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INTELLIGENT DESIGN IN PUBLIC UNIVERSITY SCIENCE DEPARTMENTS: ACADEMIC FREEDOM OR ESTABLISHMENT OF RELIGION

Frank S. Ravitch*

INTRODUCTION

In recent years issues surrounding intelligent design theory in the public schools have come to the fore.¹ Intelligent design theory (ID) devolved/evolved from the creation science movement,² itself a descendent of creationism.³ Most of the cases involving creation science or ID concern either the direct teaching of the subject in public secondary school science courses⁴ or the use of disclaimers when evolution is taught which state that it is only a theory and often allude to creation science, creationism, or ID.⁵ Yet, a number of “experts” cited by ID proponents are professors at public universities.⁶ While some of these experts are in philosophy or religion

* Professor of Law, Michigan State University College of Law. The author is grateful to Lane Dilg, Stephen Feldman, Chip Lupu, Ken Marcus, Bill Marshall, Robert Tuttle, and William Van Alstyne, fellow participants in the symposium. I am also grateful to Joy A. Thompson and the staff of the *William & Mary Bill of Rights Journal* for their excellent organization and professionalism in planning this symposium. Finally, I am grateful to Colin Boes and Adrienne Whitehead for their excellent research assistance. Any errors in this Article, are of course, mine alone.

¹ See, e.g., *Selman v. Cobb County Sch. Dist.*, 449 F.3d 1320 (11th Cir. 2006); *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707 (M.D. Pa. 2005).

² See *Kitzmiller*, 400 F. Supp. 2d at 718–21; ROBERT T. PENNOCK, *TOWER OF BABEL: THE EVIDENCE AGAINST THE NEW CREATIONISM* 28–31 (1999). The irony in the phraseology preceding this note is very much intended.

³ *Kitzmiller*, 400 F. Supp. 2d at 718–20; PENNOCK, *supra* note 2, at 28–31.

⁴ See, e.g., *Edwards v. Aguillard*, 482 U.S. 578 (1987) (holding that Louisiana’s “balanced treatment act,” which required creation science be taught if evolution is taught, violated the Establishment Clause).

⁵ *Selman*, 449 F.3d at 1324; *Kitzmiller*, 400 F. Supp. 2d at 708–09.

⁶ The International Society for Complexity, Information, and Design (ISCIDC) lists, among others, the following public university professors as fellows: Walter Bradley (mechanical engineering), Texas A&M University; J. Budziszewski (philosophy and political theory), University of Texas, Austin; John Angus Campbell (communications), University of Memphis; Russell W. Carlson (molecular biology), University of Georgia, Athens; Kenneth de Jong (linguistics), Indiana University, Bloomington; Daniel Dix (mathematics), University of South Carolina; Fred Field (linguistics), California State University; Guillermo Gonzalez (astronomy), Iowa State University; James Keener (mathematics and bioengineering), University of Utah; Robert C. Koons (philosophy), University of Texas, Austin; Stan Lennard (medicine), University of Washington; Scott Minnich (microbiology), University of Idaho; Martin Poenie

departments, others are in science departments, including biology.⁷ The question naturally arises whether these universities can preclude such professors from teaching or researching ID as faculty members in a science department. There is also the question of whether allowing these individuals to teach ID in the science curriculum is an establishment of religion. Related to both of these questions is the query of whether ID theory can be considered science in regard to these issues.

In Part I, this Article suggests that universities may determine that ID is not science and thus preclude professors from teaching it in university science departments. Such a determination has significant doctrinal and philosophical implications. Science departments may also consider research by ID theorists under their general tenure policies, which usually require a tenure candidate to have been published in peer reviewed journals and the evaluation of a tenure candidate's scholarship by outside evaluators in the relevant scientific field (i.e., biology, chemistry, geology, astronomy, etc.). If the scholarship is deemed inadequate by such experts, the department, college, and/or university may take whatever action is normally taken where evaluators find scholarship lacking in quality or depth. This does not preclude the possibility that such work might be appropriate in a religion or philosophy department. In Part II, this Article suggests that teaching ID in a public university science department may pose Establishment Clause problems depending on the specific facts involved. Questions of academic freedom and free speech generally are highly relevant in addressing these issues.

