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EVOLUTION, CREATION-SCIENCE, AND THE MEANING OF PRIMARY RELIGIOUS PURPOSE

G. Sidney Buchanan*

I. INTRODUCTION

AROUND the nation, a contentious debate continues concerning the “proper” curriculum for science classes in the K-12 public schools.¹ More specifically, this debate concerns the question of the extent to which the public school² science curriculum should include the theories of evolution and creation science. Behind this debate, of course, there lurks a persistent question of constitutional law: When does a public school’s curriculum mandate concerning the teaching of evolution and creation science constitute a prohibited establishment of religion?³ In this connection, it does not matter for constitutional purposes from what level of government the curriculum mandate proceeds, for example, state statute, state board of education, school district board of education, school principal, or classroom teacher. If the mandate is imposed by any level of government, it constitutes “state action” for constitutional law purposes.⁴

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1. See, e.g., Don McLeroy, *Keep Good Science in, Dogma Out of Textbooks*, Hous. CHRON., Oct. 23, 2003, at A43. Mr. McLeroy is currently a member of the Texas State Board of Education, and he concludes his opinion editorial with these words: “Scientific dogmatism about origin of life and common descent has no place in Texas biology books. Our state’s scientific educational system must not be corrupted. Teach evolution? Yes, warts and all!” *Id.*

2. Unless expressly stated otherwise, all further references to “public school” or “public schools” means the K-12 levels of the nation’s public school systems.

3. The religion clauses of the First Amendment to the United States Constitution state: “Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof . . .” U.S. CONST. amend. I. The Supreme Court has held repeatedly that the religious guarantees of the First Amendment apply in full measure to state governments and their political subdivisions by reason of the due process clause of the Fourteenth Amendment. See, e.g., *Everson v. Bd. of Educ. of the Township of Ewing*, 330 U.S. 1, 15 (1947). Accordingly, for purposes of this article, all references to governmental action include action by any level of the federal or state governments.

4. Thus, a public school teacher who, in the exercise of curriculum-choice discretion conferred upon the teacher by the state board of education, makes a curriculum decision in the classroom has “mandated” that decision in relation to his or her students. Yet, at some point along the state-action continuum, a government official will, in some aspects of his or her daily life, shed his or her state action mantle. See generally, Sidney Buchanan, *A Conceptual History of the State Action Doctrine: The Search for Governmental Responsibility*,

The United States Supreme Court's⁵ 1987 decision in *Edwards v. Aguillard*⁶ is the Court's most recent encounter with public school curriculum mandates concerning the teaching of evolution and, or, creation science. In *Edwards*, the Court considered the constitutional validity of Louisiana's Balanced Treatment for Creation-Science and Evolution-Science Act (Creationism Act).⁷ As summarized by the Court, the Creationism Act "forbids the teaching of evolution in public schools unless accompanied by instruction in 'creation science.'"⁸ The Court invalidated the Act, holding that "[b]ecause the primary purpose of the Creationism Act is to advance a particular religious belief, the Act endorses religion in violation [of the Establishment Clause] of the First Amendment."⁹

In relation to curriculum mandates in the public schools that relate to the teaching of evolution and creation science, this article will explore the meaning of "primary religious purpose" as used by the *Edwards* Court.¹⁰ When is such a mandate created with a primary religious purpose that causes the mandate to constitute a prohibited establishment of religion? What factors bear upon the proper resolution of this issue? In discussing this issue, I will distinguish between two questions that are often confusedly and unnecessarily entangled with each other: (1) Was the universe created by some intelligence or power external to the universe? and (2) How and when did human beings and other life forms appear on earth? This article will contend that, for present constitutional law purposes, question one is beyond the reach of scientific resolution, but that question two does yield to scientific inquiry. If true, this contention bears importantly on the proper application of the "primary religious purpose" test announced by the *Edwards* Court.¹¹

This article will first discuss the current law concerning the constitutionality of public school curriculum mandates relating to the teaching of evolution and, or, creation science. Four federal court cases will receive particular attention: the Supreme Court's 1968 decision in *Epperson v. Arkansas*,¹² the Supreme Court's 1987 decision in *Edwards v. Aguillard*,¹³ the Seventh Circuit Court of Appeals's 1990 decision in *Webster v. New*

34 HOUS. L. REV. 665, 687-88 (1997). In this treatise, Buchanan proposes the following test for determining when a particular act is engaged in by a state actor as a state actor or as a private actor: Does the state actor's state action status materially facilitate the actor's performance of the challenged act? *Id.* Clearly, a public school teacher's state action status materially facilitates the teacher's ability to make a curriculum decision in a public school classroom.

5. Unless the context clearly indicates otherwise, all further references to "Supreme Court" or "Court" mean the United States Supreme Court.

