

Washington University Journal of Law & Policy

Volume 16 *Access to Justice: The Social Responsibility of Lawyers | New Federalism*

January 2004

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Recommended Citation

David J. Hacker, *WARNING! EVOLUTION LIES WITHIN: Preserving Academic Freedom in the Classroom with Secular Evolution Disclaimers*, 16 WASH. U. J. L. & POL'Y 333 (2004), https://openscholarship.wustl.edu/law_journal_law_policy/vol16/iss1/16

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WARNING! EVOLUTION LIES WITHIN: Preserving Academic Freedom in the Classroom with Secular Evolution Disclaimers

David J. Hacker*

Once thought to be well-settled, the origin controversy continues to evolve in America's public schools. Since 1995, Alabama has been the only state to officially use disclaimers in science textbooks in order to remind students that evolutionary theory should be critically evaluated against other origin theories.¹ In the past three years, however, lawmakers in five states announced plans to follow Alabama's lead and add "evolution disclaimers" to middle school and high school science textbooks.² Lawmakers argue these disclaimers are necessary in order to expose students to new criticisms and alternatives to evolution.³

With school districts facing potential lawsuits for instituting disclaimers, this Recent Development determines (1) whether public schools may place secular evolution disclaimers in science textbooks and (2) whether disclaimers make good public policy. Part I of this Recent Development reviews six states' experiments with evolution

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1. Eric Meikle, *State Board of Education Adopts Another Evolution Disclaimer*, at http://www.ncseweb.org/resources/news/2001/al/123_state_board_of_education_adopt_11_8_2001.asp (Nov. 8, 2001); *see also infra* note 30 (full text of current Alabama disclaimer).

2. John Greiner, *Evolution Disclaimer for Textbooks Rejected*, DAILY OKLAHOMAN, May 13, 2003, at 7A; Mary MacDonald, *Evolution Takes Stage in Cobb School Board to Address Classroom Alternatives*, ATLANTA J.-CONST., Aug. 22, 2002, at C1; Laura Maggi, *Evolution Disclaimer Is Struck Down*, TIMES-PICAYUNE, Dec. 13, 2002, available at <http://www.nola.com/printer/printer.ssf?newsstory/evolution13.html>.

3. H. Wayne House, *Darwinism and the Law: Can Non-Naturalistic Scientific Theories Survive Constitutional Challenge?*, 13 REGENT U. L. REV. 355, 381-92 (2000-2001). In this Recent Development evolutionary theory refers to macro-evolution as taught in public schools. The concept of micro-evolution, while concomitant with the general theory of evolution, is widely accepted and not subject to consideration within this analysis. *See* FRANCIS J. BECKWITH, LAW, DARWINISM, AND PUBLIC EDUCATION 4 (2003).

disclaimers. Part II retraces the legal history of teaching alternatives to evolution in public schools. Part III examines the tension between changing scientific theory, accepted science curriculum, and demand for schools to promote academic freedom by teaching alternatives to evolution. Finally, Part IV answers whether lawmakers may create secular evolution disclaimers, whether disclaimers make good public policy, and proposes several suggestions for developing disclaimers that pass constitutional muster.

I. CURRENT ATTEMPTS AT EVOLUTION DISCLAIMERS

Georgia, Louisiana, South Carolina, Oklahoma, and Mississippi recently experimented with evolution disclaimers.

In 2002, the school board of Cobb County, Georgia, adopted a resolution to place disclaimer stickers in all science textbooks.⁴ The disclaimer stipulated that evolution is only a theory and should be considered with a critical eye.⁵ The school board created this disclaimer after parents petitioned the board to teach alternatives to evolution and use textbooks with accurate factual assertions.⁶ Opponents, including the American Civil Liberties Union, which filed suit on behalf of some parents, asserted that placing evolution disclaimers in textbooks is an attempt to establish religious creation-science in the schools in violation of the First Amendment's Establishment Clause.⁷

Lawmakers in Louisiana twice tried to create evolution disclaimers, once with sectarian motivations, and more recently, with secular motivations. In *Freiler v. Tangipahoa Parish Board of Education*,⁸ the Tangipahoa school board adopted an evolution disclaimer that teachers would read at the beginning of the evolution

4. MacDonald, *supra* note 2.

5. *Id.* The disclaimers state: "This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully, and critically considered." *Id.*

6. *Id.*

7. *Id.* The ACLU suit, filed on behalf of a Cobb County parent in the United States District Court in Atlanta, called the evolution disclaimers a "'fundamentalist Christian expression' that promotes religion in public education." *Id.*

8. 185 F.3d 337 (5th Cir. 1999).

curriculum.⁹ The disclaimer stated that teaching evolution was not intended to dissuade students from believing in Biblical creationism and other theories.¹⁰ Several parents of children in Tangipahoa Parish filed suit, challenging the disclaimer under the United States and Louisiana Constitutions.¹¹ The United States Court of Appeals for the Fifth Circuit held that the resolution violated the First Amendment, by advancing religion in the classroom.¹² The court found that, although the disclaimer had a sectarian purpose, it also had the secular purposes of disclaiming any orthodoxy and reducing offense to opponents of evolution.¹³ Yet the Fifth Circuit found that the disclaimer violated the second prong of the *Lemon* test.¹⁴ The *Lemon*

9. *Id.* at 341.

