

# Tennessee 'monkey bill' becomes law

A second US state lets schools 'teach the controversy' surrounding politically charged topics in science.

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11 April 2012

The governor of Tennessee has allowed the passage of the 'monkey bill', giving public-school teachers licence to teach alternatives to those mainstream scientific theories often attacked by religious and political conservatives.

Nicknamed after the 'monkey trial' of 1925, in which Tennessee prosecuted high-school science teacher John Scopes for violating a state law against teaching evolution, the new measure allows public-school teachers to "help students understand, analyze, critique, and review in an objective manner the scientific strengths and scientific weaknesses of existing scientific theories". Biological evolution, global warming, the chemical origins of life and human cloning are listed as examples of such theories.

The legislation, which was passed in both houses of the Republican-controlled state legislature with strong margins, was sent to Governor William Haslam, also a Republican, on 29 March. He neither signed nor vetoed the bill, so it automatically became law on 10 April.

"I do not believe that this legislation changes the scientific standards that are taught in our schools or the curriculum that is used by our teachers," Haslam said in a written statement explaining his equivocal stance. "However, I also don't believe that it accomplishes anything that isn't already acceptable in our schools."

Proponents of the law, House Bill (HB) 368/Senate Bill 893, maintain that its purpose is simply to encourage scepticism and evidence-based reasoning. "Critical thinking fosters good science," said Robin Zimmer, a biotechnology consultant and affiliate of the creationist Center for Faith and Science International in Knoxville, at a legislative hearing on 2 March, 2011.

But opponents say that the real goal of the bill is apparent from the list of subjects it singles out. "HB 368 and other bills like it are a permission slip for teachers to bring creationism, climate-change denial and other non-science into science classrooms," says Eugenie Scott, director of the National Center for Science Education (NCSE) in Oakland, California.

The American Association for the Advancement of Science and the National Association of Biology Teachers have also denounced the measure, as have 4,400 Tennessee residents — many of them scientists — who on 5 April submitted a petition asking Haslam to veto the bill. The bill's critics see it as a classic 'academic-freedom' measure aimed at giving teachers licence to treat evolution as a matter of scientific controversy. In recent years, the Discovery Institute, an intelligent-design advocacy group based in Seattle, Washington, has championed this approach as a strategic way around a prohibition on promoting religion in US public schools. That barrier, based on the separation of church and state in the US constitution, has thwarted previous efforts to mandate the teaching of creationism-like alternatives alongside evolution but it has not yet been tested against an 'academic freedom' law. The Tennessee measure is only the second such law to be passed in the United States — Louisiana enacted the first in 2008 — but ten states have considered them in the past two years.

It is hard to predict the new law's real-world effects. "Curriculum decisions are made district by district and classroom by classroom," points out Josh Rosenau, director of programmes and policy at the NCSE. According to Barbara Forrest, a philosopher at the Southeastern Louisiana University in Hammond and co-founder of the Louisiana Coalition for Science, the 2008 Louisiana law "has produced unintended changes in the state board of education's implementation policy, which now doesn't prohibit discussion of creationism or intelligent design and allows local school boards to select textbooks outside of those approved by the state".

But in Tennessee, unlike in Louisiana, the law requires teachers to stay within the state science curriculum. So the ramifications of the



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An Anti-Evolution League book sale at the beginning of the 1925 Scopes trial in Tennessee. The state has once again become a science-education battleground.

law will depend on how local teachers and school boards interpret that requirement. “There are school districts in Tennessee that don’t pay any attention to the state curriculum,” says Timothy Gaudin, a biologist at the University of Tennessee in Chattanooga. “So there are some people who are going to do what they want to do no matter what.”

Gaudin says that the law could cost Tennessee dearly if parents sue — which they might have grounds to do. The US Supreme Court ruled in 1987 that the mandated teaching of creationism alongside the theory of evolution in public classrooms was unconstitutional. So far, no one has challenged Louisiana’s law in court.

For that reason, says Rosenau, “my guess is that the greatest practical effect will actually be on the climate-change and human-cloning fronts rather than evolution, because there’s no constitutional issue on those subjects”.

Whatever happens, says Scott, Tennessee’s law will be closely watched. “Just as the Tennessee bill was inspired by a similar law in Louisiana,” she says, “the Tennessee bill would surely inspire other states to go down this same dangerous path.”

*Nature* | doi:10.1038/nature.2012.10423