Teaching the Theories of Evolution and Scientific Creationism in the Public Schools: The First Amendment Religion Clauses and Permissible Relief

J. Greg Whitehair
University of Michigan Law School

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Traditional methods of religious training and transmission of moral values have been irreversibly altered by the changing role of the family, the church, and the public school. The expanding role of the public school in this training triggers concern that these traditional moral and religious values are being displaced. As a result, the appropriate role of religion in the public schools has become the subject of ongoing, heated debate. Religiously motivated parents, fearful that their children's religious beliefs are undermined by morally "neutral" public school education, have persuaded school officials to import prayer, Bible study, and the Ten Commandments into some public classrooms. The Supreme Court has struck down each of these attempts as an impermissible mix of church and state. A related controversy concerns the appropriateness of teach-

1. See, e.g., Hirschoff, Parents and the Public School Curriculum: Is There a Right to Have One's Child Excused from Objectionable Instruction?, 50 S. CAL. L. REV. 871, 882 (1977)(schools have taken on the task of character development, teaching a variety of virtues such as honesty and hard work).
2. See id. at 873 (noting parental fears that public schools were undermining parental values); Recent Developments, The Constitutionality Under the Religion Clauses of the First Amendment of Compulsory Sex Education in Public Schools, 68 MICH. L. REV. 1050, 1050-52 (1970)(noting similar concerns with sex education classes).
7. See supra notes 4-6.
ing the theory of evolution in natural science classes. Fundamentalist Christian parents who believe the literal biblical account of Creation — "Biblical Creationism" — find evo-

8. Semantic confusion often stems from using the word "evolution" without some modifier. Evolution has come to mean many things, some of them quite distinct from what scientists consider the "theory of" evolution. For instance, evolution can mean merely "a process of change in a certain direction." WEBSTER'S NEW COLLEGIATE DICTIONARY 397 (1977). In a biological sense, evolution can be used to characterize relatively limited gene mutation and minor genetic variation among different populations of the same species, e.g., racial differences, and is sometimes called "microevolution" in this context. See, e.g., G. STEBBINS, VARIATION AND EVOLUTION IN PLANTS at x (1950).

The meaning of "the theory of evolution" intended by this Note, however, is the "modern synthesis" or "neo-Darwinism," the modern successor of the theory proposed by Charles Darwin in his book On The Origin of Species by Means of Natural Selection. Neo-Darwinism proposes that life on earth is evolving by mutation, natural selection, and other subtle natural pressures, from less complex to more complex organisms; that life has developed from nonliving precursors; and that over long periods of time, perhaps billions of years, subtle but increasingly adaptive changes have taken place in every known species. See E. WILSON, T. EISNER, W. BRIGGS, R. DICKERSON, R. METZENBERG, R. O'BRIEN, M. SUSMAN & W. BOGGS, LIFE ON EARTH 500-21, 631-711 & 760-69 (2d ed. 1978) (college biology text) [hereinafter cited as LIFE ON EARTH]. Neo-Darwinism in sometimes called "macroevolution." G. STEBBINS, supra, at x. Attempts to distinguish microevolution from macroevolution are difficult because, though botanists have produced new species in the laboratory by hybridization, the observed "origin" of a new species in nature has yet to be documented. See L. THURMAN, HOW TO THINK ABOUT EVOLUTION & OTHER BIBLE SCIENCE CONTROVERSIES 93-96 (2d ed. 1978). The distinction is further complicated by some who do not use the term "species," but instead employ a somewhat broader characterization of life "kinds." Id. at 96. In general, however, the neo-Darwinian theory of evolution proposes that life formed from primordial organic and inorganic matter and evolved by speciation to its present composition.

This theory of life's origination and subsequent speciation is sometimes misapprehended as being an explanation of the origin of the universe. Paleobiologists, however, attempt to explain how life on earth originated from nonlife; they pursue an entirely separate question from those astrogeophysicists attempting to explain how the galaxies, solar systems, and planets like the earth, first came to be. This "terrestrial evolution" of the planets is not what is meant by neo-Darwinism, though some of the same concepts may apply. Moreover, the question of how the original matter of the universe came to be lies beyond the realm of any scientific pursuit. See infra notes 44-45 and accompanying text.


11. Biblical (Divine) Creationism is a Fundamentalist Christian belief based on a literal reading of Genesis, the first Book of the Old Testament. Biblical Creationism teaches that a Supreme Being — God — supernaturally created the universe in six creation days. This spontaneous creation out of nothing produced the first humans, Adam
olutionary theory repugnant to their religious beliefs and those they wish to instill in their children.\textsuperscript{12} Creationist efforts to suppress the theory of evolution have, however, historically failed,\textsuperscript{13} as have similar attempts to require the teaching of Biblical Creationism.\textsuperscript{14} These setbacks have prompted a new creationist movement which advocates that a creation model with no direct biblical references — "scientific creationism"\textsuperscript{15} — be

and Eve, and all other life "kinds" on earth today. Biblical Creationists also believe that the elapsed time from the Creation to the present measures only in the thousands of years and that there has been in the interim a Great Flood, survived by Noah and representatives of the earth's flora and fauna. \textit{See Genesis} 1:1-8:22; \textit{see also} 1 \textit{The Interpreter's Bible} 456-548 (N. Harmon ed. 1952); J. Moore, \textit{Questions and Answers on Creation/Evolution} 27 (1976) ("The creation model is an explanatory belief system based upon the existence of an eternal Creator who established a complete, finished, and functional universe in all aspects regarding elements, galaxies, stars and planets ... .")

12. The biblical account of Creation is considered to be irreconcilable with the neo-Darwinian theory of evolution; thus, creationists consider the two approaches mutually exclusive. \textit{See} McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1260 (E.D. Ark. 1982); Note, supra note 9, at 519, 522. Consequently, some believers in creation accounts conclude that evolution theory actually denies the existence of God. \textit{See}, e.g., H. Morris, \textit{The Troubled Waters of Evolution} 186 (1974). Others argue that the theory of evolution, though perhaps not antitheistic per se, nevertheless undermines the ethics of Christian religion. \textit{See}, e.g., A. Keith, \textit{Evolution and Ethics} 15 (1947), quoted in H. Morris, \textit{supra}, at 36; \textit{see also infra} notes 48-62 and accompanying text. Consequently, Fundamentalist Christians have angrily opposed evolutionary theory through legislation and litigation. \textit{See infra} note 13.


15. "Scientific creationism" is the name given to a creation model purported to stand independent of biblical reference. It proposes the "special creation" of all matter and life relatively recently (in the thousands of years), with little or no change in life "kinds" since that time. It also posits the theory of "catastrophism" (a catastrophic worldwide flood) as well as separate ancestry of man and apes. Note, supra note 9, at 554. Its supporters claim that "scientific creationism" is distinct from Biblical Creationism and is
taught along with the theory of evolution in order to "balance" the classroom fare. This new approach raises unresolved issues under the religion clauses of the first amendment and compels a reexamination of the role of science and religion in public education.

This Note explores the propriety of teaching the theory of evolution and the scientific creation model in public elementary and secondary schools. Part I discusses the powers of the state and its political subdivisions to set public school policy and curriculum content and the extent to which those powers are circumscribed by the religion clauses of the first amendment. Part I concludes that the religion clauses permit the teaching of evolutionary theory in public schools. Part II examines the variety of judicial and legislative relief potentially available to creationists where the teaching of evolution theory interferes with their religious beliefs or practices. Part III concludes that, except for a small group of creationists, the exclusive presentation of the theory of evolution in public schools warrants no constitutionally based relief.

thus constitutional classroom material. See infra notes 147-74 and accompanying text.


17. U.S. Const. amend. 1.

18. The religion issues discussed in this Note do not arise in a private or parochial school. See Pierce v. Society of Sisters, 268 U.S. 510 (1925)(finding a constitutional right to attend private sectarian schools that teach religion).

19. This Note does not cover the post-secondary setting. A different standard of concern for sectarian influence applies in universities due to the greater knowledge and maturity of college students. See Tilton v. Richardson, 403 U.S. 672, 686 (1971)(finding college students less vulnerable to the coercive aspects of religion courses).
I. THE THEORY OF EVOLUTION AND THE FIRST AMENDMENT RELIGION CLAUSES IN THE PUBLIC SCHOOL

The states have no constitutional duty to establish public schools.20 Once established, however, state schools must comply with certain provisions of the federal Constitution.21 The first amendment's "religion clauses" place two important limitations on the government's authority over public education.22 These clauses command that Congress, and the states via the fourteenth amendment,23 "shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof."24 This section considers whether teaching the theory of evolution violates either religion clause. Because the Supreme Court approaches each clause differently, they must be examined separately.26 This section concludes that under the Supreme Court's


22. Within these constitutional bounds, the states have almost plenary control over their educational institutions because public schools are arms of the states under the powers reserved by the tenth amendment. See Comment, School Boards, Schoolbooks and the Freedom to Learn, 59 YALE L.J. 928, 929 (1950). An educational provision is typically found in every state constitution. See, e.g., N.J. CONST. art. 8, § 4, ¶ 1; N.Y. CONST. art. XI, § 1; R.I. CONST. art. XII, § 1; Note, Schoolbooks, School Boards and the Constitution, 80 COLUM. L. REV. 1092, 1095 (1980). See generally id. at 1095-97 (discussing the broad discretion granted state and local school boards by state constitutional provisions).

Consequently, the states may add to, alter, or completely eliminate any part of their curriculum, so long as the change is not unconstitutional. States possess an "undoubted right to prescribe the curriculum for [their] public schools" so long as not restrictive of constitutional guarantees. Epperson v. Arkansas, 393 U.S. 97, 107 (1968). But cf. Meyer v. Nebraska, 262 U.S. 390 (1923)(invalidating state law which forbade foreign language instruction in public schools). The Meyer Court cited no textual constitutional limitation on such action, however, and it has been suggested that the Court's decision was based on an anachronistic "substantive due process" approach. See J. NOWAK, R. ROTUNDA & J. YOUNG, CONSTITUTIONAL LAW 624 (1978). The Epperson Court eschewed the Meyer Court's reliance on a broad reading of due process. 393 U.S. at 105-06. Nonetheless, citations to Meyer in recent cases suggest a revival of substantive due process analysis, at least outside the area of economic regulation. See, e.g., Roe v. Wade, 410 U.S. 113, 152, 153 (1973); Moore v. City of East Cleveland, 431 U.S. 494, 499, 501 (1977)(plurality opinion); see also Epstein, Substantive Due Process by Any Other Name: The Abortion Cases, 1973 SUP. CT. REV. 159. The current vitality of Meyer in the public schools has not, however, been determined. See infra notes 182-87.


25. The Supreme Court has not always viewed the clauses as distinct. See, e.g., Pierce v. Society of Sisters, 268 U.S. 510 (1925). By 1947, however, the separate scope of each clause began to emerge. See, e.g., Everson v. Board of Educ., 330 U.S. 1, 13-15
analyses of each of these clauses, evolutionary theory is a constitutionally permissible element of a public school curriculum.

A. Evolution Theory and the Establishment Clause

The establishment clause was designed in part to guarantee separation of church and state. A literal interpretation of this command led the Supreme Court to suggest a strict separation between the two. Later cases, however, recognized a zone of HOLDER (1947). The Everson Court suggested that the dual clauses were complementary. Id. While this is often true, later cases recognized the potential conflict between the clauses. See, e.g., Committee for Pub. Educ. v. Nyquist, 413 U.S. 756, 788 (1973); School Dist. v. Schempp, 374 U.S. 203, 296-99 (1963)(Brennan, J., concurring). See generally J. NOWAK, R. ROTUNDA & J. YOUNG, supra note 22, at 849 (describing the “natural antagonism between a command not to establish religion and a command not to inhibit its practice”); Choper, The Religion Clauses of the First Amendment: Reconciling the Conflict, 41 U. PITT. L. REV. 673, 674 (1980)(analyzing the “seemingly irreconcilable conflict”). This recognition led to entirely distinct methods of analysis. Compare Lemon v. Kurtzman, 403 U.S. 602 (1971)(outlining establishment test), with Wisconsin v. Yoder, 406 U.S. 205 (1972)(applying a much different free exercise analysis).

26. “Framer’s intent” arguments are not always useful or enlightening. See School Dist. v. Schempp, 374 U.S. 203, 237 (1963)(Brennan, J., concurring) (“A too literal quest for the advice of the Founding Fathers upon [the religion clauses seems] futile and misdirected.”); Choper, Religion in the Public School: A Proposed Constitutional Standard, 47 MINN. L. REV. 329, 332 (1963)(scholarly investigation of the precise intention of the Framers has produced antithetic conclusions). But see Anastaplo, The Religion Clauses of the First Amendment, 11 MEM. ST. U.L. REV. 151, 182 (1981)(the Framers’ original intent “seems . . . far simpler than one would suspect from the Court’s convoluted pronouncements”). Nevertheless, there is little disagreement that these first words of the Bill of Rights were written to guarantee the religious freedom and protection from state control which had prompted many Europeans to immigrate to America. See Everson v. Board of Educ., 330 U.S. 1, 9-11 (1947)(detailing the history of religious persecution in Europe at the time of colonization and the efforts of Madison and Jefferson to guarantee religious liberty by drafting the religion clauses); A. STOKES & L. PFEFFER, CHURCH AND STATE IN THE UNITED STATES 3 (1964)(describing the centuries of religious persecution preceding the colonization of America); see also Goldberg, The Constitutional Status of American Science, 1979 U. ILL. L.F. 1, 4-5 (explaining the motivation of the Framers to protect secular pursuits such as science from religious oppression); Comment, supra note 3, at 427-29 (explaining the tolerant religious attitudes of the colonists which arose out of their experience with religious persecution).