10. *Id.* The resolution of the Tangipahoa board stated:

Whenever, in classes of elementary or high school, the scientific theory of evolution is to be presented . . . the following statement shall be quoted immediately before the unit of study begins as a disclaimer from endorsement of such theory. It is hereby recognized by the Tangipahoa Board of Education, that the lesson to be presented, regarding the origin of life and matter, is known as the Scientific Theory of Evolution and should be presented to inform students of the scientific concept and not intended to influence or dissuade the Biblical version of Creation or any other concept. It is further recognized by the Board of Education that it is the basic right and privilege of each student to form his/her own opinion and maintain beliefs taught by parents on this very important matter of the origin of life and matter. Students are urged to exercise critical thinking and gather all information possible and closely examine each alternative toward forming an opinion.

Id.

11. *Id.* at 342.

12. *Id.* at 348.

13. *Id.* at 345. The court found that *Lemon's* first prong, that a law have a secular purpose, does not mandate that the "challenged state action have been enacted in furtherance of exclusively, or even predominately, secular objects." *Id.* at 344–45. For the state action to pass the first prong, a "sincere secular purpose" for the state action must exist, even if surrounded by a number of religious purposes. *Id.* at 344; *see also* *Wallace v. Jaffree*, 472 U.S. 38, 56 (1985) (stating that state action may satisfy the *Lemon* test if there is a secular purpose commingled with religious purposes).

14. *Freiler*, 185 F.3d at 346. The court found the disclaimer violated the second prong of the *Lemon* test because the primary effect of the disclaimer was to maintain and advance a particular religious viewpoint in the classroom—that of Biblical creation. *Id.* at 346–48. The court found three reasons why the disclaimer was intended to maintain a particular religious viewpoint: (1) the disclaimer disavowed evolution and suggested that students consider other theories; (2) the disclaimer reminded to students that they may maintain the beliefs their parents taught them; and (3) the disclaimer made exclusive reference to Biblical creationism as an alternative theory. *Id.* at 346.

test states that in order to comply with the Establishment Clause, (1) a law must have a secular purpose; (2) the primary effect of the statute must neither advance nor inhibit religion; and (3) the statute must not result in an excessive entanglement of government with religion.¹⁵ The court found that the resolution's disclaimer advanced Biblical creationism as the only alternative to evolution.¹⁶ Ultimately, the Fifth Circuit refused to review the panel court's decision en banc, and the Supreme Court denied certiorari.¹⁷

In 2002, Louisiana introduced evolution disclaimers with secular motivations. A committee of the state's Board of Elementary and Secondary Education approved a policy requiring each public high school science textbook to contain an evolution disclaimer.¹⁸ The disclaimer stated that evolution leaves many origin questions unanswered and that students should study with an open mind, because they hold the potential to contribute to origin theories in the future.¹⁹ One day after the proposal, the Board rejected the disclaimer.²⁰

15. *Lemon v. Kurtzman*, 403 U.S. 602, 612–13 (1971).

16. *Freiler*, 185 F.3d at 347.

17. 201 F.3d 602 (5th Cir. 2000), *cert. denied*, 530 U.S. 1251 (2000). The Fifth Circuit denied petition for rehearing en banc, because the disclaimer was not sufficiently neutral to pass First Amendment analysis. 201 F.3d at 603. In dissent, seven judges of the Fifth Circuit chastised their fellow jurists for creating legal doctrine in conflict with Establishment Clause jurisprudence by appearing hostile towards religion. *Id.* (Barksdale, J., dissenting). The dissent stated that “in seeking to enforce constitutionally mandated neutrality, the panel has strayed, no doubt unintentionally, onto a path of intolerance.” *Id.* The dissent also found that the primary purpose of the resolution was not to advance religion, but to “advance tolerance and respect for diverse viewpoints.” *Id.* at 607. Though the United States Supreme Court denied certiorari, Justice Scalia, joined by Chief Justice Rehnquist and Justice Thomas, dissented and wrote that

[T]oday [the Court] permit[s] a Court of Appeals to push the much beloved secular legend of the Monkey Trial one step further. We stand by in silence while a deeply divided Fifth Circuit bars a school district from even suggesting to students that other theories besides evolution—including, but not limited to, the Biblical theory of creation—are worthy of their consideration.

530 U.S. at 1255.

18. Maggi, *supra* note 2.

19. The Student and School Standards/Instruction Committee disclaimer said that the theory of evolution “still leaves many unanswered question about the origin of life. Study hard and keep an open mind. Someday you may contribute to the theories of how living things appeared on earth.” Will Sentell, *Evolution Disclaimer Supported*, *ADVOCATE*, Dec. 11, 2002.

20. Maggi, *supra* note 2.

Louisiana's most recent failed disclaimer resembled similar efforts made in South Carolina, Oklahoma, and Mississippi.²¹ A South Carolina state senator introduced an amendment to an education bill that would have required all public schools to place disclaimers in science textbooks.²² The senator withdrew the amendment and instead proposed an amendment establishing a committee to review South Carolina's science education.²³ Additionally, legislators in Oklahoma killed a bill containing a proposed evolution disclaimer,²⁴ and conservative legislators in Mississippi included evolution disclaimers in their 2003 legislative agenda.²⁵

Lawmakers in Ohio, Missouri, and other states have proposed bypassing disclaimers altogether by adding alternatives to evolution in their science curricula.²⁶ Ohio lawmakers rewrote the state's science curriculum to include new developments in evolutionary theory and critiques of evolution, such as Intelligent Design.²⁷

21. *Id.*

22. National Center for Science Education, *Anti-Evolution Legislation in South Carolina*, at http://www.ncseweb.org/resources/news/2003/SC/297_antievolution_legislation_in_5_8_2003.asp (May 8, 2003).