(molecular cell and developmental biology), University of Texas, Austin; Carlos E. Puente (hydrology and theoretical dynamics), University of California, Davis; Henry F. Schaefer (quantum chemistry), University of Georgia, Athens; Jeffrey M. Schwartz (psychiatry and neuroscience), UCLA; Philip Skell (chemistry), Penn State University; Frederick Skiff (physics), University of Iowa; and Karl D. Stephan (electrical engineering), Southwest Texas State University. The International Society for Complexity, Information and Design Society Fellows, <http://www.iscid.org/fellows.php> (last visited Jan. 21, 2008). Several of these names also appear on the Discovery Institute's Center for Science and Culture website. Discovery Institute's Center for Science and Culture, <http://www.discovery.org/csc/fellows.php> (last visited Jan. 28, 2008). It is possible that some of the people listed on the ISCIDC website do not realize that the organization is heavily focused on ID, given the ISCIDC's savvy marketing and description of purpose on its website, but when one looks closely at the organization it is hard to miss ISCIDC's central focus on ID and related issues.

⁷ For example, the Discovery Institute's Center for Science and Culture lists the following as fellows of the center and supporters of ID theory: Scott Minnich, a microbiologist at the University of Idaho; Dean Kenyon, a professor-emeritus of biology at San Francisco State University; and Henry F. Schaefer III, a professor of chemistry at the University of Georgia. Discovery Institute, <http://www.discovery.org/csc/fellows.php> (last visited Jan. 28, 2008). A number of these individuals are also on the ISCIDC list of fellows, which includes other biologists and chemists. *See supra* note 6. Neither the Discovery Institute's nor the ISCIDC's list of fellows includes everyone who could be listed. The lists are meant to be illustrative of the fact that there are a number of faculty members at public universities whom ID theorists cite as supporting the theory or aspects of it.

I. ACADEMIC FREEDOM, CURRICULAR NEEDS, AND DISCIPLINARY BOUNDARIES

The ability of public universities to preclude the teaching of ID in science classes might seem clear to some. Similarly, the ability of a science department at a public university to deny research support for, or deny tenure to, those whose research is primarily focused on ID might seem equally clear. Yet, the questions raised by these scenarios are not as easy to answer as they may appear to be at first glance. In order to answer these questions we must determine whether ID is science. If so, it might be hard to exclude ID from the curriculum, at least in upper level electives, although the courts do give significant deference to university curricular decisions.⁸ If ID is not determined to be science, the deference given by courts to departmental and university curricular decisions would enable university officials to keep ID out of science courses.⁹

This still leaves open the question of public university support for research on ID. Here, the courts tend to suggest more deference to the academic freedom of the faculty member.¹⁰ Of course, even this academic freedom is not boundless.¹¹ For example, one would not expect that a geology department would have to credit, fund, or otherwise support research arguing that the earth is flat. Nor would an astronomy department have to credit or support research attempting to prove (but not disprove) that our solar system is the center of the universe. Yet, as a theoretical matter, one may argue that in precluding such work one is favoring a particular paradigm for science over other possible paradigms.¹² This argument raises significant philosophical questions,¹³ but as will be explained, it does not help ID theorists despite its superficial appeal.¹⁴

This Part will first explore the legal and philosophical debate over whether ID is science, religion, or something else. In doing so, it is necessary to address the meaning and nature of science itself. Next, this Part will explore whether the teaching of ID can be excluded from a public university science program. Finally, this Part will address whether ID research must be supported or credited by public university science departments. Answering the first question goes a long way towards answering the second and third questions.

⁸ See *infra* Part I.B.

⁹ See *infra* Part I.B.

¹⁰ See *infra* Part I.C.

¹¹ See *infra* Part I.C.

¹² See generally THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (3d ed. 1996) (discussing paradigms in the sciences).

¹³ These questions are addressed *infra* at Part I.A.

¹⁴ See *infra* Part I.A.

A. ID: Religion, Science, or Religious Science?

Is intelligent design theory science, religion, or both? Proponents of ID argue that ID is science and that—at least on its face—it is not religion.¹⁵ Yet, when probed further about who the “intelligent designer” might be, the answer is generally G-d or some sort of unnamed supernatural force.¹⁶ Does this make ID religion? Does it preclude ID from being science? One court that explored the issue in depth held that ID is not science and that it is a religiously grounded theory.¹⁷ As will be set forth below, this seems a correct result, especially given the evidence before the court. Still, the answer relies on current scientific paradigms—i.e., the scientific method.