Beyond this, there is little hope of ascertaining the exact intent of the Framers in light of the vigorous debate that accompanied the addition of the religion clauses to the Constitution. Concerns ranged from too much religion in government to too much government involvement in religion: “Some supporters of the establishment clause sought to protect the state from the church, others sought to protect the church from the state, and still others opposed federal establishment of religion because it threatened state establishments they favored.” Goldberg, supra, at 5 n.23 (citing M. HOWE, THE GARDEN AND THE WILDERNESS 6, 25-26 (1965)); see also Note, The Establishment Clause and its Application in the Public School, 59 NEB. L. REV. 1143, 1145-47 (1980). See generally J. NOWAK, R. ROTUNDA & J. YOUNG, supra note 22, at 849-50.

27. See Everson v. Board of Educ., 330 U.S. 1, 16 (1947). Historic fear of government attempts to influence and control religious beliefs apparently led to this per se interpre-
permissible accommodation. These decisions found strict separation impermissibly hostile to religion as well as a denial of the pervasive influence of religion on American institutions. The proper role of government, therefore, is neither to support nor undermine religion or a particular religious point of view, but rather to remain "neutral" between religion and irreligion.

See School Dist. v. Schempp, 374 U.S. 203, 221 (1963) ("a union of government and religion tends to destroy government and to degrade religion"). This approach prompted the Everson Court to detail some of the contours of the establishment clause: Neither a state nor the Federal Government can set up a church. Neither can pass laws which aid one religion, aid all religions, or prefer one religion over another. Neither can force nor influence a person to go to or to remain away from church against his will or force him to profess a belief or disbelief in any religion.

330 U.S. at 15.

28. See Lemon v. Kurtzman, 403 U.S. 602, 614 (1971) ("the line of separation, far from being a 'wall,' is a blurred, indistinct and variable barrier depending on all the circumstances of a particular relationship"); Zorach v. Clauson, 343 U.S. 306, 312 (1952) ("The First Amendment . . . does not say that in every and all respects there shall be a separation of Church and State.").

29. See Zorach v. Clauson, 343 U.S. 306, 312 (1952) (suggesting that if the rule were absolute separation, "the state and religion would be aliens to each other — hostile, suspicious, and even unfriendly"); School Dist. v. Schempp, 374 U.S. 203, 222 (1963) (holding that state action may not advance or inhibit religion); see also Figinski, Military Chaplains — A Constitutionally Permissible Accommodation Between Church and State, 24 Mo. L. Rev. 377, 408-09 (1964) (citing the need to avoid impermissible hostility as a justification for providing chaplains and churches at military bases).

30. The variety of permissible state/religion conjunctions includes chaplains at military establishments, prayers invoked prior to legislative sessions, and the use of "In God We Trust" on coins, buildings, and documents. School Dist. v. Schempp, 374 U.S. 203, 296-304 (1963) (Brennan, J., concurring). Justice Douglas, writing for the majority in Zorach v. Clauson, suggested that strict separation would preclude police and fire protection for religious groups, the use of appeals to the Almighty in courtroom oaths, and even the Supreme Court's opening supplication, "God save the United States and this Honorable Court": "We are a religious people whose institutions presuppose a Supreme Being." 343 U.S. at 312-13. For a long list of governmental "aids" to religion, see Engel v. Vitale, 370 U.S. 421, 439-43 (1962) (Douglas, J., concurring); id. at 446-49 (Stewart, J., dissenting).


Confusion has arisen out of the establishment cases because the Supreme Court once suggested that government must maintain "neutrality between religion and religion, and between religion and nonreligion." Epperson v. Arkansas, 393 U.S. 97, 104 (1968). Taken literally, this standard would bar government from pursuing nonreligious, i.e., secular, goals — an absurd result. "The appropriate dichotomy is between religion and irreligion, not between religion and nonreligion: government must remain neutral, not between those who hold no religious viewpoint, but between those who favor and those who oppose some or all religious views." Merel, The Protection of Individual Choice: A Consistent Understanding of Religion Under the First Amendment, 45 U. CHI. L. REV. 805, 813 (1978) (emphasis added); see also Schwarz, No Imposition of Religion: The Establishment Clause Value, 77 YALE L.J. 692, 698-99, 719 (1968) (distinguishing "religion,"
To insure this neutrality, state action must meet a three-part test: first, the action must have a secular purpose; second, the action must not have as its principal or primary effect the advancement or inhibition of religion; and finally, the action must not foster an excessive governmental entanglement with religion.\textsuperscript{32} Any government program which satisfies this test avoids an establishment violation.\textsuperscript{33}

"irreligion," and "nonreligion"). By not recognizing these distinctions, the Court assumes the impossible task of maintaining impartiality between religion and nonreligion in a government whose opinions are supposed to be solely nonreligious. Indeed, concerns about establishing a "religion of secularism" should be irrelevant to a government that is ultimately premised on wholly secular politics. Merel, \textit{supra}, at 813.

32. \textit{Lemon v. Kurtzman}, 403 U.S. 602 (1971). In practice and in the cases there is only a metaphysical difference between purpose and primary effect. See Merel, \textit{supra} note 31, at 826 (although the Court claims secular purpose and primary effects "are distinct, the facts on which it has relied to determine primary effects are often indistinguishable from [those relied upon to determine] legislative purpose"). Ostensibly the secular purpose test is a test of legislative motivation. \textit{Lemon}, 403 U.S. at 612. In \textit{Epperson}, however, the Court relied on newspaper ads and letters to the editor to ascertain purpose. 393 U.S. at 108 n.16. Other cases look beyond the legislature and focus on the supporters of certain state actions. \textit{See McLean v. Arkansas Bd. of Educ.}, 529 F. Supp. 1255 (E.D. Ark. 1982)(making the purpose of the Fundamentalist sponsors of the bill an important consideration); \textit{Hendren v. Campbell}, 45 U.S.L.W. 2530 (May 17, 1977) (Super. Ct. Ind. Apr. 14, 1977)(holding that the religious purpose of the book publisher triggers the establishment clause prohibition); \textit{see also} Merel, \textit{supra} note 31, at 824 ("Purpose can be tested by reference to a number of factors, including legislative or administrative history and the avowed intent of individual legislators."). But cf. Note, \textit{supra} note 9, at 562 (purpose test should not focus on the authors of textbooks but on the intent of the public school authorities who adopt it). In addition, "purpose" can mean intended effect. In this way, purpose and effect are merged, because a religious effect is prohibited whether intended or not. Consequently, a more accurate terminology would be "proponent motivation" for purpose, and "primary intended and/or actual effects," that is, the hoped for and/or practical outcome of the action, for primary effect. Cf. \textit{Reitman v. Mulkey}, 387 U.S. 369, 373 (1967)(examining, legislation "in terms of its 'immediate objective,' its 'ultimate effect' and its 'historical context and the conditions existing prior to its enactment' "); Merel, \textit{supra} note 31, at 824-25 (suggesting an "obvious effects" test for secular purpose, similar to that used to discover de facto racial discrimination). Thus, this Note's use of the "purpose and primary effect" terminology should be viewed as conforming with a standard and convenient shorthand rather than an affirmation of its conceptual accuracy.

Another conceptual difficulty with the Supreme Court's establishment test is its failure to define explicitly "religion." Instead of making this determination at the outset, the Court seems to make the determination implicitly; after evaluating the complained-of activity under the \textit{Lemon} test, the Court concludes it is religion if it fails and not religion if it passes. Part of this sidestepping by the Court stems from the fact that no recent establishment case has presented the question of whether the activity was, in fact, "religion." Merel, \textit{supra} note 31, at 836. The Court has made pronouncements of what constitutes religion in the free exercise area, but the scope of the definition necessary to include the sometimes unorthodox beliefs of free exercise complainants is much too broad to be of use in establishment cases. \textit{See infra} notes 41-43 & 91-95 and accompanying text.

33. The Supreme Court has not yet decided whether public school instruction in evolutionary theory survives this scrutiny. \textit{Epperson v. Arkansas} held implicitly that teach-
1. **Secular purpose**— Legislation prompted primarily by religious motivations violates the establishment clause and will not be upheld. It is often difficult, however, to determine whether the purpose of legislation is religious or secular. Even a specific statutory avowal of nonreligious intent — such as a preamble listing numerous secular purposes — is not dispositive. In *Stone v. Graham,* for example, the Court went behind the stated secular purpose of a statute mandating the posting of the Ten Commandments in classrooms, finding that the "undeniably sacred" text promoted Judeo-Christian religious beliefs. Thus,

the theory of evolution was not an establishment violation, because such a finding would have been fatal to the mandatory presentation of evolution theory then practiced. But that concern was not the issue upon which the Court focused. 393 U.S. at 103. Several lower courts have found no establishment violation in the presentation of evolution. See, e.g., McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1274 (E.D. Ark. 1982)(teaching the theory of evolution); accord Wright v. Houston Indep. School Dist., 366 F. Supp. 1208 (S.D. Tex. 1972), aff'd per curiam, 486 F.2d 137 (5th Cir. 1973), cert. denied, 417 U.S. 969 (1974); Crowley v. Smithsonian Inst., 636 F.2d 738 (1980)(museum exhibit concerning evolution); Willoughby v. Stever, No. 1574-72 (D.D.C. May 18, 1973)(National Science Foundation funding for textbooks teaching evolution), aff'd mem., 504 F.2d 271 (D.C. Cir. 1974), cert. denied, 420 U.S. 297 (1975). See generally Goldberg, supra note 26, at 28.


35. Secular purpose is a somewhat misleading category. What the Court actually means is that a significant religious or sectarian purpose will be fatal, regardless of possible secular justifications for the act; the Court is looking for religious purposes which invalidate the act, not secular purposes which might save it. See, e.g., School Dist. v. Schempp, 374 U.S. 203, 224-25 (1963)(although Bible study has a possible secular purpose, the presence of a religious purpose is fatal).


*Legislative Declaration of Purpose.* This Legislature enacts this Act for public schools with the purpose of protecting academic freedom for students' differing values and beliefs; ensuring neutrality toward students' diverse religious convictions; ensuring freedom of religious exercise for students and their parents; guaranteeing freedom of belief and speech for students; preventing establishment of Theologically Liberal, Humanist, Nontheist or Atheist religions; preventing discrimination against students on the basis of their personal beliefs concerning creation and evolution; and assisting students in their search for the truth. This Legislature does not have the purpose of causing instruction in religious concepts or making an establishment of religion.


38. *Id.* at 41. See Comment, *Stone v. Graham: A Fragile Defense of Individual Religious Autonomy,* 69 Ky. L.J. 392, 401 (1980-1981)(noting that the Court ignored a number of secular purposes on the face of the statute). Until *Stone* it was thought that pur-
courts will ignore statutory statements of secular purpose where they are mere shams.

Many creationists argue that the state has a nonsecular purpose in teaching the theory of evolution. Their arguments take two forms. First, they reason that evolutionary theory is a religion; consequently, mandating instruction in evolution has a religious purpose. Second, they argue that, even assuming evolution is not a religion, the motivation of evolution's proponents is to advance or inhibit some evolution-based religion. Neither argument, however, survives close scrutiny.

**a. The theory of evolution is not an establishment-religion** — In order to protect establishment clause values without excessively limiting government actions, “establishment-religion” should be defined narrowly. Commentators suggest that an es-

pose could be judged only from the act’s stated purpose. Because that could easily be made secular, though, the purpose test was considered perfunctory. See L. Tribe, American Constitutional Law § 14-8, at 836 (1978) (“the Court will usually find in the statutory language or elsewhere a secular purpose [and] then move on”); Comment, A Workable Definition of the Establishment Clause: Allen v. Morton Raises New Questions, 62 Geo. L.J. 1461, 1464-65 (1974) (the presence of “a singular primary secular goal” is adequate to save an act regardless of any sectarian purpose present).


Evolution is, in fact, a religious belief in [a broad] sense, and so is atheism. In fact, there is one very cogent reason why creationists object to the exclusive teaching of evolution in the schools, since in effect this amounts to indoctrinating young people in a particular religion, with its own system of ethics and values and ultimate meanings.

Scientific Creationism, supra note 14, at 196.

40. See, e.g., H. Morris, supra note 12, at 37-40.

41. A different case holds under the free exercise clause where constitutional values mandate a broad definition of religion, affording complainants the right to define religion in their own terms. See, e.g., Thomas v. Review Bd., Ind. Employment Sec. Div., 450 U.S. 707, 715 (1981) (complainant “drew a line, and it is not for us to say that the line he drew was an unreasonable one”). If the free exercise definition were the establishment clause standard, however, almost any governmental act which advanced or inhibited that “religion” as defined by the complainant could trigger a violation, no matter how bizarre the claim might be.

