University of Richmond Law Review

Volume 22 | Issue 2 Article 6

1988

From Scopes to Edwards: The Sixty-Year Evolution of Biblical Creationism in the Public School Classroom

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FROM *SCOPES* TO *EDWARDS*: THE SIXTY-YEAR EVOLUTION OF BIBLICAL CREATIONISM IN THE PUBLIC SCHOOL CLASSROOM

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I. INTRODUCTION

Few issues have generated as much controversy as the scope of the religion clauses of the first amendment to the United States Constitution within the setting of the public schools. Indeed, as Justice Brennan once stated, the courts have "encountered few issues more intricate or more demanding than that of the relationship between religion and the public schools."[1] This controversy is not surprising in light of the important role played by the public schools in shaping the nation's thoughts, beliefs and institutions. It is a controversy without end; for as long as the public schools maintain their primary role in educating future generations and American society moves farther away from the traditional religious convictions of its forefathers, the controversy will continue.

The teaching of Darwin's theory of evolution has always been a source of friction between public schools and various religious groups, mainly Christian Fundamentalists. Fundamentalist Christians have traditionally viewed the teaching of evolution in the public schools as an attack on the Bible[2] and as responsible for a

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1. Abington School Dist. v. Schempp, 374 U.S. 203, 230 (1963) (Brennan, J., concurring).

2. Fundamentalist Christian writings are replete with statements and accusations regarding evolution's anti-Biblical nature. Fundamentalists have characterized evolution as:

> the intellectual basis of all the anti-Christian and anti-God systems that have plagued mankind for centuries. It served Hitler as the rationale for Nazism and Marx as the supposed scientific basis for communism. It is the basis of the various modern methods of psychology and sociology that treat man merely as a higher animal and which have led to the mis-named [sic] "new morality" and ethical relativism. Its whole effect on the world and mankind has been harmful and degrading.

H. MORRIS, THE BIBLE HAS THE ANSWER 80 (1971). Although some Fundamentalists believe that evolutionary theory can be reconciled with the Bible, the vast majority believe that any reconciliation is impossible.

variety of societal ills.[3] Fundamentalists instead manifest their belief in Biblical (Divine) Creationism.

Biblical Creationism is based on a literal interpretation of Genesis, the first book of the Old Testament.[4] "Biblical Creationism teaches that a [divine creator]—God—supernaturally created the universe in six creation days."[5] All life forms, including man, originated in this special creation. Additionally, Biblical Creationism hypothesizes that the earth is only a few thousand years old and that most of its geological features are explainable in terms of a Great Flood (Noachian Deluge), survived only by Noah and various representatives of the animal and plant kingdoms.[6] Thus, in pursuit of this belief, Biblical Creationists have attempted to restrict or abolish completely the teaching of evolution in the public schools.

Creationists' attempts to eradicate evolutionary instruction in the public schools have taken many forms. Early attempts to prohibit unconditionally the teaching of evolution failed,[7] as did attempts to characterize evolutionary instruction as a violation of the free exercise clause. Likewise, attempts to require equal time for instruction in Biblical Creationism were deemed to violate the establishment clause of the first amendment. The most recent manifestation of Fundamentalist opposition to evolution has been in the form of so-called "balanced treatment acts"[8] which require

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3. Fundamentalists also attribute many of society's problems to the teaching of evolutionary theory. Henry M. Morris, a leading creationist writer, has stated that evolution not only endangers orthodox religion but is "inimical to . . . a healthy society and true science as well." INSTITUTE FOR CREATION RESEARCH, SCIENTIFIC CREATIONISM iii (H. MORRIS public school ed. 1974). Others have less eloquently accused evolutionary theory of favoring "heartless ruffians such as bandits and weeds. An altrusive [sic] person would be less 'fit' to survive." ASSOCIATION OF NATIONAL BIOLOGY TEACHERS, A COMPENDIUM OF INFORMATION ON THE THEORY OF EVOLUTION AND THE EVOLUTION-CREATIONISM CONTROVERSY 35 (on file at the Law and Education Center, Education Commission of the States, Denver, Colorado).

4. Note, *Teaching the Theory of Evolution and Scientific Creationism in the Public Schools: The First Amendment Religion Clauses and Permissible Relief*, 15 U. MICH. J.L. REF. 421, 422 n.11 (1982).

5. *Id.* at 422.

6. *Id.* at 423.

7. Epperson v. Arkansas, 393 U.S. 97 (1968).

8. *E.g.*, 1981 Ark. Acts 590, §§ 1-11 (codified at ARK. STAT. ANN. §§ 80-1663 to -1670 (Cum. Supp. 1985) (declared unconstitutional in McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255 (E.D. Ark. 1982)); 1981 La. Acts 685 (codified at LA. REV. STAT. ANN. §§ 17:286.1 to .7 (West 1982)) (declared unconstitutional in Aguillard v. Edwards, 765 F.2d 1251 (1985), *aff'd*, 107 S. Ct. 2573 (1987)). Both statutes were entitled the "Balanced Treatment for Creation-Science and Evolution-Science Act" and provided that if a public school's curriculum included any treatment of the origins of man, life or the universe, then "balanced treat-

that the theory of "creation-science"[9] be taught along with evolutionary theory in the public schools.

The theory of creation-science is based upon a collection of "scientific" evidence which allegedly supports the principal tenets of creation science; specifically, a sudden creation of the universe and life from nothing, geological changes and occurrences resulting from a world-wide flood, and a relatively recent inception of the earth and all living kinds.[10] Creationists divide the scientific community into two camps: (1) those scientists who believe in the inerrancy of the Genesis story of creation and of a world-wide flood as fact, and (2) those scientists who believe in evolution. Creationists claim that creation-science is truly scientific and is conducive to the mental and spiritual health of children as it shields them from the evils innate in the exclusive presentation of evolutionary theory.[11] However, the Creationists' claims to scientific legitimacy were recently rejected by the United States Supreme Court in *Edwards v. Aguillard*.[12] This article will address this most recent rejection of equal treatment for evolution and anti-evolutionary religious teachings within the public schools.

II. LEGAL AND HISTORICAL BACKGROUND TO *Edwards*

A. Scopes v. State

The question of evolutionary instruction in the public school classroom first came before the courts in the much publicized case of *Scopes v. State*.[13] John Scopes, a science teacher, was convicted

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ment" must be given to the theory of "creation-science" along with the theory of "evolution-science."

9. The term "scientific creationism" was first used in 1965 after the publication of *The Genesis Flood* by Henry M. Morris in 1961.

10. ARK. STAT. ANN. § 80-1666(a) (Cum. Supp. 1985).

11. Creationists contend that creationism is conducive to the mental health of children because:

> [e]volutionary philosophy often leads to a conviction that might makes right, leading either to anarchism (uncontrolled evolution) or collectivism (controlled evolution). . . . Creationism is consistent with the innate thoughts and daily experiences of the child. . . . He knows, as part of his own experience of reality, that a house implies a builder and a watch a watchmaker.

INSTITUTE FOR CREATION RESEARCH, *supra* note 3, at 14.

12. 107 S. Ct. 2573 (1987).

13. 154 Tenn. 105, 289 S.W. 363 (1927). The case, dubbed the "Monkey Trial" by members of the press covering the story, gained worldwide attention as a battle between the story of divine creation contained in Genesis and the godless theory of evolution and two larger-than-life protagonists, Clarence Darrow and William Jennings Bryan.

of teaching "a certain theory that denied the story of the divine creation of man, as taught in the Bible"[14] in violation of Tennessee's Anti-Evolution Act.[15] Although the Tennessee Supreme Court ultimately reversed Scopes' conviction,[16] the court upheld the constitutionality of the anti-evolution statute.

In construing the statute to prohibit the teaching of only those evolutionary theories which denied the divine creation of man,[17] the court found the statute to be sufficiently definite to pass the constitutional void-for-vagueness test.[18] Furthermore, the court found that Scopes' dismissal did not violate the law of the land clause of the Tennessee Constitution,[19] or the due process clause of the United States Constitution.[20] The court reasoned that, in order to maintain control over its employees, the state was not "hampered by the limitations of section eight of article one of the Tennessee Constitution, nor of the Fourteenth Amendment to the Constitution of the United States."[21] Thus, Scopes, as a state employee, had "no right or privilege to serve the state except upon such terms as the state prescribed."[22] The anti-evolution statute was thus constitutional as it did not hinder Scopes' right to "teach and proclaim the theory of evolution, elsewhere than in the service of the state."[23]

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14. *Id.*

15. 1925 Tenn. Pub. Acts, 27 (repealed 1967). The Act read in part:

> Section 1. Be it enacted by the General Assembly of the state of Tennessee, that it shall be unlawful for any teacher in any of the Universities, normals and all other public schools of the state which are supported in whole or in part by the public school funds of the state, to teach any theory that denies the story of the divine creation of man as taught in the Bible and to teach instead that man has descended from a lower order of animals.

Id. § 1, *quoted in Scopes*, 154 Tenn. at 105, 289 S.W. at 363-64 n.1.

16. *Scopes*, 154 Tenn. at 121, 289 S.W. at 367. Scopes' conviction was reversed on the grounds that the one hundred dollar fine unilaterally imposed on him by the trial judge violated the Tennessee Constitution, which provided that a fine in excess of fifty dollars could only be assessed by a jury. *Id.*

17. *Id.* at 109-11, 289 S.W. at 364.

18. *Id.*

19. TENN. CONST. art. I, § 8.

20. U. S. CONST. amend. XIV, § 1.

21. *Scopes*, 154 Tenn. at 112, 289 S.W. at 365.

22. *Id.* at 111, 289 S.W. at 364. The court further stated that Tennessee could constitutionally require that contracts for public service "be carried out only in a way consistent with [the state's] views of public policy, and may punish a departure from that way." *Id.* at 114, 289 S.W. at 365 (quoting Ellis v. United States, 206 U.S. 246, 256 (1907)).

23. *Id.* at 111, 289 S.W. at 364. This section of the court's opinion has been interpreted as allowing a teacher "an unlimited right to believe, but a very circumscribed right to teach one's belief in the public schools where the state has proscribed such teaching." Nolte, *From*

The court also held that the statute did not violate the establishment clause of the United States Constitution.[24] The statute did not mandate the teaching of religious doctrines opposed to evolution, but only forbade the teaching of any evolutionary theories that denied the divine creation of man.[25] Thus, it did not establish any tenet of any particular religious belief in the public schools. As a result, the statute was a constitutional exercise of the state's power to dictate the content of the public school curriculum.[26]

The *Scopes* case represents the judiciary's first look into the issue of evolutionary instruction in the public schools. It also represents the high-water mark for the anti-evolution movement, since the constitutionality of the Tennessee Act was upheld. However, the *Scopes* case gave the theory of evolution wide publicity and did much to legitimize it. In the public backlash that followed the *Scopes* decision, few states enacted similar anti-evolution laws.[27]

Scopes *to* Epperson *and Beyond: Academic Freedom in the Schools*, 3 NOLPE SCH. L.J. 37 (1973).

24. *Scopes*, 154 Tenn. at 118-19, 289 S.W. at 367.

25. *Id.* In determining that the statute did not unconstitutionally establish religious beliefs in the classroom, the court found that:

> there is no religious establishment or organized body that has in its creed or confession of faith any article denying or affirming [evolution]. . . . Belief or unbelief in the theory of evolution is no more a characteristic of any religious establishment or mode of worship than is belief or unbelief in the wisdom of the prohibition laws.

Id.

26. *Id.* In a self-righteous concurring opinion, Justice Chambliss went farther in condemning evolution by stating that evolution was:

> inconsistent, not only with the common belief of mankind of every clime and creed and "religious establishment" . . . but inconsistent also with our Constitution and the fundamental declaration lying back of it, through all of which runs recognition of and appeal to "God", and a life to come . . . .
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> . . . .
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> . . . [The statute prohibits] instilling into the minds of the pupils a denial that he [sic] is a creation of God, but rather a product of the beast of the field . . . .
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> . . . [T]he way is left open for such teaching of the pertinent sciences as is approved by the progressive God recognizing leaders of thought and life.

Id. at 122-29, 289 S.W. at 368-70 (Chambliss, J., concurring). In a short dissenting opinion, Justice McKinney found the statute unconstitutionally vague and in violation of Scopes' due process rights. *Id.* at 129, 289 S.W. at 370 (McKinney, J., dissenting).

27. Very few state legislatures followed Tennessee's example and enacted anti-evolution statutes of their own. Oklahoma enacted an anti-evolution act, but it was repealed in 1926. The Florida and Texas legislatures adopted resolutions against teaching the doctrine of evolution in the period between 1921 and 1929. The Tennessee law itself was repealed in 1967. At the time of the Supreme Court's decision in Epperson v. Arkansas, 393 U.S. 97 (1968), only Arkansas and Mississippi had anti-evolution statutes in force and effect. There was no record of any prosecutions under either of these laws. Indeed, as Justice Fortas stated in *Epperson*, these statutes were "more of a curiosity than a vital fact of life in these States." *Id.* at 102.

Although *Scopes* remained viable case law for forty-one years, the ever-changing interpretation of the United States Constitution by the federal courts relegated it to the status of a legal anomaly long before its overruling by the United States Supreme Court in *Epperson v. Arkansas*.[28]

B. Epperson v. Arkansas

In 1968, after more than four decades of relative quiet, the evolution controversy erupted once again. In *Epperson v. Arkansas*,[29] the United States Supreme Court declared the Arkansas Anti-Evolution Act[30] unconstitutional as a violation of the establishment clause. The *Epperson* case arose out of the following facts.

