



April 3, 2012

The Honorable Bill Haslam
State Capitol
First Floor
Nashville, TN 37243

Re: Proposed legislation seeking to promote creationism and undermine the teaching of evolution in Tennessee's public school science classes

Dear Governor Haslam:

On behalf of ACLU members and supporters in Tennessee, I write to urge you to veto SB893/HB 368. If enacted, this measure is likely to result in significant violations of students' and parents' First Amendment rights. Moreover, the law is unnecessary; and it threatens to undermine science education across the state, endangering the educational and employment futures of Tennessee's students as well as the state's own economic and job prospects.

The ACLU stands with established national and local scientific and educational organizations,¹ which unanimously agree that there is no scientific controversy regarding the theory of evolution and that the effort to inject this false controversy into public school science curricula will only harm students. We are asking you to protect the Constitution and Tennessee students' ability to compete in the national and international marketplaces.

I. Because Efforts to Inject Religious Beliefs Regarding the Origin of Life into Public School Science Curricula Are Constitutionally Impermissible, This Law Stands on Shaky Legal Ground

Even though the 1925 law that led to the "Scopes Monkey Trial" was eventually repealed in 1967, a few months later, the state Legislature passed a statute barring public school use of any textbook teaching evolution "unless it specifically state[d] that it is a theory as to the origin and creation of man and his world and is not represented to be scientific fact" and unless equal time was devoted to creationism. The U.S. Court of Appeals for the Sixth Circuit flatly rejected the law, holding that it was "obviously in violation of the First Amendment."ⁱⁱ

Since then, federal courts have been unequivocally clear that efforts to inject religious beliefs regarding the origin of life into public school science curricula are constitutionally impermissible no matter what form they may take, including policies requiring or encouraging (i) teachers to read a disclaimer questioning validity of evolution and promoting creationist beliefs; (ii) the placement of stickers disclaiming evolution as theory, not fact, in all science textbooks; and (iii) the promotion of intelligent design in biology class.ⁱⁱⁱ

The proposed legislation is the latest line of attack against evolution in a longstanding campaign waged by certain religious interests to promote creationism in the public schools. Indeed, it is riddled with various euphemisms favored by the creationism movement: Under the pretext of fostering "academic freedom" and "critical thinking," the legislation would authorize

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teachers to present lessons regarding so-called scientific controversies – described in this particular legislation as “scientific subjects that may cause debate and disputation” – calling into question the validity of the scientific theory of evolution by examining its alleged “strengths” and “weaknesses.”^{vi}

In light of this history, the proposed legislation is unlikely to withstand scrutiny by the federal courts. Even though courts are “normally deferential to a State’s articulation of a secular purpose, it is required that the statement of such purpose be sincere, and not a sham.”^{vii} Any court assessing the constitutionality of the law’s application in Tennessee’s public schools must consider its ties to the creationist movement, along with the state’s unyielding history of obstructing the teaching of evolution.^{viii}

II. Tennessee’s Children Deserve Sound Science Education that Will Allow Them to Compete in the Global Marketplace

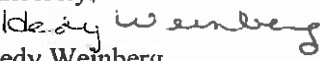
In addition to the proposed legislation’s constitutional infirmities, it is simply unnecessary and may harm the short-term and long-term educational and job prospects of our children and the state as a whole. No one, of course, doubts the value or import of critical thinking to any serious course of scientific study, but these measures are not aimed at developing students’ critical thinking skills. Rather, they seek to subvert scientific principle to religious ideology by granting legal cover to teachers who wish to dress up religious beliefs regarding evolution and the origin of life as pseudo-science and inject them into their science class curricula. The best way to instill critical thinking skills in our students is by implementing and following the science curriculum, which is already geared toward this very aim and has been written and tested by qualified educational specialists.

By allowing teachers to deviate from this science curriculum regarding a key scientific principle like evolution, we take the risk that our students will be unprepared for advanced college coursework in scientific area, and we put them at a disadvantage in our increasingly global economy. Moreover, by creating a population with an inadequate science background, we render our state less appealing to companies and other employers offering science-based jobs that might otherwise locate their businesses in our state.

In sum, SB893/HB 368 is not only likely to embroil the state in lengthy and costly litigation over its constitutionality, but it could have serious consequences for the future well-being of our children, our economy, and our state overall. As the Supreme Court has stated, “[f]amilies entrust public schools with the education of their children, but condition their trust on the understanding that the classroom will not purposely be used to advance religious views that may conflict with the private beliefs of the student and his or her family.”