If religion need not be predicated on a belief in God or even in a god and if it may not be tested by the common consensus of what reasonable men would reasonably call religion, if it is so private that — so long as it does not inflict injury on society — it is immured from governmental interference and from judicial inquiry, [might] not a group of gymnasts proclaiming on their trampolines that

The sometimes competing values of the two religion clauses create a certain amount of tension. See Committee for Pub. Educ. v. Nyquist, 413 U.S. 756, 788 (1973); J. Nowak, R. Rotunda & J. Young, *supra* note 22, at 849; Choper, *supra* note 25, at 674. This conflict at the intersection of the religion clauses has prompted some commentators to look for the more “fundamental” of the two, see, *e.g.*, Moore, *The Supreme Court and the Relationship Between the “Establishment” and “Free Exercise” Clauses*, 42 Tex. L. Rev. 142, 179 (1963)(establishment clause was designed to help implement the free exercise clause), while others attempt to reconcile the clauses, see, *e.g.*, Schwarz, *supra* note 31, at 693; *Note, supra* note 9, at 543. Such attempts have proven difficult, and judicial attempts at reconciliation have produced disparate results. See, *e.g.*, Everson v. Board of Educ., 330 U.S. 1, 15-16 (1947)(strict separation); Zorach v. Clauson, 343 U.S. 306 (1952)(accommodation); School Dist. v. Schempp, 374 U.S. 203, 222 (1963)(neutrality). See generally Buchanan, *Accommodation of Religion in the Public Schools: A Plea for Careful Balancing of Competing Constitutional Values*, 28 U.C.L.A. L. Rev. 1000, 1001-11 (1981). Part of this difficulty stems from the lack of any indication that either clause was intended to dominate the other. See Pfeffer, *Freedom and/or Separation: The Constitutional Dilemma of the First Amendment*, 64 Minn. L. Rev. 561, 568-69 (1980).

The best way to ameliorate this tension is to define “religion” differentently under each clause. This approach has been criticized because the word “religion” is used only once in the first amendment, perhaps implying but one definition. See, *e.g.*, Everson v. Board of Educ., 330 U.S. 1, 32 (1947)(Rutledge, J., dissenting). Nevertheless, a bifurcated definition of religion is indispensable in resolving the conflict between free exercise and establishment. *Note, Constitutional Definition, supra*, at 1085 & n.138; *see infra* notes 91-93 and accompanying text.

42. *See, e.g.*, Galanter, *Religious Freedom in the United States: A Turning Point?*, 1966 Wis. L. Rev. 217, 266-67 (For purposes of the establishment clause the “effect and purpose of government action are not to be assessed by the religious sensibilities of the
government actions not generally considered religious or irreligious. At the very least, this narrow establishment standard would encompass all religions professing purportedly absolute truths and a general belief in a transcendent reality.\(^4^3\)

Under this definition, evolutionary theory does not qualify as religion. Evolutionary theory, like all scientific theories, presupposes neither the existence nor absence of a transcendent being and makes no claim to absolute truths.\(^4^4\) The evolution of species may be guided by the hand of God or by the workings of a godless mechanistic universe, but evolutionary theory has nothing to say about this issue.\(^4^6\) Although evolutionary theory, like

person who is complaining of the alleged establishment. It must be essentially religious in some widely shared public understanding.”).\(^4^3\)

43. Several commentators have attempted to define religion for purposes of the religion clauses. See, e.g., Pepper, Reynolds, Yoder, and Beyond: Alternatives for the Free Exercise Clause, 1981 UTAH L. REV. 309, 355-64 (defining the parameters of free exercise religion); Note, Transcendental Meditation, supra note 41, at 905 (defining religion for establishment purposes). The elements common to most of these definitions include claims of immutable, absolute truths, and belief in a transcendent reality. There are, of course, other elements which many see as religious, such as institutionalization and symbolic trappings. See, e.g., id. But absolute truths and a transcendent reality are at the core.

44. Some claim that the astrophysical theory of the “big bang,” the theory that the entire universe has extruded from a single massive explosion of super-dense matter, is an attempt by scientists to “explain” the origin of all matter and life, thus denying the existence of God. See, e.g., J. Moore, supra note 11, at 62 (quoting Colossians 2:8). Creationists correctly recognize, however, that science does not account for the original super-dense state. SCIENTIFIC CREATIONISM, supra note 14, at 28. Nor will science ever so account, for that is the realm of philosophy and religion. See A. VAN MELSEN, EVOLUTION AND PHILOSOPHY 150 (1965); G. SIMPSON, THE MEANING OF EVOLUTION 279 (rev. ed. 1967). Darwin himself realized that his theory did not answer that question: “[I] feel compelled to look for a First Cause [but the] mystery of the beginning of all things is insoluble by us.” C. DARWIN, THE AUTOBIOGRAPHY OF CHARLES DARWIN AND SELECTED LETTERS 66 (F. Darwin ed. 1958).

Misapprehension that the theory of evolution explains the origin of the universe may stem from confusing the origin of the universe with the origin of life. Even Darwin could not foresee that, given the initial matter of the universe, evolutionary theory would be adequate to explain the resultant emergence of life from nonlife. See id. at 272 (“It is mere rubbish, thinking at present of the origin of life; one might as well think of the origin of matter.”). Since Darwin’s day, however, scientists have devised a now well-accepted mechanism by which life could originate out of the nonlife believed to exist billions of years past — the Oparin-Haldane theory. See LIF ON EARTH, supra note 8, at 503-21 (evolving organic molecules led to even more complex clusters, eventually to proteins, and ultimately to simple self-replicating “life forms”); see also A. LEHNINGER, BIOCHEMISTRY 1031-55 (2d ed. 1975)(detailing the biochemical processes which predated the first “life” forms). For an example of contemporary research into prebiotic (“before life”) evolution, see Eigen, Gardner, Schuster & Winkler-Oswatitsch, The Origin of Genetic Information, Sci. AM., Apr. 1981, at 88 (using experiments with bacterial viruses, as well as studies of the components of proteins and nucleic acids, to construct inductively a theory of prebiotic evolution)[hereinafter cited as Eigen].

45. Mayer, The Nineteenth Century Revisited, BSCS NEWSLETTER, Nov. 1972, at 12 (quoted in Note, supra note 9, at 519 n.20) (“[s]cience is neutral with regard to the
some religions, attempts to explain certain features of the world, the two use radically different epistemologies. Because the theory of evolution takes no stance on the issue of a supreme being's existence, it does not — and cannot — explain empirical data by reference to a transcendent reality. Instead, it applies the scientific method to postulate a natural principle of species development. Conversely, those religions which purport to explain the presence of life — especially human life — customarily rely on a transcendent being. Religion and evolutionary theory are thus sharply distinguishable.

Evolutionary theory is based on observation and analysis of data and experimentation. Some, however, have taken issue with this claim, arguing that evolution cannot be experimentally ob-

Theological implications arising out of scientific investigation”). Science is only a technique, a neutral tool with which to analyze data in the natural world. The uses to which that tool is applied, however, are not always neutral. A classic example is Social Darwinism, which used Darwin’s phrase “survival of the fittest” to justify the distribution of wealth and political power in the world. See R. Hofstadter, Social Darwinism in American Thought 5-6 (rev. ed. 1959). Such aberrant uses of science prompt some to claim that science in general — and evolution theory in particular — is a value system based on atheism. See infra notes 48-62 and accompanying text. This completely confuses the theory of evolution with the ends to which it may be applied, for science cannot address ultimate values: “[Science] can never even approach the answer to the last questions: ‘Why is there a world at all rather than nothing?’ and ‘why is the world such as it is and not different?’” Baier, The Meaning of Life: Christianity Versus Science, in Philosophy for a New Generation 656 (3d ed. 1977).

46. See Resolution, National Academy of Sciences, Oct. 17, 1972, paraphrased in Le Clercq, supra note 9, at 219 (the basic precepts of natural science exclude resorting to supernatural causes because there are no objective criteria by which to validate them). Nevertheless, some have argued that because the theory of evolution postulates a “design” in nature, it presupposes a “designer.” See Note, supra note 9, at 557 n.209. Evolutionary theory’s “design,” however, merely sets forth the functional relationships among species; it does not presuppose that some being ordered the development of life. Teleology in the world of the natural scientist means merely search for design in nature as evidence of the interrelation of species and natural order. See Aulie, The Doctrine of Special Creation, 34 AM. BIOLOGY TCHR. 191, 196 (1972)(explaining how biologists research design to “determine the material connections among contingent events”); see also Life on Earth, supra note 8, at 631.

47. The scientific method is applied to sensate data (empirical data collected from the natural world) from which scientists hypothesize theories to correlate the known empirical data with a minimum of contradictions or internal inconsistencies. See, e.g., Biological Sciences Curriculum Study, Biological Science: Molecules to Man 14-21 (rev. ed. 1968); Baier, supra note 45, at 652, 654; Lederberg, The Freedoms and the Control of Science: Notes from the Ivory Tower, 45 S. CAL. L. REV. 596, 599 (1972). When new empirical data come to light the theory is reexamined and, if necessary, revised. The McLean court pieced together a definition of science which further explains this epistemology: (1) it is guided by natural law; (2) it must be explanatory by reference only to natural laws; (3) it is testable against the known empirical data; (4) its conclusions are tentative and subject to change with increased understanding and more coherent explanations; (5) it is falsifiable, that is, logically rigorous and not dependent on axioms or postulates which cannot themselves be proven by reference to natural law. See McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1287 (E.D. Ark. 1982).
served or fully verified and "is as religious as creation." These skeptics contend that no single demonstrable macroevolutionary experiment has ever been successfully performed. But there is evidence for several demonstrable speciations, as well as evidence of how life originally formed on earth. Critics further contend that even if evolutionary experiments could reproduce life, that would not prove that present life formed in that fashion, but only that it could have. They assert that residual evidence — as opposed to direct observation — is inadequate for scientific purposes. Yet many rigorous scientific theories were derived long before direct observation became possible, or from data collected long after the analyzed event. Scientists hope to show only that evolution is one feasible mechanism for the development of life on earth. The theory of evolution will not be considered a fact, or a "law of science," until the evidence is sufficient to convince the scientific community that no feasible al-

48. See, e.g., Arkansas Balanced Treatment Act, Ark. Stat. Ann. § 80-1669(c) (1981 Supp.); Scientific Creationism, supra note 14, at 4-8. See generally Bird, Freedom from Establishment Unneutrality in Public School Instruction and Religious School Regulation, 2 Harv. J.L. & Pub. Pol. 125, 198-99 (1979); Note, supra note 9, at 557 n.209. One explanation for this confusion is the variety of ideas encompassed by the terms "evolution" or "origins." While the origin of the universe is beyond science, the origin of life, of differing species, and of man are eminently subject to scientific analysis. See supra note 44.


50. See, e.g., Scientific Creationism, supra note 14, at 6-7 (claiming that species origination takes too long to be observed by scientists).

51. Scientists point out that new species have been created "in the laboratory and in the experimental garden." Life on Earth, supra note 8, at 635.

52. See Eigen, supra note 44, at 88.


54. See J. Moore, supra note 11, at 22.

55. One recent commentary on the origins of life states:

Fragmentary information . . . has never been a barrier to the discovery of laws of nature. Newton discovered the universal laws of motion from observations of a few planets; Mendeleev discovered the structure of the periodic table in the chemistry of only a few elements . . . . One does not need a detailed history of prebiotic conditions and events in order to discover the evolutionary laws that led to the first life on the earth.

Eigen, supra note 44, at 88.

56. The demand for actual observability of the first events of evolutionary development is, of course, impossible to fulfill, for by hypothesis no observer was then present. This argument, however, misapprehends the inferential nature of scientific research. A scientist who sees a burned-out forest with slight recent growth, though perhaps unable to ascertain the "first cause" of the fire, can validly infer that there was in fact a fire. By the same token, residual evidence of early civilizations provides evidence for anthropological science. The same technique can be applied to the residual fossil and geological evidence employed by evolution's researchers.
ternative exists, as occurred with the theory, now accepted fact, of heliocentricity.\textsuperscript{57}

Evolution, though comprehensive, propounds no absolute truths which induce religious beliefs.\textsuperscript{68} Because it is based on empirical analysis, evolution may be discredited by substantial falsifying data.\textsuperscript{69} Religious postulates, in contrast, often derived from scripture or revelation, attest to absolute truths: they cannot be modified or abandoned in light of new data.\textsuperscript{60} Thus, a religious proposition, unlike the theory of evolution, is neither based on nor modifiable by empirical data.

Evolutionary theory, therefore, is not an "establishment-religion." In this respect, a government directive to teach the doctrine has no religious purpose. Nevertheless, persons may put a secular subject to the service of a religious end. Government mandates to teach evolutionary principles have not been immune from this criticism.

b. Evolution's promoters are not religiously or irreligiously motivated—Some argue that the proponents of evolutionary theory are motivated by a desire to discredit religious explanations of the origin of human life.\textsuperscript{61} They reason that the promo-

\textsuperscript{57}. A useful comparison can be drawn between the theories of evolution and relativ-}
ity, and the well-accepted fact of heliocentricity. Like relativity and evolution, heliocentricity was unpopular when first proposed. See D. Stimson, The Gradual Acceptance of the Copernican Theory of the Universe 71-84 (1917). Religiously motivated opponents tried to suppress the idea that the earth — and thus man — was not at the center of the universe. Id. Nevertheless, careful scientific measurement and increasingly sophisticated telescopes proved what Galileo and Copernicus already knew, and the "theory" of heliocentricity became established fact. Id. at 85-94. A similar process is at work with Ein-

\textsuperscript{58}. See Note, Transcendental Meditation, supra note 41, at 901.