23. *Id.*

24. Greiner, *supra* note 2.

25. Julie Goodman, *House Conservatives Present '03 Agenda*, CLARION-LEDGER, Jan. 9, 2003, at 5A.

26. Liz Sidoti & Jennifer Mrozowski, *Evolution Would Be Theory No. 1*, CINCINNATI ENQUIRER, Oct. 15, 2002, available at http://www.enquirer.com/editions/2002/10/15/loc_evolution15.html; *Ohio May Debate Evolution in Schools: Theory's Flaws Could Be Taught*, WASH. POST, Oct. 15, 2002, at A9. The Ohio Board of Education proposed science curriculum guidelines that allow teachers to teach evolution, criticisms of the theory, and "other scientific life concepts." Sidoti & Mrozowski, *supra*. The *Cleveland Plain Dealer* conducted a poll in June 2002 that found three in five Ohioans support teaching the origin controversy in public schools. *Id.*

27. Peter Bronson, *Ohio Wading into Debate on Biology*, CINCINNATI ENQUIRER, Feb. 8, 2004, at C. Ohio's new "Critical Analysis of Evolution" lesson plan for the 2004–2005 school curriculum prompts students to debate evolution. Mike Lafferty, *Proposed Lesson on Evolution Upsets Scientists*, COLUMBUS DISPATCH, Dec. 4, 2003, at 8C.

On February 10, 2004, the Ohio State Board of Education voted 13–4 to support the new lesson plan containing critiques of evolution. Scott Stephens, *State Panel Backs Disputed Lesson, Infuriates Supporters of Evolution*, CLEVELAND PLAIN DEALER, Feb. 11, 2004, at A1. The lesson plan is not mandatory, giving teachers a choice in whether to teach it, but state exams will test what the curriculum covers. *Id.*

Lawmakers in Missouri introduced a bill requiring biology curricula to include Intelligent Design theory.²⁸

Currently, Alabama is the only state using evolution disclaimers.²⁹ From 1995 to 2001, Alabama used a disclaimer that reminded students that evolution is a controversial theory.³⁰ In 2001, Alabama changed the disclaimer to focus on the nature of a “theory” and how evolution, as a theory, leaves many questions unanswered.³¹

28. Sharon Begley, *Evolution Critics Come Under Fire for Flaws in Intelligent Design*, WALL ST. J., Feb. 13, 2004, at B1. Georgia’s State Schools Superintendent recommended removing the word “evolution” from the state’s science curriculum, but withdrew that recommendation a few days later due to public outcry. Mary MacDonald, “*Evolution*” *Back in Teaching Plan Superintendent Says Her Effort to Avoid Controversy Backfired*, ATLANTA J.-CONST., Feb. 6, 2004, at A1; Mary MacDonald, *Georgia May Shun “Evolution” in Schools, Revised Curriculum Plan Outrages Science Teachers*, ATLANTA J.-CONST., Jan. 29, 2004, at A1.

29. Meikle, *supra* note 1.

30. The 1995 disclaimer reads:

This textbook discusses evolution, a controversial theory some scientists present as a scientific explanation for the origin of living things, such as plants, animals and humans. No one was present when life first appeared on Earth. Therefore, any statement about life’s origins should be considered a theory. The word evolution may refer to many types of change. Evolution describes changes that occur within a species. (White moths, for example, may evolve into gray moths.) This process is microevolution, which can be observed and described as fact. Evolution may also refer to the change of one living thing to another, such as reptiles into birds. This process, called macroevolution, has never been observed and should be considered a theory. Evolution also refers to the unproven belief that random, undirected forces produced a world of living things. There are many unanswered questions about the origin of life which are not mentioned in your textbook, including: Why did the major groups of animals suddenly appear in the fossil record, (known as the Cambrian Explosion)? Why have no new major groups of living things appeared in the fossil record in a long time? Why do major groups of plants and animals have no transitional forms in the fossil record? How did you and all living things come to possess such a complete and complex set of instructions for building a living body? Study hard and keep an open mind. Someday you may contribute to the theories of how living things appeared on Earth.

Meikle, *supra* note 1.

31. The November 8, 2001 disclaimer reads:

The word “theory” has many meanings. Theories are defined as systematically organized knowledge, abstract reasoning, a speculative idea or plan, or a systematic statement of principles. Scientific theories are based on both observations of the natural world and assumptions about the natural world. They are always subject to change in view of new and confirmed observations.

Many scientific theories have been developed over time. The value of scientific work is not only the development of theories but also what is learned from the

Alabama's evolution disclaimer focuses on the changes in the accuracy of evolutionary theory as scientists gather more data on human origin.³² Considering the number of states experimenting with evolution disclaimers, one may ask whether these disclaimers pass constitutional muster.