We entrust the public schools to prepare our children for higher education and success in the job market. SB893/HB 368 represents a betrayal of that trust and, accordingly, must be vetoed. Many thanks for your thoughtful consideration.

Sincerely,


Hedy Weinberg
Executive Director

ⁱ Attached are statements of opposition from the American Association for the Advancement of Science, the American Institute of Biological Sciences, the National Earth Science Teachers Association, the National

Association of Geoscience Teachers, Tennessee Members of the National Academy of Science, and the Tennessee Science Teachers Association.

ⁱⁱ *Daniel v. Waters*, 515 F.2d 485, 487, 489 (6th Cir. 1975).

ⁱⁱⁱ *See, e.g., Edwards v. Aguillard*, 482 U.S. 578, 586, 592 (1987) (striking down Louisiana Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction Act as unconstitutional, holding that the Act was “was not designed to further” the State’s purported goal of “protecting academic freedom,” and concluding that “[t]he preeminent purpose of the Louisiana Legislature was clearly to advance the religious viewpoint that a supernatural being created humankind”); *Epperson v. Arkansas*, 393 U.S. 97, 107 (1968) (holding unconstitutional state law prohibiting the teaching of evolution in public schools as “there can be no doubt that Arkansas has sought to prevent its teachers from discussing the theory of evolution because it is contrary to the belief of some that the Book of Genesis must be the exclusive source of doctrine as to the origin of man”); *Freiler v. Tangipahoa Parish Bd. of Educ.*, 185 F.3d 337, 344-45 (5th Cir. 1999) (overturning school-board policy requiring teachers to read classroom disclaimer questioning validity of evolution and promoting creationist beliefs and holding that the “contested disclaimer does not further the [Board’s] first articulated objective of encouraging informed freedom of belief or critical thinking by students . . . [but rather] we find that the disclaimer as a whole furthers a contrary purpose, namely the protection and maintenance of a particular religious viewpoint”); *Freiler v. Tangipahoa Parish Bd. of Educ.*, 975 F. Supp. 819, 829 (E.D. La. 1997), *aff’d*, 185 F.3d 337 (5th Cir. 1999) (“[T]his Court cannot glean any secular purpose to this disclaimer. While the School Board intelligently suggests that the purpose of the disclaimer is to urge students to exercise their critical thinking skills, there can be little doubt that students already had that right and are so urged in every class.”); *Selman v. Cobb County Sch. Dist.*, 390 F. Supp. 2d 1286, 1306 (N.D. Ga. 2005) (striking down Board policy requiring placement of sticker disclaiming evolution as theory, not fact, in all science textbooks because the sticker impermissibly “sends a message to those who oppose evolution for religious reasons that they are favored members of the political community. . . . [and] a message to those who believe in evolution that they are political outsiders”), *vacated and remanded on grounds of incomplete trial record*, 449 F.3d 1320 (11th Cir. 2006); *Kitzmiller v. Dover*, 400 F. Supp.2d 707, 765-66 (M.D. Pa. 2005) (striking down school board policy promoting the teaching of intelligent design in biology class); *McLean v. Ark. Bd. of Educ.*, 529 F. Supp. 1255, 1274 (E.D. Ark. 1982) (enjoining statute authorizing teaching of creation-science in public schools and holding that “[n]o group, no matter how large or small, may use the organs of government, of which the public schools are the most conspicuous and influential, to foist its religious beliefs on others”).

^{iv} *See, e.g., Barbara Forrest, Understanding the Intelligent Design Creationist Movement: Its True Nature and Goals*, Center for Inquiry, the Office of Public Policy, July 2007, at 20-22 (noting creationist movement’s use of phrases such as “critical thinking,” “academic freedom,” “strengths and weaknesses,” and “controversy” to advance pro-creationist agendas), *available online at* <http://www.centerforinquiry.net/uploads/attachments/intelligent-design.pdf>.

^v *See Edwards*, 482 U.S. at 586-87 (emphasis added) (holding that Louisiana Legislature’s professed purpose to foster academic freedom was a sham).