\textsuperscript{59}. "There is not a reputable biologist alive who would not jettison the evolution theory were a better scientific theory postulated concerning evolution." Mayer, Merrill, Ost, Stebbins & Welch, Statements by Scientists in the California Textbook Dispute, 34 AM. BIOLOGY TCHR. 411, 412 (1972)(quoting William v. Mayer) [hereinafter cited as Mayer]. Darwin himself recognized that falsification techniques exist: "If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down." C. DARWIN, The Origin of Species 135 (Modern Library ed.) (1st ed. 1859). "If it could be proved that any part of the structure of any one species had been formed for the exclusive good of another species, it would annihilate my theory, for such could not have been produced through natural selection." Id. at 148. See generally Alexander, Evolution, Creation, and Biology Teaching, 40 AM. BIOLOGY TCHR. 91, 102-03 (1978).


\textsuperscript{61}. See id. at 1261 ("I view this whole battle as one between God and anti-God forces. . .") (quoting drafter of the Arkansas Balanced Treatment Act). Creationists see "evolutionists" as a pervasive threat to American life, out to destroy the fabric of society:

[T]he theory of evolution is the philosophical foundation for all secular thought
tion of evolutionary theory is so motivated because it contradicts the biblical account of Creation. Despite this contradiction, however, it does not follow that individuals promote evolutionary theory in order to discredit Creation. Rather, they disseminate the theory out of devotion to rigorous empirical analysis — analysis which supports the theory of evolution. Accordingly, they are prepared to switch their allegiance as soon as the evidence suggests a different and improved explanation. Instruction in evolutionary theory, therefore, is not intended to refute the Bible, but rather to extend empirical analysis and explanations into the origin and development of life on earth.

While teaching the theory of evolution easily passes the secular purpose test, there remains an even stronger ground for finding evolution constitutionally acceptable: the primary effects test. This test does not rely on the difficult-to-show subjective intent of state officials, but rather on the actual effects of the state action.

2. Primary effects — State action may not have more than “a remote and incidental effect advantageous to religious institutions.” Even if a primary secular effect can be found, the state action is constitutionally barred if there remains any “direct and immediate effect” advancing or inhibiting religion. In contrast,
state action which merely harmonizes with the tenets of an establishment-religion does not run afoul of the first amendment.\(^69\)

The teaching of evolution theory has been said to advance secular humanism, atheism, and nontheism.\(^70\) The theory of evolution does harmonize with the tenets of certain splinter religions like Secular Humanism, but that is an incidental and unintended effect.\(^71\) The primary effect of teaching evolution is the fortification of scientific analysis, not the advancement of any harmonizing religion.\(^72\)

Just as governmental action may not have the primary effect

\(^{69}\) See McGowan v. Maryland, 366 U.S. 420, 445-48 (1961)(although Sunday closing laws may at one time have been religiously motivated, that impermissible purpose has dissipated, and the law now merely harmonizes with Sunday-off religions); School Dist. v. Schempp, 374 U.S. 203, 303 (1963)(Brennan, J., concurring)(murder laws that accord with religious tenets do not establish religion). One commentator has proposed the following test to determine whether the actual or intended primary effects are secular: "Would the legislature have acted as it did were there no interdependency with religion involved? If so, then I think it would be fair to say that there is no subsidy of religion, that the religious benefits are constitutionally permitted side effects." Sugarman, *New Perspectives on "Aid" to Private School Users*, in NONPUBLIC SCHOOL AID 64, 66 (E. West ed. 1976).

The cases have never succeeded in refining this standard, but have relied instead on ad hoc factual determinations. Consequently, the standard is much simpler to state than to apply. For instance, religious material intended to be used for its religious value has always been banned, see *Stone v. Graham*, 449 U.S. 39 (1980) (per curiam) (posting Ten Commandments); School Dist. v. Schempp, 374 U.S. 203 (1963)(Bible study), but even *Schempp* suggests in dictum that a comparative religion course which employed the Bible for secular study would be allowed, *id.* at 225. Yet, the "mere possibility" that religious groups "might" use a federally financed building in 20 years was justification enough to halt funding in *Tilton v. Richardson*, 403 U.S. 672 (1971). *See Committee for Pub. Educ. v. Nyquist*, 413 U.S. 756, 783 n.39 (1973).

At some point the connection with religion becomes so tenuous that, though the government act technically "aids" religion by relieving certain financial obligations, it is not considered aid to religion. One example is provision of police and fire protection to parochial schools. *See supra* text accompanying notes 26-30. *See generally L. Tribe, supra* note 38, at § 14-9; P. Kauper, *supra* note 41, at 108.


\(^{71}\) Such an incidental and unintended effect does not violate the establishment clause. See, e.g., *Crowley v. Smithsonian Inst.*, 636 F.2d 738, 742-43 (D.C. Cir. 1980)(advancing Secular Humanism via museum displays on evolution is not prohibited due to incidental, unintended effect); *Willoughby v. Stever*, No. 1574-72 (D.D.C. May 18, 1973)(textbook on evolution only incidentally affects religion), *aff'd mem.*, 504 F.2d 271 (D.C. Cir. 1974), *cert. denied*, 420 U.S. 927 (1975); *see also Recent Developments*, *supra* note 2, at 1059-60 (such an argument "fails to distinguish secular humanism, as the term is used to describe our culture and institutions, and secular humanism as a philosophy or, according to the [Supreme Court,] a religion which holds that God is essentially irrelevant to man").

of advancing religions, the establishment clause prohibits governmental hostility or opposition toward religion. To remain neutral, the state must support only nonreligious or secular effects; it cannot favor one religious or irreligious view over another. Some claim that teaching evolution has antireligious effects. They point to its indoctrination in facts that effectively leave the student no room to believe in supernatural or religious explanations. But evolutionary theory is not presented as indisputable dogma by the scientific community. It is a malleable theory, subject to modification. It attempts to correlate logically a catalog of empirical data into a cogent whole. If another theory were to explain more data than evolutionary theory, that new theory would take hold in the scientific community. No such alternative, however, has been posited. If teaching the most credible and unifying theories were considered to be an establishment violation whenever such scientific evidence contra-

74. See supra note 31.
75. See Note, supra note 9, at 537 n.105 (evolution is taught in such a way as to "signify something tantamount to fact"); cf. L. Thurman, supra note 8, at 42 (when evolutionists call evolution a fact, they mean microevolution, when calling it a theory, they mean macroevolution).
76. See, e.g., Bird, supra note 48, at 203-04 (arguing that exclusive presentation of evolution impairs religious beliefs).
77. At least one college biology text is careful to note that evolution is a tentative theory. See Life on Earth, supra note 8, at 521; see also B. Campbell, Human Evolution 1 (2d ed. 1974). This perception of "factual indoctrination" may stem from the sometimes unqualified presentation of evolution theory, but is more likely a result of the striking strength of evolution as a unifying theory of biology. Scientists do not want to imply that evolution is simply "an envisaged possibility, something uncertain and unproved." Note, supra note 9, at 537 n.105 (quoting E. Klincmann, Biology Teachers' Handbook 16 (2d ed. 1970)). It is evolution theory's ability to explain a great deal of biology that prompts occasional overstatements by scientists to the effect that it is a fact. See infra note 79.
78. See, e.g., Research News, supra note 64 (reporting conference on improving evolutionary explanations); Eigen, supra note 44, at 88 (explaining new developments in prebiotic explanations of evolution); Hodge, The Andromeda Galaxy, Sci. Am., Jan. 1981, at 92 (explaining how distant galaxies can be used as "laboratories" for the study of the evolution of stars and galaxies); Wetherill, The Formation of the Earth from Planetesimals, Sci. Am., June 1981, at 162 (presenting a theory on the accretion of planetary mass which resulted in planets like the earth); Woese, Archaeobacteria, id. at 98 (discussing the evolution of cellular structure and function).
79. See, e.g., Life on Earth, supra note 8, at 635 ("the modern version of Darwinism has been aligned so consistently with genetics, paleontology, systematics, and other branches of biology, that it must be regarded as one of the most firmly grounded and reliable explanatory systems in all science"); Le Clerc, supra note 9, at 236 ("The usefulness of the theory of evolution to explain and to organize empirical data cannot seriously be questioned.").
80. See supra note 59.
81. See Life on Earth, supra note 8, at 653.
dicted some religious belief, science learning would be seriously impaired.

Moreover, even if instruction in evolution inhibits creationist religions, it does so only in an incidental manner. The primary effect of teaching evolution is not repression of creationist religions, but enhanced knowledge of the scientific method. Teaching evolution imparts a cogent empirical explanation of the origins and development of life on earth. Such instruction encourages skepticism of all scientific theories in order to maintain the vigor of scientific investigation. This scientific skepticism may lead students to question nonnatural explanations as well; but any skepticism of religious beliefs is only an incidental by-product of scientific study and has never been the subject of establishment proscription. 82

3. Entanglement—The prohibition against entanglement mandates that government not intrude pervasively into the religious arena, or vice versa. 83 It is designed to minimize the divisiveness that often accompanies state interference in religious controversy, whether fiscal or doctrinal, and religious involvement in state concerns. 84 This branch of the test, however, is relatively unimportant once the purpose and primary effect tests are met, and is normally applied only in cases involving financial support for religion. 85 In fact, evolution's entanglement with religion arises only when critics inject religion into the debate over teaching the theory of evolution. 86 There is no divisiveness among religions or doctrinal disputes to be resolved by the courts, and no state interference with religion or fiscal support of any establishment-religion. Consequently, the theory of evolution presents no entanglement problem.

82. See generally Goldberg, supra note 26, at 28 (noting that the intermittent tension between religion and science was constitutionally determined in favor of science).
84. See Note, supra note 26, at 1164-65 n.12 (citing Allen v. Morton, 495 F.2d 65, 74 (D.C. Cir. 1973)).
85. For this reason, some have complained that the entanglement test is superfluous. See, e.g., Roemer v. Board of Pub. Works, 426 U.S. 736, 769-70 (1976)(White, J., concurring); L. Tribe, supra note 38, § 14-12, at 865. Others criticize the "political divisiveness" language. See, e.g., Gaffney, Political Divisiveness Along Religious Lines: The Entanglement of the Court in Sloppy History and Bad Public Policy, 24 St. Louis U.L.J. 205, 212 (1980). Nonetheless, the test continues to serve as a barrier to excessive governmental intervention, especially in doctrinal disputes, see, e.g., Jones v. Wolf, 443 U.S. 595 (1979)(courts may not resolve church property disputes on the basis of religious doctrine and practice), and governmental involvement in programs concerning religion, see, e.g., Larson v. Valente, 102 S. Ct. 1673, 1687 (1982).
In summary, teaching evolution in the public schools does not constitute an establishment of religion. This instruction has a manifest secular purpose, primary secular effects with only incidental religious effects, and no impermissible entanglement. The next section discusses whether teaching evolution unconstitutionally burdens the public school pupil's free exercise of religion.

B. Evolution Theory and the Free Exercise Clause

The free exercise clause of the first amendment prohibits the government from purposefully interfering with religious beliefs and practices.\(^87\) The state, therefore, cannot intentionally restrain public school students in their religious beliefs.\(^88\) Such restraint would unconstitutionally burden the student's right to the free exercise of religion.

In order to make out a free exercise claim, the student or parent must show that first, the belief burdened by the state action was religious; second, the state burdened that religious belief in a coercive fashion; and finally, the coercive burden was not outweighed by a countervailing state interest.\(^89\) Under this quasi-balancing test,\(^90\) the teaching of evolutionary theory does not...

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87. See, e.g., Sherbert v. Verner, 374 U.S. 398 (1963)(Seventh-day Adventist who believes in a day of rest on Saturday may not be forced to work on that day to qualify for unemployment compensation); Torcaso v. Watkins, 367 U.S. 488 (1961)(oath affirming belief in God violates atheist belief).

88. See, e.g., Wisconsin v. Yoder, 406 U.S. 205 (1972)(Amish students compelled to attend school after the eighth grade are wholly unable to practice the separatist beliefs of their religion); West Virginia State Bd. of Educ. v. Barnette, 319 U.S. 624 (1943)(compulsory flag salute forces student, against his religious conscience, to practice idolatry).

89. See Wisconsin v. Yoder, 406 U.S. 205 (1972); Sherbert v. Verner, 374 U.S. 398 (1963); see also Note, supra note 9, at 518.