II. PRIOR ATTEMPTS TO TEACH EVOLUTION AND CREATION-SCIENCE IN PUBLIC SCHOOLS

American courts have a long history of dealing with attempts to teach religious alternatives to evolution in public schools. While this controversy began with the infamous *Scopes v. State*³³ "Monkey Trial" of the 1920s,³⁴ it entered the chambers of the United States Supreme Court through *Epperson v. Arkansas*³⁵ and *Edwards v.*

development process. The Alabama Course of Study: Science includes many theories and studies of scientists' work. The work of Copernicus, Newton, and Einstein, to name a few, has provided a basis of our knowledge of the world today.

The theory of evolution by natural selection is a controversial theory that is included in this textbook. It is controversial because it states that natural selection provides the basis for the modern scientific explanation for the diversity of living things. Since natural selection has been observed to play a role in influencing small changes in a population, it is assumed that it produces large changes, even though this has not been directly observed. Because of its importance and implication, students should understand the nature of evolutionary theories. They should learn to make distinctions between the multiple meanings of evolution, to distinguish between observations and assumptions used to draw conclusions, and to wrestle with the unanswered questions and unresolved problems still faced by evolutionary theory.

There are many unanswered questions about the origin of life. With the explosion of new scientific knowledge in biochemical and molecular biology and exciting new fossil discoveries, Alabama students may be among those who use their understanding and skills to contribute to knowledge and to answer many unanswered questions. Instructional materials associated with controversy should be approached with an open mind, studied carefully, and critically considered.

Id.

32. *Id.*

33. 289 S.W. 363 (1927).

34. In *Scopes*, a school teacher was convicted of violating the Tennessee Anti-Evolution Act for teaching that man descended from a lower form of animals. *Id.* at 363. The Tennessee Supreme Court held that the Tennessee Anti-Evolution Act did not violate the religion clause of Tennessee's Constitution. *Id.* at 367. Although the Act forbade teaching evolution in the classroom, it did not require the teaching of other origin theories like creationism. *Id.* Thus, the court left public school officials to decide whether schools would teach origin theories without evolution or bypass teaching any origin theory. *Id.*

35. 393 U.S. 97 (1968).

Aguillard.³⁶ In *Epperson v. Arkansas*, the Supreme Court held unconstitutional an anti-evolution statute that made teaching evolution unlawful in public schools and universities.³⁷ The Court held that the government must be neutral with regard to religion³⁸ and that the purpose of the anti-evolution statute was to promote sectarian ideas,³⁹ thereby violating the secular purpose prong of the *Lemon* test.⁴⁰ In essence, the Court determined that a state does not have liberty to prescribe the components of public school curricula where the state's rationale hinges on a religious purpose.⁴¹

Almost twenty years after *Epperson*, the Supreme Court held unconstitutional a Louisiana balanced-treatment statute. In *Edwards v. Aguillard*, the State of Louisiana passed the Creationism Act in an attempt to promote academic freedom in public schools.⁴² The Creationism Act prohibited the teaching of evolution if schools opted not to teach creation-science.⁴³ The Court determined that the Act did not promote academic freedom and failed to have a secular purpose under the *Lemon* test.⁴⁴ However, in dicta, the majority hinted that schools may teach other theories that challenge evolutionary theory in order to promote academic freedom and effective science instruction.⁴⁵ *Epperson* and *Edwards* demonstrate that states may neither criminally prohibit the teaching of evolution, nor make the teaching of evolution contingent upon the adequate teaching of creation-science.

36. 482 U.S. 578 (1987).

37. 393 U.S. at 98.

38. *Id.* at 103–04.

39. *Id.* at 108.

40. *Id.* at 109.

41. *Id.* at 107. The Court also noted that “public education in our Nation is committed to the control of state and local authorities.” *Id.* at 104.

42. 482 U.S. at 586. The full name of the Louisiana act was the “Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction” Act, codified at LA. REV. STAT. ANN. §§ 17:286.1–17:286.7 (West 1982). 482 U.S. at 581.

43. *Id.* at 581.

44. *Id.* at 585–86. The Court stated that “if the Louisiana Legislature’s purpose was solely to maximize the comprehensiveness and effectiveness of science instruction, it would have encouraged the teaching of all scientific theories about the origins of humankind.” *Id.* at 588.

45. Compare *id.* at 593–94, with *id.* at 584 (stating divisive forces must be kept out of the schools). Prohibitions against teaching creation-science do not apply to colleges and universities. *Id.* at 584 n.5.

III. THE TENSION AMONG THE CHANGING SCIENCE OF ORIGINS, ACADEMIC FREEDOM, AND PUBLIC SENTIMENT

The popularity of disclaimers increased in the past three years due to (1) changes in the science of origins, (2) ambiguous law concerning academic freedom, and (3) public pressure to teach alternatives to evolution.

