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The Evolution Wars

By Claudia Wallis

5 Sometime in the late fall, unless a federal court intervenes, ninth-graders at the public high school in rural Dover, Pa., will witness an unusual scene in biology class. The superintendent of schools, Richard Nilsen, will enter the classroom to read a three-paragraph statement mandated by the local school board as a cautionary preamble to the study of evolution. It reads, in part:

10 Because Darwin's theory is a theory, it is still being tested as new evidence is discovered. The theory is not a fact. Gaps in the theory exist for which there is no evidence ... Intelligent design is an explanation of the origin of life that differs from Darwin's view. The reference book *Of Pandas and People* is available for students to see if they would like to explore this view ... As is true with any theory, students are encouraged to keep an open mind.

15 After that one-minute reading, the superintendent will probably depart without any discussion, and a lesson in evolutionary biology will begin.

That kind of scene, brief and benign though it might seem, strikes horror into the hearts of scientists and science teachers across the U.S., not to mention plenty of civil libertarians. Darwin's venerable theory is widely regarded as one of the best-supported ideas in science, the only explanation for the diversity of life on Earth, grounded in decades of study and objective evidence. 20 But Dover's disclaimer on Darwin would appear to get a passing grade from the man who considers himself America's education President. In a question-and-answer session with Texas newspaper reporters at the White House last week, George W. Bush weighed in on the issue. He expressed support for the idea of combining lessons in evolution with a discussion of "intelligent design"--the proposition that some aspects of living things are best explained by an intelligent cause or agent, as 25 opposed to natural selection. It is a subtler way of finding God's fingerprints in nature than traditional creationism. "Both sides ought to be properly taught," said the President, who appeared to choose his words with care, "so people can understand what the debate is about ... I think that part of education is to expose people to different schools of thought."

30 On its surface, the President's position seems supremely fair-minded: What could possibly be wrong with presenting more than one point of view on a topic that divides so many Americans? But to biologists, it smacks of faith-based science. And that is provocative ... because it comes at a time when U.S. science is perceived as being under fresh assault politically and competitively. ... Bush's comments on intelligent design were the No. 1 topic for bloggers for days afterward. "It sends a signal to other countries because they're rushing to gain scientific and technological leadership 35 while we're getting distracted with a pseudoscience issue," warned Gerry Wheeler, executive director of the 55,000-member National Science Teachers Association in Arlington, Va. "If I were China, I'd be happy."

40 As far as many Americans are concerned, however, the President was probably preaching to the choir. In a Harris poll conducted in June, 55% of 1,000 adults surveyed said children should be taught creationism and intelligent design along with evolution in public schools. The same poll

found that 54% did not believe humans had developed from an earlier species--up from 45% with that view in 1994--although other polls have not detected this rise.

45 Around the U.S., the prevalence of such beliefs and the growing organization and clout of the intelligent-design movement are beginning to alter the way that most fundamental tenets of biology are presented in public schools. New laws that in some sense challenge the teaching of evolution are pending or have been considered in 20 states, ...

•A SUBTLER ASSAULT

50 Darwin's theory has been a hard sell to Americans ever since it was unveiled nearly 150 years ago in *The Origin of Species*. The intelligent-design movement is just the latest and most sophisticated attempt to discredit the famous theory, which many Americans believe leaves insufficient room for the influence of God. Early efforts to thwart Darwin were pretty crude. Tennessee famously banned the teaching of evolution and convicted schoolteacher John Scopes of violating that ban in the "monkey trial" of 1925. When such laws were struck down by a Supreme Court decision in 1968, some states ... instead required that "creation science" be taught alongside evolution. Supreme Court rulings in 1982 and 1987 put an end to that. Offering creationism in public schools, even as a side dish to evolution, the high court held, violated the First Amendment's separation of church and state.

60 But some anti-Darwinists seized upon Justice Antonin Scalia's dissenting opinion in the 1987 case. Christian fundamentalists, he wrote, "are quite entitled, as a secular matter, to have whatever scientific evidence there may be against evolution presented in their schools." That line of argument--an emphasis on weaknesses and gaps in evolution--is at the heart of the intelligent-design movement, which has as its motto "Teach the controversy." "You have to hand it to the creationists. They have evolved," jokes Eugenie Scott, executive director of the National Center for Science Education in Oakland, Calif., which monitors attacks on the teaching of evolution.