90. Balancing tests in constitutional determinations are criticized for their ad hoc flavor, see, e.g., Note, supra note 9, at 539 n.115, while bright-line tests and absolute rules are often condemned as inflexible or "wooden," Sherbert v. Verner, 374 U.S. 398, 414 (1963)(Stewart, J., concurring); see also Note, The Free Exercise and Establishment Clauses: Conflict or Coordination?, 48 Minn. L. Rev. 929, 930-933 (1964). The free exercise cases reflect this ambivalence and sometimes sidestep any explicit balancing test. Compare Braunfeld v. Brown, 366 U.S. 599 (1961)(state interest in a uniform day of rest is more important than the financial loss incurred by Orthodox Jews who are motivated by religious beliefs to close on Saturdays and barred by the state from opening on Sundays), with Sherbert v. Verner, 374 U.S. 398 (1963)(plaintiff's religious belief in Saturday rest is to be protected over state's desire to condition employment benefits on willingness to work on Saturdays). But in the end, balancing seems inevitable. See Wisconsin v. Yoder, 406 U.S. 205 (1972)(Amish belief in separatism "overbalances" the admittedly strong state interest in compulsory education); Giannella, Religious Liberty, Nonestablishment, and Doctrinal Development, 80 Harv. L. Rev. 1381, 1390 (1967); Le Clercq, supra note 9, at 227.
unconstitutionally burden the free exercise of beliefs held by most Biblical Creationists.

1. Religious belief— In cases involving the establishment clause, “religion” must be defined narrowly to allow the government freedom to act.91 In free exercise cases, however, the Supreme Court gives great weight to the believer’s own characterization of the belief as religious;99 the principal judicial inquiry is whether the individual’s belief occupies a meaningful place in his or her life “‘parallel to that filled [by] God’ in traditionally religious persons.”93

This broad definition for “free-exercise-religion,” hinging as it does on subjective belief, embraces easily the beliefs of Biblical Creationists for Biblical Creationists proclaim emphatically the religious character of their beliefs. Specifically, they believe that the literal account of Genesis is true and that the Bible is inerrant.94 Beliefs rooted in such a traditional religious text clearly fall within the ambit of the free exercise clause.95

2. Coercive burden— State action which interferes in any way with an individual’s freedom to pursue a free-exercise-religion is technically burdensome.96 To be unconstitutional, how-

91. See supra notes 41-43 and accompanying text.
93. Welsh v. United States, 398 U.S. 333, 339 (1970)(quoting United States v. Seeger, 380 U.S. 163, 176 (1965)). While these cases turned on statutory interpretations, they provide insight into the Court’s view of religion in free-exercise-type cases: [A]ny sincere belief based on a power, being, or faith, upon which all else is ultimately dependent, could qualify as a religious belief or training. The Court avoided a theistic interpretation of religion and adopted a broader, more liberal standard, which focuses on the role that set of beliefs serves for an individual. Comment, Religious Activity, supra note 41, at 388 (footnotes omitted). While the standard is indeed a liberal one, the Court has not yet overruled its dictum in Wisconsin v. Yoder that mere “philosophical and personal” belief has no constitutional status. 406 U.S. 205, 216 (1972).
94. See Note, supra note 9, at 519-20.
95. See Thomas v. Review Bd., Ind. Employment Sec. Div., 450 U.S. 707, 715 (1981)(“Thomas drew a line, and it is not for us to say that the line he drew was an unreasonable one.”). Indeed, Fundamentalism qualifies easily under the more stringent standard for establishment-religion. See supra note 43. Fundamentalists are theistic, believe in a transcendent reality, propound absolute truths, and are well organized and well established historically. See generally Note, supra note 9, at 519-20 (citing the Articles of Faith for several creationist and Fundamentalist religions, including Seventh-day Adventists Apostolic Lutherans, Independent Baptists, and others).
96. See Note, supra note 9, at 523-33 (outlining an extensive array of possible “burdens” in the public school, including exposure to contrary beliefs and even peer pressure).
ever, the burden must be direct and coercive.\textsuperscript{97} Furthermore, merely being compelled to take certain actions will not sustain a first amendment challenge if there is no resulting coercion of beliefs, for only beliefs mandate absolute protection.\textsuperscript{98}

Biblical Creationists claim that the compulsory setting of the classroom, the mandatory training in evolution theory, and the absence of a counterbalancing model of creation combine to place a coercive burden on the free exercise of their religious beliefs.\textsuperscript{99} Certainly there is a coercive aspect to compulsory class-

\textsuperscript{97} See, e.g.,\textsuperscript{1} Braunfeld v. Brown, 366 U.S. 599 (1961)(upholding state act which did not force the complainant to abandon his religion, but merely made the exercise of his beliefs more expensive). A direct burden involves an irreconcilable conflict between the individual’s religious tenets and obedience to the law, necessitating “either abandoning his religious practice or facing criminal prosecution.” Id. at 605. In contrast, an indirect burden is imposed by an act “which does not make unlawful the religious practice itself,” but places only an incidental, e.g., economic, hardship on the activity. Id. at 606; see Note, A Braufeld v. Brown Test for Indirect Burdens on the Free Exercise of Religion, 48 MINN. L. REV. 1165, 1166 (1964).

The Court has softened the direct burden test to include compelled abandonment of belief in order to receive a public benefit. Sherbert v. Verner, 374 U.S. 398, 404 (1963). The test of “abandoning a religious practice,” however, has been retained. The abandonment showing is relatively high, and mere postponement in time or limited narrowing of opportunities to exercise religious beliefs would probably be considered indirect. In the case of creationist students complaining about evolution theory as a burden, the “compelled abandonment of belief” showing is difficult to make. See infra note 101.


\textsuperscript{99} See, e.g., Note, supra note 9, at 536-38, 541-43. Wendell Bird, the author of the cited student note, is now staff attorney for the Institute for Creation Research in San Diego, writing extensively on this subject from a creationist point of view. He is the author of the article cited supra note 48, as well as a drafter of the Arkansas Balanced Treatment Act. He has also intervened for the State of Louisiana in the litigation regarding its balanced treatment act, Keith v. Louisiana Dep’t of Educ., Civ. Act. 81-989 § B (M.D. La. filed Dec. 2, 1981); Aguillard v. Treen, Civ. Act. 81-4787 (E.D. La. filed Dec. 3, 1981). See N.Y. Times, Mar. 7, 1982, § 4, at 19, col. 3 (midw. ed.). Mr. Bird claims the public school setting imposes a variety of restraints on a creationist child: undermining of creationist beliefs by inducing belief in incompatible views, i.e., evolution; violation of the separatist practices of creationists, especially religions such as the absolute separatism of Apostolic Lutherans wishing to shun all worldly influences; and compulsion of unconscionable declarations of belief, e.g., test answers which affirm evolution. See Note, supra note 9, at 523-26.

Mr. Bird also lists the allegedly coercive aspects of evolutionary instruction: compulsion through course prescription; penalization by unconstitutional condition, i.e., imposing a choice between the free exercise rights and the benefit of public education in evolution classes (It is not clear that this “benefit” is even sought by creationists. See infra note 203 and accompanying text.); and influence and pressure from teachers and peers. See id. at 528-36.

Each of these concerns is prompted by the undeniable fact that many creationist students alter their religious beliefs while attending public schools. See id. at 537 n.107 (citing K. HYDE, RELIGIOUS LEARNING IN ADOLESCENCE 44 (1965)). Contrary to Mr. Bird’s
room instruction: the pedagogical process demands discipline and adherence to taught behavior patterns; the student is pressured to conform class participation and test answers to the teacher's expectations. Yet this everyday pressure to conform is not the unconstitutionally coercive burden barred by the free exercise clause, except in cases where religion pervades nearly every aspect of the student's life. 100 Thus, while students may find a given course or lesson offensive to their personal tastes or beliefs, the free exercise clause is not violated unless the entire setting of public education — the classes, the lessons, the "worldliness" — is shown to be burdensome. 101

analysis, however, only the "unconscionable declaration of beliefs" on a test paper might qualify as a compelled act of affirmance on the part of the creationist student. Even this act is not equivalent to the wholesale abandonment of a religious tenet, which is the ultimate concern of the free exercise clause. See, e.g., Sherbert v. Verner, 374 U.S. 398, 404 (1963) ("abandoning one of the precepts of her religion"). To suggest otherwise would lead to the conclusion that test questions concerning the history of the Soviet Union asked on a history test will induce belief in communism. See infra note 101 and accompanying text.


101. Amish beliefs require members to pursue simple vocational lifestyles such as farming. In Yoder, the Amish objected to higher education in general because it tended to emphasize "intellectual and scientific accomplishment, self-distinction, competitiveness, worldly success, and social life with other students." 406 U.S. at 211. Such beliefs could not be accommodated within the traditional public school. See id. at 218. Wholesale exemption was the only constitutionally acceptable solution.

The Supreme Court's free exercise pronouncements have never extended to mere exposure to ideas contrary to religious belief except in the case of strict separatists like the Amish. See id. at 211. In Sherbert, the complainant had the choice either to abandon Saturday worship or be denied state unemployment compensation. 374 U.S. at 404, 406, 410. In Torcaso, the complainant either had to swear to a belief in God or be barred from elective office. 367 U.S. at 495. In Thomas, petitioner could either abandon his pacifist religious beliefs or lose state benefits. 450 U.S. at 717. In none of these cases did the Court suggest that mere exposure to contrary ideas would suffice to prove a free exercise violation.

The public school cases are somewhat more solicitous of "mere exposure." In Yoder, the students could either attend a school which contradicted all Amish beliefs or face legal sanctions. 406 U.S. at 211. In Barnette, the compelled flag salute offered the student the unconstitutional choice of practicing idolatry by affirming belief in a "graven image," or facing disciplinary measures. 319 U.S. at 633-34. Still, in these cases the student was being asked to profess belief, by word or act, in the contrary idea. This differs from the classroom pressure on creationists who are asked only to explain on a test paper about a theory of natural science, and not to profess to a personal belief.

In a science course the student is not forced to believe as true anything which he studies. If the student cannot accommodate his or her parents' religious views with the theory of evolution, as most students do, he is free to reject personally the theory of evolution for whatever reasons he wishes since the right to believe or think is absolutely protected under the first amendment. Le Clercq, supra note 9, at 230 n.132; cf. Kalven, supra note 13, at 520 n.39 ("A strong case can be made that even religious beliefs are strengthened by exposure to counter-doctrine. The classical analysis is found in Mill's essay on Liberty where he defended freedom to argue against belief in Christian ethics and morality on these grounds.").
Moreover, merely showing that evolutionary theory exerts an influence on religious beliefs cannot support a constitutional complaint.\(^\text{102}\) Many school subjects influence religious beliefs or ethics; sex education, the life sciences, government, literature, as well as history and comparative religion classes often raise thorny issues impinging on religious beliefs.\(^\text{108}\) This influence, however, is not considered unconstitutionally coercive.\(^\text{104}\)

Finally, students exposed to the theory of evolution are neither forced nor encouraged to abandon religious beliefs. If the scientific method is properly presented, the student will realize that science limits itself to analysis of empirical data\(^\text{108}\) and avoids discussion of ultimate values or primary causes.\(^\text{108}\) Thus understood, even compelling a test answer on evolutionary theory is not coercive of religious belief, but only a neutral act in science education.

For the vast majority of creationists, mere exposure to contradictory beliefs is insufficient to demonstrate unconstitutional coercion.\(^\text{107}\) In some cases, however, even this exclusively secular exposure may lead to abandonment of sincerely held creationist beliefs. A religion may demand a lifestyle cut off from much of the modern world.\(^\text{108}\) Exposure to an alternative to the six-day Creation may coercively burden the free exercise of students belonging to such a religion. For these students, hereinafter re-

102. Indeed, the student's religious beliefs are vulnerable to evolutionary theory's influence for only a short time; usually less than 15 classroom hours per year are spent on evolution lessons. See Note, supra note 9, at 564-65 n.241. This limited exposure to evolution theory is hardly the kind or degree of burden placed on someone wholly incapable of exercising their belief without government cooperation, e.g., prisoners or military personnel. See Figinski, supra note 29, at 406-16. Nor is it comparable to the constant assault on religious beliefs suffered by the Amish through mere exposure to the secular world. See supra note 101. With schoolchildren, church and parent have extensive opportunity outside school to present a full account of creationism and rebut the theory of evolution.

103. See Hirschoff, supra note 1, at 883-85.

104. Compare Recent Developments, supra note 2, at 1056-59 (mere social pressure and exposure without direct governmental compulsion does not amount to unconstitutional coercion), with Hirschoff, supra note 1, at 914 (many classroom settings provide value clashes for students, but only very limited free exercise exemptions are allowable if the state is to achieve its goals).

105. See supra note 44.

106. See supra notes 44-45 and accompanying text.

107. See Le Clercq, supra note 9, at 230.

108. The Amish provide the most well-known example of absolute separatist practices. The Amish do not collect unemployment, welfare benefits, or buy insurance; they strive to maintain a completely self-contained and independent community. See The Amish and the Law, TIME, Apr. 19, 1982, at 12. The Amish do not wish their children to be exposed to worldly influences and so take their children out of public school at a relatively early age. Wisconsin v. Yoder, 406 U.S. 205, 211 (1972).
ferred to as "strict" creationists, *mere exposure* to alternative theories becomes arguably coercive and therefore unconstitutional.\(^{109}\) Part II discusses how these students may obtain relief from this coercive burden.

