presidential nomination. A creationist, he suggested the U.S. constitution should be amended "so it's in God's standards rather than try to change God's standards."

And [survey](#) after survey has found roughly half of Americans believe God created humans in their present form, in a single act, within the last 10,000 years.

Only 22 % of Canadians hold that opinion, according to an Angus Reid [poll](#) published last June. Curiously, the same poll found 42 per cent of us agree with the creationist belief that we co-existed with dinosaurs.

In Europe, people used to scratch their heads over the furious evolution debate in the United States. Now they have their own alarms and excursions. The creationists have opened so many fronts that last fall a [study](#) by the Parliamentary Assembly of the Council of Europe warned, "If we are not careful, the values that are the very essence of the Council of Europe will be under direct threat from creationist fundamentalists."

It's not just a blossoming Christian fundamentalism that alarms the council. It's also Islamic scientific creationism. The report describes how a Turkish book titled [The Atlas of Creation](#) had been sent to schools in France, Switzerland, Belgium and Spain. The author, Islamist preacher Harun Yahya, calls Darwinism a "ruse of Satan," which, he writes, "is collapsing and causing panic in the Darwinian global empire."

Science takes the offensive

Panic? No. Major concern? Yes.

Enough so that scientists are sending out a stream of books, lectures, and editorials explaining, demonstrating, defending evolution, including in January alone:

- The U.S. National Academy of Sciences published the book [Science, Evolution, and Creationism](#).
- The co-discoverer of the transitional fossil [Tiktaalik](#) ("the fish that does pushups") published *Your Inner Fish*.
- The journal Nature [asked](#) the science community to "take every opportunity to promote" evolution.
- A new [Journal](#) devoted to teaching evolution was launched.
- 17 U.S. [organizations](#) declared evolution education a "must."

And Daniel Fairbanks published *Relics of Eden*. "There really is a movement going on here," he told me from his Utah office.

Fossils and DNA hold the proof

If [fossils](#) hadn't so thoroughly locked up the proof, the evidence Fairbanks presents would finish the job. For our evolutionary history is written in our DNA.

As an undergraduate exploring for fossils in his geology class, Fairbanks had already had to rethink his deeply religious upbringing. Accepting the story the fossils told "was a change in my world view," he said.

As a geneticist, he now studies a different kind of fossil. But the story they tell is the same.

These "relics" of our evolutionary past are segments of DNA, mutations, apparently redundant, which have accumulated over time and now clutter up the genomes of humans and other species.

"Each relic, we presume, was inherited from a common ancestor," Fairbanks told me. "The closer they are, then the more recent the common ancestor of that organism must be, and the more distant they are — that is, the more diverged they are — then the more distant the common ancestor must be."

The sequencing of three [primate genomes](#) — human, chimpanzee, and the rhesus macaque — was "a scientific opportunity unlike any that we have ever had before," said Fairbanks.

The chapters that demonstrate how genomes prove the evolutionary relationship may demand concentration from those of us without a degree in biology. Be prepared to learn about transposons, retroelements and pseudogenes. The payoff is in understanding why scientists find the evidence indisputable.

Fairbanks spent a lot of time on the primates because he has found that while many people are willing to believe other species have evolved, they draw the line at humans. "They just can't get beyond the point that we share common ancestry with other animals," he said.

Evolution, atheism and God

Fairbanks is troubled by the dichotomy laid out by two extremes: creationists and atheists. Both make the claim, he said, that you must believe in either evolution or God. You can't believe in both.

He himself has no trouble marrying the two in his personal life, but adds: "If one accepts that dichotomy, then the study of science is frightening. It seems to be something that is the enemy of religion when in fact it is not."

Perhaps atheists such as [Richard Dawkins](#) and [Christopher Hitchens](#) have done more to damage evolution than to champion it.

In fact, rather than seeing creationists and evolutionists engaging in battle, Fairbanks has embraced the call made by one enthusiastic reviewer of his book for an "intellectual peace corps."

"Say I am a member of it," he told me.

Back in 1980, I finally did find a scientist who thought defending evolution in my news story would be worth his while. Taylor Steen, a biologist and a Christian, told me then that "creationism is bad religion. And it's bad science."

Science and scientists have paid a price for assuming that that simple answer — or none at all — would suffice.

Additional links

There are thousands of other websites where one can pursue these topics. Here are three that are worth exploring:

- The [Talk Origins Archive](#) takes an evolutionary perspective but links to sites that support creationism and Intelligent Design.
- One of the most active promoters of the latter point of view is the [Institute for Creation Research](#)
- And the [Creation Information](#) Portal gives a Canadian viewpoint.