6. *Edwards v. Aguillard*, 482 U.S. 578 (1987).

7. *Id.* at 580-581.

8. *Id.* at 581.

9. *Id.* at 593.

10. *See id.*

11. *See id.*

12. 393 U.S. 97 (1968).

13. 482 U.S. 578 (1987).

Lenox School District No. 122,¹⁴ and the Ninth Circuit Court's 1994 decision in *Peloza v. Capistrano Unified School District*.¹⁵ After discussing these cases in traditional constitutional law terms, the article will relate these cases to the two broader and "non-constitutional law" questions I have already mentioned: (1) Was the universe created by some intelligence or power external to the universe (hereafter the "external power" question) and (2) How and when did human beings and other life forms appear on earth (hereafter the "origin of life" question). In so doing, I hope to contribute to a persuasive application of constitutional law principles in determining when a public school curriculum mandate constitutes a prohibited establishment of religion. Finally, in the article's conclusion, I will not be able to resist making some "lay person" observations concerning the validity of the propositions advanced by the respective evolution and creation-science positions.

II. THE PUBLIC SCHOOL CURRICULUM AND THE ESTABLISHMENT CLAUSE: THE CURRENT LAW

A. *EPPELSON V. ARKANSAS*: AN EASY CASE

In its 1968 decision in *Epperson v. Arkansas*, the Supreme Court invalidated Arkansas' anti-evolution statute.¹⁶ Adopted in 1928, the Arkansas statute made it "unlawful for a teacher in any state-supported school or university 'to teach the theory or doctrine that mankind ascended or descended from a lower order of animals,' or 'to adopt or use in any such institution a textbook that teaches' this theory."¹⁷ In its specific setting, the *Epperson* case concerned the teaching of biology in a public high school in Little Rock, Arkansas.¹⁸ Until 1965, the official textbook for the high school biology course "did not have a section on the Darwinian Theory."¹⁹ Then, for academic year 1965-66, "the school administration, on the recommendation of the teachers of biology in the school system, adopted and prescribed a textbook which contained a chapter setting forth 'the theory about the origin . . . of man from a lower form of animal.'"²⁰

At this point in the unfolding saga, Susan Epperson, a biology teacher at Central High School in Little Rock, was presented with the new textbook containing the chapter on evolution.²¹ Ms. Epperson faced what the Court described as "a literal dilemma."²² She was required to use the new textbook and to teach the statutorily condemned material, but "to do

14. 917 F.2d 1004 (7th Cir. 1990).

15. 37 F.3d 517 (9th Cir. 1994).

16. *Epperson v. Arkansas*, 393 U.S. 97, 107-09 (1968).

17. *Id.* at 98-99.

18. *Id.*

19. *Id.* at 99.

20. *Id.*

21. *Id.* at 100.

22. *Id.*

so would be a criminal offense and subject her to dismissal.”²³ She therefore initiated an action “seeking a declaration that the Arkansas statute is void” and an injunction preventing “the State and the defendant officials of the Little Rock school system from dismissing her for violation of the statute’s provisions.”²⁴

En route to its decision invalidating the Arkansas statute, the Supreme Court first sidestepped Epperson’s contention that the statute was unconstitutionally vague.²⁵ The Court noted that the Arkansas Supreme Court, in reviewing the statute, had “‘expressed no opinion’ as to whether the Act prohibits ‘explanation’ of the theory of evolution or merely forbids ‘teaching that the theory is true.’”²⁶ Expressly refusing to rest its decision upon “the asserted vagueness of the statute,” the United States Supreme Court stated that “[u]nder either interpretation, the law must be stricken because of its conflict with the constitutional prohibition of state laws respecting an establishment of religion or prohibiting the free exercise thereof.”²⁷

Moving to the heart of its opinion, the *Epperson* Court focused on the purpose of Arkansas’ evolution law.²⁸ As viewed by the Court, “Arkansas’ law selects from the body of knowledge a particular segment which it proscribes for the sole reason that it is deemed to conflict with a particular religious doctrine; that is, with a particular interpretation of the Book of Genesis by a particular religious group.”²⁹ While conceding that the Arkansas statute made no express reference to the creation story contained in *Genesis*, the Court concluded that “there is no doubt that the motivation of the law was. . . to suppress the teaching of a theory which, it was thought, ‘denied’ the divine creation of man.”³⁰ To the Court, therefore, it was “clear that fundamentalist sectarian conviction was and is the law’s reason for existence.”³¹ Accordingly, the Court held that the Arkansas law “is contrary to the mandate of the First, and in violation of

23. *Id.* The Court noted in passing that “one surmises from the record” that the new textbook “was not unwelcome to her. . . .”

24. *Id.*

25. *Id.* at 102.

26. *Id.*

27. *Id.* at 103.

28. *Id.* at 103, 107-09.