^{vi} *See Aguillard v. Edwards*, 765 F.2d 1251, 1253 (5th Cir. 1985) (tracing the history of the pro-creationism, antievolution movement and explaining that this “historical background . . . cannot be denied or ignored”). *See also, e.g., McLean*, 529 F. Supp. at 1263 (noting that “[t]he State of Arkansas, like a number of states whose citizens have relatively homogeneous religious beliefs, has a long history of official opposition to evolution which is motivated by adherence to Fundamentalist beliefs in the inerrancy of the Book of Genesis”).



Alan I. Leshner
Chief Executive Officer and
Executive Publisher, *Science*

March 2, 2011

Representative Lois DeBerry
301 6th Avenue North
Suite 33 Legislative Plaza
Nashville, TN 37243

Representative Jimmy Naifeh
301 6th Avenue North
Suite G19A War Memorial Building
Nashville, TN 37243

Dear Representatives DeBerry and Naifeh:

On behalf of the American Association for the Advancement of Science (AAAS), the world's largest general scientific society, I am writing to provide input on the scientific questions raised by HB 368. There is virtually no scientific controversy among the overwhelming majority of researchers on the core facts of global warming and evolution. Asserting that there are significant scientific controversies about the overall nature of these concepts when there are none will only confuse students, not enlighten them.

The core principles concerning both evolution and global warming have been subjected to substantial scientific scrutiny. They have been tested and retested for decades, and their scientific merits have been consistently reinforced. Assertions to the contrary are incompatible with an objective assessment of the vast body of peer-reviewed science.

The science of evolution underpins all of modern biology and is supported by tens of thousands of scientific studies in fields that include cosmology, geology, paleontology, genetics and other biological specialties. The concept of evolution informs scientific research in a broad range of fields, including both agriculture and medicine, which significantly affect our everyday lives.

Scientific observations throughout the world make it clear that climate change is occurring, and rigorous scientific research demonstrates that the greenhouse gases emitted by human activities are the primary driver. These conclusions are based on multiple independent lines of evidence. Indeed, our understanding of the greenhouse effect goes back more than a century.

HB 368 states that students should be taught to think critically, but such thinking is already inherent in the way science is taught. To truly benefit the students of Tennessee, teachers must present the best peer-reviewed research; only in this way will students gain the strong understanding of science necessary to compete for high-skill jobs in an increasingly high-tech world economy.

We encourage you to continue to support a rigorous scientific education curriculum in Tennessee schools by rejecting HB 368. Founded in 1848, AAAS has a longstanding interest and expertise in science education. We stand ready to assist you.

Sincerely

A handwritten signature in blue ink, appearing to read "Alan Leshner", with a long horizontal flourish extending to the right.

Alan Leshner, Ph.D

cc: Rep. Richard Montgomery, Chair
Rep. Joey Hensley, Vice-Chair
Rep. Joe Carr, Secretary
Rep. Harry Brooks
Rep. Kevin Brooks
Rep. John DeBerry
Rep. Bill Dunn
Rep. Craig Fitzhugh
Rep. John Forgey
Rep. Ron Lollar
Rep. Debra Young Maggart
Rep. Joe Pitts
Rep. Dennis Powers
Rep. John Ragar
Rep. Ryan Williams
Rep. John Mark Windle



March 16, 2012

The Honorable Ron Ramsey
1 Legislative Plaza
Nashville, TN 37243

The Honorable Beth Harwell
301 6th Avenue North
Suite 19 Legislative Plaza
Nashville, TN 37243

Dear Speaker Ramsey and Speaker Harwell,

On behalf of the American Institute of Biological Sciences (AIBS), I write to respectfully urge your opposition to House Bill 368 and Senate Bill 893. These measures are bad for science, science education, and the future economic health and well being of Tennessee.

The AIBS is a professional society. Our approximately 160 member organizations represent the breadth of the biological sciences and have a combined membership of nearly 250,000 scientists and science educators.

It is important to note that there is no scientific controversy about the legitimacy of evolution or global climate change. These scientific concepts have repeatedly been tested and grown stronger with each evaluation. Any controversy around these concepts is political, not scientific. Indeed, evolution is a core principle that helps to explain biology and informs the development of biology-based products and services, including pharmaceuticals, food, and biotechnology.

As the nation struggles to reignite our economy and prepare our children for the jobs of the 21st century, we should be working to strengthen our science education system – not insert non-scientific concepts into the classroom to placate political special interests.