In 1928, one year after the *Scopes v. State*[31] decision, Arkansas adopted a similar law prohibiting instruction in the theory of evolution in Arkansas public schools. In part, the Arkansas Anti-Evolution Act prohibited public school instruction of "the theory . . . that mankind ascended or descended from a lower order of animals."[32] Thirty-seven years later, in 1965, the Little Rock School System adopted a new biology textbook which contained a chapter setting forth the theory of evolution. Susan Epperson, a high school biology teacher employed by the Little Rock School System, was thus confronted with the choice of teaching the statutorily proscribed material or omitting the offending material in contravention of the apparent desires of the school system's administration. Instead of risking dismissal for teaching the theory of evolution, Epperson sought a judicial declaration that the Arkansas anti-evolution law was void and an injunction prohibiting the state and the Little Rock school system from dismissing her. The

28. 393 U.S. 97 (1968).

29. 393 U.S. 97 (1968).

30. 1929 Ark. Acts 1 (declared unconstitutional in *Epperson*, 393 U.S. 97). The Arkansas law was adopted by popular initiative in 1928, one year after the Tennessee Supreme Court's decision in Scopes v. State, 154 Tenn. 105, 289 S.W. 363 (1927). The Arkansas Anti-Evolution Act read in part:

> Doctrine of ascent or descent of man from lower orders of animals prohibited. It shall be unlawful for any teacher or other instructor in any University, College, Normal, Public School, or other institution of the State . . . to teach the theory or doctrine that mankind ascended or descended from a lower order of animals. . . .

1929 Ark. Acts 1, *quoted in Epperson*, 393 U.S. at 99 n.3.

31. 154 Tenn. 105, 289 S.W. 363 (1927).

32. 1929 Ark. Acts 1, *quoted in Epperson*, 393 U.S. at 99 n.3.

chancery court found the statute to be an unconstitutional state interference with Epperson's freedom of speech and thought.[33] However, the Arkansas Supreme Court reversed, finding the statute to be a valid exercise of the state's power to specify the curriculum in its public schools.[34]

In an opinion by Justice Fortas, the United States Supreme Court reversed the Arkansas Supreme Court and held that the statute contravened the constitutional proscription against state establishment of religion.[35] Utilizing the then applicable two-part establishment clause test devised in *Abington School District v. Schempp*,[36] the Court concluded that Arkansas had sought to prevent its teachers from discussing the theory of evolution for the sole reason that it was "deemed to conflict with a particular interpretation of the Book of Genesis by a particular religious group."[37] It was clear to the Court that "fundamentalist sectarian conviction"[38] was the sole motivating factor behind the law. This sectarian purpose violated the first amendment which prohibits the states from requiring that teachings be "tailored to the principles or prohibitions of any religious sect or dogma."[39] Although the Court recognized Arkansas' undoubted right to prescribe the curriculum for its public schools, it refused to extend this right to encompass actions in violation of the first amendment.[40] Thus, after a tenuous forty-one years of life, the Tennessee Supreme Court's *Scopes* decision and the "monkey laws" slipped quietly into legal oblivion.[41]

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33. The chancery court refused to follow the *Scopes*' rationale on the grounds that to do so would ignore overriding constitutional values. *Epperson*, 393 U.S. at 100 n.5.

34. State v. Epperson, 242 Ark. 922, 416 S.W.2d 322 (1967). The Arkansas Supreme Court's short per curiam opinion is embarrassingly lacking in legal reasoning, a fact pointedly noted by U. S. Supreme Court Justices Black and Harlan in their opinions. *Epperson*, 393 U.S. at 109 (Black, J., concurring), 114 (Harlan, J., concurring).

35. *Epperson*, 393 U.S. at 103.

36 374 U.S. 203, 222 (1963). The two-part test concentrated on the purpose and primary effect of the enactment. If either promoted or inhibited religion, then the enactment exceeded the scope of the legislative power as circumscribed by the Constitution.

37. *Epperson*, 393 U.S. at 103.

38. *Id.* at 108.

39. *Id.* at 106.

40. *Id.* at 107.

41. In a concurring opinion, Justice Black, after questioning the justiciability of the case, found the statute unconstitutionally vague, stating that "a teacher cannot know whether he is forbidden to mention Darwin's theory at all or only free to discuss it as long as he refrains from contending that it [is] true." *Id.* at 112 (Black, J., concurring). Justice Black contended that the void-for-vagueness approach was preferable as it allowed the Court to avoid interfering with the states' inherent power to prescribe the curriculum for their public schools. In

C. *The Post-*Epperson *Cases*

Although *Epperson v. Arkansas*[42] prohibited the states from excluding the theory of evolution from the public school classroom,[43] it did not end the efforts of Creationists to limit the teaching of evolution and introduce Biblical Creationism into the public school curriculum. These efforts took three major forms:

> [1] claiming that teaching the theory of evolution in public school science classes would infringe on the free exercise of anti-evolutionists' religion; [2] arguing that the theory of evolution was an essentially religious theory, so that presentation of the theory in public schools would itself violate the establishment clause of the first amendment; and [3] advocating "equal emphasis" in teaching the two theories.[44]

Each of these attempts to circumvent *Epperson* met with defeat in the federal courts during the 1970's.[45]

1. Free Exercise Contentions

The federal courts addressed the Creationists' argument that the teaching of evolution in science classes infringed on the free exercise of anti-evolutionist religious beliefs by public school students in *Wright v. Houston Independent School District*.[46] In *Wright*, the plaintiffs, who were students in the defendant school district,

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a separate opinion, Justice Stewart also found the statute unconstitutionally vague in violation of the Fourteenth Amendment. *Id.* at 116 (Stewart, J., concurring).

42. 393 U.S. 97 (1968).

43. The last of the anti-evolution laws was formally struck down by the Mississippi Supreme Court in Smith v. State, 242 So. 2d 692 (Miss. 1970). The plaintiff in *Smith* was a public school student who alleged that Mississippi's anti-evolution law deprived her of the opportunity to gain a basic educational foundation in science and thus prevented her from competing with other high school students from other parts of the country on college admissions examinations. The state contended that the Mississippi anti-evolution statute was distinguishable from the Arkansas statute at issue in *Epperson v. Arkansas* in that it only prohibited teaching evolution as fact. However, the Mississippi Supreme Court found the statute infected with the same unconstitutional religious purpose that was fatal to the statute in *Epperson*. Finding no difference between the two statutes, the court held that "the Supreme Court of the United States has for all practical purposes already held that our anti-evolution statutes are unconstitutional." *Id.* at 698.

44. Note, McLean v. Arkansas Board of Education: *Finding the Science in "Creation Science,"* 77 NW. U.L. REV. 374, 379 (1982).

45. *Id.* at 380.

46. Wright v. Houston Indep. School Dist., 366 F. Supp. 1208 (S.D. Tex. 1972), *aff'd*, 486 F.2d 137 (5th Cir. 1973), *cert. denied*, 417 U.S. 969 (1974).

sought to enjoin the district and the state board of education from including evolutionary theory as part of the district's curriculum and adopting textbooks which presented that theory to the exclusion of other theories regarding man's origins.[47] In part, the plaintiffs contended that the theory of evolution was "so inimical to the Creation account that its presentation as part of the academic curriculum should be deemed a direct attack upon [their] religious beliefs by an organ of government."[48] Thus, by holding certain students' religious beliefs up to contempt, the state had acted to discourage them in the free exercise of their religion.[49]

The court rejected the plaintiffs' free exercise contentions on the grounds that it was "not the business of government to suppress real or imagined attacks upon a particular religious doctrine."[50] The court found that "[s]cience and religion necessarily deal with many of the same questions, and . . . frequently provide conflicting answers."[51] Although various religious groups may find the theories and answers provided by science offensive, science teachers in the public schools could not be expected to "avoid the discussion of every scientific issue on which some religion claims expertise."[52]

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47. 366 F. Supp. at 1208.

48. *Id.* at 1209.

49. Several authors have contended that the teaching of evolution in the public schools violates the free exercise rights of those students whose religious principles are not in accordance with the evolutionary theory. Wendell Bird, counsel for the Institute for Creation Research, has stated that "[p]ublic school presentation of only evolution-science similarly undermines religious convictions in creation and . . . interferes with . . . parental interest[s] in instilling religious convictions and philosophic beliefs." Bird, *Creation-Science and Evolution-Science in Public Schools: A Constitutional Defense Under the First Amendment*, 9 N. KY. L. REV. 159, 197-98 (1982). Mr. Bird contends that the presentation of creation-science along with evolution-science accomodates the free exercise rights of fundamentalist children in the public schools. However, the alleged secular nature and scientific character of a "science" that purports to remedy violations of the free exercise clause remain open to question.

50. *Wright*, 366 F. Supp at 1211 (quoting Burstyn v. Wilson, 343 U.S. 495, 505 (1952)). The facts necessary to prove a remediable free exercise violation have been aptly summarized as follows: "[v]iolations of the free exercise clause are predicated upon a showing of a conflict between a government action and a sincerely held religious belief central to a bona fide religion which results in a burden on the practice of that religion." Project, *The Lessons of Creation-Science: Public School Curriculum and the Religion Clauses*, 50 FORDHAM L. REV. 1113, 1115-17 (1982).

51. *Wright*, 366 F. Supp. at 1211.

52. *Id.* In fact, the courts have held that to silence or discharge summarily a teacher without warning because his answers to students' scientific and theological questions were based on evolutionary theory violates the establishment clause. It has been held that a discharge for such reasons establishes a religion of orthodoxy and forces teachers "to answer searching, honest questions only in terms of the lowest common denominator of the professed

The free exercise violations alleged by the plaintiff were too tenuous and lacked the requisite coercive governmental action necessary to invoke constitutional protection.

2. Establishment Clause Contentions

Furthermore, federal courts have also rejected contentions that the exclusive presentation of evolutionary theory in the public school classroom violates the establishment clause because "the effect is to advance . . . evolutionist religions and to oppose creationist religions."[53] The decisions regarding this issue point to the lack of a state or school district policy regarding evolution or affirming its tenets as evidence that the state, by mandating exclusive presentation, has not intruded upon the constitutional principle of religious neutrality.[54] Denial of relief for alleged establishment clause violations has also been based on the plaintiffs' failure to demonstrate the censure of opposing anti-evolution viewpoints in the classroom or other coercive actions on the part of the state or school district.[55] The fact that certain textbooks selected by school officials may present a pro-evolutionary bias is deemed too nebulous an injury upon which to predicate a violation of the establishment clause.[56]

3. "Equal Emphasis" in Teaching Evolution and Biblical Creationism

Furthermore, federal courts rejected several attempts to require equal emphasis of Biblical Creationism and evolution in the public schools. Most of these cases focused on state statutes or local school board policies mandating that any classroom materials which contained any discussion of evolution should also contain an equal amount of material devoted to the origins of man as hypoth-

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beliefs of those parents who complain the loudest." Moore v. Gaston County Bd. of Educ., 357 F. Supp. 1037, 1043 (W.D.N.C. 1973).

53. Bird, *supra* note 49, at 186. This argument is based on the Supreme Court's opinion in Abington School Dist. v. Schempp, 374 U.S. 203 (1963), where the Court said that the state may not establish a "religion of secularism" in the sense of affirmatively opposing or showing hostility to religion and thus preferring those who believe in no religion over those who do believe. *Id.* at 225 (quoting Zorach v. Clauson, 343 U.S. 306, 314 (1952)).

54. *See* Wright v. Houston Indep. School Dist., 366 F. Supp. 1208, 1210 (S.D. Tex. 1972), *aff'd*, 486 F.2d 137 (5th Cir. 1973), *cert. denied*, 417 U.S. 969 (1974).

55. *Id.*

56. *Id.*

esized by other theories.[57] These "other theories" included the Genesis account of man's creation contained in the Bible. However, classroom materials were required to give equal emphasis to any other theory, exclusive of Genesis and evolution, also deemed worthy of attention.[58]

The courts rejected these equal emphasis arguments on two grounds. Initially, the courts found that the equal emphasis demanded by Creationists for their theories was not truly equal. For example, several efforts brought before the courts to achieve equal emphasis not only gave the account of Creation equal time with evolution but presented Biblical Creationism as the only accepted theory of origin. Some examples of this pro-creationist bias include a statute which required that textbooks that taught evolution contain a disclaimer that it was not scientific fact (while creationist materials were not required to contain such a disclaimer)[59] and a

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57. An example of such an "equal emphasis" statute is found in Daniel v. Waters, 399 F. Supp. 510 (M.D. Tenn.), *enforcing* 515 F.2d 485 (6th Cir. 1975). In part, the Tennessee statute in question in *Daniel* stated:

> Any textbook so used in the public education system which expresses an opinion or relates to a theory or theories shall give in the same textbook and under the same subject commensurate attention to, and an equal amount of emphasis on, the origins and creation of man and his world as the same is recorded in other theories, including, but not limited to, the Genesis account in the Bible . . . .
>
> . . . Provided, however, that the Holy Bible shall not be defined as a textbook, but is hereby declared to be a reference work and shall not be required to carry the disclaimer . . . provided for [other] textbooks.

1973 Tenn. Pub. Acts 377, *quoted in* Daniel v. Waters, 515 F.2d 485 (6th Cir. 1975) (declared unconstitutional in *Daniel*, 515 F.2d 485). The Sixth Circuit found the statute unconstitutional on the grounds that it clearly gave a preferential position to the Biblical version of creation, as opposed to any account of the development of man based on scientific research, in violation of the establishment clause. The court also held that the statute impermissibly entangled the state textbook commission in theological arguments regarding which theories could be included or excluded from the curriculum.

On remand, the district court rejected the statute on an additional ground, stating that:

> the provisions of the statute . . . are patently unreasonable. [T]here [are] a myriad of recorded theories of creation. Every religious sect, from the worshippers of Apollo to the followers of Zoroaster, has its belief or theory. It is beyond the comprehension of this court how the legislature, if indeed it did, expected that all such theories could be included in any textbook of reasonable size, or even that the authors of such textbook could know that all theories had in fact been included.