3. *Adequate state interest*— Even though the state's action constitutes a coercive burden, it may be justified as serving a valid state interest. The coercive burden is justified, however, only if the state interest cannot be "otherwise served."\(^{110}\) That is, the state must show that no alternative means of achieving its objective avoid coercively burdening religious free exercise.\(^{111}\)

It is well settled that the state has a strong interest in public education.\(^{112}\) The state interest in teaching natural sciences such as biology is also undeniably great.\(^{113}\) The state cannot pursue this interest without teaching those theories which are well accepted by natural scientists. Virtually all natural scientists believe the theory of evolution is the proper explanation of the earth's development.\(^{114}\) Moreover, evolutionary theory is considered central to natural science explanations\(^{115}\) and is customarily taught in biology, geology, and astronomy courses.\(^{116}\) Conse-

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109. It is important to distinguish "strict" separatist creationists from other creationists because the religious beliefs of "strict" separatists are more extensively contradicted by the public school environment. Consequently, coercive burdens are more likely to occur. One example of Biblical Creationist strict separatism is the Apostolic Lutheran faith; its believers are forbidden to watch movies, watch television, listen to the radio, sing or dance to worldly music, *or study evolution* or "humanist" philosophy. See Davis v. Page, 385 F. Supp. 395, 397 (D.N.H. 1973); see also Note, *supra* note 9, at 524 n.43. Such a scrupulous separatism is probably burdened by mere exposure to evolution lessons. See Le Clercq, *supra* note 9, at 230; Note, *supra* note 9, at 564 n.239.


111. See Sherbert v. Verner, 374 U.S. 398, 407 (1963); see also Note, *supra* note 9, at 542. Of course, the state can always alleviate such burdens by allowing exemptions from the state regulation. In *Sherbert*, for instance, the finding that there were less burdensome ways to achieve desired ends did not mean the existing regulation had to be struck down, only that the complainant could no longer be subject to its provisions. 374 U.S. at 410.

112. See Wisconsin v. Yoder, 406 U.S. at 213 (public education ranks "at the very apex of a state"); Brown v. Board of Educ., 347 U.S. 483, 493 (1954)("education is perhaps the most important function of state and local governments").

113. Virtually every American high school offers a biology course. See Note, *supra* note 9, at 536 n.101. Some states require schools to do so. See, e.g., *Ohio Rev. Code Ann.* § 3313.60 (Page 1972). Biology has become an increasingly important course, both to explain rapid changes in biological innovation such as DNA research and genetic engineering, and also because many students need biology in order to attend college in technical fields. See, e.g., Sears, *The Importance of Biology Teaching for Secondary School Pupils*, 38 AM. BIOLOGY TCHR. 14 (1976), reprinted from 1 AM. BIOLOGY TCHR. 67 (1939).


116. The theory of evolution is central to and interwoven throughout all major biology texts used in American high schools. See Note, *supra* note 9, at 537 n.104 (citing E.
quently, if the state is to further effectively its interest in presenting natural science in public schools, it must present the theory of evolution, for no less burdensome curriculum is available. This does not mean that no remedy exists under the free exercise clause for strict creationists. It simply means that teaching evolutionary theory objectively is constitutionally permissible.

In summary, the dual religion clauses of the first amendment serve as constant monitors for religious freedom in public schools. Public school presentation of evolutionary theory meets these tests; no establishment clause violation is found, and the free exercise burden is limited to "strict" creationists. Consequently, these "strict" creationists may warrant constitutional relief; but the religion clauses warrant no relief for other creationists. For non-"strict" creationists, statutory remedies may offer a solution, but these solutions themselves will need testing against the establishment clause. The various forms of relief available to creationists are discussed in part II.

II. OBTAINING RELIEF FROM TEACHING THE THEORY OF EVOLUTION

Several factors determine the choice of relief: whether the forum in which relief is being sought is judicial or legislative; whether the complained-of activity demands constitutional relief; and if so, which religion clause is at issue. Judicial relief is more limited than legislative relief. Courts cannot act without finding a constitutional or statutory violation; no such restriction constrains legislative initiative. Courts often are unable to


117. See infra notes 195-203 and accompanying text.
118. Improper presentation of the theory of evolution could, of course, trigger the religion clauses. Dogmatic or evangelistic presentations must be eschewed. See infra notes 189-90 and accompanying text.
119. See, e.g., Tinker v. Des Moines Indep. Community School Dist., 393 U.S. 503, 507 (1969)(affirming the "comprehensive authority" of state nonjudicial bodies to control schools, as long as they act "consistent[ly] with fundamental constitutional safeguards"). Legislatures thus remain subject to judicial scrutiny. Id. Nevertheless, though legislatures may not pass on the ultimate constitutionality of state action, they may make a "finding" of unconstitutionality and provide legislative relief. The conscientious objector cases teach that Congress may choose to allow relief for those opposing war on religious grounds though no constitutional relief is otherwise warranted. See, e.g., Welsh v. United
fashion comprehensive relief; integrated and holistic solutions are the legislature’s specialty. Legislatures and school boards, therefore, direct their efforts toward structuring course content and rarely grant students exemptions from class or proscribe areas from the curriculum. The courts, on the other hand, focus more on exemptions and proscriptions, finding prescription of course content beyond their expertise and power.

The form of relief available will also depend upon whether a constitutional provision has been violated. For instance, if the activity violates the establishment clause, elimination will be necessary; the absolute proscription of the establishment clause demands that no vestige of the violative material remain. If the violation is a free exercise burden, personal exemption is the only relief available; it allows continuation of the state program yet simultaneously provides relief to the complainant.

If, however, the courts find no constitutional violation, relief is limited to legislative action, action which must itself pass the establishment clause test. Because public school presentation of evolutionary theory was found not to violate the religious free exercise of most creationists and does not establish religion, relief must be nonjudicial. These non-constitutional statutory remedies are taken up first.

The most recent and controversial legislative remedy for exposure to the theory of evolution is “balanced treatment.” This remedy attempts to “neutralize” by legislation the potentially antireligious impact of evolution instruction by adding to the curriculum a counterbalancing lesson — usually a lesson in

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121. See Hirschoff, supra note 1, at 893-97, 942-52.


124. See infra notes 195-203 and accompanying text.

125. See Note, supra note 9, at 550 (“Public school instruction found to abridge free exercise of religion can be neutralized by incorporation of countervailing viewpoints.”). But see McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1274 (E.D. Ark. 1982) (finding no legal merit in this approach). The McLean court correctly concluded that if teaching the theory of evolution is somehow religious in an establishment clause sense, it must be eliminated outright, for no amount of counterteaching can undo the violation. See id. But teaching evolutionary theory is not an establishment of religion. Id.; see
what is known as "scientific creationism."\textsuperscript{126} Creationists advocate balanced treatment for evolution and scientific creationism, claiming that any impermissible religiosity involved in teaching either lesson is "neutralized" by their joint presentation.\textsuperscript{127} Because scientific creationism fails to pass the establishment clause test, however, a balanced treatment act which uses the scientific creation model is unconstitutional.

\textbf{A. Balanced Treatment with Scientific Creationism}

The classroom is a "mini-marketplace of ideas."\textsuperscript{128} The teacher should encourage a lively interchange of conflicting ideas well supported by the academic community and pertinent to the course of study promoted by the state. Interchange of ideas is fostered by expanding the scope of classroom presentations, especially in controversial areas likely to become one-sided or dogmatic.\textsuperscript{129} Consequently, a "balanced treatment" act should address matters in current dispute so that the student will not receive the distorted view that the issue is settled. Many areas of study provoke substantial disagreement — including history and political science,\textsuperscript{130} philosophy,\textsuperscript{131} and comparative religion.\textsuperscript{132}

\textsuperscript{supra} notes 26-86 and accompanying text. If presentation of evolutionary theory presents free exercise coercion, continued exposure to evolution remains violative whether or not the school imports a "counterbalancing" theory to offset the burden. This "innoculation" approach, therefore, is unpersuasive, and complainants seeking constitutional relief are limited to elimination or exemption. This Note does not consider balanced treatment-neutralization as a possible judicial remedy in view of the judiciary's inability to design sufficiently thorough curriculum guidelines, \textsuperscript{supra} note 122, and because of the unprecedented nature of such relief, \textsuperscript{see} Note, \textsuperscript{supra} note 9, at 550-51 (proposal for neutralization unsupported by legal precedent).

\textsuperscript{126} See \textsuperscript{supra} note 15 and accompanying text.

\textsuperscript{127} See Note, \textsuperscript{supra} note 9, at 550; Bird, \textsuperscript{supra} note 48, at 168.


\textsuperscript{129} Kalven, \textit{supra} note 13, at 520.

\textsuperscript{130} For instance, certain history texts written after the Civil War were zealously pro-Union. Resulting protests prompted publishers to issue regional versions of the texts. R.F. Campbell, L. Cunningham, R. Nystrand & M. Usdun, \textit{The Organization and Control of the Schools} 325 (3d ed. 1975); see also Hirschoff, \textsuperscript{supra} note 1, at 874 n.8. Today a state might wish to promote the accurate portrayal of women or minorities in American history lessons by mandating the use of more balanced texts or the use of feminist historiographies. See, \textit{e.g.}, J. Friedman & W. Shade, \textit{Our American Sisters: Women in American Life and Thought} 1 (2d ed. 1977). Some states require instruction in American government and other political systems in order to illustrate the advantages of the American system. See, \textit{e.g.}, Ala. Code \textsection 545(1)(Supp. 1973)(instruction about communism must be given for the purpose of "instilling in the minds of students a greater appreciation of democratic process, freedom under law, and the will to preserve that freedom"); Fla. Stat. Ann. \textsection 233.064 (West Supp. 1976)(courses in "Americanism versus Communism" required); see also Hirschoff, \textsuperscript{supra} note 1, at 883.
Balanced treatment might be considered appropriate in such fields.

Balanced treatment might also be desirable in scientific subjects when one position has become unjustifiably dogmatic. The counterbalancing arms of the balanced treatment, however, must each be secular; otherwise, the program would violate the establishment clause. Consequently, scientific creationism, unless free from religious motivation and effects, is an unacceptable subject for balanced treatment. Although proponents of the scientific creation model proclaim its secular character, close scrutiny reveals their arguments to be without merit.

1. Development of the balanced treatment by scientific creationism alternative—Fundamentalists have assailed Darwin's...
theory since it was first proposed, finding it repugnant to their faith in *Genesis*,\textsuperscript{135} the biblical account of Creation. Their attempts to prohibit the teaching of evolutionary theory, however, were found to be religiously motivated,\textsuperscript{136} and the alternative of teaching Biblical Creationism along with evolution was found to promote establishment-religion.\textsuperscript{137} A less sectarian theory was clearly necessary if evolution was to be countered by a creation scenario.

Consequently, creationists established research centers to find evidence to fortify creation scenarios or undermine evolution.\textsuperscript{138} These efforts culminated in the theory of "scientific" creationism.\textsuperscript{139} Its proponents claim that scientific creationism is constitutionally distinguishable from Biblical Creationism because of its omission of biblical references and focus on scientific argument.\textsuperscript{140} For instance, scientific creationism makes no reference to the six Creation days, Adam and Eve, Noah, or any other explicit biblical passage. Rather, the scientific creation "model" postulates a recent origin of the universe, including man; a worldwide catastrophic flood which buried almost all known life;

\textsuperscript{135} See supra notes 12-14 and accompanying text; Note, supra note 9, at 519-22 (examining the many creationist religions opposed to evolution); McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1258-59 (E.D. Ark. 1982). Fundamentalist efforts effectively suppressed the teaching of evolutionary theory in schools until the early 1960's. Id. at 1259; Le Clercq, supra note 9, at 209 (citing findings that fewer than one-half of American high school biology teachers taught evolution during this time).

Fundamentalist efforts were overcome when the 1957 Sputnik launch spurred massive infusions of money for the revision of science texts. L. THURMAN, supra note 8, at 21. These revised texts, developed by the Biological Sciences Curriculum Study ("BSCS"), rely heavily on the theory of evolution as a comprehensive explanation for biological developments. Presently, 50% of American high school students use BSCS texts, and virtually all other texts are influenced by this approach. See Note, supra note 9, at 521 n.25.

\textsuperscript{136} Epperson v. Arkansas, 393 U.S. 97, 107-08 (1968). Soon after Epperson, Mississippi repealed the last of the state anti-evolution laws. L. THURMAN, supra note 8, at 22; see supra note 13.

\textsuperscript{137} See supra note 14 and accompanying text.

\textsuperscript{138} The McLean court listed several Fundamentalist organizations formed to promote the idea that the Book of Genesis was supported by scientific data: Institute for Creation Research ("ICR") (affiliated with the Christian Heritage College, supported by the Scott Memorial Baptist Church in San Diego, California, and publishing as Creation-Life Publishing Company, the largest publisher of creationist material); Creation Science Research Center ("CSRC") (San Diego-based); Bible Science Association ("BSA") (Minneapolis, Minnesota); Creation Research Society ("CRS") (an organization of literal Fundamentalists with master's degrees in a scientific field). McLean v. Arkansas Bd. of Educ., 529 F. Supp. 1255, 1259-60 (E.D. Ark. 1982). Notably, the CSRC, concerned about an overly scientific bent to CRS activities, split from CRS in 1970 in order to promote a more Bible-oriented creationism. Id.