In *Kitzmiller v. Dover Area School District*, a federal district court had the opportunity to address the question of whether ID theory is religion or science.¹⁸ The court heard testimony from leading philosophers of science,¹⁹ biologists,²⁰ and ID proponents.²¹ After hearing all of this testimony and evaluating documentary evidence, such as manuscripts of an ID textbook that was virtually identical to a creation science text with “intelligent designer” substituted for G-d and “intelligent design” for “creation,”²² the court held that ID is not science, and it is a religiously grounded theory. The court’s holding that ID is a religiously based theory and not a scientific theory was an important aspect of the decision for a number of reasons but especially because the Supreme Court had already held in *Edwards v. Aguillard* that religiously based theories of creation (in *Edwards* “creation science”) could not be taught in public school science classes without running afoul of the Establishment Clause.²³

In *Kitzmiller*, theologians and philosophers of science testified that ID theory is not a scientific theory and is a religious theory. Recounting the testimony of Dr. John Haught, the court stated:

We initially note that John Haught, a theologian who testified as an expert witness for Plaintiffs and who has written extensively on the subject of evolution and religion, succinctly explained to the Court that the argument for ID is not a new scientific argument, but is rather an old religious argument for the existence of

¹⁵ See The Discovery Institute, Center for Science and Culture, <http://www.discovery.org/csc/> (last visited Jan. 21, 2008); The International Society for Complexity, Information, and Design Center, <http://www.iscid.org> (last visited Jan. 28, 2008).

¹⁶ See *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707, 718–22 (M.D. Pa. 2005).

¹⁷ See *id.* at 735.

¹⁸ 400 F. Supp. 2d 707.

¹⁹ *Id.* at 719, 721, 735–36.

²⁰ *Id.* at 724–25, 727–29, 737–38, 740, 743–44.

²¹ *Id.* at 718–23, 735–45.

²² *Id.* at 721–22.

²³ 482 U.S. 578 (1987).

God. He traced this argument back to at least Thomas Aquinas in the 13th century, who framed the argument as a syllogism: Wherever complex design exists, there must have been a designer; nature is complex; therefore nature must have had an intelligent designer. Dr. Haught testified that Aquinas was explicit that this intelligent designer “everyone understands to be God.” The syllogism described by Dr. Haught is essentially the same argument for ID as presented by defense expert witnesses Professors Behe and Minnich who employ the phrase “purposeful arrangement of parts.”

Dr. Haught testified that this argument for the existence of God was advanced early in the 19th century by Reverend Paley and defense expert witnesses Behe and Minnich admitted that their argument for ID based on the “purposeful arrangement of parts” is the same one that Paley made for design. The only apparent difference between the argument made by Paley and the argument for ID, as expressed by defense expert witnesses Behe and Minnich, is that ID’s “official position” does not acknowledge that the designer is God. However, as Dr. Haught testified, anyone familiar with Western religious thought would immediately make the association that the tactically unnamed designer is God.²⁴

Another example of this testimony:

Robert Pennock, Plaintiffs’ expert in the philosophy of science, concurred with Professor Haught and concluded that because its basic proposition is that the features of the natural world are produced by a transcendent, immaterial, non-natural being, ID is a religious proposition regardless of whether that religious proposition is given a recognized religious label. It is notable that not one defense expert was able to explain how the supernatural action suggested by ID could be anything other than an inherently religious proposition.²⁵

Moreover, experts on scientific education reinforced this testimony when discussing the disclaimer at issue in the case:

[The second] paragraph [of the disclaimer] singles out evolution from the rest of the science curriculum and informs students that

²⁴ *Kitzmiller*, 400 F. Supp. 2d at 718.