29. *Id.* In a similar vein, the Court, in the concluding paragraph of its opinion, stressed that “Arkansas’ law cannot be defended as an act of religious neutrality. Arkansas did not seek to excise from the curricula of its schools and universities all discussion of the origin of man.” *Id.* at 109. Instead, the “law’s effect was confined to an attempt to blot out a particular theory because of its supposed conflict with the Biblical account, literally read.” *Id.*

30. *Id.* at 109. In this connection, the Court noted that an earlier Tennessee statute had “candidly stated its purpose: to make it unlawful ‘to teach any theory that denies the story of the Divine Creation of man as taught in the Bible, and to teach instead that man has descended from a lower order of animals.’” *Id.* at 108-09. To the Court, it was clear that the motivation for the Arkansas law was the same as that for the Tennessee law. *Id.* at 109.

31. *Id.* at 107-08.

the Fourteenth, Amendment to the [United States] Constitution.”³²

The Court’s decision in *Epperson* predates the Court’s 1971 adoption of the three-prong *Lemon* test for resolving Establishment Clause issues.³³ It is clear, however, that the Court’s holding in *Epperson* rests plainly upon a “bad” purpose rationale that was soon thereafter incorporated into the “purpose” prong of the *Lemon* test.³⁴ In applying prong-one of the *Lemon* test, the *Epperson* Court stated that the “primary purpose” of the Arkansas law was to advance religion or, perhaps more precisely, to prevent the teaching of a particular scientific theory that, as perceived by the state, conflicted with particular religious beliefs concerning the existence of God and the origin of human beings on earth.³⁵

Viewed accurately, the Arkansas law concerned the origin of life question and not the external power question.³⁶ As previously noted, the act made it “unlawful for a teacher in any state-supported school or university ‘to teach the theory or doctrine than mankind ascended or descended from a lower order of animals. . . .’”³⁷ This made the case an easy one for the Court to decide. Had the state been able to argue convincingly that no credible scientific evidence supports the theory of evolution as an explanation of the origin of human beings and other life forms on earth, the state would then have had a valid basis for eliminating evolution from the science curriculum. Instead, it was clear to the Court that the Arkansas law prohibited the teaching of evolution precisely (and, in reality, only) because that theory conflicts “with the Biblical account, literally read” of the origin of human beings and other life forms on earth.³⁸ In short, the

32. *Id.* at 109. Unless the context clearly indicates otherwise, all further references to the “Constitution” mean the United States Constitution.

33. In *Lemon v. Kurtzman*, 403 U.S. 602 (1971), the Court announced a three-prong test for determining when governmental action constitutes a prohibited establishment of religion:

Three such tests may be gleaned from our cases. First, the statute [or, more generally, the challenged governmental action] must have a secular legislative purpose; second, its principal or primary effect must be one that neither advances nor inhibits religion . . . ; finally, the statute must not foster an excessive government entanglement with religion.

Id. at 612-13. In *Lemon*, the Court used this three-prong test to invalidate a Pennsylvania statute “that provide[d] financial support to nonpublic elementary and secondary schools by way of reimbursement for the cost of teachers’ salaries, textbooks, and instructional materials in secular subjects” and a Rhode Island statute “under which the State [paid] directly to teachers in nonpublic elementary schools a supplement of fifteen percent of their annual salary.” *Id.* at 606-07. The Court noted that under “each statute state aid has been given to church-related educational institutions.” *Id.* at 607. While individual Supreme Court justices in later cases have criticized the *Lemon* test, a Court majority has never repudiated the test.

34. *Epperson*, 393 U.S. at 109.

35. Again, as stated by the *Epperson* Court, the Arkansas law’s “effort was confined to an attempt to blot out a particular [scientific] theory because of its supposed conflict with the Biblical account, literally read.” *Id.*

36. *Id.* at 98-99.

37. *Id.*

38. *Id.* at 109. Later in this article, I will argue that the theory of evolution, while clearly in conflict with that part of creation science that supports the theory of the “instantaneous creation” of human beings on earth, is *not* in conflict with the religious belief that the universe was created by a power external to the universe. Indeed, it is a major thesis of

Epperson Court was saying that government may not use protection of religious beliefs as a basis for excluding from public education the teaching of a scientific theory that is itself supported by credible scientific evidence.³⁹

B. *EDWARDS v. AGUILLARD*: A SOMEWHAT TOUGHER CASE

As noted in this article's introduction, the Supreme Court's 1987 decision in *Edwards v. Aguillard*⁴⁰ invalidated Louisiana's Balanced Treatment for Creation-Science and Evolution-Science Act (the Creation-Science Act).⁴¹ As described by the Court, the Act "forbids the teaching of the theory of evolution in public schools unless accompanied by instruction in 'creation science'. No school is required to teach evolution or creation science. If either is taught, however, the other must also be taught."⁴² After a probing examination of the circumstances surrounding the enactment of the Creation-Science Act, the Court concluded that "[b]ecause the primary purpose of the Creationism Act is to advance a particular religious belief, the Act endorses religion in violation of the First Amendment."⁴³