First, while the origins debate has flourished for centuries,⁴⁶ it was not divided so clearly until Charles Darwin published *On the Origin of Species*.⁴⁷ Darwin's evolutionary theory caused a paradigm shift in science's understanding of the origin question,⁴⁸ but initial criticisms of his work submerged his theory into a stage of hibernation.⁴⁹ However, that winter was short-lived and today most scientists recognize Darwin's theory as the foundational explanation of heritage and genetics.⁵⁰ But not all scientists subscribe to evolution. Skeptics

46. WILLIAM A. DEMBSKI, *MERE CREATION-SCIENCE, FAITH AND INTELLIGENT DESIGN* 16 (1998).

47. CHARLES DARWIN, *ON THE ORIGIN OF SPECIES* (1859). Prior to Darwin, philosophers and scientists, like Johannes Kepler, John Ray, Robert Boyle, and Sir Isaac Newton, believed the universe exhibited elements of design. David K. DeWolf et al., *Teaching the Origins Controversy: Science, Or Religion, Or Speech?*, 2000 UTAH L. REV. 39, 46-47; cf. House, *supra* note 3, at 355 n.3 (stating that a variation of evolutionary theory existed in many ancient cultures).

48. Philosophers of science, such as Thomas Kuhn, argue that scientific theory changes through major paradigm shifts in which the old theory is discarded for a new, more accurate, understanding of the world. PHILLIP E. JOHNSON, *DARWIN ON TRIAL* 120-22 (1993); DEMBSKI, *supra* note 46, at 28. For example, when Copernicus determined that the earth revolves around the sun and not the sun around the earth, science experienced a paradigm shift from a geocentric to a heliocentric universe. STEPHEN F. MASON, *A HISTORY OF THE SCIENCES* 127-28 (1962).

49. House, *supra* note 3, at 356-57 n.5. Fellow scientists immediately declared Darwin's book unworkable and inaccurate because it posited that no supernatural forces influenced the evolutionary process. *THE CAMBRIDGE DICTIONARY OF PHILOSOPHY* 205 (2d ed. 1999). Even Darwin hesitated to announce that life developed from inorganic matter as macro-evolution suggests. BECKWITH, *supra* note 3, at 4 (citing DOUGLAS J. FUTUYAMA, *SCIENCE ON TRIAL* 95 (1983) (quoting DARWIN, *THE ORIGIN OF SPECIES* 484 (1859)). Darwin found instead that all creatures come from a primordial form "into which life was first breathed." *Id.*

As the historian of biology Peter Bowler has noted, classical Darwinism entered a period of eclipse, in part because Darwin lacked a theory of the origin and transmission of new heritable variation." DeWolf, *supra* note 47, at 48 (citing PETER J. BOWLER, *THEORIES OF HUMAN EVOLUTION: A CENTURY OF DEBATE, 1844-1944*, at 44-50 (1986)).

50. "The resuscitation of the variation/natural selection mechanism by modern genetics and population genetics became known as the neo-Darwinian synthesis." DeWolf, *supra* note 47, at 49; see also GOULD, *THE PANDA'S THUMB* 78 (1980).

of evolutionary theory posit both simple and religious criticisms.⁵¹ Additionally, since the early 1990s Intelligent Design has become a dominant alternative to evolution.⁵² Intelligent Design is a scientific research program teaching that intelligent agency explains more about complex biological systems than does evolutionary theory.⁵³

Despite alternatives like Intelligent Design, most of the scientific community continues to endorse evolution as the only acceptable theory to explain origins.⁵⁴ Educators contend that teaching anything but evolution will unconstitutionally establish religion in the classroom. The National Academy of Sciences argues evolution is the only origin theory that should be taught in public schools,⁵⁵ even though some high school biology textbooks contain serious errors in their presentation of evolutionary theory.⁵⁶ The National Association

51. CHARLES COLSON & NANCY PEARCEY, *HOW NOW SHALL WE LIVE?* 87 (1999) Colson explains that the theologian, Francis Schaeffer, offered an argument against evolution: "Suppose a fish evolves lungs. What happens then? Does it move up to the next evolutionary stage? Of course not. It drowns." *Id.*

See, e.g., *McLean v. Ark. Bd. of Educ.*, 529 F. Supp. 1255, 1258–61 (1982) (reviewing the evolution versus creation-science debate that began in the nineteenth century and entered legal debate with *Scopes v. State*, 289 S.W. 363 (1927)).

52. Francis J. Beckwith, *Science and Religion Twenty Years After McLean v. Arkansas: Evolution, Public Education, and the New Challenge of Intelligent Design*, 26 HARV. J.L. & PUB. POL'Y 455, 470–77 (2003); see also Francis J. Beckwith, *A Liberty Not Fully Evolved?: The Case of Rodney LeVake and the Right of Public School Teachers to Criticize Darwinism*, 39 SAN DIEGO L. REV. 1311, 1319 n.47 (2002) (listing academics who propose alternatives to evolutionary theory); DEMBSKI, *supra* note 46, at 16 (showing that advocates of design theory have existed for at least 2000 years); DeWolf, *supra* note 47, at 49, 53 & nn.52, 54 (listing a series of articles and books addressing new discoveries in paleontology, systematics, molecular biology, genetics, and developmental biology).

"Some fundamental truths about evolution have so far eluded us all . . . Far from ignoring or ridiculing the groundswell of opposition to Darwinism that is growing, for example, in the United States, we should welcome it as an opportunity to re-examine our sacred cow more closely." House, *supra* note 3, at 380 (citing BERNARD STONEHOUSE, MICHAEL PITMAN, ADAM AND EVOLUTION 9, 12 (1984)).

53. BECKWITH, *supra* note 3, at 8. The central think-tank for Intelligent Design theorists is the Center for Science and Culture at The Discovery Institute. *Id.* at xiv.