Daniel, 399 F. Supp at 511-12.

Other courts have agreed that "equal emphasis" requirements are unreasonable and, in practice, unworkable. In Wright v. Houston Indep. School Dist., 366 F. Supp. 1208, 1211 (S.D. Tex. 1972), *aff'd*, 486 F.2d 137 (5th Cir. 1973) *cert. denied*, 417 U.S. 969 (1974), the court stated "[t]o insist upon the presentation of all theories of human origins is . . . to prescribe a remedy that is impractical, unworkable and ineffective."

58. *E.g.*, 1973 Tenn. Pub. Acts 377, *construed in Daniel*, 515 F.2d at 488-92.

59. *See Daniel*, 515 F.2d at 487.

textbook which demanded "correct" Christian answers to questions regarding man's origins.[60] The result of this pro-creationist bias was to give a "preferential position for the Biblical version of creation as opposed to any account of the development of man based on scientific research and reasoning."[61] This preferential treatment was held to violate the establishment clause and was thus unconstitutional.

The second approach adopted by the courts was to find that equal emphasis requirements were unreasonable and were an "unwarranted intrusion into the authority of public school systems to control [their] academic curriculum."[62] The myriad of recorded theories of creation held by all religious sects would place an impossible burden on the teacher attempting to instruct students in this subject.[63] Furthermore, in the absence of established standards, the courts and school personnel were not qualified to select from available theories those which merited attention in biology classes.[64] Thus, the equal emphasis approach was rejected as "impractical, unworkable and ineffective."[65]

Cases subsequent to *Epperson v. Arkansas*[66] indicate that courts have not been sympathetic to the Creationists' claims. Creationist contentions that the exclusive presentation of evolutionary theory in the public schools violated their free exercise rights, constituted a governmental establishment of religion or, in the alternative, required equal emphasis of their theories regarding the origins of man, have all met with defeat in the courts. It became evident that Creationists needed to devise new legal strategies if they hoped to succeed in their campaign against evolution.

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60. Hendren v. Campbell, No. S577-0139 (Super. Ct. Ind. April 14, 1977) *excerpts reprinted in* 45 U.S.L.W. 2530 (May 17, 1977). The *Hendren* case involved a challenge to the Indiana Textbook Commission's adoption for use in the public schools of a biology textbook that stressed Biblical Creationism as the only accepted scientific theory of man's origins.

61. *Daniel*, 515 F.2d at 489.

62. *Wright*, 486 F.2d at 138.

63. *Daniel*, 399 F. Supp. at 512.

64. *Wright*, 366 F. Supp. at 1211.

65. *Id.*

66. 393 U.S. 97 (1968).

III. CREATIONISM AND SCIENCE

A. McLean v. Arkansas Board of Education

The new legal strategy devised by Creationists to avoid the constitutional pitfalls of their earlier attempts to introduce Genesis into the classroom was to relabel their religious dogma as science. This new theory was introduced as Scientific Creationism. The legal rationale behind Scientific Creationism is quite apparent upon close examination. If Biblical Creationism, repackaged as Scientific Creationism, was indeed "science," then it could be taught in the public schools without violating the establishment clause. Thus, Creationists had apparently found a way to avoid the objections raised against their earlier equal emphasis proposals.

Scientific Creationism is an amelioration of "scientific" evidence collected by Fundamentalist Christian scientists which is believed to discredit evolution and support the theory that the universe and all life were suddenly and supernaturally created within the past ten thousand years.[67] Among the beliefs which creation-scientists generally adhere to are:

> [1] evidence for the sudden, rather than gradual, appearance of higher life forms in the fossil record; [2] refutation of the evolutionary theory that natural selection and mutation are the forces of a natural progression by the application of the entropy law to discount development from lower to higher order and [the] mathematical improbability therefore; [3] the existence of distinct plant and animal kinds as opposed to the evolutionary postulate of transitory forms; [4] a distinct ancestry for man and apes; [5] explanation of geologic processes on the basis of catastrophism and a world-wide flood; and [6] the contention that the age of the earth is recent on the basis of alternative findings that point to a younger age.[68]

Other tenets of Scientific Creationism include divine intervention in the operation of natural laws and the existence of ultimate meaning and purpose in the universe.[69]

On March 19, 1981, the Governor of Arkansas signed into law Act 590 of 1981 entitled the "Balanced Treatment for Creation-

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67. *See generally* INSTITUTE FOR CREATION RESEARCH, SCIENTIFIC CREATIONISM (H. Morris public school ed. 1974).

68. Commentary, *Secularism in the Law: The Religion of Secular Humanism*, 8 OHIO N.U.L. REV. 329, 353 (1982).

69. Institute for Creation Research, Impact No. 85, at ii-iii (July, 1980).

Science and Evolution-Science Act."[70] This Act was the first statute to mandate the teaching of Scientific Creationism in the public schools if instruction in the theory of evolution was included in the curriculum.[71] The Act itself was based on a model act drafted by Paul Ellwanger of the Citizens for Fairness in Education, a Fundamentalist organization based in Anderson, South Carolina.[72] The Act required that Arkansas public schools provide balanced treatment to Scientific Creationism and evolution if either theory was included in the public school curriculum. Balanced treatment of these alternative theories was required in all aspects of educational programs in the public schools.

The statute also contained a lengthy statement of legislative purpose which, in part, claimed to protect academic freedom and freedom of belief and speech for students, prevent establishment of evolutionist religions, and "guid[e] students in their search for knowledge."[73] Regardless of its stated secular purpose, evidence adduced at trial indicated that those parties responsible for the preparation and passage of the Act were motivated by their personal religious convictions.[74] Additionally, despite the controversial

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70. 1981 Ark. Acts 590, §§ 1-11 (codified at ARK. STAT. ANN. §§ 80-1663 to -1670 (Cum. Supp. 1985) (declared unconstitutional in McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255 (E.D. Ark. 1982)). Applicable provisions of the Act read as follows:

> Section 80-1663. Requirement for balanced treatment of creation-science and evolution-science.—Public schools within this State shall give balanced treatment to creation-science and to evolution-science. Balanced treatment to these two (2) models shall be given in classroom lectures taken as a whole for each course, in textbook materials taken as a whole for each course, in library materials taken as a whole for the sciences and taken as a whole for the humanities, and in other educational programs in public schools . . . .

ARK. STAT. ANN. § 80-1663.

71. *See also* LA. REV. STAT. ANN. §§ 17:286.1-.7 (West Supp. 1982).

72. *McLean*, 529 F. Supp. at 1261. Ellwanger's purpose in drafting the model act was demonstrably religious, as he envisioned the eventual removal of evolution, a forerunner of such societal ills as Nazism, racism and abortion, from the public school curriculum and its replacement with Scientific Creationism. *Id.* at 1261.

73. 1981 Ark. Acts 590, § 7 (codified at ARK. STAT. ANN. § 1669); *see also* Note, *supra* note 44, at 382-83.

74. *McLean*, 529 F. Supp. at 1261-63. In a letter to State Senator Bill Keith of Louisiana, Ellwanger stated that he viewed the creationism/evolution controversy as a "battle . . . between God and anti-God forces . . . . [I]t behooves Satan to do all he can to thwart our efforts and confuse the issue at every turn." *Id.* at 1261. Ellwanger's ultimate goal appeared to be the "killing [of] evolution instead of playing these debating games that we've been playing for nigh over a decade already." *Id.* at 1262.

The sponsor of the Act, Senator James L. Holsted, was also found to have been motivated by his religious convictions in his sponsorship of the Act. Specifically, Senator Holsted testified that he held to a literal interpretation of the Bible, that the Act was compatible with and favorable to his religious beliefs, and that his religious convictions were a factor in his sponsorship of the Act. *Id.* at 1263 n.14.

nature of the Act, it was passed by the Arkansas Senate after only a few minutes of debate and by the Arkansas House of Representatives following a perfunctory fifteen minute hearing.[75] No scientists or representatives of the State Department of Education were called to testify at this hearing.[76]

The Arkansas Balanced Treatment Act was immediately challenged in federal court. Applying the three-pronged establishment clause test stated in *Lemon v. Kurtzman*,[77] the district court found that the primary purpose of the statute was to introduce the Biblical version of creation into the public school curricula.[78] The court also found that the primary effect of the statute was to advance the religious views of Biblical Creationists,[79] and that the constant monitoring of teachers and course materials necessary to ensure proper presentation excessively entangled the government with religion.[80] Therefore, the statute was held to violate all three prongs of the establishment clause test set forth in *Lemon*.

Consistent with the mandate of *Lemon*, the court first considered the primary purpose of the Act.[81] In order to be deemed consistent with the dictates of the establishment clause, the statute under examination must have a secular legislative purpose.[82] The court examined the lengthy legislative statement of the purported purpose of the Act, but refused to be bound by such statements of purpose and disclaimers. Instead, the court considered the historical context of the Act, the sequence of events leading up to the passage of the Act, departures from normal legislative procedures and contemporaneous statements of the legislative sponsor in determining the true legislative purpose of the Act.[83] The court concluded that the only inference that could be drawn was that the

75. *Id.* at 1262-63.

76. *Id.* at 1263.

77. 403 U.S. 602 (1971). The establishment clause test articulated by the Court in *Lemon* states, in part, that: "First, the statute must have a secular legislative purpose; second, its principal or primary effect must be one that neither advances nor inhibits religion . . . . [F]inally, the statute must not foster 'an excessive government entanglement with religion.' " *Id.* at 612-13 (quoting Walz v. Tax Comm'n, 397 U.S. 664, 674 (1970)).

78. *McLean*, 529 F. Supp. at 1264.

79. *Id.* at 1272.

80. *Id.* The court held that, under the statute, the state would be required to monitor its teachers closely to prevent religious references in the classroom and make delicate religious judgments. *Id.*

81. *Id.* at 1263.

82. *Lemon*, 403 U.S. at 612.

83. *McLean*, 529 F. Supp. at 1263-64.

Act was passed for the specific purpose of advancing Fundamentalist Christian beliefs.[84]

Specifically, the court noted that the Act's author, Paul Ellwanger, had, on several occasions, publicly proclaimed the sectarian purpose of the proposal. Additionally, the legislative sponsor of the Act, Senator James L. Holsted, had also stated that his sponsorship and lobbying efforts on behalf of the Act were motivated solely by his religious convictions and that the Act favored the position of those adhering to a literal interpretation of the Bible.[85] Although these statements were not solely determinative, when combined with the lack of any legislative investigation, debate or consultation with educators and scientists, the intrusive nature of the Act into the school curriculum and the historical hostility of the State of Arkansas to evolutionary instruction, the court concluded that the legislature's lengthy statement of secular purpose was self-serving, and had little, if any, support in fact. Thus, the court reasoned that the Act was "purely an effort to introduce the Biblical version of creation into the public school curricula"[86] and, as such, did not have a secular legislative purpose as required by the first prong of the *Lemon* test.

The court also found that the primary effect of the Act was to advance the religious views of Biblical Creationists. In determining that the primary effect of the Act was the impermissible advancement of religion, the court focused on the definition of creation-science contained in section 4(a) of the Act.[87] Section 4(a) of the Act defined creation-science as:

> [T]he scientific evidences and related inferences that indicate: (1) sudden creation of the universe, energy and life from nothing; (2) the insufficiency of mutation and natural selection in bringing about development of all living kinds from a single organism; (3) changes only within fixed limits of originally created kinds of plants and animals; (4) separate ancestry for man and apes; (5) explanation of the earth's geology by catastrophism, including the occurrence of a world wide flood; and (6) a relatively recent inception of the earth and living kinds.[88]

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84. *Id.* at 1264.
85. *Id.* at 1263 n.14.
86. *Id.* at 1264.
87. *Id.* at 1264-68.
88. *Id.* 1981 Ark. Acts 590, § 4(a) (codified at ARK. STAT. ANN. § 80-1666(a)).

Initially, the court concluded that section 4(a) was "unquestionably a statement of religion."[89] The definition of creation-science contained in section 4(a) had, as its unmentioned reference, the first eleven chapters of the Book of Genesis. The court noted that the principal tenets of creation-science, as defined in section 4(a), such as sudden creation of life from nothing,[90] the destruction of the world by a flood of divine origin,[91] the use of the term "kinds" in classifying plants and animals,[92] a relatively recent inception of the earth[93] and the separate ancestry of man and ape,[94] closely paralleled the account of creation contained in the Book of Genesis. The theory of creation contained in section 4(a) was deemed unique to Genesis and was, in fact, the Christian Fundamentalist interpretation of Genesis. Thus, the court concluded that the definition of creation-science contained in section 4(a) was identical to the literal interpretation of Genesis adhered to by Christian Fundamentalists and, consequently, had as its primary effect the advancement of their particular religious beliefs.[95]

Additionally, in the most controversial portion of its opinion, the court determined that creation-science was not in fact science.[96]

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89. *McLean*, 529 F. Supp. at 1265.

90. The court noted that the terminology "sudden creation from nothing" was taken directly from Chapter 1, verses 1-10 of *Genesis*. *Id.* at 1265 n.19.

91. *Id.* at 1265 n.19. The court found this concept "peculiar to Judeo-Christian tradition and . . . based on Chapters 7 and 8 of Genesis." *Id.*

92. *Id.* The testimony of scientific witnesses at trial established that the term "kinds" has "no fixed scientific meaning, but appears repeatedly in Genesis." *Id.*

93. This term apparently refers to the Creationist teaching that places the age of the earth from 6,000 to 10,000 years based on the genealogy of the Old Testament.