²⁵ *Id.* at 721.

evolution, unlike anything else that they are learning, is “just a theory,” which plays on the “colloquial or popular understanding of the term [‘theory’] and suggest[ing] to the informed, reasonable observer that evolution is only a highly questionable ‘opinion’ or a ‘hunch.’” Immediately after students are told that “Darwin’s Theory” is a theory and that it continues to be tested, they are told that “gaps” exist within evolutionary theory without any indication that other scientific theories might suffer the same supposed weakness. As Dr. Alters [the only science education expert to testify at trial] explained this paragraph is both misleading and creates misconceptions in students about evolutionary theory by misrepresenting the scientific status of evolution and by telling students that they should regard it as singularly unreliable, or on shaky ground. Additionally and as pointed out by Plaintiffs, it is indeed telling that even defense expert Professor Fuller agreed with this conclusion by stating that in his own expert opinion the disclaimer is misleading. Dr. Padian [an expert for plaintiffs] bluntly and effectively stated that in confusing students about science generally and evolution in particular, the disclaimer makes students “stupid.”²⁶

Even the ID theorists’ top witnesses and their leading textbook had a hard time explaining how ID is science and not religiously grounded:

Moreover, it is notable that both Professors Behe and Minnich [two leading defense experts] admitted their personal view is that the designer is God and Professor Minnich testified that he understands many leading advocates of ID to believe the designer to be God.

Although proponents of the ID [movement] occasionally suggest that the designer could be a space alien or a time-traveling cell biologist, no serious alternative to God as the designer has been proposed by members of the ID [movement], including Defendants’ expert witnesses. In fact, an explicit concession that the intelligent designer works outside the laws of nature and science and a direct reference to religion is *Pandas*’ [the leading ID textbook] rhetorical statement, “what kind of intelligent agent was it [the designer]” and answer: “On its own science cannot answer this question. It must leave it to religion and philosophy.”²⁷

²⁶ *Id.* at 725 (citation omitted).

²⁷ *Id.* at 718–19.

One of the most problematic pieces of evidence for the ID proponents is the “Wedge Document.”²⁸ The Wedge Document is essentially the game plan of the Discovery Institute, the leading supporter of ID theory.²⁹ The document makes clear that ID theory is essentially a way to get the Christian view of creation back into public school science classrooms after the defeat of “creation science” in *Edwards v. Aguillard*.³⁰ The document reads more like a marketing strategy than the basis for a scientific school. This was not lost on the court in *Kitzmiller*:

Dramatic evidence of ID’s religious nature and aspirations is found in what is referred to as the “Wedge Document.” The Wedge Document, developed by the Discovery Institute’s Center for Renewal of Science and Culture (hereinafter “CRSC”), represents from an institutional standpoint, the ID [Movement]’s goals and objectives, much as writings from the Institute for Creation Research did for the earlier creation-science movement The Wedge Document states in its “Five Year Strategic Plan Summary” that the ID [Movement]’s goal is to replace science as currently practiced with “theistic and Christian science.” As posited in the Wedge Document, the ID [Movement]’s “Governing Goals” are to “defeat scientific materialism and its destructive moral, cultural, and political legacies” and “to replace materialistic explanations with the theistic understanding that nature and human beings are created by God.” The CSRC expressly announces, in the Wedge Document, a program of Christian apologetics to promote ID. A careful review of the Wedge Document’s goals and language throughout the document reveals cultural and religious goals, as opposed to scientific ones. ID aspires to change the ground rules of science to make room for religion, specifically, beliefs consonant with a particular version of Christianity.³¹

In the end, the *Kitzmiller* court held that the disclaimer involved in that case, as well as the other events surrounding that disclaimer including the acquisition of ID textbooks for the school library, violated the endorsement test³² and the purpose and effects prong of the *Lemon* test,³³ and thus violated the Establishment Clause.³⁴ This aspect of the holding will be discussed in greater detail below.³⁵

²⁸ *Id.* at 720, 737.

²⁹ *Id.* at 720.

³⁰ *Cf. id.* at 720–22, 737.

³¹ *Id.* at 720 (citations omitted).

³² *Id.* at 714–35.

³³ *Id.* at 746–64.

³⁴ *Id.* at 765.

³⁵ *See infra* Part II.