54. DeWolf, *supra* note 47, at 40.

55. See A Request to Help Counter the Cobb County, Ga., School Board's Actions on the Teaching of Evolution in Public Schools (Sept. 18, 2002), at <http://www4.nationalacademies.org/nas/nashome.nsf/urllinks/NAS-5E4MM4?OpenDocument> (letter by Bruce Alberts). Mr. Alberts's letter urged members of the National Academy of Sciences to write letters to Cobb County School Board members or op-ed pieces for local and statewide newspapers, stating that evolution should be the only theory taught in public schools. *Id.*

56. David K. DeWolf, *Academic Freedom After Edwards*, 13 REGENT U. L. REV. 447, 478 (2000–01); see also BIOLOGY 366–467 (Kenneth R. Miller & Joseph Levine eds., 2002);

of Biology Teachers (NABT), the National Science Teachers Association (NSTA), and the National Center for Science Education (NCSE) also prescribe policies that require schools to teach only evolution.⁵⁷ Despite the influence of these large organizations, the changes to the science of origins have prompted some citizens, policy makers, and academics to favor teaching evolution *and* scientific alternatives.⁵⁸

BIOLOGY: THE DYNAMICS OF LIFE 400–27 (Alton Biggs et al. eds., 2000) (high school textbooks containing evolutionary theory); DeWolf, *supra* note 47, at 42 (explaining that textbooks understate the evidential problems of neo-Darwinian claims); Jonathan Wells, *An Evaluation of Ten Recent Biology Textbooks, A Report for the Center for the Renewal of Science and Culture*, Discovery Institute, at <http://www.csrc.org/biology> (last visited Jan. 16, 2004).

57. The NABT Statement on Teaching of Evolution endorses the following tenets of biology education and evolution:

The diversity of life on earth is the outcome of evolution: an unpredictable and natural process of temporal descent with genetic modification that is affected by natural selection, chance, historical contingencies and changing environments Evolutionary theory is significant in biology, among other reasons, for its unifying properties and predictive features, the clear empirical testability of its integral models and the richness of new scientific research it fosters Science is not teleological: the accepted processes do not start with a conclusion, then refuse to change it, or acknowledge as valid only those data that support an unyielding conclusion.

National Association of Biology Teachers, *Statement on Teaching Evolution*, at http://www.nabt.org/sub/position_statements/evolution.asp (Aug. 2000). Additionally, the NABT states that “opposition to teaching evolution reflects confusion about the nature and process of science.” *Id.* The NABT wishes to exclude all theories, except evolution, from the classroom. *Id.*

The NSTA proposes that

science curricula and teachers should emphasize evolution in a manner commensurate with its importance as a unifying concept in science and its overall explanatory power. Policy makers and administrators should not mandate policies requiring the teaching of “creation science” or related concepts such as so-called “intelligent design,” “abrupt appearance,” and “arguments against evolution.”

National Science Teachers Association, *NSTA Position Statement: The Teaching of Evolution*, at <http://www.nsta.org/159&psid=10> (July 2003). NSTA asserts that “[t]here is no longer a debate among scientists over whether evolution has taken place.” *Id.*; but see RICHARD DAWKINS, *THE BLIND WATCHMAKER* 287 (1996).

As a public policy organization, the stated purpose of the NCSE is to “defend the teaching of evolution against sectarian attack” and “to keep evolution in the science classroom and ‘scientific creationism’ out.” National Center for Science Education, *Welcome*, at <http://www.natcensci.org/default.asp> (last visited Jan. 25, 2004).

58. In response to the Cobb County, Georgia, School Board decision to place evolution disclaimers in all biology textbooks, twenty-eight Georgia academics and 132 scientists from outside the state delivered an open letter in support of the new policy. David Burch, *Scientists*

Second, unsettled treatment of academic freedom by the Supreme Court has caused a tension between the courts and public opinion on teaching about origins, which has contributed to the increased popularity of disclaimers.⁵⁹ The Supreme Court has repeatedly emphasized that “safeguarding academic freedom”⁶⁰ is of “transcendent value to all of us,”⁶¹ and government should avoid casting a “pall of orthodoxy”⁶² over public school classrooms. The Court’s rationale for vigilant advocacy of academic freedom comes from the notion that the classroom is a “marketplace of ideas,”⁶³ where the future leaders of America depend on a “robust exchange” of ideas.⁶⁴ The Court also noted that no field of education is without the potential for new discoveries.⁶⁵ However, as evidenced by

Reach Out to Cobb in Support of “Disputed Views”, MARIETTA DAILY J., Sept. 21, 2002. In the open letter, professor James Tumlin of Emory University addressed the Cobb County, Georgia, school board, saying:

The school board’s resolution to allow teachers the freedom to examine both the attributes and the failings of natural selection is in keeping with the desires of many scientists to maintain academic freedom event [sic] at the secondary level. . . . By allowing students to wrestle with conflicting data and theoretical interpretations, the board will not be guilty of fostering religion, but rather the seeds of critical thinking that will enable students in whatever career they choose.

Burch, *supra*.

Scholars in both the law and science academies favor teaching the controversy. For a sampling of these academics, see BECKWITH, *supra* note 3, at 8; JOHNSON, *supra* note 48, at 105; DEMBSKI, *supra* note 46, at 16; House, *supra* note 3, at 392; DeWolf, *supra* note 47, at 102.