In reaching its conclusion, the Court applied the three-pronged *Lemon* test: "First, the legislature must have adopted the law with a secular purpose. Second, the statute's principal or primary effect must be one that neither advances nor inhibits religion. Third, the statute must not result in an excessive entanglement of government with religion."⁴⁴ Turning to the first or "purpose" prong of the *Lemon* test, the Court described this prong as asking "whether government's actual purpose is to endorse or disapprove of religion."⁴⁵ The Court then noted that if "the law was enacted for the purpose of endorsing religion, 'no consideration of the second or third [prongs of the *Lemon* test] is necessary.'"⁴⁶

In examining the circumstances surrounding the enactment of the Creation-Science Act, the Court first noted that the Act's "stated purpose is to protect academic freedom."⁴⁷ This purpose, stressed the Court, was not advanced by the Act's actual operation.⁴⁸ As analyzed by the Court,

this article that the theory of evolution does not attempt to answer the external power question.

39. *Id.*

40. *Edwards v. Aguillard*, 482 U.S. 578 (1987).

41. *Id.* at 582.

42. *Id.* at 581.

43. *Id.* at 593.

44. *Id.* at 583 (citing *Lemon v. Kurtzman*, 403 U.S. 602, 612-13 (1971)).

45. *Id.* at 585 (citing *Lynch v. Donnelly*, 465 U.S. 668, 690 (1984) (O'Connor, J., concurring)).

46. *Id.* (citing *Wallace v. Jaffree*, 472 U.S. 38, 56 (1985)).

47. *Id.* at 586.

48. *Id.* The Court added: "Even if 'academic freedom' is read to mean 'teaching all of the evidence' with respect to the origin of human beings, the Act does not further this purpose. The goal of providing a more comprehensive science curriculum is not furthered either by outlawing the teaching of evolution or by requiring the teaching of creation science." *Id.*

the "Act provides Louisiana school teachers with no new authority" to teach any fact-based scientific concept that they were not already authorized to teach under existing state law.⁴⁹ Moreover, the Court described the Act as granting a "discriminatory preference for the teaching of creation science and against the teaching of evolution."⁵⁰ Weighing these factors, the Court agreed "with the Court of Appeals' conclusion that the Act does not serve to protect academic freedom, but has the distinctly different purpose of discrediting 'evolution by counterbalancing its teaching at every turn with the teaching of creationism.'"⁵¹

Perhaps more than in *Epperson*, the Court in *Edwards* emphasized the close link that supporters of creation science perceive between the external power question and the origin of life question. The Court noted that, in hearings conducted by the Louisiana legislature concerning the Creation-Science Act, Edward Boudreaux, an "expert on creation science, . . . testified . . . that the theory of creation science included belief in the existence of a supernatural creator."⁵² In a similar vein, State Senator Keith, a supporter of the Creation-Science Act, "cited testimony from other experts to support the creation-science view that 'a creator [was] responsible for the universe and everything in it.'"⁵³ Accordingly, the Act's legislative history clearly revealed to the Court "that the term 'creation science,' as contemplated by the legislature that adopted this Act, embodies the religious belief that a supernatural creator was responsible for the creation of humankind."⁵⁴

As viewed by the Court, therefore, creation science involves an effort to establish the existence of God as a scientific fact. Indeed, the "lead witness at the hearings introducing the [Creation-Science Act] . . . described creation science as postulating 'that everything was created by some intelligence or power external to the universe.'"⁵⁵ This is the external power question pure and simple. If this question does not yield to scientific inquiry, as this article postulates, then an effort to establish

49. *Id.* at 587. On this point, the Court quoted the testimony of the president of the Louisiana Science Teachers Association that "[a]ny scientific concept that's based on established fact can be included in our curriculum already, and no legislation allowing this is necessary." *Id.*

50. *Id.* at 588. The Court described the Act's discriminatory features as follows: "While requiring the curriculum guides be developed for creation science, the Act says nothing of comparable guides for evolution. . . . Similarly, resource services are supplied for creation science but not for evolution. . . . Only 'creation scientists' can serve on the panel that supplies the resource services. . . . The Act forbids school boards to discriminate against anyone who 'chooses to be a creation-scientist' or to teach 'creationism,' but fails to protect those who choose to teach evolution or any other non-creation science theory, or who refuse to teach creation science." *Id.*

51. *Id.* at 589 (citing the Court of Appeals decision, 765 F.2d 1251, 1257 (5th Cir. 1985)).

52. *Id.* at 591.