Of course, the decision of a federal district court does not have the precedential value of an appeals court decision, but the careful analysis of the district court on the science/religion issue will likely be followed by many courts because it is the first decision directly addressing the issue in the ID context and because so many leading figures on both sides of the issue testified at trial.³⁶ The behavior of the school board involved in *Kitzmiller*, however, was so brazen that courts might use that behavior to distinguish some of the Establishment Clause analysis in the case—although given the district court’s reasoning, the case would have come out the same even without the brazen behavior of the school board.³⁷ Yet, that behavior was not the primary focus of the court’s analysis on the science/religion issue.³⁸ It is that issue that was key to the ultimate outcome in *Kitzmiller* and that is key to the analysis in this Article.

If ID is not science, as accepted by the broader scientific community, and it is a religiously based theory, as found by the court in *Kitzmiller* and as reflected in many of the ID movement’s own documents and statements, what arguments remain for ID theorists? After all, if ID is not science, it need not be taught or recognized by science departments at universities³⁹ and in fact, as explained below, could be kept out of the science classroom.⁴⁰ As will be seen, the best remaining argument for ID theorists ultimately works against considering ID “science.”

ID theorists have attempted to argue, although frequently without much sophistication, that reliance on the current scientific paradigm excludes religious or other paradigms from competing.⁴¹ If such alternative paradigms are to gain any acceptance, the argument goes, it is essential that they be explored by researchers at the university level. This raises the related question of whether such arguments for alternative scientific paradigms must be credited by university science departments. The first issue has serious philosophical implications. The second issue serious legal and educational implications. Yet, as will be seen, regardless of the answer to the first question, the answer to the second question is “no.”

The possibility of multiple scientific paradigms was addressed in depth by Thomas Kuhn in his seminal work, *The Structure of Scientific Revolutions*.⁴² At first glance, it may appear that ID theorists could use the notion of multiple scientific paradigms to argue that religiously based—or at least supernaturally based—paradigms should be considered “science,” despite such alternate paradigms’ failure to use the scientific

³⁶ See *supra* notes 19–21 and accompanying text.

³⁷ *Kitzmiller*, 400 F. Supp. 2d at 746–63.

³⁸ See *id.* at 720–23, 735–45.

³⁹ *Bishop v. Aronov*, 926 F.2d 1066 (11th Cir. 1991).

⁴⁰ *Id.*; see *infra* Part I.B.

⁴¹ See *Kitzmiller*, 400 F. Supp. 2d at 736–37; PENNOCK, *supra* note 2, at 37–39; The Discovery Institute Center for Science and Culture, Academic Freedom Page, <http://www.discovery.org/csc/freeSpeechEvolCampMain.php> (last visited Jan. 21, 2008).

⁴² KUHN, *supra* note 12, *passim* (discussing paradigms in the sciences and asserting that there is no super-paradigm to decide between conflicting paradigms).

method to analyze their ultimate conclusion. The scientific method itself would only be a tool of particular paradigms for science under this analysis. Of course, this argument would allow alchemy, ufology, and astrology to be considered science as well. In fact, a leading ID proponent admitted as much when he testified in *Kitzmiller* regarding ID theory.⁴³ One would hardly expect that chemistry departments would accept alchemy as an appropriate teaching or research field. Nor would one expect an astronomy department to credit teaching or research focused on astrology (one can imagine the Dionne Warwick space telescope instead of the Hubbell).

Kuhn's arguments, however, demonstrate that ID would not have a place as a "scientific" paradigm and would not be accepted by any community of credible scientists even if it were considered a "scientific" paradigm.⁴⁴ In fact, while at a superficial level it might be argued that Kuhn's approach would support the potential inclusion in "science" of paradigms that are not based in traditional scientific approaches, when one reads his work it quickly becomes apparent that quite the opposite is true.⁴⁵ Even within Kuhn's description of scientific paradigms and revolutions, there is a presumed substantive boundary for what can be called science, even if in narrower terms that boundary may shift.⁴⁶ Astrology, ID, and the belief that the Earth is the center of the universe are all precluded from "science" because they do not use the tools, quantitative analysis, or methodology of science in regard to their ultimate hypothesis. In fact, if any of the three might have ever been "science" in the current sense of that term, it would be the third.⁴⁷ Most importantly, even if ID could somehow be called a scientific, as opposed to theological or philosophical, paradigm, it need not and has not been accepted by the community of scientists.⁴⁸ In fact, Kuhn specifically addresses the fact that not all paradigms will be accepted by the scientific community,⁴⁹ that the scientific community does determine what science is,⁵⁰ and that there are specific ways in which a new paradigm might come to be accepted by the

⁴³ *Kitzmiller*, 400 F. Supp. 2d at 736.