94. *Id.* The court concluded that this portion of the creation-science theory focused on "the portion of the theory of evolution which Fundamentalists find most offensive." *Id.*

95. *Id.* at 1266.

96. *McLean* represents the first case in which a court developed a legal definition of science. The opinion has been attacked on the ground that it was not necessary for the court to define science in order to resolve the case. *See* Lines, *Scientific Creationism in the Classroom: A Constitutional Dilemma*, 28 LOY. L. REV. 35, 50 (1982). The possibility of strict definitions of subjects in the public school curriculum which could exclude topics worthy of study is the principal objection to the court's definition. Despite this danger, it was necessary for the court to define science and apply this definition to Scientific Creationism.

In its findings of fact, the Arkansas Balanced Treatment Act contained the following statement: "Public school presentation of . . . creation-science would not violate the Constitution's prohibition against establishment of religion, because it would involve presentation of . . . scientific evidences and related inferences . . . rather than any religions [sic] instruction." ARK. STAT. ANN. § 80-1669(k). The statute's constitutionality depended on the assertion that because creation-science was not religious in nature, but was in fact a scientific theory, its instruction in the public schools did not violate the establishment clause. Thus, it was necessary for the court to define science in order to determine the nature of Scientific Creationism and, consequently, its constitutional status in the classroom.

Judge Overton's opinion set forth a five-part definition of science and, applying this definition to creation-science, concluded that it lacked legitimate educational value.[97] According to the court, science is "what is 'acceptable by the scientific community' "[98] and is "what scientists do."[99] More precisely, the essential characteristics of science, as determined by the court, were: "(1) [i]t is guided by natural law; (2) [i]t has to be explanatory by reference to natural law; (3) [i]t is testable against the empirical world; (4) [i]ts conclusions are tentative, i.e., are not necessarily the final word, and (5) [i]t is falsifiable."[100] Applying this definition to the definition of creation-science contained in section 4(a) of the Act, the court found that several of the tenets of creation-science were inconsistent with scientific methodology as encompassed within its definition.

Specifically, the primary foundation of creation-science, the sudden creation of the universe from nothing, was deemed by the court to be unscientific because of its dependency upon supernatural intervention which is not explainable by reference to natural law, is not testable and is not falsifiable. This reasoning was equally applicable to that portion of the Act which attempted to attribute the earth's geology to catastrophism including the occurrence of a worldwide flood. This worldwide flood was conceded by the witnesses testifying on behalf of creation-science to be the Noachian Flood described in the Book of Genesis.[101] Additionally, the witnesses conceded that any kind of Genesis flood was entirely dependent upon supernatural intervention.[102] Thus, as with the concept of sudden creation from nothing, this facet of creation-science was not guided or explainable by reference to natural law.

The court also found that terminology used in the definition of creation-science had no scientific meaning. Specifically, the word "kinds," as used in that section of the Act which attempts to discredit the concept of genetic mutation and adaptation, has no scientific definition but, in fact, appears repeatedly in Genesis.[103] Ad-

97. *McLean*, 529 F. Supp. at 1267.
98. *Id.*
99. *Id.*
100. *Id.*
101. *Id.* at 1268.
102. *Id.*
103. *Id.* at 1267-68. The relevant portion of Genesis referred to by the court states: "And God said 'Let the earth bring forth living creatures according to their kinds'." *Genesis* 1:24 (Revised Standard Version).

ditionally, the term "relatively recent inception of the earth," as used in section 4(a)(6) of the Act, has no scientific meaning.[104] Instead, it can only be given meaning by reference to creationist writings which place the age of the earth at between 6,000 and 10,000 years based upon the genealogy of the Old Testament.[105] The court also found the statement contained in section 4(a)(4) of the Act regarding the separate ancestry of man and apes to be a "bald assertion" without scientific meaning or reference to any scientific fact or theory.[106]

Creation-science, as defined in section 4(a), "not only fails to follow the canons defining scientific theory, [but] it also fails to fit the more general descriptions of 'what scientists think' and 'what scientists do.' "[107] The court found a complete lack of recognition for the creation-science theory described in section 4(a) within the scientific community.[108] Although this lack of acceptance could be attributed to narrow-mindedness on behalf of the scientific community, the court found it inconceivable that such a group of independent thinkers as modern scientists would or could so effectively censor new scientific thought.[109]

The court concluded its analysis of creation-science by stating that the methods employed by creation-scientists and theoretical immutability of creation-science were inconsistent with modern scientific methodology.[110] The methods utilized by creationists did not take data gathered through observation and experimentation, weigh it against opposing data, and thereafter reach the conclusions set forth in the Act. Instead, creationists adopted the "literal wording of the Book of Genesis and attempt[ed] to find scientific support for it."[111] The court determined that such attempts con-

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104. *McLean*, 529 F. Supp. at 1265.

105. *Id.* at 1268.

106. *Id.* The court found the sole basis of this assertion to be the traditional offensiveness to creationists of the evolutionary notion that man and modern apes have a common ancestry. *Id.* at 1268 n.26.

107. *Id.* at 1268.

108. *Id.*

109. This portion of the court's opinion fails to recognize the historical censorship and inflexibility of science to new and "radical" thought. Although it may be contended that modern scientists as a community tend to be more open-minded and less dogmatic than their predecessors, history is littered with examples of scientific intolerance of new thought. One need only recall the examples of Nicholas Copernicus, Galileo Galilei, William Harvey and Charles Darwin himself to conclude that scientists are perhaps no more open-minded than the society in which they operate.

110. *McLean*, 529 F. Supp. at 1268-69.

111. *Id.* at 1269.

sisted almost entirely of attacks on evolution through "a rehash of data and theories which have been before the scientific community for decades."[112] Additionally, the court condemned the creationist method of inquiry which deemed any evidence inconsistent with evolution to become automatically "scientific evidence" for the theory of creation-science.[113] The court concluded that this methodology of attempting to prove creation-science solely by attacking evolution was not based on natural law and, thus, was unscientific.[114]

Furthermore, the court condemned as unscientific the immutable conclusions drawn by creationists through the use of this methodology. The court stated that scientific theories must be "tentative and always subject to revision or abandonment" in light of factual inconsistencies.[115] As creationists begin with complete faith in their literal interpretation of Genesis and refuse to change their theory regardless of the evidence developed during the course of their investigation, such theories lack the flexibility and adaptability of scientific theories. These rigid beliefs were deemed to resemble more closely the tenets of religious dogma rather than the open-minded spirit of inquiry characteristic of the scientific method.[116]

Based upon the failure of creation-science as defined in section 4(a) of the Act to meet the court's definition of science, the court concluded that creation-science was not science.[117] Consequently, the court found that the only real effect of the Act was the advancement of the religious beliefs of Fundamentalist Christians. As such, the Act failed the second portion of the *Lemon* test.[118]

Finally, the court considered the issue of whether the statute impermissibly fostered an excessive governmental entanglement with

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112. *Id.* at 1270.

113. *Id.* at 1269. For example, creationists contend that the mathematical probability of a chemical combination resulting in life from non-life is astronomical and beyond belief. Since this remote probability may be inconsistent with evolutionary theory, it thus becomes "scientific evidence" for their theory that life was the product of a creator. *Id.* However, the "leap of faith" required to interpret this "evidence" as indicative of sudden creation from nothing without any additional evidentiary basis is difficult at best and one that this author would not care to make.

114. *Id.*

115. *Id.* at 1268-69.

116. *Id.* at 1269.

117. *Id.* at 1267.

118. *See supra* note 77.

religion.[119] Although the Act did not explicitly mandate intervention by the state in matters of public school curricula, the court deemed compliance impossible without a reevaluation of a multiplicity of subjects presently taught in the public schools.[120] Such a reevaluation would require constant monitoring of materials by the Arkansas State Department of Education to avoid the use of religious references and would consequently require state officials to make delicate religious judgments.[121] The need to monitor classroom materials and course content in order to uphold the Act's prohibition against religious instruction was deemed necessarily to involve school administrators in questions concerning religion. The court concluded that this involvement of state officials in religious issues created an excessive entanglement with religion.[122]

The *McLean* opinion represents the judiciary's first contact with the religious theory of Biblical Creationism reconstituted as the nonsectarian theory of creation-science. The novelty of this repackaging does not, however, excuse the overbreadth which characterizes the court's opinion. In its eagerness to analyze each and every aspect of the Act thoroughly, the *McLean* court ignored the dangers inherent in strictly defining subjects within the public school curricula and perhaps overestimated the open-mindedness and flexibility of modern scientists. Consequently, the opinion is not a model of judicial restraint. However, despite the *McLean* court's apparent intention to the contrary, its opinion has not become the basis for future resolution of disputes involving the roles of creationism and evolution in the public school curricula. Instead, this distinction was left to the Fifth Circuit Court of Appeals and, ultimately, the United States Supreme Court in the cases of *Aguillard v. Edwards*[123] and *Edwards v. Aguillard*.[124]

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119. *McLean*, 529 F. Supp. at 1272.

120. *Id.*

121. *Id.*

122. *Id.* The court did, however, reject plaintiff's contention that the term "balanced treatment" was unconstitutionally vague. The word "balanced" was found to have a reasonably accepted understanding. *Id.* at 1273. Finally, the court dismissed the defendants' argument that evolution is a religion and, as such, evolutionary instruction infringes on the free exercise rights of students whose religious beliefs are inconsistent with evolution. Evolution was deemed not to be a religion and, even assuming it was, the appropriate remedy was to prohibit the teaching of evolution and not establish opposing religions such as creation-science. In any case, the court failed to see how the teaching of a purported science such as creation-science neutralized the religious nature of evolution. *Id.* at 1274.

123. 765 F.2d 1251 (5th Cir. 1985), *aff'd*, 107 S. Ct. 2573 (1987).

124. 107 S. Ct. 2573 (1987).

IV. CREATIONISM IN THE UNITED STATES SUPREME COURT: *Edwards v. Aguillard*

A. *Introduction*

Despite the definitive nature of the court's opinion in *McLean v. Arkansas Board of Education*,[125] the creation-science controversy returned to the courts in *Edwards v. Aguillard*.[126] This case involved a challenge by educators, religious leaders and parents of public school children to the "Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction Act" enacted in 1981 by the Louisiana legislature.[127] In essence, the statute required the teaching of creation-science in Louisiana public schools whenever students were instructed in evolution.[128]

After a somewhat tortured procedural course, the United States District Court for the Eastern District of Louisiana declared the law to be unconstitutional pursuant to the purpose and effect prongs of the establishment clause test set forth in *Lemon v. Kurtzman*.[129] A divided Fifth Circuit Court of Appeals affirmed the district court's decision, but restricted its affirmation to finding the purpose of the statute to be the promotion of the religious beliefs of Christian Fundamentalists.[130] An appeal was taken to the United States Supreme Court which reentered the creationism/evolution controversy for the first time since its decision in *Epperson v. Arkansas*[131] nineteen years earlier. In *Edwards v. Aguillard*, a divided court affirmed the decision of the Fifth Circuit Court of Appeals and held that the Louisiana Balanced Treatment Act violated the purpose prong of the tripartite establishment clause test set forth in *Lemon*.[132] In order to understand fully the ramifications of this opinion for public school curricula nationwide, it is first necessary to examine closely the provisions of the Louisiana Balanced Treatment Act[133] and the Fifth Circuit's decision declaring the Act to be an impermissible establishment of religion.

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125. 529 F. Supp. 1255 (E.D. Ark. 1982).

126. 107 S. Ct. 2573 (1987).

127. *Id.* at 2574.

128. *See* Aguillard v. Treen, 634 F. Supp. 426, 428 (E.D. La. 1985) (quoting Lemon v. Kurtzman, 403 U.S. 602, 612 (1971)).

129. 403 U.S. 602.

130. Aguillard v. Edwards, 765 F.2d 1251, 1253 (5th Cir. 1985), *aff'd*, 107 S. Ct. 2573 (1987).

131. 393 U.S. 97 (1968).

132. *Edwards*, 107 S. Ct. at 2578.

133. LA. REV. STAT. ANN. §§ 17:286.1 to .7 (West 1982).

B. *The Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction Act*

The "Balanced Treatment for Creation-Science and Evolution-Science in Public School Instruction Act" was enacted in 1981 by the Louisiana legislature as an addition to Louisiana's general school law applicable to all public, secondary and elementary schools.[134] Although the Act does not require public school instruc-

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134. LA. REV. STAT. ANN. §§ 17:286.1 to .7 (West 1982). The full text of the statute is set forth below.

BALANCED TREATMENT FOR CREATION-SCIENCE AND EVOLUTION-SCIENCE IN PUBLIC SCHOOL INSTRUCTION.

Section 286.1. Short Title

This Subpart shall be known as the "Balanced Treatment for Creation-Science and Evolution-Science Act."

Section 286.2. Purpose

This Subpart is enacted for the purposes of protecting academic freedom.

Section 286.3. Definitions

As used in this Subpart, unless otherwise clearly indicated, these terms have the following meanings:

(1) "Balanced treatment" means providing whatever information and instruction in both creation and evolution models the classroom teacher determines is necessary and appropriate to provide insight into both theories in view of the textbooks and other instructional materials available for use in his classroom.

(2) "Creation-science" means the scientific evidences for creation and inferences from those scientific evidences.

(3) "Evolution-science" means the scientific evidences for evolution and inferences from those scientific evidences.

(4) "Public schools" means public secondary and elementary schools.

Section 286.4. Authorization for balanced treatment; requirement for nondiscrimination

A. Commencing with the 1982-1983 school year, public schools within this state shall give balanced treatment to creation-science and to evolution-science. Balanced treatment of these two models shall be given in classroom lectures taken as a whole for each course, in textbook materials taken as a whole for each course, in library materials taken as a whole for the sciences and taken as a whole for the humanities, and in other educational programs in public schools, to the extent that such lectures, textbooks, library materials, or educational programs deal in any way with the subject of the origin of man, life, the earth, or the universe. When creation or evolution is taught, each shall be taught as a theory, rather than as proven scientific fact.