\textsuperscript{139} Id. at 1259; Le Clercq, supra note 9, at 210 (describing the rise of the creationist associations and the increasingly scientific orientation of many creationists).

\textsuperscript{140} See SCIENTIFIC CREATIONISM, supra note 14, at 3; Note, supra note 9, at 517.
and the constancy of life "kinds." These proposals are counterpoints to certain evolutionary tenets, viz., a multi-billion-year development of the universe, with man's emergence in the recent tens to hundreds of thousands of years; uniform change in the earth's geology and fossilization; and evolution and natural selection of species.

Scientific creationists hope to employ balanced treatment to "undogmatize" the present exclusive presentation of evolutionary theory and to neutralize the perceived religious impact of evolution instruction. While the recent decision in McLean v. Arkansas Board of Education casts doubt on the future of these efforts, other states continue to pass balanced treatment laws. Moreover, a popular majority in many places apparently favor balanced treatment of evolution theory and creationism in public schools. The next section discusses whether the teaching of scientific creationism in public schools is constitutionally permissible.

2. Scientific creationism and the establishment clause—Creationists concede that teaching Biblical Creationism in the public schools is an establishment violation. Whether scientific creationism can clear the hurdles which blocked its predecessor is a question of religious purpose and effects.

a. Secular purpose—The establishment clause prohibits any state action intended to advance or inhibit religion. Courts will strike down a purportedly secular state act on establishment grounds if the actual intent of its proponents is religious.
Many proponents of the balanced treatment of evolution and scientific creationism, including some of the legislative sponsors of evolution-creation balanced treatment acts, work to further the religious aspects of creationism\(^{150}\) and protect scientific creationist beliefs from attack by lessons on evolution or other theories concerning the origin of life.\(^{151}\) Indeed, the motivation of those proposing the teaching of scientific creationism seems identical to the motivation of those who earlier advocated Biblical Creationism. In most respects, scientific creationism is indistinguishable from the *Genesis* account of Creation, and virtually all scientific creationists believe in Biblical Creationism.\(^{152}\) Thus, there is ample proof of an impermissible religious purpose and motivation behind the evolution-creation balanced treatment acts.\(^{153}\)

150. The *McLean* court found that the “creationist organizations consider the introduction of creation science into the public schools part of their ministry.” 529 F. Supp. at 1260. For instance, creationists in Arkansas organized political lobbying efforts in order to get the Arkansas Balanced Treatment Act passed. A local group of ministers adopted a resolution supporting the Act, appointed two of their members to implement the resolution by lobbying, and prevailed upon a local state senator to guide the Act through an uninformed state legislature. *Id.* at 1262. The court also found that the drafter of the Arkansas Balanced Treatment Act was on a “religious crusade” to inject creationism into the schools, *id.* at 1261, and that the legislative sponsor of the bill was “motivated solely by his religious beliefs and desire to see the Biblical version of creation taught in the public schools,” *id.* at 1263. The same religious fervor is evident in the authors of scientific creationist texts. *See,* e.g., Barnes, Foreword, in H. MORRIS, *supra* note 12, at 4 (“It is the burning desire in Dr. Morris’ life that all may have the opportunity to hear this and be brought to a knowledge of the historicity of the Scriptures, and of course to a faith in the true God of Creation.”).

151. Scientific creationists sometimes assert that there are basically two viewpoints of origins, i.e., evolution and “the doctrine of special creation,” though “several variants of each have been developed.” *Biology: A Search for Order in Complexity,* *supra* note 53, at xvii. This is partially accurate in that supporters of evolution attempt to utilize only naturalistic explanations, while creationists rely to some extent on non-natural explanations. But lumping together all the versions of origins does violence to the beliefs of many non-scientific creationists. See Wright v. Houston Indep. School Dist., 366 F. Supp. 1208, 1211 (S.D. Tex. 1972)(“If the beliefs of fundamentalism were the sole alternative to the Darwinian theory, equal time might at least be feasible. But virtually every religion known to man holds its own peculiar views of human origins.”), *aff’d per curiam,* 486 F.2d 137 (5th Cir. 1973), *cert. denied,* 417 U.S. 969 (1974); L. THURMAN, *supra* note 8, at 40, 115 (noting the existence of at least six versions of creation, each one “scientifically or theologially possible, although each one also has certain weaknesses”). *But see* *Scientific Creationism,* *supra* note 14, at 215-55 (analyzing each of the creation theories besides scientific creationism and dismissing each as scientifically impossible and theologically unfounded).


153. *See,* e.g., *McLean,* 529 F. Supp. at 1264.
Reliance on the intent of the sponsors and supporters of scientific creationism, however, is a shifting basis for a constitutional determination. If the religious purpose should eventually dissipate, the basis for the decision would evaporate as well. The primary effect test thus offers a more solid basis for decision.

b. Primary effects—To be acceptable constitutionally, a state act may not have as its principal or primary effect the advancement or inhibition of religion; any such effect must be no more than an incidental side effect which merely harmonizes with religious or irreligious beliefs. Scientific creationism does more than harmonize with the biblical account of Genesis—it is virtually indistinguishable from it. Scientific creationism unavoidably implies biblical personages and explanations. For instance, though the scientific creationist theory of “catastrophism” makes no reference to Noah and his Ark, it clearly suggests the biblical story. The scientific creationist account suggests that human beings and animals could have survived the flood only by riding it out in some sort of watertight vessel. The primary effect, both actual and intended, is to present Noah’s Ark as a scientifically necessary and historically accurate explanation for the continuation of man and all living things following such a catastrophe. Any student with the least exposure to the story of Noah in the Bible will immediately recognize this “coincidence.” The actual effect of that lesson is thus impermissibly religious.

Nor is this religious effect incidental. Portions of the scientific

156. Catastrophism is the scientific creationist theory that a worldwide flood, perhaps three miles deep, caused most of the major geological changes on earth. See Scientific Creationism, supra note 14, at 91-130. The public school edition of this textbook on creationism scrupulously avoids any exact reference to the Bible, or to specifics such as the date or height of the flood. See id. at 117; see also id. at iv (explaining that the general edition and public school edition are the same, but for a chapter on “Creation According to Scripture” in the former).
157. Noah is not discussed explicitly in the general edition of Scientific Creationism outside of the last chapter on Scripture. Transparent language, however, is used to explain how life survived the Deluge:

Sooner or later all land animals would perish. Many, but not all marine animals would perish. Human beings would swim, run, climb, and attempt to escape the floods but, unless a few managed to ride out the cataclysm in unusually strong watertight sea-going vessels they would eventually all drown or otherwise perish.

Id. at 117 (emphasis added). This hardly oblique reference is explained in the last chapter as being the story of Noah and his Ark. Id. at 253. Even without the biblical citation at the end, this explanation conveys “an inescapable religiosity.” McLean, 529 F. Supp. at 1265.
creation model — such as catastrophism — go beyond mere harmony with religion. Because this “scientific” model so closely parallels the biblical account, it imparts science’s aura of empirical certainty to a specific religious story. This religious effect is its primary, indeed sole effect. In this respect it can be distinguished from state action which has other significant nonreligious consequences, for instance, a Sunday-closing statute, which only incidentally advances or inhibits Saturday worship.\textsuperscript{188} Scientific creationism does not promote scientific understanding; it serves only to fortify the literal message of \textit{Genesis}.\textsuperscript{189}

It would be, however, unnecessarily hostile to religion to ban all biblical data merely because of its source. If biblical information or data could be independently verified, the religious source of the original information would not make it objectionable. Many creationists believe that the Bible is not only historically accurate but also scientifically correct.\textsuperscript{180} The scientific merit in the scientific creationist theory, or “model,”\textsuperscript{161} however, is meager. The model’s explanation of origins is empirically unverifiable, cannot be experimentally tested, and is not subject to refinement or change.\textsuperscript{162}

Most significantly, though, scientific creationism goes beyond the bounds of any scientific approach by suggesting that nature’s “design” or “direction” infers a purposeful designer.\textsuperscript{163} Indeed, scientific creationism relies on many non-natural and external


\textsuperscript{159} Scientists have characterized scientific creationism as “forced imposition of religious doctrine, disguised as science, into the science textbooks.” Mayer, \textit{supra} note 59, at 415. It has also been called the “smuggling of religious dogma into classrooms in a scientific Trojan horse.” Mayer, \textit{Creationism: A Masquerade}, 36 \textit{Am. Biology Tchr.} 245, 246 (1974); cf. Goldberg, \textit{supra} note 26, at 28 n.182 (“The establishment of religion clause cannot be evaded simply by asserting that a given government-supported program is ‘science’ rather than religion.”).

\textsuperscript{160} See, e.g., J. Moore, \textit{supra} note 11, at 10.

\textsuperscript{161} Creationists use the term “model” or “theory” interchangeably, but in a sense entirely different from its use by evolutionary scientists. See Mayer, \textit{supra} note 59, at 412; see also \textit{McLean}, 529 F. Supp. at 1269 (“A theory that is by its own terms dogmatic, absolutist and never subject to revision is not a scientific theory.”).

\textsuperscript{162} Creationists concede that scientific creationism is not subject to the scientific method. See, e.g., \textit{SCIENTIFIC CREATIONISM}, \textit{supra} note 14, at 5; see also H. Morris, \textit{supra} note 12, at 80-81. Some creationists are even willing to admit to the religious nature of scientific creationism. See \textit{McLean}, 529 F. Supp. at 1268 (citing D. Gish, \textit{Evolution? The Fossils Say No!} 42 (3d ed. 1979)).

\textsuperscript{163} See, e.g., \textit{SCIENTIFIC CREATIONISM}, \textit{supra} note 14, at 33, 35 (“The creation model does include, quite explicitly, the concept of purpose. The Creator was purposive, not capricious or indifferent, as He planned and then created the universe . . . .” “The creationist explanation . . . gives assurance that there is real meaning and eternal purpose to existence.”); see also \textit{Biology: A Search for Order in Complexity}, \textit{supra} note 53, at 12.
explanations which are eschewed by the natural scientist. For instance, scientific creationism, ostensibly divorced from all biblical references, relies fundamentally on an element which is religious under any analysis — the existence of a Creator. Creationists respond to this criticism by pointing out that the government makes frequent reference to God in its publications and deliberations. Such references, however are ancillary to the content of these publications and deliberations; deleting these references would not affect significantly the content. Deleting the references to the "creator" in scientific creationist texts, on the other hand, would effectively vitiate the presentation. The pervasive reference to and essential reliance upon an external Supreme Cause and Controller manifest in the scientific creationist literature makes the model undeniably religious. A Supreme Cause is the philosophical base of all theism, whether biblically based or not. Explanations that rely on external non-natural causes are not science: they bear the unmistakable markings of an establishment-religion.

c. Entanglement— The entanglement prohibition bars fis-

164. See Note, supra note 9, at 557 n.209.
165. See Davis v. Beason, 133 U.S. 333, 342 (1890) ("The term 'religion' has reference to one's views of his relations to his Creator . . . ."); see also Malnak v. Yogi, 440 F. Supp. 1284, 1322 (D.N.J. 1977) ("[C]oncepts concerning . . . a supreme being of some sort are manifestly religious . . . . These concepts do not shed that religiosity merely because they are presented as a philosophy or as a science."). aff'd per curiam, 592 F.2d 197 (3d Cir. 1979). Creationist texts are filled with references to a Creator or God. See, e.g., SCIENTIFIC CREATIONISM, supra note 14 (chapters intended for public school use refer to a creator more than 15 times, to God at least a half-dozen times); BIOLOGY: A SEARCH FOR ORDER IN COMPLEXITY, supra note 53 ("Creator," 19 times; "God," 25 times; Bible personages, 10 times). See generally Note, supra note 9, at 560 n.220.
166. See Note, supra note 9, at 557 n.208.
168. Some creationists are willing to admit that creationism is theistic and even a literal reading of Genesis, but feel that presentation of the creation model in public schools remains acceptable. See, e.g., McLean, 529 F. Supp. at 1266 ("teaching the existence of God is not religious unless the teaching seeks a commitment") (citing testimony of Dr. Norman Geisler). One commentator has remarked:

I assure my students when I explain the creation model and evolution model of first origins that class work will not involve religion. By this I mean that no worship will be involved in class, no special conduct or ritual will be followed; that is, no prayer beads or prayer rug will be used, no facing the east, or worshipful conduct or ritual will be practiced. Hence no religion is involved in my classes.

J. Moore, supra note 11, at 88. The District Court in McLean correctly dismissed this creationist definition of religion because it "is contrary to common understanding and contradicts settled case law." 529 F. Supp. at 1266 (citing Stone v. Graham, 449 U.S. 39 (1980)(per curiam); School Dist. v. Schempp, 374 U.S. 203 (1963)).
and doctrinal involvement with religion.\textsuperscript{169} While the entanglement test is relatively unimportant once religious purpose and primary effect are found,\textsuperscript{170} it may provide an additional ground for decision in close cases. Creationists argue that the scientific evidence for creation is doctrinally separable from the religious evidence and that the two can be kept separate.\textsuperscript{171} But to allow the presentation of scientific evidence for creation entangles the state in the doctrinal segregation of "religious" creation and "scientific" creation evidence. The school board would assume the very role the entanglement doctrine prohibits — extensive involvement in religious controversy\textsuperscript{172} — if it were to conduct extensive monitoring to keep religion out of creationism lessons. This doctrinal involvement is especially acute when school boards are faced with at least six creation versions.\textsuperscript{173} The school may, of course, present evidence against evolution that does not support a creation model.

