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## **Teaching About Evolution in the Public Schools: A Short Summary of the Law**

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Few educational issues have sparked such continuing controversy and debate as the teaching of evolution. In the past, the debate has been polarized between those who advocate teaching only the positive case for evolution and those who ask either to remove evolution or from the curriculum or to require teaching some form of creationism alongside evolution. School boards have been forced to address concerns about good science education as well as conflicting claims about constitutional limitations. But in the last decade a new approach to teaching about evolution has been developed to meet the test of good science and satisfy the courts' standards of constitutionality. This new approach uses the phrase "teach the controversy." The idea is to use scientific disagreements over evolution to help students learn more about evolution, and about how science deals with controversy. According to this approach, students should learn the scientific case for evolution, but in doing so they should study the scientific criticisms of various aspects of evolutionary theory.

### **The Constitution permits scientific critiques of prevailing scientific theories.**

It is clear from U.S. Supreme Court precedents that the Constitution permits both the teaching of evolution as well as the teaching of scientific criticisms of prevailing scientific theories. Those who would like to remove evolution from the curriculum altogether have been told in no uncertain terms that the right to teach about this subject is inherent in the First Amendment. (*Epperson v. Arkansas*, 1967) At the same time, the U.S. Supreme Court has made clear that criticism of the theory of evolution may also be a required part of the curriculum. In the case of *Edwards v. Aguillard* (1987), the Court explicitly stated: "We do not imply that a legislature could never require that scientific critiques of prevailing scientific theories be taught."

Public schools have broad discretion in developing curricula. Including more scientific information about evolutionary theory, even scientific information that raises questions about its explanatory power, can satisfy the goal of improving science education. Particularly where the effect of a "teach the controversy" approach is to help both advocates and critics of evolutionary theory to have a better understanding of the claims

of evolutionary theory and its supporting evidence, the test of constitutionality can easily be met.

It is important to note that legal scholars and groups with differing views about evolution have conceded the constitutionality of presenting scientific criticisms of evolutionary theory. In 1995 a broad range of legal, religious and non-religious organizations (including the American Civil Liberties Union, Americans United for Separation of Church and State and the Anti-Defamation League) signed a statement called “Religion in the Public Schools: A Joint Statement of Current Law.” The joint statement of over 30 organizations agreed that “any genuinely scientific evidence for or against any explanation of life may be taught.” (See <http://www.aclu.org/ReligiousLiberty/ReligiousLiberty.cfm?ID=9007&c=139>.)

At the same time, school boards and administrators need to bear in mind that any presentation of a science curriculum dealing with evolutionary theory should focus on scientific evidence and theories reasonably inferable from that evidence, rather than upon claims that rest upon religious beliefs. Resources discussing scientific criticisms of aspects of neo-Darwinian and chemical evolutionary theories include the *Icons of Evolution Study Guide* and the *Icons of Evolution Curriculum Modules*. (See <http://www.arn.org/arnproducts/books/b090.htm> and <http://www.arn.org/arnproducts/videos/v054.htm>.)

### **The Constitution prohibits the censoring of scientific ideas.**

In *Epperson v. Arkansas* (1967), the Supreme Court stated that while shaping public school curricula is within a state’s power, that power “does not carry with it the right to prohibit, on pain of criminal penalty, the teaching of a scientific theory or doctrine where that prohibition is based upon reasons that violate the First Amendment.” To be sure, that case dealt with a statute that prohibiting the teaching of “...the theory or doctrine that mankind ascended or descended from a lower order of animals...” But the same principle could be applied to the prohibition of teaching any criticism of such a theory. In his analysis of *Epperson*, Dr. Francis J. Beckwith stated the following: “the Court is *not* saying that publicly supported criticism of Darwinism (or evolution) is unconstitutional, but rather, that *prohibiting* academic discussion of these issues in the classroom—discussions necessary for the advancement of human knowledge—is inconsistent with the First Amendment *if the prohibition* has the effect of advancing sectarian religious *or* antireligious beliefs.” (Francis J. Beckwith, Law, Darwinism, and Public Education: The Establishment Clause and the Challenge of Intelligent Design (Rowman and Littlefield, 2003), p. 12.)

Under *Epperson*, it is unconstitutional to exclude a theory simply because it is incompatible with the religious or anti-religious beliefs of a dominant group. At the same time, as noted above, curriculum must be chosen based upon the educational needs and resources available to the school board. Thus, the ideal standard for science education regarding evolutionary theory is to present both the case for mainstream evolutionary theory as well as the salient criticisms that are appropriate for the age group under

consideration. Teaching students both the scientific strengths and weakness of neo-Darwinian and chemical evolutionary theories is consistent with academic freedom and avoids the problematic approach to the issue that the Court faced in *Epperson*.