B. Public schools within this state and their personnel shall not discriminate by reducing a grade of a student or by singling out and publicly criticizing any student who demonstrates a satisfactory understanding of both evolution-science or creation-science and who accepts or rejects either model in whole or part.

C. No teacher in public elementary or secondary school or instructor in any state-supported university in Louisiana, who chooses to be a creation-scientist or to teach scientific data which points to creationism shall, for that reason, be discriminated against in any way by any school board, college board, or administrator.

Section 286.5. Clarifications

This Subpart does not require any instruction in the subject of origins but simply permits instruction in both scientific models (of evolution-science and creation-sci-

tion in the origins of mankind, section 286.4 requires that the public schools give "balanced treatment" to creation-science and evolution if they choose to instruct students in the theories of human origin. The balanced treatment requirement is not only applicable to materials regarding mankind's origins utilized in science courses, but to all materials of any nature discussing this topic which are utilized in any educational program.[135] This balanced treatment requirement would presumably include all science, humanities, history, philosophy and literature courses within its scope.

The terms "balanced treatment," "creation-science" and "evolution-science" are all defined in the Act in simple terms.[136] In this respect, the Louisiana Balanced Treatment Act is far different from the Arkansas version of the same act. Unlike the Arkansas Act, the Louisiana Act does not set forth elaborate definitions of "creation-science" and "evolution-science."[137] The principal beliefs and characteristics of creationism and evolution are absent from the Louisiana Act. Instead, "creation-science" and "evolution-science" are defined only as the "scientific evidences for [each theory]

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ence) if public schools choose to teach either. This Subpart does not require each individual textbook or library book to give balanced treatment to the models of evolution-science and creation-science; it does not require any school books to be discarded. This Subpart does not require each individual classroom lecture in a course to give such balanced treatment but simply permits the lectures as a whole to give balanced treatment; it permits some lectures to present evolution-science and other lectures to present creation-science.

Section 286.6. Funding for inservice training and materials acquisition

Any public school that elects to present any model of origins shall use existing teacher inservice training funds to prepare teachers of public school courses presenting any model of origins to give balanced treatment to the creation-science model and the evolution-science model. Existing library acquisition funds shall be used to purchase nonreligious library books as are necessary to give balanced treatment to the creation-science model and the evolution-science model.

Section 286.7. Curriculum Development

A. Each city and parish school board shall develop and provide to each public school classroom teacher in the system a curriculum guide on presentation of creation-science.

B. The governor shall designate seven creation-scientists who shall provide resource services in the development of curriculum guides to any city or parish school board upon request. Each such creation-scientist shall be designated from among the full-time faculty members teaching in any college or university in Louisiana. These creation-scientists shall serve at the pleasure of the governor and without compensation.

135. *Id.* at § 17:286.4(a).

136. *Id.* at § 17:286.3.

137. *See* ARK. STAT. ANN. § 80-1666 (Cum. Supp. 1985).

and inferences from those scientific evidences."[138] Consequently, a court analyzing the definition of "creation-science" as set forth in the Louisiana Act would presumably be unable to equate creation-science with the Biblical account of creation contained in the Book of Genesis as easily as the *McLean* court did in its analysis of the Arkansas Act.[139] These broad definitions of "creation-science" and "evolution-science" could also be interpreted to include all known theories of creation within their scope and thus be deemed to be "religion and science neutral" with regard to differing theories.[140] In fact, these definitions are so nebulous that their interpretation and implementation in the classroom would most likely become a matter of individual teacher preference. The public school teacher would not be required to teach any particular theory of creation or evolution, but would only be required to give those theories of creation equal treatment with theories of evolution-science.

Although the court in *McLean* found that the term "balanced treatment" had a reasonably acceptable understanding and was thus not unconstitutionally vague, the Louisiana legislature, unlike the Arkansas legislature, included a definition of the term within its Act. Specifically, "balanced treatment" is defined to include any "information and instruction in both the creation and evolution models that the classroom teacher determines is necessary and appropriate to provide insight into both theories . . . ."[141] The materials to be used in effectuating the requirements of the statute are a matter of individual teacher choice.[142] Once again, the interpretation and implementation of this requirement in the classroom would most likely differ from classroom to classroom, dependent upon the individual teachers' preferences.

The Louisiana and Arkansas versions of the Balanced Treatment

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138. LA. REV. STAT. ANN. §§ 17:286.3(2)-(3).

139. McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255 (E.D. Ark. 1982).

140. Although the statute could be deemed to be "religion neutral" by not specifically identifying "creation-science" with the account of creation contained in *Genesis*, it would still require constant monitoring of materials to avoid religious references. As in *McLean*, the need to monitor course content in order to prevent religious instruction would necessarily involve school administrators in questions concerning religion. Additionally, as recognized by the courts in Daniel v. Waters, 399 F. Supp. 510 (M.D. Tenn.), *enforcing* 515 F.2d 485 (6th Cir. 1975), and Wright v. Houston Indep. School Dist., 366 F. Supp. 1208 (S.D. Tex. 1972), *aff'd*, 486 F.2d 137 (5th Cir. 1973), *cert. denied*, 417 U.S. 969 (1974), equal emphasis on all theories of creation is unreasonable and unworkable due to the multiplicity of theories and the inherent religious nature of several of these theories. *See supra* note 57.

141. LA. REV. STAT. ANN. § 17:286.3(1).

142. *Id. See generally, McLean*, 529 F. Supp. at 1273.

Act are, however, similar in their purported legislative purpose. As with the Arkansas Act, the legislative history of the Louisiana Act contained lengthy testimonial avowals of secular purpose by the Act's sponsor and supporters. Although the Louisiana Act did not purport to protect the freedom of belief and speech for students and prevent the establishment of evolutionist religions, section 286.2 of the Act stated that it was enacted for the specific purpose of protecting academic freedom in the public schools.[143] As in *McLean*, this statement of a purported secular purpose underlying the Act proved crucial to the judiciary's resolution of the constitutionality of the Act.

C. Aguillard v. Edwards

The Louisiana Balanced Treatment Act[144] immediately became the subject of federal litigation. The Act was challenged by opponents as an unconstitutional establishment of religion in violation of the first amendment. Conversely, the Act's sponsor and other proponents initiated an action seeking a judgment declaring the Act constitutional and an injunction to enforce its provisions. As a result, the district court stayed the action challenging the constitutionality of the Act, pending a resolution of the declaratory judgment action initiated by the Act's supporters.[145]

As a result of the complexities of the procedural issues, the ultimate resolution of the establishment clause contentions of the Act's opponents was delayed for over two and one-half years.

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143. LA. REV. STAT. ANN. § 17:286.2.

144. LA. REV. STAT. ANN. § 17:286.1 to .7 (West 1982).

145. The action initiated by the Act's sponsor and supporters was ultimately dismissed for failure to establish federal question and diversity jurisdiction pursuant to 28 U.S.C. §§ 1331-1332 (1982). Keith v. Louisiana Dep't of Educ., 553 F. Supp. 295, 296 (M.D. La. 1982). The district court found that the complaint, as stated, involved a dispute which should be resolved by the Louisiana state courts. *Id.* at 297. The Declaratory Judgment Act, 28 U.S.C. § 2201 (1982), did not provide an independent basis for federal jurisdiction. *Keith*, 553 F. Supp. at 300. Finally, the court rejected the asserted ground for federal jurisdiction based on 28 U.S.C. § 1332 due to the lack of complete diversity between the plaintiffs and the defendants.

Following the *Keith* decision, the district court lifted its stay and held that the Act violated a provision of the 1974 Louisiana Constitution which grants authority over the public school system to the Board of Elementary and Secondary Education rather than the legislature. *See* LA. CONST. art. VIII, § 3. On appeal, the Fifth Circuit Court of Appeals certified this constitutional question to the Louisiana Supreme Court which found no violation of the constitution. Aguillard v. Treen, 440 So. 2d 704, 705 (La. 1983). The Fifth Circuit Court of Appeals then remanded the case to the district court with instructions to address the federal constitutional questions.

When at last the district court was instructed to address the federal constitutional questions, the plaintiffs moved for summary judgment contending that the statute violated the establishment clause of the first amendment as a matter of law.[146] The plaintiffs argued that the Act was simply another effort by Christian Fundamentalists to incorporate into the public school curricula the Biblical theory of creation described in the Book of Genesis. Conversely, the state contended that the purpose and the effect of the Act was to promote academic freedom and that the Act was narrowly drawn to serve this legitimate secular interest.[147]

The district court granted the plaintiffs' summary judgment motion, declared the Act unconstitutional and enjoined its implementation.[148] The court reasoned that the doctrine of creation-science necessarily entailed teaching the existence of a divine creator. The concept of a divine creator was recognized by the court as an inherently religious tenet. Thus, the court held that the purpose of the Act was to promote religious belief, and the implementation of the Act would have the effect of establishing religion in contravention of the first amendment.[149]

The district court's conclusions regarding the Act were immediately challenged by the state on appeal. In *Aguillard v. Edwards*,[150] the Fifth Circuit Court of Appeals affirmed the district court's determination of unconstitutionality. However, the Court of Appeals only addressed the first prong of the *Lemon v. Kurtzman*[151] test, specifically, whether the Act had a secular legislative purpose.[152] Unlike the court in *McLean v. Arkansas Board of Education*,[153] the Fifth Circuit Court of Appeals refused to inquire into the primary effect of the Act and the possibility of excessive governmental entanglement with religion. Additionally, the court refused to engage in an elaborate discussion of scientific methodology and its application to creation-science.

Initially, the court recognized that the states have the general "right to prescribe the academic curricula of their public school

146. Aguillard v. Treen, 634 F. Supp. 426 (E.D. La. 1985).
147. *Id.* at 429.
148. *Id.* at 426.
149. *Id.* at 429.
150. 765 F.2d 1251 (5th Cir. 1985), *aff'd*, 107 S. Ct. 2573 (1987).
151. 403 U.S. 602 (1971).
152. *Aguillard*, 765 F.2d at 1254.
153. 529 F. Supp. 1255 (E.D. Ark. 1982).

systems," and that courts are, therefore, required to exercise great care and restraint in matters regarding the operation of public schools.[154] However, the "state's right to prescribe its public school curriculum [is not absolute and] is limited to the extent that it may not compel or prohibit the teaching of a theory or doctrine for religious reasons."[155] Thus, the intervention of the courts in the operation of public schools is justified where it is necessary to protect against violations of the first amendment religion clauses.

The court began its analysis by applying the three-part establishment clause test set forth in *Lemon* to the Balanced Treatment Act. However, the court only considered the purpose prong of the *Lemon* test as no consideration of the second or third criteria was necessary if the statute's purpose was not clearly secular.[156] If the legislature's enactment of the Balanced Treatment Act was dominated by a religious purpose, the secular purpose requirement was "not satisfied by the mere existence of *some* secular purpose."[157] A legislative enactment fails the secular purpose test if the state's actual purpose is to endorse or disapprove of religion.[158]

In applying the secular purpose requirement to the Louisiana Balanced Treatment Act, the court initially noted that, irrespective of whether it is fully supported by scientific evidence, the theory of creation is a religious belief.[159] This conclusion was, in part, based upon the centrality of the theory of creation to the tenets of many religions. The court also based its conclusion upon the historical context of the Act. Specifically, the court recognized the offensiveness of the theory of evolution to religious fundamentalists because of the irreconcilability of evolution with the Biblical account of the origin of man.[160] Finally, the court recognized the ex-

154. *Aguillard*, 765 F.2d at 1254.

155. *Id.* at 1255.

156. *Id.* The court cited Wallace v. Jaffree, 472 U.S. 38 (1985) in support of its refusal to consider the effect and entanglement prongs of the *Lemon* test if the Act was not deemed to have a clearly secular purpose.

157. *Aguillard*, 765 F.2d at 1256.

158. *Id.*

159. *Id.*

160. *Id.* This statement seems to ignore those members of the scientific community who, although firm supporters of evolutionary theory, also believe that it is not necessarily inconsistent with the existence of a Supreme Being. The court apparently divides the world into two alternative and mutually exclusive camps of those who "believe that God, in a miraculous manner, created all matter and energy" and "[t]hose who insist that the universe just grew, by accident, from a mass of hot gases without the direction or help of a Creator." BOARDMAN, WORLDS WITHOUT END 61 (1971) *quoted in McLean*, 529 F. Supp. at 1266 n.22. As such, the court's statement merely reinforces the "contrived dualism [of creationist

tensive efforts of Christian Fundamentalists to discredit the theory of evolution through the promotion of their own religious beliefs.[161]

After determining that the theory of creation is a religious belief, the Fifth Circuit considered the stated purpose of the Act, specifically, the protection of academic freedom in the classroom. The court found the statements of secular purpose made in the legislative hearing by the Act's sponsor and supporters to be self-serving and insufficient to avoid conflict with the first amendment.[162] Additionally, the court found the Act inconsistent with its stated purpose of academic freedom.[163] The principle of academic freedom was designed to grant teachers the liberty to instruct students in "that which they deem[ed] to be appropriate in the exercise of their professional judgment."[164] This principle discourages state interference in matters of curriculum, subject matter and method of presentation. The court considered the compulsory instruction inherent in the Balanced Treatment Act to be inconsistent with these principles of academic freedom. The court therefore rejected the statement of purpose contained in section 286.2 of the Act.[165]

Finally, the court found the statute to be inconsistent with the promotion of creation-science as a genuine academic interest. If the actual purpose of the Act was to advance or to encourage the study of creation-science, the court concluded that the Act would have required instruction in creation-science irrespective of whether evolutionary instruction was offered.[166] The Act's requirement that creation-science be taught only if evolution was taught appeared to the court to be a clear attempt to discredit evolution by counterbalancing its teaching at every turn with the teaching of creationism.[167] Thus, the Fifth Circuit concluded that the Louisiana Balanced Treatment Act had as its primary purpose the advancement of a particular religious belief, and, as such, was unconstitutional.