Please stand-up for Tennessee's students by opposing passage of HB 368 and SB 893.

Sincerely,

A handwritten signature in black ink, appearing to read "R. O'Grady", is written over a white background.

Richard T. O'Grady, Ph.D.
Executive Director

cc: Senator Bo Watson
Senator Mark Norris
Senator Jim Kyle
Rep. Judd Matheny
Rep. Gerald McCormick
Rep. Craig Fitzhugh



National Earth Science Teachers Association

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March 16, 2012

Tennessee State Senators
Tennessee State Representatives
Governor Bill Haslam

Dear Tennessee Leaders,

On behalf of the thousands of geoscience teachers represented by the National Earth Science Teachers Association, I write to express my grave misgivings about Senate Bill 893 and House Bill 368, currently under consideration by the Tennessee General Assembly.

These bills misrepresent key scientific concepts and principles, and would undermine the education of Tennessee's students. The bills present topics including evolution and global warming as scientific subjects which "may cause controversy" or "debate and disputation." These ideas are not scientifically controversial, and when taught correctly, do not cause debate or disputation in science classrooms. The only controversy, debate, or disputation about the legitimacy of these concepts occurs in the political arena, and these disputes do not belong in science classrooms.

NESTA affirms, along with the National Science Teachers Association, the National Academy of Sciences, the Tennessee Science Teachers Association, the American Geophysical Union, the National Association of Geoscience Teachers, and other leading scientific and educational organizations, that evolution is central to biology and to the earth sciences and that it is an essential component of science classes. Furthermore, based on the overwhelming scientific evidence, NESTA agrees with the positions taken by many other organizations and leading scientists that Earth's climate is changing, that human activities are responsible for much of the warming seen in recent years, and the science of climate change is a fundamental part of earth science education.

These bills encourage teachers to emphasize what are misrepresented as "scientific weaknesses" of evolution and climate change (among others). In practice, this term is often applied to scientifically unwarranted and widely-debunked attacks by creationists and others attempting to cloak a political agenda in the guise of science. While scientific research continues to illuminate how evolution and climate change influence the world around us, there is no scientific debate about whether they do so, and these bills are wrong to suggest otherwise.

By undermining the teaching of evolution and climate change, and by singling out science classes for special scrutiny, HB 368 and SB 893 would damage the scientific preparation of Tennessee's students, harm Tennessee's national reputation, and weaken its efforts to participate in the 21st century economy.

We therefore urge you and your colleagues to vote against this legislation, and ask that the Governor veto this legislation, if it reaches his desk. This proposed law is unnecessary, anti-scientific, bad for Tennessee's future and very likely unconstitutional. Thank you for your attention and consideration.

Sincerely,

Dr. Roberta Johnson
Executive Director
National Earth Science Teachers Association

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National Association of Geoscience Teachers

16 March 2012

On behalf of the National Association of Geoscience Teachers, of whom I am president, I am writing to express opposition to SB 893 and HB 368. The National Association of Geoscience Teachers (NAGT) recognizes that the scientific theory of evolution is a foundational concept of science, and therefore must also be a cornerstone of science education. NAGT fully agrees with and supports the scientific validity of evolution as reflected in the position statements of the numerous scientific societies that unanimously support evolution on scientific grounds. NAGT further maintains that the scientific theory of evolution should be taught to students of all grade levels as a unifying concept without distraction of non-scientific or anti-scientific influence.

NAGT also joins many prestigious organizations of scientists, including the National Academies of Science (2005), the American Geophysical Union (2003, 2007), the American Chemical Society (2004), and the Geological Society of America (2006), in affirming the conclusions of the United Nations Intergovernmental Panel on Climate Change in position statements on climate change that call for intensive public education, increased awareness, and action on this important issue.

In science, disagreements are subject to rules of scientific evaluation, and this includes the methodologies of teaching scientific concepts. Scientific conclusions are tested by experiment, observation, and evaluation. Sound practices of scientific education are tested and evaluated much the same way. NAGT recognizes that invoking non-naturalistic or supernatural events or beings are not scientific in character, do not conform to the scientific usage of the word theory, and should not be part of valid science curricula.

