

## New Legal Threat to Teaching Evolution in the US

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BARBARA FORREST knew the odds were stacked against her. "They had 50 or 60 people in the room," she says. Her opponents included lobbyists, church leaders and a crowd of home-schooled children. "They were wearing stickers, clapping, cheering and standing in the aisles." Those on Forrest's side numbered less than a dozen, including two professors from Louisiana State University, representatives from the Louisiana Association of Educators and campaigners for the continued separation of church and state.

That was on 21 May, when Forrest testified in the Louisiana state legislature on the dangers hidden in the state's proposed Science Education Act. She had spent weeks trying to muster opposition to the bill on the grounds that it would allow teachers and school boards across the state to present non-scientific alternatives to evolution, including ideas related to intelligent design (ID) - the proposition that life is too complicated to have arisen without the help of a supernatural agent.

The act is designed to slip ID in "through the back door", says Forrest, who is a professor of philosophy at Southeastern Louisiana University and an expert in the history of creationism. She adds that the bill's language, which names evolution along with global warming, the origins of life and human cloning as worthy of "open and objective discussion", is an attempt to misrepresent evolution as scientifically controversial.

Forrest's testimony notwithstanding, the bill was passed by the state's legislature - by a majority of 94 to 3 in the House and by unanimous vote in the Senate. On 28 June, Louisiana's Republican governor, Piyush "Bobby" Jindal, signed the bill into law. The development has national implications, not least because Jindal is rumored to be on Senator John McCain's shortlist as a potential running mate in his bid for the presidency.

Born in 1971 to parents recently arrived from India, Jindal is a convert to Roman Catholicism and a Rhodes scholar - hardly the profile of a typical Bible-belt politician. Yet in a recent national television appearance he voiced approval for the teaching of ID alongside evolution. He also enjoys a close relationship with the Louisiana Family Forum (LFF), a lobbying group for the religious right whose mission statement includes "presenting biblical principles" in "centers of influence". It was the LFF which set the bill in motion earlier this year.

"We believe that to teach young people critical thinking skills you have to give them both sides of an issue," says Gene Mills, executive director of the LFF. When asked whether the new law fits with the organization's religious agenda, Mills told *New Scientist*: "Certainly it's an extension of it."

The new legislation is the latest manoeuvre in a long-running war to challenge the validity of Darwinian evolution as an accepted scientific fact in American classrooms. Forrest played a pivotal role in the previous battle. It came to a head at a trial in 2005 when US district judge John E. Jones ruled against the Dover area school board in Pennsylvania, whose members had voted that students in high-school biology classes should be encouraged to explore alternatives to evolution and directed to textbooks on ID.

The Dover trial, during which Forrest presented evidence that ID was old-fashioned creationism by another name (*New Scientist*, 29 October 2005, p 6), revolved around the question of whether ID was science or religion. Jones determined it was the latter, and ruled in favor of the parents who challenged the Dover board on the basis of the provision for separation of church and state in the US constitution.

The strategy being employed in Louisiana by proponents of ID - including the Seattle-based Discovery Institute - is more subtle and potentially more difficult to challenge. Instead of trying to prove that ID is science, they have sought to bestow on teachers the right to introduce non-scientific alternatives to evolution under the banner of "academic freedom".

"Academic freedom is a great thing," says Josh Rosenau of the National Center for Science Education in Oakland, California. "But if you look at the American Association of University Professors' definition of academic freedom, it refers to the ability to do research and publish." This, he points out, is different to the job high-school teachers are supposed to do. "In high school, you're teaching mainstream science so students can go on to college or medical school, where you need that freedom to explore cutting-edge ideas. To apply 'academic freedom' to high school is a misuse of the term."

"It's very slick," says Forrest. "The religious right has co-opted the terminology of the progressive left... They know that phrase appeals to people."

The new usage began to permeate public consciousness earlier this year with the release of the documentary film *Expelled: No intelligence allowed*. Starring actor, game-show host and former Nixon speech-writer Ben Stein, the film argues that academic freedom is under attack in the US from atheist "Darwinists". The film's promoters teamed up with the Discovery Institute to set up the Academic Freedom Petition. Their website provides a "model academic freedom statute on evolution" to serve as a template for sympathetic legislators.

So far, representatives from six states have taken up the idea. In Florida, Missouri, South Carolina and Alabama, bills were introduced but failed. An academic freedom bill now in committee in Michigan is expected to stall there.

Louisiana is another story. A hub of creationist activism since the early 1980s, it was Louisiana that enacted the Balanced Treatment Act, which required that creationism be taught alongside evolution in schools. In a landmark 1987 case known as *Edwards vs Aguillard*, the US Supreme Court ruled the law unconstitutional, effectively closing the door on teaching "creation science" in public schools. ID was invented soon afterwards as a way of proffering creationist concepts without specific reference to God.

In 2006, the year following the Dover ruling, the Ouachita parish school board in northern Louisiana quietly initiated a new tactic, unanimously approving a science curriculum policy that stated: "Teachers shall be permitted to help students understand, analyze, critique, and review in an objective manner the scientific strengths and weaknesses of existing scientific theories pertinent to the course being taught." The idea that evolution has weaknesses, and is therefore not a solid scientific theory, is a recurring theme in ID-related literature. Not long afterwards, the assistant superintendent of the Ouachita parish school system, Frank Hoffman, was elected to the state House of Representatives and joined the House education committee. "I knew then that something was going to happen," says Forrest.