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thought] . . . which has no scientific factual basis [and] . . . assumes only two explanations for the origins of life and existence of man, plants and animals . . . ." *McLean*, 529 F. Supp. at 1266.

161. *Aguillard*, 765 F.2d at 1256.

162. *Id.*

163. *Id.* at 1257.

164. *Id.*

165. *Id.*

166. *Id.*

167. *Id.* Unlike *McLean*, however, the Fifth Circuit stated that its opinion should not "be taken to reflect adversely upon creation-science either as a religious belief or a scientific theory." *Id.*

Despite the restraint of the court in striking down the Louisiana Balanced Treatment Act, several of the judges, on suggestion for rehearing en banc, filed a vigorous dissent to the majority opinion. The dissenters argued that the Act, unlike other establishment clause cases, had no direct religious reference whatsoever and merely required a complete presentation of all scientific theories regarding the origins of man.[168] The dissenters found the religious motives of the Act's sponsor and supporters to be irrelevant and strongly condemned the majority's examination of matters relating to legislative intent beyond the statement of purpose contained within the Act.[169] Instead of examining the Act's words and its stated legislative purpose, the majority was deemed to have imposed its subjective notions as to the true sentiments of the Louisiana legislature at the time of the passage of the Act based upon the underlying religious motivation of several of its members. This approach was condemned as making "a farce of the judicial exercise of discerning legislative intent."[170] The result, according to the dissenters, was that evolution would be misrepresented as fact rather than theory, and the state would be powerless to prevent such misrepresentations.[171] It was these conflicting statutory interpretations that confronted the United States Supreme Court in its decision in *Edwards v. Aguillard*.[172]

D. Edwards v. Aguillard

In an opinion by Justice Brennan, the United States Supreme Court affirmed the Fifth Circuit Court of Appeals and held that the Louisiana Balanced Treatment Act contravened the establish-

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168. Aguillard v. Edwards, 778 F.2d 225, 227 (5th Cir. 1985) (on suggestion for rehearing en banc). As in the majority opinion, the dissent did not address the effect and entanglement prongs of the *Lemon* test.

169. *Id.*

170. *Id.*

171. *Id.* at 228. In a pointed response to the dissent, Judge E. Grady Jolly, the author of the majority opinion, stated:

> I offer my apologies to the majority of this court for aligning it with the forces of darkness and anti-truth . . . . I do not personally align myself with the dissenters in their commitment to the search for eternal truth through state edicts . . . . I commend to the dissenters a serious rereading of the majority opinion that they may recognize the hyperbole of the opinion in which they join . . . . I respectfully submit, the panel opinion speaks for itself, modestly and moderately, if one will allow its words to be carefully heard.

Id.

172. 107 S. Ct. 2573 (1987).

ment clause.[173] Employing the purpose prong of the establishment clause test set forth in *Lemon*, the Court concluded that the Louisiana Balanced Treatment Act was designed either to promote the theory of creation-science, which embodied particular religious beliefs, or prohibit the teaching of a scientific theory on the basis that it was disfavored by certain sects.[174] The Court was unable to find any clear secular purpose for the Act which would mandate a reversal of the Court of Appeals' decision. Instead, the Court found the purported secular purpose of promoting academic freedom to be a sham.[175] The Court reached this decision by examining the compulsory provisions of the Act, the disparate treatment of evolution-science and creation-science contained within the Act and the underlying legislative history.[176]

Initially, the Court found that the purported goal of the Act to promote academic freedom was defeated by the compulsory provisions of the Act outlawing the teaching of evolution or requiring that creation-science be taught whenever evolution was taught. These compulsory provisions were deemed to actually diminish academic freedom by depriving Louisiana public school teachers of the flexibility to teach evolution without also teaching creation-science.[177] The public school teacher would have no choice but to present both models even if the teacher determined that such a dual presentation would result in less effective and comprehensive instruction in science.[178] Instead of promoting academic freedom and broadening the science curriculum, the Court found that the purpose of the Act's sponsor was to restrict academic freedom and narrow the science curriculum.[179] Thus, the Court deemed the compulsion inherent in the mandatory instruction provisions of the Act and constrictive purpose of the Act's sponsor to be incongruent with the principles of academic freedom and a comprehensive scientific education.[180]

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173. Edwards v. Aguillard, 107 S. Ct. 2573 (1987).

174. *Id.* at 2582. The basis for the Court's conclusion that the Louisiana Balanced Treatment Act promoted the theory of creation-science, which embodied particular religious tenets or prohibited the teaching of a scientific theory disfavored by certain religious sects, were §§ 286.4A and 286.5 of the Act which required that creation-science be taught whenever evolution was taught.

175. *Id.* at 2579.

176. *Id.* at 2579-80.

177. *Id.* at 2579 n.6.

178. *Id.*

179. *Id.* at 2579. This conclusion was based upon a statement made by Senator Bill Keith during a legislative hearing held on the Act wherein Senator Keith stated "[m]y preference would be that neither [creationism nor evolution] be taught." *Id.*

180. *Id.* at 2579 n.6.

The Court also rejected the state's argument that the goal of "basic fairness" was furthered by the Act. Instead, the Court found that the Act contained a "discriminatory preference for the teaching of creation-science and against the teaching of evolution."[181] This discriminatory preference was inherent in portions of the Act which required the development of curriculum guides and research services for instruction in creation-science, but not for instruction in evolution.[182] Additionally, the Act forbade public school administrators from discriminating against anyone who chose to be a "creation-scientist" or to teach "creationism" without providing for similar safeguards for those who chose to teach evolution or any other noncreation-science theory, or who refused to teach creation-science.[183] This discriminatory preference for creation-science was deemed to diminish academic freedom and undermine the comprehensiveness and effectiveness of science instruction by discouraging the teaching of all scientific theories about the origins of mankind.[184]

Finally, the Court found that the purported secular purpose of furthering academic freedom was inconsistent with the purpose of the Act as expressed in its legislative history. The Court concluded that the legislative history revealed that the term "creation-science," as contemplated by the Louisiana legislature, embodied the religious belief that a supernatural creator was responsible for the creation of humankind.[185] The Court based this conclusion upon testimony offered by experts on creation-science at legislative hearings[186] and statements made by the Act's sponsor and other legisla-

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181. *Id.*

182. *See* LA. REV. STAT. ANN. §§ 17:286.7(A)-(B) (West 1982). Additionally, only creation-scientists were permitted to serve on the panel responsible for the adoption and supplying of resource services necessary for the implementation of the Act.

183. *See id.* § 17:286.4(C).

184. *Edwards*, 107 S. Ct. at 2579.

185. *Id.* at 2582.

186. *Id.* at 2581-82. In this portion of the opinion, the Court refers directly to the testimony of Edward Boudreaux, a leading expert on creation-science who testified at the legislative hearings preceding the enactment of the Balanced Treatment Act. Specifically, in the course of his testimony, Mr. Boudreaux repeatedly defined creation-science in terms of a theory that supports the existence of a supernatural creator. Specifically, Mr. Boudreaux noted that the theory of creation-science is based upon the high probability that life was "created by an intelligent mind" and "require[d] the direct involvement of a supernatural intelligence." *Id.* at 2581 n.12.

tors supporting the Act.[187] The Court also determined the underlying religious nature of the Act through statements made by the Act's sponsor, Senator Bill Keith, during legislative hearings wherein he expressed his disdain for the theory of evolution due to its inconsistency with his own personal religious beliefs and its alleged consonance with atheistic and secular humanistic beliefs.[188]

The testimony and statements contained within the legislative history, when combined with creation-science's inherent reliance upon supernaturalism, led the Court to conclude that the Act's primary purpose was to modify the public school science curriculum in order to provide an advantage to a particular religious doctrine that rejects the theory of evolution in its entirety.[189] As such, the Court abandoned its policy of deference to statutory articulations of secular purpose and found that the Louisiana Balanced Treatment Act's purported statement of secular purpose was an unconstitutional subterfuge for the advancement of a particular religious doctrine.[190]

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187. *Id.* at 2581-82. In reviewing statements of legislators made contemporaneously with the passage of the Act, the Court specifically focused on the Act's sponsor, Senator Bill Keith. The Court found particularly relevant Senator Keith's restatement of his understanding of the theory of creation-science which embodied his view that "a creator, however you define a creator, was responsible for everything that is in this world." *Id.* The Court also focused on the statements of other Senators and representatives relating to the use of the Bible and other religious texts in classrooms to support the creation-science theory and the existence of God as an established scientific fact. *Id.* at 1258 n.13.

188. *Id.* at 2582. The Court focused on statements made by Senator Keith during the course of legislative hearings "that his disdain for the theory of evolution resulted from the support that evolution supplied to views contrary to his own religious beliefs." *Id.* Specifically, Senator Keith noted that evolution was contrary to his family's religious beliefs and advanced religions contrary to his own. According to Senator Keith, the theory of evolution was consonant with "cardinal principles of religious humanism, secular humanism, theological liberalism, [and] atheism." *Id.* Senator Keith proposed that evidence supporting creation-science be included in the public school curriculum in order to "redress the fact that the theory of evolution incidentally coincided with what [the Senator] characterized as religious beliefs antithetical to his own." *Id.* From these statements, the Court concluded that the Act sought to alter the science curriculum to reflect endorsement of religious views that were antagonistic to the theory of evolution. *Id.*

189. *Id.*

190. *Id.* In a concurring opinion, Justice Powell, joined by Justice O'Connor, found that the Louisiana legislature "acted with the unconstitutional purpose of structuring the public school curriculum to make it compatible with a particular religious belief: the 'divine creation of man.'" *Id.* at 2588 (Powell, J., concurring). Justice Powell also found that the theory of creation-science necessarily included a belief in the existence of a supernatural creator. As such, despite the Act's alleged concentration on the "scientific evidences" for creation and inferences therefrom, the concept of a supernatural or divine creator was deemed manifestly religious. Justice Powell found that this concept did not shed its religiosity merely because it was presented in the Act as science. *Id.* at 2585 (Powell, J., concurring).

E. *An Analysis of the Opinion: Secular Purpose and the Underlying Religiosity of Creation-Science*

The ultimate result of the decisions in the *Edwards v. Aguillard*[191] and *McLean v. Arkansas Board of Education*[192] cases can be characterized in no other way than as a crushing and bitter defeat for the forces of Christian Fundamentalism seeking scientific legitimacy and recognition for their particular beliefs regarding the origins of humankind. The allegedly benevolent egalitarianism and beneficial purpose of the Louisiana Balanced Treatment Act[193] was flatly rejected by a majority of the United States Supreme Court, which found unconstitutional preferences in the Act's text and rampant religiosity in the theory of creation-science and in the ill-advised legislative discourse of its supporters.[194] The *McLean* court went even farther in finding that the Arkansas Balanced Treatment Act violated the effect and entanglement prongs of the *Lemon* test as well as the purpose prong.[195] A more complete rejection of these Acts can hardly be imagined.

The *Edwards* and *McLean* courts were undoubtedly correct in their conclusion that the overriding purpose of the balanced treatment legislation was to introduce the supernatural Biblical version of creation into the public school curricula. The legislative histories

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In a separate concurring opinion, Justice White affirmed the Fifth Circuit Court of Appeals' determination of unconstitutionality stating that the Court of Appeals' interpretation was a rational construction of the statute which contained no manifest errors, omissions or misinterpretations. *Id.* at 2591 (White, J., concurring).

In a vehement dissent, Justice Scalia, joined by Chief Justice Rehnquist, attacked the majority's conclusion that statutes enacted by legislators acting upon their personal religious convictions evidenced an unconstitutional purpose in violation of the establishment clause. *Id.* at 2591 (Scalia, J., dissenting). The dissenters also refused to presume that the Act's purpose was to advance religion merely because it coincided with the tenets of a particular religious belief in a happenstance manner or because it could be deemed to benefit religion. *Id.* at 2594 (Scalia, J., dissenting). Moreover, the dissenters stated that there was no adequate basis contained within the legislative history of the Act for disbelieving the secular purpose expressly set forth therein. Even if the Act was adopted for the purpose of fostering Christian Fundamentalist beliefs, such purpose alone would not suffice to invalidate the Act, so long as there was a genuine secular purpose as well. *Id.* at 2604 (Scalia, J., dissenting). This secular purpose, the protection of academic freedom, was clearly set forth in the Act. As there was no adequate basis for disregarding the express secular purpose set forth in the Act, the dissenters concluded that the Act had a constitutional secular purpose consistent with the strictures of the establishment clause. *Id.* at 2605 (Scalia, J., dissenting).

191. 107 S. Ct. 2573 (1987).

192. 529 F. Supp. 1255 (E.D. Ark. 1982).

193. *See supra* text accompanying notes 173-190.

194. *See supra* text accompanying notes 79-84.

195. *See supra* text accompanying notes 77-122.

of the Acts were permeated with sectarian references and unbridled hostility directed towards evolution. These histories, when combined with the disparate treatment, intrusive and exclusive nature of the balanced treatment requirements to the science curriculum,[196] and the historical link between the teachings of certain religious denominations and the teachings of evolution, clearly vitiate the stated secular purpose of the Acts. The inescapable links between the tenets of creation-science and those of Christian Fundamentalist religious dogma lead to the conclusion that the only real effect of the balanced treatment acts was the advancement of religion. Finally, the constant governmental monitoring of teachers and course materials necessary to ensure proper presentation of evolution and creation-science would undoubtedly result in an excessive entanglement of government in questions concerning religion.[197]

Each of these conclusions can be reached from a study of the Arkansas and Louisiana Balanced Treatment Acts. The conclusions are based in some degree upon the sectarian versus scientific nature of the creation-science model. Therefore, it is appropriate to examine the underlying nature of the creation-science theory based upon universally accepted generalities as to the characteristics of modern science.