**States have called for critical thinking about evolutionary theory, following Congress's advice.**

The No Child Left Behind Act (NCLB) requires all states to implement state-wide science standards by the 2005-06 school year. States are currently creating or revising science standards, which will dictate how evolution is taught in each state for the foreseeable future.

The Conference Committee Report of the No Child Left Behind Act of 2001 addressed the question of whether the implementation of state standards should result in a narrowing of science education. The Report says that where controversial topics like biological evolution exist, students should be able to "understand the full range of scientific views that exist."

Three states (Ohio, New Mexico, and Minnesota) have already adopted science standards that require learning about some of the scientific controversies relating to evolution. Further, Ohio adopted a model curriculum that includes a lesson plan on the "Critical Analysis of Evolution." (Available for download here: [http://www.ode.state.oh.us/academic\\_content\\_standards/sciencesboe/pdf\\_setA/L10-H23\\_Critical\\_Analysis\\_of\\_Evolution\\_Mar\\_SBOE\\_changes.pdf](http://www.ode.state.oh.us/academic_content_standards/sciencesboe/pdf_setA/L10-H23_Critical_Analysis_of_Evolution_Mar_SBOE_changes.pdf).)

In a March, 2003 letter on science curriculum under NCLB, the Acting Deputy Secretary of the U.S. Department of Education stated that "The Department...embraces the general principles—reflected in the [NCLB report language]—of academic freedom and inquiry into scientific views or theories." It also made clear that "The NCLB does not contain any language that requires or prohibits the teaching of any particular scientific views or theories either as part of a state's science curriculum or otherwise..." (See: <http://www.discovery.org/scripts/viewDB/index.php?command=view&id=1899> and <http://www.discovery.org/scripts/viewDB/index.php?command=view&id=1897>).

**What about intelligent design theory?**

In recent years a growing number of scientists, philosophers of science, and other scholars have developed a theory known as intelligent design (ID). Intelligent design argues that some features of the universe are best explained as the products of an intelligent cause rather than an undirected cause such as natural selection acting on random mutations. Many scholars working on intelligent design are affiliated with Discovery Institute, a non-profit, non-partisan think tank in Seattle, a leading advocate of the "teach the controversy" approach.

As a matter of public policy, Discovery Institute *opposes* any effort to mandate or require the teaching of intelligent design by school districts or state boards of education.

Recognizing the potential for sharp conflict in this area, Discovery Institute believes that a curriculum that aims to provide students with an understanding of the strengths and weaknesses of neo-Darwinian and chemical evolutionary theories (rather than teaching an alternative theory, such as intelligent design) represents a common ground approach that all reasonable citizens can agree on.

Beyond the question of what a school board should mandate as part of its science curriculum, there is the question of a teacher has a constitutional right to teach more than the school board requires with regard to intelligent design theory. Without attempting to predict specific outcomes in specific cases, a few general comments can be made. First, the United States Supreme Court's opinion in *Edwards v. Aguillard* contains a strong affirmation of the individual teacher's right to academic freedom. It also recognized that, while the statute requiring the teaching of creationism in that case was unconstitutional, "...teaching a variety of scientific theories about the origins of humankind to schoolchildren might be validly done with the clear secular intent of enhancing the effectiveness of science instruction." On the other hand, courts have recognized that teachers in K-12 public schools are subject to reasonable curricular guidelines, so long as those guidelines are applied consistently to all teachers and issues. Moreover, courts are aware of the danger that a teacher will use the classroom to advance personal religious (or anti-religious) views. As a result, science teachers should avoid even the appearance of exploiting a captive audience as distinguished from helping students develop critical thinking skills.

For a detailed discussion about the constitutionality of teaching intelligent design, see David K. DeWolf et. al., "Teaching the Origins Controversy: Science, Religion, or Speech?" in the *Utah Law Review* (2000); Jeffrey F. Addicott, "Storm Clouds on the Horizon of Darwinism: Teaching the Anthropic Principle and Intelligent Design in the Public Schools," in the *Ohio State Law Journal* (2002). (See article available here: <http://www.discovery.org/scripts/viewDB/index.php?command=view&id=2110&program=CSC%20-%20Science%20and%20Education%20Policy%20-%20Legal%20Resources>.) Also see Francis J. Beckwith's Law, Darwinism, and Public Education: The Establishment Clause and the Challenge of Intelligent Design (Rowman & Littlefield, 2003) (Available here: <http://www.arn.org/arnproducts/books/b071.htm>.)