The purpose of the NAGT is to foster improvements in the teaching of the earth sciences at all levels of formal and informal instruction, to emphasize the relevance and cultural significance of the earth sciences, and to disseminate knowledge in this field to educators and the general public. The NAGT fully accepts its role in the evaluation and betterment of the teaching of scientific evolution in formal and informal educational settings, with the explicit goal of helping everyone to understand the scientific merit this fundamental concept has in modern science.

We agree that critical thinking is an essential skill for all students, one which is already embedded in the teaching of science. But the content of science consists of peer-reviewed, tested and confirmed results, not debates based on political or religious convictions. We are convinced that rigorous science education in Tennessee is badly served by SB 893 or HB 368, and we urge Tennessee's representatives, state senators and governor to reject this legislation.

Sincerely,

Elizabeth Wright, Ph.D.
President



Tennessee Science Teachers Association

<http://tnsta.com>

On behalf of the science educators of Tennessee represented by the Tennessee Science Teachers Association (TSTA), I write to you as their President to express my grave misgivings about House Bill 368 being introduced by Representative Bill Dunn at the Education Committee meeting. This bill purports to encourage our State's science teachers to teach "scientific controversies" and to protect them from administrative discipline if they choose to do so. HB 368 singles out evolution as an example of a "scientific subject" that "can cause controversy." The bill states that "teachers shall be permitted to help students understand, analyze, critique, and review in an objective manner the scientific strengths and scientific weaknesses of existing scientific theories covered in the course being taught."

We are in complete agreement with this last statement and are confident that good science teachers throughout our State are already doing this in an educational environment supported by their administrators. Therefore, this bill is unnecessary. However, this proposed legislation's major flaw implies that there is a scientific controversy surrounding evolution. As teachers and developers of other teachers, the members of TSTA recognize some communities' contextual climate regarding the teaching of evolution. However, we also recognize that the scientific theory of evolution is accepted by mainstream scientists around the world as the cornerstone of biology and as the single, unifying explanation for the diversity of life on earth. This bill is an anti-evolutionary attempt to allow non-scientific alternatives to evolution (such as creationism and intelligent design) to be introduced into our public schools. Scientific theories must provide natural and testable explanations. Creationism and intelligent design fail on both counts because they invoke supernatural ultimate causes (e.g. God, or an unspecified "intelligent designer") that cannot be tested by the tools of science (e.g. no one can disprove the existence of God). These ideas are religiously motivated (directly countering Section 1e of HB 368) and have been shown time and time again (from court cases in Arkansas and Louisiana in the 1980s to the Dover, Pennsylvania, intelligent design trial in 2004-05) to violate the Establishment Clause of the 1st Amendment to the Constitution.

We therefore urge you and your colleagues to vote against this legislation; a proposed law that is unnecessary, anti-scientific and very likely unconstitutional. Thank you for your attention and consideration.

Sincerely,
Becky Ashe
President, TSTA 2011-2013
Exec. Director Curriculum & Instruction
Knox County Schools
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**To the Honorable Members of the Tennessee House Education Committee
From the Tennessee Members of the National Academy of Sciences**

A Statement Regarding HB 368 and SB 893

We, as Tennessee citizens and members of the National Academy of Sciences, wish to express our firm opposition to HB 368 and SB 893, currently under consideration by the Tennessee General Assembly.

These bills misdescribe evolution as scientifically controversial. As scientists whose research involves and is based upon evolution, we affirm -- along with the nation's leading scientific organizations, including the American Association for the Advancement of Science and the National Academy of Sciences -- that evolution is a central, unifying, and accepted area of science. The evidence for evolution is overwhelming; there is no scientific evidence for its supposed rivals ("creation science" and "intelligent design") and there is no scientific evidence against it.

These bills encourage teachers to emphasize what are misdescribed as the "scientific weaknesses" of evolution, which in practice are likely to include scientifically unwarranted criticisms of evolution. As educators whose teaching involves and is based on evolution, we affirm-- along with the nation's leading science education organizations, including the National Association of Biology Teachers and the National Science Teachers Association -- that evolution is a central and crucial part of science education. Neglecting evolution is pedagogically irresponsible.

By undermining the teaching of evolution in Tennessee's public schools, HB 368 and SB 893 would miseducate students, harm the state's national reputation, and weaken its efforts to compete in a science-driven global economy.

Dr. Stanley Cohen,
Nobel Laureate, 1986
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Vanderbilt University*

Dr. Roger D. Cone
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