65 •HOLES IN DARWIN?

Since the 1987 decision, a devoted band of mostly religious Christians, including hundreds of scientists, ... has written papers and books, etc. on the perceived problems with Darwin's theory. The headquarters for such thinking is ... a conservative think tank called the Discovery Institute.

70 Much of [the critique of Darwin] revolves around the appealing idea that living things are simply too exquisitely complex to have evolved by a combination of chance mutations and natural selection. The dean of that school of thought is Lehigh University biologist and Discovery Institute senior fellow Michael Behe, whose main argument points to the fact that living organisms contain such ingenious structures as the eye.... He calls such phenomena "irreducibly complex" because removing or altering any part invalidates the whole. Behe claims they could not have arisen through the gradual fits and starts of evolution... Although his writing is couched in the language of science, Behe, a practicing Catholic who home schools his nine children, believes the hand of the designer is self-evident.

80 Other arguments in this new brand of anti-Darwinism focus on missing pieces in the fossil record, particularly the Cambrian period, when there was an explosion of novel species. Still other advocates, including mathematician, philosopher and theologian William Dembski ... use the mathematics of probability to try to show that chance mutations and natural selection cannot account for nature's complexity. In contrast to earlier opponents to Darwin, many proponents of intelligent design accept some role for evolution... and are careful not to bring God into the discussion... This may also help them avoid the legal and political pitfalls of teaching creationism.

85 •BIOLOGISTS ASK, WHAT HOLES?

Many scientists have been reluctant to engage in a debate with advocates of intelligent design because to do so would legitimize the claim that there's a meaningful debate about evolution, and compare the idea of teaching intelligent-design theory with teaching flat earthism-- perfectly fine in a history class but not in science. He says, "If you give the idea that there are two schools of thought within science--one that says the earth is round and one that says the earth is flat--you are misleading children."

•WHAT SHALL BE TAUGHT?

... for those who read Genesis literally and believe that God created the world along with all creatures big and small in just six days, there's no reconciling faith with Darwinism. And polls indicate that approximately 45% of Americans believe that. It's no wonder that almost one-third of the 1,050 teachers who responded to a National Science Teachers Association online survey in March said they had felt pressured by parents and students to include lessons on intelligent design, creationism or other nonscientific alternatives to evolution in their science classes; 30% noted that they felt pressured to omit evolution or evolution-related topics from their curriculum.

The new, presumably Constitution-proof way of providing coverage for communities that wish to teach ideas like intelligent design is to employ such earnest language as "critical inquiry" (in New Mexico), "strengths and weaknesses" of theories (Texas), and "critical analysis" (Ohio). It's difficult to argue against such benign language, but hard-core defenders of Darwin are wary. "The intelligent-design people are trying to mislead people into thinking that the reference to science as an ongoing critical inquiry permits them to teach I.D. crap in the schools," says David Thomas, president of New Mexicans for Science and Reason. On the other hand, tinkering in that way with the standards won't necessarily weaken instruction on evolution. "Where you have strong science programs now, they'll ignore the [state] standards," says Bill Wagnon, a professor of history at Washburn University who represents Topeka on the Kansas school board.

The new school year is certain to bring more battles over teaching evolution, not only in Kansas and Pennsylvania but also in the many states that are preparing new standards-based tests in science. By raising the profile of intelligent design, the President has doubtless emboldened those who differ with Darwin and furthered one goal of that movement: he has taught all of us the controversy.

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Evolution War is a great conflict following Inquisitor Crisis and the defeat of Kronos. But it not only took lives away it also was a major leap towards the new technology far beyond the current understanding. But the galaxy which was struggling to rebuild from the old danger with a new danger striking the entire stability was broken apart. Still surviving batarians would join cunning tyrant Albert Regdon who would open the war. Continuing the conflict it would span over a decade till the Roxton