If, as contended by its supporters, creation-science is truly "scientific" within the essence of the modern scientific method, then it is clearly within the power of the legislature or local public school administration to mandate its instruction in the public schools. Assuming this scientific characterization of creation-science to be correct, instruction in creation-science would not have as its primary purpose or effect the promotion or establishment of religion. At best, the promotion of Fundamentalist Christian religious doc-

196. The exclusive nature of the balanced treatment requirement to the public school science curriculum was recognized by both the *McLean* and *Edwards* courts. In *McLean*, the balanced treatment requirement was found to be an unprecedented intrusion into the school curriculum based upon the fact that the only information required to be taught in Arkansas' schools prior to the enactment of the Balanced Treatment Act was alcohol and narcotics use, natural resource conservation, bird week, fire prevention and flag etiquette. *McLean*, 529 F. Supp 1255, 1264 n.16. The Court in *Edwards* found the Louisiana Balanced Treatment Act to suffer from the same intrusive malady. Specifically, the Court found none of the other statutory provisions regarding mandatory courses of study in Louisiana public schools to contain an equal time requirement for opposing opinions within a specific area of learning as required by the Balanced Treatment Act. *Edwards*, 107 S. Ct. at 2579 n.7.

197. *McLean*, 529 F. Supp. at 1272. The *Edwards* court was not required to answer the question of excessive governmental entanglement. *Edwards*, 107 S. Ct. at 2578.

trines closely affiliated with the creation-science theory would be an accidental or secondary effect. Such an accidental or secondary purpose or effect is not an unconstitutional establishment of religion.[198] As a recognized scientific theory, instruction in creation-science would also not excessively entangle the state in questions of religious doctrine.

Conversely, if creation-science is deemed to be sectarian dogma disguised as scientific theory, its required instruction in public schools at the behest of the legislature or local public school administration would presumably be unconstitutional as its primary purpose would be to establish certain Fundamentalist Christian beliefs. Additionally, although not addressed by the Court in *Edwards*, there is little doubt that if one adheres to the sectarian point of reference with regard to creation-science, its instruction in the public schools would also be unconstitutional as its primary effect would be an establishment of religion. Finally, any attempt to teach it would require extensive monitoring of classrooms to prevent religious references and impermissibly entangle the state in sensitive theological debates.

Although subjects as amorphous as science may, in some aspects, defy definition or at least be subject to reasonable disagreement, certain fundamentally accepted principles deemed to capture the essence of the modern scientific method can be gleaned from a study of modern science.[199] These basic principles, while general and far ranging in their scope, are substantive and not so unduly vague as to be unworkable. Considering the complexities and difficulties often encountered in characterizing the human experience, especially when that experience is rushing boldly toward new horizons as modern science appears to be, these general principles most adequately describe the principal features of the modern scientific method in a workable fashion.

Initially, there can be little or no dispute with regard to the reliance of the modern scientific method upon principles of natural law. Specifically, modern science is guided and explainable by reference to natural law. Science limits itself to analysis of empirical data collected from the workings of nature and avoids discussion of ultimate values.[200] This empirical data forms the basis of scientific

198. *See* McGowan v. Maryland, 366 U.S. 420, 442 (1961).
199. *See McLean*, 529 F. Supp. at 1267.
200. Note, *supra* note 4, at 444.

hypotheses that "explain observed phenomena by relating them to natural conditions that can account for their occurrence."[201] The substantive body of scientific thought is made up of arguments that have been deduced from observation and the collection and study of evidence gathered from nature. As such, science is a neutral tool with which to relate observations and data within the natural world to other observations and data. This emphasis upon explanations within the bounds of the natural world precludes science from invoking supernatural causes to explain nature. Theories relying upon the intervention of supernatural forces are not within the definition of the modern scientific method as they are based upon forces which operate outside of the bounds of natural law.[202] These forces are simply incapable of objective verification.[203]

Contrary to the modern scientific method, creation-science is not guided and explainable by reference to natural law. Instead, creation-science relies upon the intervention of unverifiable supernatural forces. The essential nature of this supernatural intervention to creation-science as set forth in the Louisiana Balanced Treatment Act was recognized by several witnesses who testified on behalf of the Act. Specifically, the state's leading expert on creation-science, Edward Boudreaux, testified at the legislative hearings that one of the tenets of creation-science was a "high probability that life was 'created by an intelligent mind.' "[204] In addition to Mr. Boudreaux's testimony, the legislative sponsors of the Louisiana Balanced Treatment Act also cited testimony from other experts which recognized the centrality of supernatural intervention to the creation-science model.[205] The legislative history of the Louisiana Balanced Treatment Act therefore clearly reveals that creation-science, as defined in the Act, embodied the belief that supernatural forces were responsible for the creation of mankind.

This reliance upon supernatural intervention is entirely different from the reliance of modern science upon principles of natural law. Explanations such as those relied upon by creation-scientists

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201. Note, *supra* note 44, at 395.
202. *Id.*
203. *Id.* at 396 n.131.
204. *Edwards*, 107 S. Ct. at 2581.
205. For example, Luther Sunderland, one of the lead witnesses at the hearings held by the Louisiana Legislature regarding the Act, described creation-science as postulating that "everything was created by some intelligence or power external to the universe." *Id.* at 2581 n.12.

which depend upon the whimsical operation and intervention of forces external to the universe which are not guided or explainable by reference to natural law are clearly not scientific. Instead, this reliance "bear[s] the unmistakable markings of an establishment-religion."[206]

The modern scientific method also recognizes that explanations reached through utilization of the method must be testable through experimentation. Scientific theories, deduced from observations and collected data, are tested through experimentation in order to reveal flaws within the theories.[207] In the absence of experimentation, there are no other reliable standards with which to test hypotheses.

Theories that rely upon explanations which require supernatural intervention are incapable of verification through experimentation and observation.[208] There are simply no known objective, as opposed to subjective, experiments by which to validate supernaturalism. Supporters of the theory of creation-science have conceded that this part of the theory is "inaccessible to the scientific method"[209] and suggest that "[t]he Creator does not create at the whim of a scientist."[210] Leaving such self-serving platitudes aside, the conclusion is inescapable that forces which admittedly operate outside the scope of natural law and defy conventional explanation for their operation cannot be the subject matter of observation or experimentation. Thus, once again, the element of supernatural intervention essential to the creation-science theory places it outside the scope of the modern scientific method.

Finally, the conclusions reached and theories formulated through utilization of the modern scientific method are tentative and falsifiable. New scientific theories are accepted to the degree that they help solve problems and give answers that are indepen-

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206. Note, *supra* note 4, at 455.

207. Note, *supra* note 44, at 395.

208. The reliance upon supernatural explanations and the incapability of verification of such explanations through experimentation and observation are freely admitted by creationist writers. For example, Duane Gish, the Associate Director of the Institute for Creation Research, has stated that "[w]e do not know how the Creator created, what processes He used, for He used processes which are not now operating anywhere in the natural universe. . . . *We cannot discover by scientific investigation anything about the creative processes used by the Creator.*" D. GISH, EVOLUTION? THE FOSSILS SAY NO! 42 (1978), *quoted in McLean*, 529 F. Supp. at 1267 n.25 (emphasis added).

209. INSTITUTE FOR CREATION RESEARCH, *supra* note 3, at 5.

210. *Id.*

dently provable. Scientists perform experiments to determine whether certain phenomena predicted by their theories actually occur. If the predicted phenomena fail to occur, then the theory has been falsified.[211] In such case, the theory must be modified or abandoned entirely.[212] Thus, all conclusions reached through the application of the modern scientific method are tentative and subject to change in light of new observations and experimentations.

Due to these constant revisions and modifications, science can never represent absolute truth. Presently existing theories are always subject to modification or replacement by new theories which may explain more data than the presently recognized theories. Indeed, it has been stated that "the great strength of the scientific method is its open-minded spirit of inquiry."[213] On the other hand, theories which seek to find scientific evidence for immutable conclusions are not scientific. Theories that are dogmatic and never subject to revision are not scientific theories. Whatever they may be, they lack the flexibility necessary to the modern scientific method.

The methodology employed by creation-scientists is as unscientific as their use of supernatural intervention. As stated by the court in *McLean*, "[a] scientific theory must be tentative and always subject to revision or abandonment in light of facts that are inconsistent with, or falsify, the theory. The theory that is by its own terms dogmatic, absolutist and never subject to revision is not a scientific theory."[214]

The methods employed by creation-scientists completely fail to weigh scientific data gathered through observation and experimentation against other data and draw conclusions from the results. Instead, the creation-scientists adopt the literal reading of the Book of Genesis and attempt to find scientific evidence for it. Such attempts consist almost entirely of attacks on evolution "through a rehash of data and theories which have been before the scientific

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211. Falsifiability has been described as "an important corollary to the requirement of testability. If it is possible to imagine an experiment or observation that would establish whether an empirical statement is false, then that statement can be considered scientific." Note, *supra* note 44, at 395. Falsifiable theories are not dependent upon supernatural explanations which cannot be proven by reference to natural law.

212. *Id.* at 395-96.

213. Note, *Evolution, Creationism and the Religion Clauses*, 46 ALB. L. REV. 897, 927 (1982).

214. *McLean*, 529 F. Supp. at 1269.

community for decades."[215] Additionally, evidence or observations which appear to be inconsistent with the theory of evolution are deemed by creation-scientists to constitute evidence supportive of their theory that life was the product of a creator.[216] However, the "leap of faith" required to interpret this "evidence" as indicative of sudden creation from nothing without any additional affirmative evidential basis is difficult at best and one this author would not care to make. This methodology—of attempting to prove creation-science solely by attacking evolution—is not based on natural law, is not testable through experimentation and thus is unscientific.

Furthermore, the conclusions drawn by Creationists through the use of this methodology "are not tentative because when confronted with data that contradicts their position, creation-scientists tend to discount it or ignore it."[217] Creationists begin with complete faith in their literal interpretation of Genesis and no amount of conflicting empirical data ever causes them to question or modify their beliefs.[218] Thus, it has been noted that creation-scientists "have the 'answer' before they begin to research and seek only to substantiate their view, not to explain the unknown."[219] Such absolutist and rigid attitudes hardly comport with the tentative and falsifiable nature of science. These beliefs resemble the tenets of religious dogma much more than the open-minded spirit of inquiry characteristic of the modern scientific method.

In examining the nature of creation-science, the balanced treatment acts and their underlying legislative history as a whole, it becomes obvious that creation-science is nothing more than Christian Fundamentalism disguised as science in order to introduce the Biblical version of Creation into the public school curricula. Al-

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215. *Id.* at 1270. A leading writer in this area has characterized the anti-evolutionary nature of creation-science:

> Creation-science aims almost exclusively at dismantling the evolutionary theory that is currently accepted by the vast majority of chemists and biologists. Unlike other sciences, it offers no fresh observations of nature . . . . Instead, creationists quote leading evolutionary scholars and try to show that their work is unscientific or that evolutionists do not agree about evolution.

Steinhart, *Fundamentals*, AUDUBON, Sept. 1981, at 5, 8.

216. Note, *supra* note 44, at 397.

217. *Id.* at 398.

218. The "research" methods utilized by creation-scientists and the conclusions drawn therefrom have been best characterized as follows: "I can envision observations and experiments that would disprove any evolutionary theory I know, but I cannot imagine what potential data could lead creationists to abandon their beliefs. Unbeatable systems are dogma, not science." Gould, *Evolution as Fact and Theory*, DISCOVER, May 1981 at 34-35.

219. Note, *supra* note 213, at 930-31.

though everyone may "approach a scientific inquiry in any fashion they choose,"[220] they may not proclaim their methodology scientific if it is based on close-minded declarations, self-serving supernaturalism and inflexible finality.[221] Through manipulation and vocabular blasphemy, supporters of creation-science in the Arkansas and Louisiana balanced treatment acts repackaged their doctrinal rigidity and theistic intolerance as science in an effort to avoid the judicial defeats suffered in the 1960's and 1970's. However, the state and the public school system have a duty to present knowledge developed by a responsible academic community regardless of its alleged inconsistency with religious dogma. In recognizing the true nature and purpose of the balanced treatment acts, the courts in *McLean* and *Edwards* prevented the states from diverging from these professional standards of education.

V. CONCLUSION

The public school classroom has been recognized as a "marketplace of ideas."[222] Its central role in promoting learning, inquiry and tolerance by presenting conflicting ideas "well supported by the academic community and pertinent to the course of study promoted by the state"[223] should remain unchanged. Undoubtedly, there are dangers inherent in decisions such as those in *McLean v. Arkansas Board of Education*[224] and *Edwards v. Aguillard*[225] which strictly define subjects and consequently limit the scope of inquiry within the public school classroom. Many ideas worthy of study may be excluded from the curriculum because they have been rejected by the intellectual community or comport too closely with the theological tenets of some religious belief. This objection has been raised to the court's definition of science in the *McLean* opinion and may be raised to the United States Supreme Court's rejection of creation-science in *Edwards*.[226] However, this objection is unwarranted for several reasons.