53. *Id.*

54. *Id.* at 592. Senator Keith's expert, Edward Boudreaux, "repeatedly defined creation science in terms of a theory that supports the existence of a supernatural creator." *Id.* at 591 n.12.

55. *Id.* at 591 n.12.

God's existence as a scientific fact is a futile endeavor and serves only to advance a religious belief in the guise of scientific verbiage. This is, I believe, the reason why the Court concluded that "the purpose of the Creationism Act was to restructure the science curriculum to conform with a particular religious viewpoint."⁵⁶ This inference, in turn, led to the Court's ultimate conclusion that "[b]ecause the primary purpose of the Creationism Act is to advance a particular religious belief, the Act endorses religion in violation of the First Amendment."⁵⁷

C. PROTECTING THE CURRICULUM: THE CIRCUIT COURTS SPEAK

Working within the conceptual framework established by the Supreme Court's decisions in *Edwards* and *Epperson*, two decisions by federal circuit courts of appeals have reviewed and sustained governmental action regulating the teaching of evolution and creation science in public school science classrooms. The two decisions are: the 1990 decision of the Seventh Circuit Court of Appeals in *Webster v. New Lenox School District No. 122*⁵⁸ and the 1994 decision of the Ninth Circuit Court of Appeals in *Peloza v. Capistrano Unified School District*.⁵⁹ In *Webster*, the court sustained a school board's prohibition against the teaching of creation science by Ray Webster, a teacher of social studies at the Oster-Oakview Junior High School in New Lenox, Illinois.⁶⁰ In *Peloza*, the court sustained a school district requirement that John E. Peloza, a high school biology teacher, teach the theory of evolution in his classroom.⁶¹ Factually, these two cases are the opposite sides of the same coin and both reach the same substantive conclusion: as currently presented, creation science is intended to advance the faith-based proposition that the universe was created by a force or power external to the universe, a proposition not susceptible to scientific verification.⁶²

In *Webster*, the circuit court stressed the narrow scope of the limitations placed upon Ray Webster in the teaching of his social studies class.⁶³ While Webster was permitted to "discuss objectively the historical relationship between church and state when such discussions were an appropriate part of the curriculum," he was "specifically instructed not to teach creation science, because the teaching of this theory had been held by the

56. *Id.* at 593. The Court added: "[a]s in *Epperson*, the legislature passed the Act to give preference to those religious groups which have as one of their tenets the creation of humankind by a divine creator." *Id.*

57. *Id.* Later in this article, I will discuss more fully the relationship between the external power question and the origin of life question and will argue that, for purposes of instruction, the external power question needs to be kept out of the public school science classroom.

58. 917 F.2d 1004 (7th Cir. 1990).

59. 37 F.3d 517 (9th Cir. 1994).

60. *Webster*, 917 F.2d at 1005-06.

61. *Peloza*, 37 F.3d at 519.

62. As explained by the *Peloza* court, "The Supreme Court has held unequivocally that while the belief in a divine creator of the universe is a religious belief, the scientific theory that higher forms of life evolved from lower forms is not." *Id.* at 521.

63. *Webster*, 917 F.2d at 1006.

federal courts to be religious advocacy.”⁶⁴ Implicit in this instruction is the proposition (with which this article agrees) that the teaching of creation science automatically constitutes religious advocacy because such teaching seeks to establish as scientifically true a religious belief that is beyond the reach of scientific resolution.⁶⁵ Conceding that “the discretion lodged in school boards is not completely unfettered,”⁶⁶ the *Webster* court concluded “that, given the allegations of the complaint, the school board has successfully navigated the narrow channel between impairing intellectual inquiry and propagating a religious creed.”⁶⁷

In *Peloza*, John Peloza challenged a school district requirement that he teach the theory of evolution in his public high school biology classroom.⁶⁸ As described by the *Peloza* court, “Peloza’s complaint alleges that the school district has violated the Establishment Clause ‘by pressuring and requiring him to teach evolutionism, a religious belief system, as a valid scientific theory.’”⁶⁹ In rejecting Peloza’s complaint, the court first noted that “[a]dding ‘ism’ does not change the meaning [of evolution] nor magically metamorphose ‘evolution’ into a religion.”⁷⁰ More fundamentally, the court stressed that

“[e]volution” and “evolutionism” define a biological concept: higher life forms evolve from lower ones. The concept has nothing to do with *how* the universe was created; it has nothing to do with whether or not there is a divine Creator (who did or did not create the universe or did or did not plan evolution as part of a divine scheme).⁷¹

The court concluded with the clear statement that the “Supreme Court has held unequivocally that while the belief in a divine creator of the universe is a religious belief, the scientific theory that higher forms of life evolved from lower forms is not.”⁷² Accordingly, the court held that to require the teaching of evolution is to require simply the teaching of a scientific theory without reference to religious faith.⁷³

64. *Id.* The court further emphasized that “the school board had the authority and the responsibility to ensure that Mr. Webster did not stray from the established curriculum by injecting religious advocacy into the classroom.” *Id.* at 1007.