In conclusion, scientific creationism fails to fulfill its purportedly secular promise. In purpose and effect it advances fundamentalist religions and engenders an extensive governmental entanglement with religious issues. Mandating instruction in scientific creationism — even as part of a balanced treatment program — is an establishment of religion. Creationists must pursue relief in other forms.

\textsuperscript{169.} Because scientific creationism is religion, the state sponsorship of creationist literature or provision of class time for creationist teachings is impermissible entanglement. See McLean, 529 F. Supp. at 1272. Private donation of the schoolbooks might ameliorate that entanglement. Classroom presentation, however, remains an impermissible fiscal entanglement. Id.

\textsuperscript{170.} See supra note 84 and accompanying text.

\textsuperscript{171.} See supra note 85 and accompanying text.

\textsuperscript{172.} See McLean, 529 F. Supp. at 1265-66. Since passage of the Arkansas Balanced Treatment Act, creationists have focused on the less religious aspects of scientific creationism and have attempted to sever some of the portions of the theory which are too closely aligned with the Bible. See Louisiana Balanced Treatment Act, LA. REV. STAT. ANN. §§ 17:286.1 to .7 (West Supp. 1982); N.Y. Times, Mar. 4, 1982, § 4, at 19, col. 1 (midw. ed.). In addition, the expositions in creationist texts are becoming less religious and increasingly more sophisticated and "scientific". See, e.g., \textit{Scientific Creationism}, supra note 14 (a high school creationist text which includes relatively technical discussions of thermodynamics and radiometric dating).

\textsuperscript{173.} \textit{Cf.} Presbyterian Church v. Hull Church, 393 U.S. 440 (1969)(civil courts may not resolve church disputes on the basis of religious doctrine); Wiley v. Franklin, 468 F. Supp. 133 (E.D. Tenn.), enforced mem., 474 F. Supp. 525 (E.D. Tenn. 1979)(describing with particularity the portions of the Bible which could be presented in public school in an objective, secular fashion).

\textsuperscript{174.} See L. Thurman, \textit{supra} note 8, at 40.
B. Eliminating Evolution from School Curricula

Elimination of a school lesson is the most drastic method of relief. It is appropriate only when the complained-of activity violates the establishment clause and a less comprehensive remedy would leave the violative act intact. Elimination is an inappropriate remedy in free exercise cases, because in such cases exempting the burdened student will suffice. Moreover, eliminating the arguably burdensome instruction would be an overinclusive remedy in free exercise cases, because it would deprive many students of an important educational experience in order to unburden the religious beliefs of a few.

Elimination of evolution lessons has been suggested as a form of relief from exclusive presentation of evolution theory. Teaching the theory of evolution, however, presents no establishment violation, and elimination is not available for free exercise relief. Consequently, courts could not provide this relief. Legislatures would not be so constrained, but such affirmative relief for creationists without a judicial finding of an establishment violation necessarily renders the action suspect. If the course elimination had the purpose or primary effect of advancing creationism by ridding the schools of evolutionary discussion, the establishment clause may be violated.

Eliminating instruction in evolution — even if neither religion clause is thereby violated — still might offend other constitutional provisions. Although legislatures and school boards may control course content and remove most secular material,

176. See infra notes 195-203 and accompanying text.
177. See supra note 26, at 349 (When the state’s program is held to be secular, “dissenters cannot require the state to abandon it [for that] would indeed be minority oppression of the majority.”).
178. Note, supra note 9, at 565-70.
179. See supra notes 26-86 and accompanying text.
180. See infra note 196.
181. See supra note 56, 103, 109 (1963) (the state may not “blot out a particular theory because of its supposed conflict with” a religious doctrine; antievolution statute constituted an establishment of religion because evolution was banned “for the sole reason that it [was] deemed to conflict with a particular religious doctrine”).
182. Meyer v. Nebraska, 262 U.S. 390, 402 (1923); see also supra note 26, at 349 (When the state’s program is held to be secular, “dissenters cannot require the state to abandon it [for that] would indeed be minority oppression of the majority.”).
183. Id. at 109; see also supra note 26, at 349 (When the state’s program is held to be secular, “dissenters cannot require the state to abandon it [for that] would indeed be minority oppression of the majority.”).
they cannot ban "an entire system of respected human thought" merely because its ideas are controversial. This would undermine the purpose of freedom of speech in a pluralistic society. Moreover, sweeping state restrictions on what can be taught in public schools would violate teachers' first amendment rights to academic freedom as well as students' rights to receive information.

Were the theory of evolution merely ancillary to science, its elimination would not cause great concern. But the theory of evolution is central to the explanation of biology, geology, and astronomy. The resultant chilling effect on science and scientific research is reason enough to disallow this remedy. For students, especially students wishing to pursue a scientific or medical profession, to miss these courses of study would be a severe handicap.

Cir. 1980); Arunda v. Dekalb County School Dist., 620 F.2d 493 (5th Cir. 1980). See generally supra note 22.

183. See supra note 22 and accompanying text.

184. Epperson, 393 U.S. at 116 (Stewart, J., concurring).

185. See, e.g., Police Dep't v. Mosley, 408 U.S. 92, 95-96 (1972) ("[A]bove all else, the First Amendment means that government has no power to restrict expression because of its message, its ideas, its subject matter, or its content."). This strong presumption against content-based speech regulations is apparently not conclusive; but the Court's exceptions are not applicable to the present discussion. See Young v. American Mini Theatres, 427 U.S. 50 (1976); FCC v. Pacifica Found., 438 U.S. 726 (1978) (allowing regulation of protected speech that was sexually explicit or patently offensive).

186. Cf. Keyishian v. Board of Regents, 385 U.S. 589 (1969) (academic freedom, especially for university professors, is a special concern of the first amendment); Healy v. James, 408 U.S. 169 (1972) (academic freedom precludes university administration from barring student groups' campus recognition). But see Zykan v. Warsaw Community School Corp., 631 F.2d 1300 (7th Cir. 1979) (academic freedom in secondary schools, though recognized, is limited by the intellectual skills of students and the great state interest controlling education); Palmer v. Board of Educ., 603 F.2d 1271 (7th Cir. 1979) (secondary school teachers have no absolute right to teach as they please), cert. denied, 444 U.S. 626 (1980). See generally Le Clercq, supra note 9, at 232-41 (discussing the rights of students and teachers under the broad penumbra of "academic due process").


Although balanced treatment and elimination are improper free exercise remedies, several permissible remedies remain. One is to avoid dogmatic presentations of evolution. Another is to allow creation to be presented, not as a scientifically valid alternative, but as one of the many creation stories of the world's religions.

1. "Undogmatizing" the evolution lesson— Lessons which imply that evolution is an accepted fact, or "the final word," do a grave disservice to the student. Natural science education must train the child to think critically about present scientific theories. Consequently, those textbooks which represent the theory of evolution dogmatically may warrant some modification to reflect the theory's inherent uncertainty. Admittedly, the more technical weaknesses of evolutionary theory will be lost on younger children. Nevertheless, elementary texts could emphasize that no scientific theory — not even evolution — should be blindly accepted.

2. Comparative religion courses— Despite its religious underpinnings, the subject of scientific creationism need not be banished altogether. The Constitution does not prohibit instruction in the world's religions, provided such instruction is conducted in a secular and neutral fashion. While the school cannot favor or disfavor any particular religion, it may analyze objectively the various religions of the world. Accordingly, biblical and scientific creationism, though inappropriate in the science classroom, are proper subjects for a comparative religion course. The course could cover religious views of the universe's origin, presenting not only Genesis, but the creation accounts of other religions as well. This presentation would help allay the
fears of creationist parents and ameliorate the free exercise burden felt by many creationist students. Exposure to biblical and scientific creationism in a comparative religion class, combined with the creationist child's training in church and at home, should eliminate whatever threat instruction of evolutionary theory poses to the religious free exercise of all but "strict" creationists.

D. Exemption

Individual exemption or excusal from evolution lessons is the best form of relief where the instruction burdens only a few and the state interest is not sufficient to justify the burden. In this way the state is allowed, for the most part, to pursue its desired ends. In the last thirty years, exemption has been the exclusive remedy awarded in cases based solely on free exercise complaints.
Where free exercise complaints are anticipated, some accommodating legislation may be appropriate. For instance, statutory exemption has been authorized where the religious burden is imposed by other statutory provisions. Exemptions prompted by religious motives, however, may exempt individuals from onerous state obligations, or conversely, cause a substantial denial of state benefits, thus violating the establishment clause's neutrality command.

Exemption obviously is not a perfect remedy. A student exempt from a lesson foregoes an educational experience shared by peers. In addition, the mere act of asking for an exemption can

the establishment clause. *Id.* at 636 (Brennan, J., concurring). In *Cruz v. Beto*, 405 U.S. 319 (1972)(per curiam), a state prison barred Buddhists, but not other religions, from religious practices. The Court held that Texas had "violated the First and Fourteenth Amendments," including the free exercise clause. *Id.* at 322. But discrimination between religions is an establishment violation. See *Everson v. Board of Educ.*, 330 U.S. 1, 15 (1947). In *Torcaso v. Watkins*, 367 U.S. 488 (1961), the state required public officers to recite a religious oath. While a free exercise claim would have been easily sustained, the Court chose instead to consider the oath an aid to religion, and relied heavily on establishment cases in its analysis. *Id.* at 492-95. In *Kedroff v. St. Nicholas Cathedral*, 344 U.S. 94 (1951), a state statute authorized official recognition of a church faction. While this may have burdened the free exercise of the nonrecognized faction, it also aided a religion and entangled the state in ecclesiastical disputes, both prohibited by the establishment clause. In *Pierce v. Society of Sisters*, 268 U.S. 510 (1925), the Court struck down a law which disallowed private and parochial schools. The decision could not rely on free exercise grounds because the free exercise clause had not yet been extended to the states. *Id.* at 535. If decided today, the free exercise clause might be an alternative holding; but the purpose and primary effect of inhibiting all religious schools would undoubtedly invoke the establishment clause and therefore trigger elimination.


199. See *Note, supra* note 9, at 543-70 (exemption is inadequate in face of widespread abridgement of free exercise, though elimination may be too drastic a solution in some cases).
be stigmatizing, though such singling out is an unavoidable part of the experience of nonconformists in our culture. 200 Nevertheless, the most appropriate form of relief for the “strict” creationist student is exemption from the evolution classes. 201 This remedy satisfies the state interest in teaching the natural science course and does not deny non-creationist children exposure to the important concepts of evolution theory. 202 Moreover, the “strict” creationist student suffers no unfair denial of state benefits, having expressed no interest in receiving the benefit. 203

CONCLUSION

The contemporary debate between creationists and supporters of the theory of evolution raises many difficult issues, often obscured by the invariably strong emotions engendered by the controversy. At a fundamental level, parents question how their children can be reared in a religious environment when they must attend public schools. The evolution controversy provides a battleground for this debate, but unfortunately the rhetoric obscures the facts.

This Note discusses the state’s power to control its schools’ curricula, and how the first amendment religion clauses restrict that control. It applies the religion clauses to the teaching of the theory of evolution and finds no violation of the establishment clause. With respect to certain “strict” creationists, however, exposure to evolutionary theory may constitute an unconstitutional burden on the free exercise of religious beliefs. The proposed solution of balanced treatment with scientific creationism

200. See McCollum v. Board of Educ., 333 U.S. 203, 233 (1948)(the Constitution does not protect one from the “embarrassment that always attends non-conformity, whether in religion, politics, behavior or dress”); Ashman, The Holy Bible in the Public Schools, 40 CORNELL L.Q. 475, 495 (1955)(“part of the price of being a religious nonconformist is the social stigma which all non-conformists have to bear”).

201. Only “strict” separatists need be exempted, and they represent “only a small minority of separatists.” Note, supra note 9, at 564 n.239; see supra note 109 and accompanying text. The legislature could, of course, extend this relief more broadly if it desired, so long as the intent was religious neutrality and not overeager accommodation.

202. See Note, supra note 9, at 545.

203. Creationist students would miss merely 10% of biology class. See supra note 102. This is hardly a denial of a state benefit similar to the state compensation in Thomas v. Review Bd., Ind. Employment Sec. Div., 450 U.S. 707 (1981), and Sherbert v. Verner, 374 U.S. 398 (1963). Moreover, creationist students do not want the “benefit” they are being allowed to miss — evolution lessons. See Note, supra note 9, at 530 n.72 (“[w]here an individual does not want a public benefit” there is no coercion against free exercise).
violates the establishment clause, however, and elimination of evolution lessons altogether would be equally impermissible. Consequently, exemption of the "strict" creationist student from classes involving evolution along with minor curriculum modification provides appropriate relief.

—J. Greg Whitehair