Courts have traditionally exercised judicial restraint in interfer-

220. *McLean*, 529 F. Supp. at 1269.
221. *Id.*
222. *See* Tinker v. Des Moines Indep. Community School Dist., 393 U.S. 503, 512 (1969) (citing Keyishian v. Board of Regents, 385 U.S. 589, 603 (1967)).
223. Note, *supra* note 4, at 448.
224. 529 F. Supp. 1255 (E.D. Ark. 1982).
225. 107 S. Ct. 2573 (1987).
226. *See* Lines, *supra* note 96, at 50.

ing with decisions regarding local educational policies. The states and local school boards possess a large degree of authority over daily operational decisions and the curricula within their educational institutions. The Supreme Court has recognized that "[c]ourts do not and cannot intervene in the resolution of conflicts which arise in the daily operation of school systems and which do not directly and sharply implicate basic constitutional values."[227] In any case, such intervention requires judicial care and restraint.[228]

However, the courts should not hesitate to intervene where school policies directly violate basic constitutional guarantees, for "[t]he vigilant protection of constitutional freedoms is nowhere more vital than in the community of American schools."[229] The Arkansas[230] and Louisiana[231] balanced treatment acts implicated the establishment clause. Therefore, judicial interposition was justified, and the United States Supreme Court in *Edwards* exercised considerable restraint in examining the nature of creation-science and its underlying legislative history before reaching its conclusions.[232] The American system of government ultimately depends on the exercise of restraint by all three of its branches. To deny the courts the exercise of jurisdiction over a controversy implicating basic constitutional values for the sole reason that they may abuse their judicial discretion sometime in the future is to create an unworkable and nonfunctional system of government.

Furthermore, there are few subjects in the public school curricula which necessitate such judicial intervention. Historically, the Creationists' attacks on evolution have been in the context of science classes. It is unlikely that this conflict will directly spill over into other subjects and thus necessitate judicial intervention in all subjects in the public school curricula.

Additionally, some subjects, by their very nature, are outside the arena of potential conflict. For example, it is very difficult to imagine Creationists demanding equal time in such courses as mathematics, foreign languages and geography. Indeed, there is no reason

227. Epperson v. Arkansas, 393 U.S. 97, 104 (1968).
228. *Id.*
229. Shelton v. Tucker, 364 U.S. 479, 487 (1960).
230. ARK. STAT. ANN. §§ 80-1663 to -1670 (Cum. Supp. 1985).
231. LA. REV. STAT. ANN. § 17:286.1 to .7 (West 1982).
232. *Cf. McLean*, 529 F. Supp at 1267-72. The *McLean* court engaged in a considerable discussion of creation-science as a "non-science."

for equal time in these courses since the evolutionary theory is not presented in them. The courts, therefore, will not be required to intervene or provide definitions of every course of study taught in the public schools in order to remove impermissible religious references from the curricula.

The *McLean* and *Edwards* opinions also serve to prevent divisiveness over religious issues in the public school system. As noted in Justice Powell's concurring opinion in *Edwards* and unabashedly ignored by the dissenters, "there is an enormous variety of religions in the United States. According to the Encyclopedia of American Religions, there are 1,347 religious organizations in the United States."[233] These religious organizations include groups as diverse as Buddhists, Greek Orthodox, Jews, Muslims, Protestants and Roman Catholics. The multi-religious nature of present-day America demonstrates the wisdom of the Court's decision in *Edwards* prohibiting the structuring of the public school curriculum in order to make it compatible with the religious beliefs of one particular sect. Instead, by preventing this restructuring, the Court has recognized the ultimate purpose of the establishment clause: the accommodation of competing religious beliefs with governmental preference for none.[234]

Additionally, the obsession of supporters of creation-science with scientific recognition and legitimacy in the public school classroom in the last decade is unnecessary given the current status of religious instruction in public schools. Contrary to the apparent intent of creation-science supporters, the labeling of a particular body of thought as science does not necessarily lead to greater acceptability within and without the scientific community. To the contrary, such reclassification may result in greater alienation of the public which, as a whole, tends to view its religious beliefs in a more personal manner than theories and hypotheses are viewed in the scientific community.

The courts' decisions in *McLean* and *Edwards* did not prohibit any mention of the Bible or Creationist theories outside of science classes. As recognized by Justice Powell, the nation's religious heritage is a proper subject matter in the public school curricula.[235] The Supreme Court has recognized that the Bible can be used as a

233. *Edwards*, 107 S. Ct. at 2589 n.6 (Powell, J., concurring).
234. *Id.* at 2589.
235. *Edwards*, 107 S. Ct. at 2589-90 (Powell, J., concurring).

historical tool in public school courses about religion as long as the presentation is conducted in a secular and neutral fashion.[236] Creationism may therefore be appropriate for public school classes in comparative religions, humanities or religious history. These courses may be constitutionally taught if "presented objectively as part of a secular program of education."[237] Creationist concepts most certainly have a place in the public school curricula as philosophy. Given this long history of recognition in the public school curricula, the vigorous quest for inclusion within the science curricula seems wasteful and duplicative. Additionally, as demonstrated above, teaching such religious philosophies as the product of genuine scientific inquiry can only undermine effective science instruction.

The judicial rejection of the balanced treatment acts in *McLean* and *Edwards* signals the end to only one aspect of the creation-science/evolution controversy. Despite the decisiveness of the opinions in *McLean* and *Edwards*, the controversy over creation-science and evolutionary theory is likely to continue. Creationists consider the introduction of creation-science into the public schools as an integral part of their ministry.[238] Thus, with each new judicial decision, Creationists have modified their approach in order to avoid the mandates of these decisions. This commitment to creation-science is not likely to end as a result of the *Edwards* opinion.

The recent failure of Creationists in the Supreme Court makes it unlikely that the Creationists will repeat their efforts to encourage enactment of modified balanced treatment acts in an effort to avoid the fate of the Arkansas and Louisiana acts. In addition to the likely failure of a modified act, such efforts attract too much publicity. Instead, Creationists will turn their attention to their strongest resource—"grassroots organization"—and begin to pressure local school boards to adopt publications sympathetic to the

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236. Abington School Dist. v. Schempp, 374 U.S. 203, 225 (1963), where the Court stated:
> [I]t might well be said that one's education is not complete without a study of comparative religion or the history of religion and its relationship to the advancement of civilization. It certainly may be said that the Bible is worthy of study for its literary and historic qualities. Nothing we have said here indicates that such study of the Bible or religion, when presented objectively as part of a secular program of education, may not be effected consistently with the First Amendment.

Id.; *see also* Wiley v. Franklin, 497 F. Supp. 390, 395 (E.D. Tenn. 1980).

237. *Schempp*, 374 U.S. at 225.

238. *See McLean*, 529 F. Supp. at 1260.

creation-science viewpoint and lobby textbook publishers for equal emphasis or dilution of evolutionary instruction.

Local school boards, and to a lesser degree, textbook publishers, are vulnerable to Creationist tactics. Recent surveys indicate that a majority of the public favors public school instruction in both creation-science and evolution.[239] Although the results of the surveys are irrelevant for constitutional purposes,[240] such reasoning has little impact at the local level where opinions may be stronger and direct confrontation more likely. Pressure applied by the local constituency, coupled with Creationist propaganda and a nonreligious, credible presentation, may be enough to sway some school boards into adopting pro-Creationist resolutions.

Once confronted with pressure applied by the local constituency or, more often, by better organized Christian Fundamentalist organizations which may operate on a national level, the school board has three alternatives. The board may pursue a course of indifference and refuse to address the Creationists' clamor for inclusion in the science curriculum. Alternatively, the board may capitulate to the Creationists' demands and adopt a policy with a pro-Creationist bias. Finally, the school board may resist the Creationists' demands and pursue a responsible course independent of the views of perhaps the majority of the community. The latter course is the only educationally and constitutionally sound course. However, this course requires great perseverance and resilience in the face of often stubborn resistance and direct confrontation.

The initial alternative, the refusal by the local school board to address Creationists' pressures for inclusion in the science curriculum, is improper and unacceptable. Public education, by its very nature, is an institution best managed at the local level. Thus, the state and local school boards must necessarily exercise a large degree of authority over operational decisions and the curricula. Indifference and a refusal to address concerns relating to curricula decisions constitutes a complete abdication by the local school

239. *See* Bird, *supra* note 49, at 162.

240. The *McLean* court answered this public opinion contention by stating:

> The application and content of First Amendment principles are not determined by public opinion polls or by a majority vote. Whether the proponents of the [Arkansas Balanced Treatment Act] constitute the majority or minority is quite irrelevant . . . . No 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.

McLean, 529 F. Supp. at 1274.

board of its regulatory authority and responsibilities. A policy of indifference is inconsistent with the historical purpose and function of school boards.

Capitulation to the demands of Creationists and adoption of a policy with a pro-Creationist bias is also improper. As with the policy of indifference, a policy of appeasement constitutes an abdication by the local school board of its duty to create and maintain a responsible and non-denominational curricula. Additionally, this policy constitutes a surrender by the local school board of its science curriculum to a multitude of religious organizations and influences. Finally, this policy also discourages legitimate instruction of students in science and places new and impossible burdens upon teachers.[241]

Initially, a policy of appeasement opens the door to a myriad of recorded theories of Creation in the public school classroom. The multiplicity of recorded theories of Creation held by all religious sects imposes an impossible burden on the teacher attempting to instruct students in this subject. Additionally, school boards and personnel lacking detailed theological training are not qualified to select from the available theories those which merit attention in science classes.

A policy of appeasement also undermines responsible science instruction. The beliefs of most, if not all, religious denominations include, to varying degrees, supernaturalism in the form of the existence of a divine creator and varying degrees of doctrinal adherence. As demonstrated above, these concepts are clearly inherent in the theory of creation-science. The introduction of supernaturalism and theistic rigidity into the science curriculum and its inevitable confusion with scientific methodology only serves to retard responsible instruction in the scientific method. The methodology of these two fields, religion and science, are entirely different. Scientists base their conclusions upon theorization, experimentation and observation. Conversely, religious scholars rely primarily upon supernaturalism, sectarian tradition and tenets of faith. To suggest, in the context of the public school science course, that these two methods are identical serves only to propagate the myth foisted upon the public at large by Christian Fundamentalists

241. Davidow & Wilson, *Wendell Bird's "Creation-Science"- "Newspeak" on the Assault in the Secular Society*, 9 N. Ky. L. Rev. 207, 228 (1982).

seeking to broaden their recognition and publicize their particular message.

Finally, a policy of appeasement would create additional difficulties for already overburdened teachers. In addition to acting as instructor, role model, child psychologist and, quite often, surrogate parent, a policy of appeasement would require the public school teacher to assume new roles as theologian and, more than likely, instiller of religious values. Teachers would be required to gain competence in all of the multifarious theories of Creation in order to select theories worthy of classroom presentation. Additionally, public school teachers would be required to exercise meticulous care in the presentation of Creationist materials in order to avoid impermissible religious instruction. Throughout their instruction of students in the various theories of Creation, public school teachers would undoubtedly be aware that their statements will be closely monitored by school officials, parents, lawyers and, possibly, the judiciary. This policy would result in self-censorship by teachers and unacceptable loss of academic freedom in the public school classroom.[242]

The only acceptable school board policy is one of active resistance to public pressure. This policy is preferable for several reasons. Initially, this approach discourages judicial intervention into hastily enacted and ill-conceived school policies which may directly violate basic constitutional guarantees. For example, in the legislative context, the necessity of the sweeping nature of the court's opinion in *McLean* could have been obviated had the Arkansas legislature studied the constitutional implications of the Arkansas Balanced Treatment Act. Instead, the legislature's rush to enactment led to a broad-based constitutional rejection of the Act by the court. Such judicial obliteration of statutes as a result of insufficient legislative study of their constitutional implications wastes legislative and judicial resources. Any policy which reduces such wastefulness can only be embraced by the legal and educational community.

A policy of active resistance to the demands of Christian Fundamentalists also appropriately maintains a desirable separation between science instruction and instruction in religions. As demonstrated above, scientists and theologians use radically different

242. *Cf.* LA. REV. STAT. ANN. § 17:286.2. The purported legislative objective was the protection and growth of academic freedom.

methodologies to address similar concerns. The continuation of separate roles for religion and science in the public school classroom, prevents the confusion of these different methodologies.

Finally, active resistance to the demands of Christian Fundamentalists prevents communal divisiveness on religious issues. Rather than turning the classroom into an arena of religious conflict and sectarian rivalry, a policy of active resistance recognizes the separateness of religious philosophy and scientific methodology and attempts to address them equally in the context of humanities and science courses respectively. More fundamentally, this policy recognizes that the most appropriate place for religious instruction lies not in the public school but, rather, in the home. In an era when the public school has been subjected to increasing criticism for its failure to act as a competent stepparent and disciplinarian as well as educator, a policy which returns instruction in fundamental values to its rightful place should be encouraged by educators and the clergy alike.

It has been stated that "the unfortunate aspect of the creationists' demand . . . is the possibility that school boards will respond [to the controversy by ending the teaching of evolution in] . . . the public schools under their control."[243] Although such a result is unlikely given the mandates of the *Edwards* opinion, it cannot be seriously questioned that the enormous amount of time and resources devoted to this dispute has distracted those actively participating in public school instruction from their duty of providing effective instruction in all subjects, including science. The dispute has come full circle from the Tennessee Supreme Court's decision upholding the absolute prohibition of evolutionary instruction in the public schools in 1927.[244] The Creationists' ultimate attempt to introduce their views into the public school classroom in the form of allegedly content-neutral legislation for the alleged secular purpose of promoting academic freedom has failed. Given this defeat and the enormous educational, scientific and judicial resources devoted to this dispute throughout its history, on the sixtieth anniversary of the *Scopes v. State* decision,[245] it is time for educators to leave the courtroom and return to the classroom.

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243. Davidow & Wilson, *supra* note 241, at 228.
244. Scopes v. State, 154 Tenn. 105, 289 S.W. 363 (1927).
245. *Id.*