⁴⁴ See KUHN, *supra* note 12, at 153–54 (linking the likelihood of success of a new paradigm to quantitative superiority over an old paradigm); *id.* at 167–69, 177–78 (emphasizing the importance of acceptance by the scientific community to the success of a paradigm); *id.* at 205–07 (giving a list of criteria that distinguish old paradigms from recent ones).

⁴⁵ See *id.*

⁴⁶ See KUHN, *supra* note 12, *passim*. Kuhn repeatedly draws links between science and philosophy or religion. See e.g., *id.* at 78, 88. He discusses successful scientific revolutions as occurring through the use of the tools and problems of "normal science," thus resulting in new scientific paradigms, but new paradigms must build on or improve previous theories to gain acceptance. *Id.* at 144–59.

⁴⁷ At the time it was widespread, the Flat Earth theory at least corresponded with the physical observations of scientists of the time, but this view was based on perceptions of what was possible in the natural world.

⁴⁸ *Kitzmiller*, 400 F. Supp. 2d at 735–45; PENNOCK, *supra* note 2, at 37–39.

⁴⁹ KUHN, *supra* note 12, at 18–19.

⁵⁰ *Id.* at 177–78.

scientific community or some subset of it.⁵¹ ID, even if it proclaims itself to be a scientific paradigm, has not gained acceptance among credible scientists or scientific journals and is not part of the discourse of the mainstream sciences.⁵²

Still, in arguing for academic freedom, an ID theorist might ask how do we know that a given paradigm is “the” paradigm for a given science unless there is some super-paradigm that allows us to choose between competing paradigms. As Kuhn points out, there is no such super-paradigm.⁵³ I have used a similar analysis in critiquing the concept of neutrality in the religion clause context.⁵⁴ Still, as noted above, Kuhn argues that there are still criteria for “what” can be counted as science,⁵⁵ and ID does not meet these criteria.⁵⁶ Perhaps more importantly, when courts address questions of academic freedom within a given discipline, the metaphysical question implicitly gives way to the more basic question of whether the disciplinary boundaries within a given field can be maintained while allowing for robust academic freedom.⁵⁷ Of course, since ID cannot even verify its claims that it is science within the Kuhnian world of shifting scientific paradigms, the legal questions are even easier to answer.

Kuhn’s work at most suggests that a theory like ID may have been a paradigm for science—alchemy was arguably based in a scientific paradigm at one point in history—but its methodology and presumptions are so far out of line with mainstream scientific thought that it cannot create a ripple, let alone a shift, in current scientific paradigms.⁵⁸ The reason for this is that ID theory is unwilling or unable to question its ultimate hypothesis of the existence of an intelligent designer, and it has failed to engage in experiments that could support or contravene evolution.⁵⁹ ID works toward a predetermined end to disprove evolution, at least as to more complex life forms.⁶⁰

It is quite possible that alternative theories can gain acceptance within a discipline by using the tools of that discipline (as well as interdisciplinary tools) to convincingly make the case for such theories.⁶¹ In fact, this is the way that Kuhn suggests most new paradigms come to be accepted.⁶² Many ID theorists seem upset about their failure

⁵¹ *Id.* at 167–69.

⁵² *Kitzmiller*, 400 F. Supp. 2d at 735–45; PENNOCK, *supra* note 2, at 37–39.

⁵³ KUHN, *supra* note 12, at 150–58.

⁵⁴ See FRANK S. RAVITCH, *MASTERS OF ILLUSION: THE SUPREME COURT AND THE RELIGION CLAUSES 13–36* (2007); Frank S. Ravitch, *A Funny Thing Happened on the Way to Neutrality: Broad Principles, Formalism, and the Establishment Clause*, 38 GA. L. REV. 489, 498–523 (2004).

⁵⁵ KUHN, *supra* note 12, at 153–54, 167–69, 177–78, 205–07.