When Jindal was elected governor last year, the stage was set. The LFF approached Ben Nevers, a state senator, who agreed to introduce the Louisiana Academic Freedom Act on their behalf. "They believe that scientific data related to creationism should be discussed when dealing with Darwin's theory," Nevers told the *Hammond Daily Star* in April. The bill was later amended and renamed the Louisiana Science Education Act. Its final version includes a statement that the law should not be taken as promoting religion.

That way, those who wish to challenge Darwinian evolution have "plausible deniability" that this is intended to teach something unconstitutional, says Eric Rothschild of the Philadelphia-based law firm Pepper Hamilton, which represented the parents at the Dover trial. "They are better camouflaged now."

Supporters of the new law clearly hope that teachers and administrators who wish to raise alternatives to evolution in science classes will feel protected if they do so. The law expressly permits the use of "supplemental" classroom materials in addition to state-approved textbooks. The LFF is now promoting the use of online "add-ons" that put a creationist spin on the contents of various science texts in use across the state, and the Discovery Institute has recently produced *Explore Evolution*, a glossy text that offers the standard ID critiques of evolution (see "[The evolution of creationist literature](#)"). Unlike its predecessor *Of Pandas and People*, which fared badly during the Dover trial, it does not use the term "intelligent design".

Because the law allows individual boards and teachers to make additions to the science curriculum without clearance from a state authority, the responsibility will lie with parents to mount a legal challenge to anything that appears to be an infringement of the separation of church and state. "In Dover, there were parents and

teachers willing to step forward and say, this is not OK," says Rosenau. "But here we're seeing that people are either fine with it or they don't want to say anything because they don't want to be ostracized in their community."

Even if a trial ensues, a victory by the plaintiffs will only mean that some specific supplementary material is ruled unconstitutional - not the law itself. Separate lawsuits will be needed to address each piece of suspicious supplementary material. "This encourages a lot of local brush fires that you have to deal with individually and that makes it very difficult," says Forrest. "This is done intentionally, to get this down to the local level. It's going to be very difficult to even know what's going on."

Ultimately, if a number of suits are successfully tried, a group like the American Civil Liberties Union (ACLU) could take the law itself to court, citing various cases in which it was used to bring religious material into the classroom. Representatives from the ACLU and from Americans United for Separation of Church and State have already told Louisiana state officials that lawsuits will follow if the law is used for religious ends.

In the meantime, Forrest is working to inform teachers about the supplementary materials being made available. "The pressing need for the coming school year is to get the word out for what teachers need to be on alert for," she says.

As to a future Dover-style trial, this time on Forrest's home turf, "I'll be right there," she says, though it's not a prospect she relishes. "I'd like to think I won't have to do this for the rest of my life. Because believe me, I don't do it for fun. It's a duty."

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## The Louisiana Science Education Act

### WHAT THE LAW SAYS:

The state... shall allow and assist teachers, principals, and other school administrators to create and foster an environment... that promotes critical thinking skills, logical analysis, and open and objective discussion of scientific theories being studied, including, but not limited to, evolution, the origins of life, global warming, and human cloning. (Section 1B)

### WHAT OPPONENTS FEAR:

Any Louisiana school official is now free to present evolution and other targeted topics as matters of debate rather than broadly accepted science. Books and other materials that support this view can be used in class alongside standard science texts. The onus will be on parents to spot violations of the rules on separation of church and state.

## The evolution of creationist literature

One potential consequence of the 2008 Louisiana Science Education Act could be the appearance - possibly later this year - of anti-evolution textbooks such as "*Explore Evolution: The arguments for and against Neo-Darwinism*" in schools around the state.

Textbooks lie at the centre of efforts by some religiously motivated groups to discredit evolution in US classrooms. Because of the constitutional principle providing for separation of church and state, evolution cannot be banned from state-funded schools on religious grounds. So the anti-evolution movement has sought to have its favored alternative, "creation science", taught alongside evolution.

Over the years this approach has given rise to books that superficially resemble standard biology texts but with a creationist message. At first, they freely included the terms "creator" and "creationist" but after the US Supreme Court struck down Louisiana's Balanced Treatment Act in 1987 this was no longer legally acceptable. The result was a new terminology and a new book, *Of Pandas and People*, first published in 1989, which avoided all mention of creationism in favor of the newly coined "intelligent design". Some officials in the Dover Area School District in Pennsylvania (see main story) tried unsuccessfully to make a later edition of the book available to high-school biology students.

*Explore Evolution*, published last year, represents the latest chapter in the story. It makes no mention of intelligent design but presents the same general argument - namely, that some features of life are too complex and too tailored to their environment to have arisen by natural selection - and presents evolution as an unresolved debate with credible alternatives.

One excerpt from the book's introductory chapter reads: "Looking at the evidence and comparing the competing explanations will provide the most reliable path to discovering which theory, if any, gives the best account of the evidence at hand. Making the comparison is your job. We're asking you to be part scientist, part detective, and part juror."

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