65. *See id.* at 1006-07.

66. *Id.* at 1007.

67. *Id.* at 1008. The court added: “[g]iven the school board’s important pedagogical interest in establishing curriculum and legitimate concern with possible establishment clause violations, the school board’s prohibition on the teaching of creation science to junior high school students was appropriate.” *Id.*

68. *Peloza*, 37 F.3d at 520.

69. *Id.*

70. *Id.* at 521.

71. *Id.*

72. *Id.* Here the court is expressly recognizing the distinction between the external power question and the origin of life question, a distinction that is central to this article’s reasoning and conclusions.

73. *Id.* As expressed by the court:

Only if we define “evolution” and “evolutionism” as does Peloza as a concept that embraces the belief that the universe came into existence without a Creator might he make out a claim. This we need not do. . . . Nowhere does Peloza point to anything that conceivably suggests that the school district accepts anything other than the common definition of “evolution” and “evo-

D. SUMMING IT ALL UP

In combination and from a constitutional law perspective, the Supreme Court's decisions in *Epperson* and *Edwards* and the circuit courts' decisions in *Webster* and *Peloza* support the following propositions: (1) the external power question, i.e., the existence or non-existence of some intelligence or power (God) external to the universe, does not yield to scientific inquiry; (2) the origin of life question, that is, how and when human beings and other life forms appeared on earth, does yield to scientific inquiry; (3) as presently taught, creation science attempts to prove the existence of a Creator as a scientifically supportable proposition; (4) as presently taught, evolution advances a scientific theory concerning the origin of life forms on earth without reference to the existence or non-existence of a Creator; and (5) as presently taught creation science constitutes religious advocacy because it seeks to establish as scientifically true a religious belief (there is a Creator) that is beyond the reach of scientific resolution.⁷⁴ The rest of the article will elaborate on the above propositions.

III. PROFESSORIAL PONTIFICATIONS ON EVOLUTION AND CREATION SCIENCE

In this portion of the article, I will write subjectively, basing my discussion on the five propositions set forth at the end of the preceding section. I agree with those propositions and with the holdings in the judicial decisions from which the propositions are derived. At this point, I should also state that I am a lifelong Christian, an Episcopalian, and that, as a proposition of faith, I believe in the existence of God. My subjective elaborations follow.

A. THE GOD QUESTION AND SCIENCE

Can science prove the existence or non-existence of God? Can science answer the question of whether the universe was created by some intelligence or power external to the universe? I believe that science cannot answer the God question, that it is beyond the capacity of science to do so. By definition, human beings are part of the universe and are contained within the universe. How is it possible for beings that are part of the universe to prove (or disprove) scientifically that a power external to the universe exists and that this power created the universe? It would be easier to square the proverbial circle.

lutionism." It simply required him as a biology teacher in the public schools of California to teach "evolution." *Peloza* nowhere says it required more.

Id. In other parts of the opinion, the court also reject *Peloza's* complaint that the school district's requirement violated his rights under the Free Speech Clause of the First Amendment, *id.* at 522-23, and the Due Process Clause of the Fourteenth Amendment.

74. See generally *Edwards*, 482 U.S. at 578; *Epperson*, 393 U.S. at 97; *Peloza*, 37 F.3d at 517; *Webster*, 917 F.2d at 1004.

In relation to the origin of the universe, logic dictates two opposing options: (1) the universe was created by a power external to the universe; or (2) the universe was *not* created by a power external to the universe. One of these options is factually true. They cannot both be factually true. From a scientific perspective, the problem is this: what we know (or think we know) of the universe through scientific observation is consistent with either option. Determining the speed of light as it moves through the universe does not tell us scientifically whether God does or does not exist. Even something as comprehensively momentous as the big bang theory (if factually true) does not prove scientifically the existence or non-existence of a Creator. To repeat, all scientific propositions, however persuasive, that human beings have advanced concerning the nature of the universe do not provide scientifically an answer to the question of whether the universe was created by some intelligence or power external to the universe. Scientifically, the resolution of the God question is simply beyond the reach of beings who are themselves a part of the universe.⁷⁵

What then of the emerging view of the universe as a vast, interconnected, organic whole that is in state of constant evolution and growth? If it is argued that this evolution and growth stem from a directing force within the universe, then we are returned ineluctably to the God question: was that inner directing force created by a power external to the universe or has the universe always existed without reference to an external power, unfolding and evolving eternally on its own life-forming motion? No matter how euphonious are the terms used to describe the organic inter-relatedness of all the parts of our pulsating universe, the external power question remains, and it is that question that I believe is beyond the capacity of science to resolve.⁷⁶