59. The Supreme Court derived academic freedom from the principles of free speech and assembly within the First Amendment and from the Due Process Clause of the Fourteenth Amendment. *Keyishian v. Bd. of Regents of the Univ. of the State of New York*, 385 U.S. 589, 603 (1967). However, lower courts and academics argue that the Supreme Court never adequately defined academic freedom and never explained this freedom’s source of constitutional power. Walter P. Metzger, Symposium on Academic Freedom, *Profession and Constitution: Two Definitions of Academic Freedom in America*, 66 TEX. L. REV. 1265, 1289–90 (1988).

60. *Keyishian*, 385 U.S. at 603.

61. *Id.*

62. *Id.*; *Epperson*, 393 U.S. at 105.

63. *Keyishian*, 385 U.S. at 603; *see also* *Rosenberger v. Rector and Visitors of Univ. of Virginia*, 515 U.S. 819, 831 (1995) (“It is as objectionable to exclude both a theistic and an atheistic perspective on the debate as it is to exclude one, the other, or yet another political, economic, or social viewpoint.”).

64. *Keyishian*, 385 U.S. at 603.

65. *See id.* (citing *Sweezy v. New Hampshire*, 354 U.S. 234, 250 (1957)) (“No field of education is so thoroughly comprehended by man that new discoveries cannot yet be made. . . .

Epperson and *Edwards*, the Supreme Court does not give unbridled encouragement of academic freedom.⁶⁶ State boards of education retain authority to prescribe what teachers may teach and discuss in the classroom.⁶⁷

Finally, the popularity of disclaimers has increased because academics, the lay public, and government officials argue that academic freedom encourages teaching alternative origin theories in the classroom. Academics claim teachers should use active learning methods.⁶⁸ These methods include comparative analysis of scientific theories, instead of indoctrinative memorization, to help students learn to think independently.⁶⁹ Some academics believe that the study of evolution is dull without analysis of competing theories.⁷⁰ Moreover, Zogby International conducted a survey that shows seventy-one percent of Americans believe that public schools should teach scientific evidence supporting and disputing Darwin's theory of evolution.⁷¹ The survey also revealed that seventy-eight percent of

Teachers and students must always remain free to inquire, to study and to evaluate, to gain new maturity and understanding; otherwise our civilization will stagnate and die.”).

66. See *supra* Part II.

67. *Webster v. New Lenox Sch. Dist. No. 122*, 917 F.2d 1004, 1007 (7th Cir. 1990). “There is a compelling state interest in the choice and adherence to a suitable curriculum for the benefit of our young citizens and society. It cannot be left to individual teachers to teach what they please.” *Id.* (citing *Palmer v. Board of Educ.*, 603 F.2d 1271, 1274 (7th Cir. 1979)); see also *LeVake v. Indep. Sch. Dist. No. 656*, 625 N.W.2d 502 (Minn. Ct. App. 2001) (finding school teacher's responsibility to teach evolution according to prescribed curriculum overrides teacher's individual First Amendment rights); *cf.*, DeWolf, *supra* note 47, at 476 (arguing teachers should have a right, under principles of academic freedom, to hold and express views contrary to prevailing orthodoxy, and should receive judicial redress when disciplined for such views).

68. See DeWolf, *supra* note 47, at 448–49 (asserting that while those who debate evolutionary theory differ over what should be taught in public schools, most people affirm academic freedom over indoctrination in those schools); Gregory A. Clarick, Note, *Public School Teachers and the First Amendment: Protecting the Right to Teach*, 65 N.Y.U. L. REV. 693, 724–25 (1990) (reviewing why critical thinking skills develop when teachers offer students “competing arguments and an open-minded presentation of diverse viewpoints”).

69. *Id.*

70. See, e.g., DeWolf, *supra* note 47, at 469 (noting that Darwinist William B. Provine, professor of ecology at Cornell University, argues that one-sided presentation of evolution in public schools makes science dull).

71. Memorandum from Rebecca Wittman to Mark Edwards 1 (Sept. 21, 2001) (concerning Zogby America Report, Zogby International, Aug. 25–29, 2001) (on file with the Washington University Journal of Law & Policy), at <http://www.discovery.org/articleFiles/PDFs/ZogbyFinalReport.pdf>.

Americans surveyed believe that, when evolution is taught, students should also learn about scientific evidence that points to an intelligent design of life.⁷² Further, the principles of academic freedom gained congressional acknowledgement in 2001 through a proposed amendment to the No Child Left Behind Act.⁷³ Senator Rick Santorum's amendment stated that education quality depends on teaching the full range of scientific views where there is scientific controversy about the origin question.⁷⁴ The aforementioned circumstances of evolutionary theory, academic freedom, and public sentiment beg the question of whether schools that place secular evolution disclaimers in biology textbooks comply with the United States Constitution.

IV. WHY DISCLAIMERS ARE POSSIBLE AND HOW STATES MAY CREATE THEM

A. Analyzing the Value of Evolution Disclaimers

Secular evolution disclaimers survive constitutional scrutiny and make good public policy because they equip students with a better understanding of scientific origin theory. First, disclaimers differ from anti-evolution statutes⁷⁵ and balanced-treatment laws⁷⁶ because they maintain the teaching of evolution in schools, while prompting students to recognize the potential validity of other origin theories in science and culture.⁷⁷ The Georgia disclaimer differs from the *Freiler* disclaimer because it does not advance religion or have a religious

72. *Id.* at 2.

73. H.R. CONF. REP. NO. 107-334, at 1 (2001), available at <ftp://ftp.loc.gov/pub/thomas/cp107/hr334.txt>.

74. The amendment, passed by a 91–8 vote in the Senate, states:

The Conferees recognize that a quality science education should prepare students to distinguish the data and testable theories of science from religious or philosophical claims that are made in the name of science. Where topics are taught that may generate controversy (such as biological evolution), the curriculum should help students to understand the full range of scientific views that exist, why such topics may generate controversy, and how scientific discoveries can profoundly affect society.

75. See *supra* text accompanying note 37.

76. See *supra* text accompanying notes 42–43.

77. See *supra* notes 30–31 and accompanying text.

purpose.⁷⁸ The Georgia school board may be motivated by religion, because the purpose of the law, not the motivation, determines whether it passes *Lemon's* first prong.⁷⁹ The disclaimer in Georgia, and even Louisiana, seeks to open the classroom to critical evaluation of evolutionary theory.⁸⁰

Additional reasons why secular disclaimers survive judicial scrutiny involves a detailed look at previous holdings by the Supreme Court and the purpose behind the disclaimer. The cases of *Epperson*,⁸¹ *Edwards*,⁸² and *Freiler*⁸³ did not determine whether evolution disclaimers pass constitutional muster without reference to religion, and whether schools may teach minority scientific theories like Intelligent Design.⁸⁴ The Supreme Court even suggests that students receive the best science instruction when competing theories are challenged against each other.⁸⁵ Second, the success of Alabama's disclaimer relates to the secular purpose of promoting academic freedom and actually avoiding any advancement or entanglement with religion.⁸⁶ Accordingly, evolution disclaimers void of religious purpose, advancement, and entanglement survive constitutional scrutiny.

Academics and the public argue that disclaimers make good public policy for science education, because resolution of the origin question is incomplete.⁸⁷ People interested in teaching criticisms and alternatives to evolution do not want to purge evolution from school curriculum.⁸⁸ True purists of academic freedom prefer teaching

78. Compare discussion *supra* note 5 and accompanying text with discussion *supra* notes 10, 13–14 and text accompanying notes 10, 13–14, 16.

79. DeWolf, *supra* note 47, at 461–62.

80. See *supra* notes 5, 19 and accompanying text.

81. 393 U.S. 97 (1968).

82. 482 U.S. 578 (1987).

83. 185 F.3d 337 (5th Cir. 1999).

84. See *infra* Parts I, II.

85. See *supra* notes 63, 65 and text accompanying notes 45, 60–65.

86. See *supra* notes 30–31 and text accompanying notes 30–32. Moreover, the Alabama disclaimer focuses on the most contentious facet of evolutionary theory, macro-evolution. See *supra* notes 30–31.

87. See *supra* notes 68 and accompanying text.

88. The Alabama disclaimer does not eliminate evolution from science curriculum. See *supra* note 30. Louisiana's proposed disclaimer maintained the current evolution curriculum. See *supra* text accompanying note 43.

evolution and its alternatives, and the first step in that direction is for school boards to create secular disclaimers that do not attempt to advance religion. Adoption of evolution disclaimers in public schools will pave the way for students to engage in intellectual arguments about origin theories and enable them to reap the fruits of academic freedom by enhancing their critical thinking skills.⁸⁹ With the growing integrity of Intelligent Design, origin theory may be on the brink of a paradigm shift, and evolution disclaimers could enable exploration of the new perspectives.⁹⁰ With the current hostility toward teaching anything but evolution, disclaimers ease the transition pains for most educators. Ultimately, the best solution to teaching the science of origins includes teaching many different theories.

*B. Using Evolution Disclaimers to Improve Science Education:
Suggestions for Avoiding Legal Liability*

A school board should take two steps to ensure the constitutionality of an evolution disclaimer. First, the school board needs to explicitly record the secular purposes of a disclaimer. An institutional record can protect the school board against *Lemon*'s first prong—individuals may be motivated by religious belief, but the purpose of the law must remain secular.⁹¹

Second, the purpose for introducing evolution disclaimers into the public school should not focus upon purging the study of evolution or advancing religion, but exposing students to minority origin theories. Proper purpose and actualization of the disclaimers will enable the policy to pass *Lemon*'s second and third prongs by not advancing religion and not entangling government with religion.⁹² The school board should not completely abandon evolution; it should simply enable fair treatment of all scientific origin theories, as the Supreme Court suggests.⁹³

89. See *supra* note 68–70 and text accompanying notes 68, 70.

90. See *supra* notes 26–28 and accompanying text.

91. See *supra* text accompanying note 79.

92. See *supra* text accompanying note 15.

93. See *supra* text accompanying note 85.

CONCLUSION

With the origin debate so vibrant and divided, public schools should not deprive students of the controversy. Students will be better equipped to answer the origin question on their own if schools give them the resources to understand alternative scientific origin theories. Unfortunately, modern biology education has become a citadel of evolution, impenetrable to all attacks from ideas that may constitute differing perspectives on the origin of humanity. Such inequity must end, and the use of secular evolution disclaimers mark the first step toward embracing the origin controversy and enriching public education.