75. In his book, *A Brief History of Time*, Stephen W. Hawking discusses the possibility of constructing a "unified theory" that would completely describe the universe. STEPHEN W. HAWKING, *A BRIEF HISTORY OF TIME* 174 (1988). Even assuming that human beings are able eventually to construct such a theory, Hawking observes:

Even if there is only one possible unified theory, it is just a set of rules and equations. What is it that breathes fire into the equations and makes a universe for them to describe? The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe for the model to describe. Why does the universe go to all the bother of existing? Is the unified theory so compelling that it brings about its own existence? Or does it need a creator, and, if so, does he have any other effect on the universe? And who created him?

Id. Hawking then concludes: "If we find the answer to that, it would be the ultimate triumph of human reason—for then we would know the mind of God." *Id.* at 175. It is a major premise of this article that, from a scientific perspective, human beings, as creatures within the universe, cannot "know the mind of God" in relation to the creation of the universe. *Id.* Whether that premise remains true throughout all eternity, I do not attempt to answer.

76. In his politically partisan book, *Why Bush Must Go*, Episcopal Bishop Bennett J. Sims speaks of:

an emerging displacement of old Newtonian mechanics in favor of a new comprehension of creation as an interwoven web of pulsing heartbeats, from the tiniest atomic subquark to the most distant galaxy of wheeling stars, with

From a faith perspective, I could advance what are for me strong and persuasive arguments for my belief that God created the universe. But these arguments would be religious arguments, not arguments capable of scientific verification. While such arguments might have great moral, ethical, and logical appeal to many people, at the end of the day such arguments remain essentially religious in their nature. This is why I agree so strongly with the conclusion of the Supreme and circuit courts that an effort to teach the existence of God as scientific fact is only a mask for religious advocacy and, therefore, constitutes a prohibited establishment of religion when done in a public school classroom.

B. THE ORIGIN OF LIFE QUESTION AND SCIENCE

It is a major thesis of this article that the external power question should not be entangled with the origin of life question. The question of how and when human beings and other life forms appeared on earth can, and should be, studied scientifically without reference to the question of the existence or non-existence of a creator. So viewed, evolution is simply a scientific theory that "higher life forms evolve from lower ones."⁷⁷ This theory, if true, does not turn upon the existence or non-existence of a creator; as a theory, evolution is fully consistent with either a "yes" or "no" answer to the God question.⁷⁸

To say that higher life forms evolve from lower ones does, of course, generate many important sub-questions: When and over what span of time did these higher forms evolve? From what lower forms did the higher forms evolve? Did the appearance of a new species such as homo sapiens occur more or less suddenly or gradually over a significant period of time? While the theory of evolution has not provided "perfect" scientific answers to these and similar questions, I believe that it has provided answers that are at least scientifically credible, answers that may have to be modified as new scientific data may dictate. Moreover, from a scientific perspective, the door is always open in public education to advance scientific theories that differ from those contained in current theories of evolution as long as such different theories are not used as a means to

the human soul as the living receptor of this vast God-given holograph of interwoven beauty and activity.

BENNET J. SIMS, WHY BUSH MUST GO 124 (2004). While I agree with Bishop Sims's theology (and with his politics!), I respectfully repeat that the "pulsing" universe he so eloquently describes does not answer scientifically the God question: was this pulsing universe created by a power external to it?

77. *Peloza v. Capistrano Unified School Dist.*, 37 F.3d 517, 521 (9th Cir. 1994).

78. See THE NATIONAL ACADEMY OF SCIENCES, SCIENCE AND CREATIONISM: A VIEW FROM THE NATIONAL ACADEMY OF SCIENCES IX (2d ed. 1999).

Opinion polls show that many people believe that divine intervention actively guided the evolution of human beings. Science cannot comment on the role that supernatural forces might play in human affairs. But scientific investigations have concluded that the same forces responsible for the evolution of all other life forms on Earth can account for the evolution of human beings.

Id.

prove the existence (or non-existence) of God. The test would be: is the new theory supported by credible scientific evidence that is not tied to the existence or non-existence of a creator?

For example, take the question concerning the age of the Earth. The currently prevailing theory of evolution reckons the age of the Earth in billions of years. If from rock formations, fossil remains, or similar evidence, proponents of a different view attempt to show that the age of the earth should be reckoned in thousands of years, let them have at it as long as they leave God out of the argument, that is, the proponents, in a public school classroom, should not be allowed to argue that because God exists their position must be scientifically true, or that God exists because their position is scientifically true. Their rock formation or fossil evidence must stand or fall on the persuasive (or non-persuasive) weight of its scientific credibility without reference to the external power question.

As noted in the *Webster* case, the courts, with respect to public schools, have repeatedly stressed a "school board's important pedagogical interest in establishing the curriculum and legitimate concern with possible Establishment Clause violations" ⁷⁹ Accordingly, if it is rational for a school board ⁸⁰ to conclude that a certain theory concerning the origin of life lacks credible scientific support, the school board does not violate the Constitution by prohibiting that theory from being taught as a scientific theory in classrooms subject to the board's control. Conversely, if it is rational for a school board to conclude that a certain theory concerning the origin of life does have credible scientific support, the school board does not violate the constitution by authorizing or mandating the teaching of that theory in classrooms subject to the board's control. Implicit in this analysis is the proposition that, among competing theories concerning the origin of life, the school board may rationally select for presentation to students the theory or theories that the board finds are most strongly supported by credible scientific evidence. Finally, and to repeat what this article has already said, the school board's curriculum decisions must be made without reference to the external power question: the school board may not select scientific theories concerning the origin of life based on the tendency of such theories to support (or not support) a belief in the existence of God.

In *Edwards*, the Supreme Court invalidated Louisiana's "Balanced Treatment for Creation-Science and Evolution-Science . . . Act" ⁸¹ because "the primary purpose of the Creationism Act is to advance a particular religious belief. . . ." ⁸² Admittedly, it will not always be easy to determine whether the primary purpose of a curriculum mandate is to

79. *Webster v. New Lenox School Dist. No. 122*, 917 F.2d 1004, 1008 (7th Cir. 1990).

80. The phrase "school board" is here used to represent state action in whatever form that action may manifest itself.

81. *Edwards v. Aguillard*, 482 U.S. 578, 578-80 (1987).

82. *Id.* at 593.

advance a particular religious belief. In this area of constitutional law, fact situations can and do create difficult questions of degree. But, in such cases, it is not beyond the capacity of the judicial system to determine whether a particular theory concerning the origin of life is scientifically credible or whether the theory in question is simply a mask for the advancement of a religious belief. Here, the factor of entanglement, abundantly present in *Edwards*, is an important clue. The more a given theory concerning the origin of life is tied in its presentation to the external power question, the more reason there is to conclude that the primary purpose of that presentation is to advance a religious belief. Thus, in reviewing Louisiana's Creationism Act, the *Edwards* Court stressed that the Act's "legislative history . . . reveals that the term 'creation science,' as contemplated by the legislature that adopted the Act, embodies the religious belief that a supernatural creator was responsible for the creation of humankind."⁸³ In the absence of such entanglement with the God question, the Court conceded that "teaching a variety of scientific theories about the origins of humankind . . . might be validly done with the clear secular intent of enhancing the effectiveness of science instruction."⁸⁴ For example, scientists might disagree over the question of "whether the rate of change of species is slow and gradual or whether it takes place in bursts after long periods when little change occurs - an idea known as punctuated equilibrium."⁸⁵

IV. CONCLUDING COMMENTS

A basic theme of this article is this: The teaching of Creation-Science in public school classrooms constitutes a prohibited establishment of religion because, as presently taught, Creation-Science attempts to prove the existence of a Creator (God) as a scientific fact, a proposition not capable of scientific resolution. The National Academy of Sciences expresses this same view in these words:

Creationism, intelligent design, and other claims of supernatural intervention in the origin of life or of species are not science because they are not testable by the methods of science. These claims subordinate observed data to statements based on authority, revelation, or religious belief. Documentation offered in support of these claims is typically limited to the special publications of their advocates. These publications do not offer hypotheses subject to change in light of new data, new interpretations, or demonstration of error. This contrasts with science, where any hypothesis or theory always remains subject to the possibility of rejection or modification in the light of new knowledge.⁸⁶

83. *Id.* at 591-92.

84. *Id.* at 594. The Court added: "[b]ut because the primary purpose of the Creationism Act is to endorse a particular religious doctrine, the Act furthers religion in violation of the Establishment Clause." *Id.*

85. NATIONAL ACADEMY OF SCIENCES, *supra* note 78, at 28.

86. *Id.* at 25. The Academy adds these words:

I agree and rest my case.⁸⁷

No body of beliefs that has its origin in doctrinal material rather than scientific observation, interpretation, and experimentation should be admissible as science in any science course. Incorporating the teaching of such doctrines into a science curriculum compromises the objectives of public education. Science has been greatly successful at explaining natural processes, and this has led not only to increased understanding of the universe but also to major improvements in technology and public health and welfare. The growing role that science plays in modern life requires that science, and not religion, be taught in science classes.

Id.

87. In the interest of full disclosure, my subjective position is that, viewed broadly, the scientific theory of evolution as now presented is the best explanation for the origin of human beings and other life forms on earth. As is true of any scientific theory, evolution theory is subject to change as new scientific evidence supports that change.