⁵⁶ *Kitzmiller*, 400 F. Supp. 2d at 718–23, 735–45; PENNOCK, *supra* note 2, at 37–39.

⁵⁷ See *infra* Parts I.B., I.C.

⁵⁸ KUHN, *supra* note 12, at 94, 129–30, 145–47, 153–54, 167–69, 177–79, 206–07.

⁵⁹ PENNOCK, *supra* note 2, at 177–79.

⁶⁰ See *Kitzmiller*, 400 F. Supp. 2d at 735–45.

⁶¹ See KUHN, *supra* note 12, at 94, 129–30, 145–47, 153–54, 167–69, 177–79, 206–07.

⁶² *Id.*

to gain acceptance among credible scientists,⁶³ but as noted above, this is heavily a result of their failure to test their ultimate hypothesis—that there is an intelligent designer—through the scientific method.⁶⁴ The failure to do so suggests that ID should be explored in the humanities, if at all, where philosophy and religious studies leave ample room to explore such questions.⁶⁵ This failure, however, excludes ID from science departments that do not wish to credit it.⁶⁶

This is not to say that academic freedom within the sciences is less robust than in other fields. A good example of a highly controversial theory that has gained a good deal of acceptance while also garnering a good amount of skepticism is the field of string theory in physics.⁶⁷ Of course, one reason the theory is so controversial is that it is hard to falsify based on real world observations—string theory is primarily a set of mathematical models supported by *some* real world research.⁶⁸ Of course, string theorists do not use this to avoid the scientific method. Rather, they have endeavored to analyze (i.e., prove or disprove) their theories by using more and more sophisticated experiments and equipment.⁶⁹ One of the most recent examples of these attempts is the CERN Large Hadron Collider being built in Switzerland.⁷⁰ It will be larger than the current giant atom smasher used by string theory proponents, which is located at Fermi National Accelerator Laboratory in the United States.⁷¹

ID theorists, of course, do no such thing.⁷² There is no attempt to verify the existence of the intelligent designer through scientific experiments. There is simply an attempt to prove the designer's existence by using concepts such as irreducible complexity—the notion that some biological phenomenon such as the human eye or a bat's ability to fly could not exist as the result of evolution, because if you remove one part, the entire function falls apart—to demonstrate the existence of the designer.⁷³

⁶³ E.g., The Discovery Institute, Center for Science and Culture, Academic Freedom, <http://www.discovery.org/csc/freeSpeechEvolCampMain.php> (last visited Jan. 19, 2008).

⁶⁴ *Kitzmiller*, 400 F. Supp. 2d at 737–38.

⁶⁵ *Id.* at 718–19, 746.

⁶⁶ *Id.* at 735–45; *see also* *Bishop v. Aronov*, 926 F.2d 1066 (11th Cir. 1991) (holding that a university-issued memorandum prohibiting professors from discussing religious beliefs or preferences does not violate free speech).

⁶⁷ *See* BRIAN GREENE, *THE ELEGANT UNIVERSE: SUPERSTRINGS, HIDDEN DIMENSIONS, AND THE QUEST FOR THE ULTIMATE THEORY* (1999).

⁶⁸ *See* Keay Davidson, “*Theory of Everything*” *Tying Researchers up in Knots*, S.F. CHRON., Mar. 14, 2005, at A6.

⁶⁹ GREENE, *supra* note 67, at 222, 383–84.

⁷⁰ For reasonably up-to-date information on the Large Hadron Collider, *see* European Organization for Nuclear Research, Large Hadron Collider, <http://public.web.cern.ch/public/en/LHC/LHC-en.html> (last visited Jan. 19, 2008).

⁷¹ For reasonably up-to-date information on the Fermi National Accelerator Laboratory, *see* Fermilab, <http://www.fnal.gov> (last visited Jan. 19, 2008).

⁷² *See* *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707, 735–45 (M.D. Pa. 2005).

⁷³ *Id.* at 738–44; PENNOCK, *supra* note 2, at 263–72.

Virtually every example ID theorists provide for irreducible complexity has been countered by modern science.⁷⁴ For example, it is well understood, based on the fossil record and experiments, that some biological functions resulted from changes in the function of a specific body part.⁷⁵ Thus, all parts of complex biological functions need not have evolved initially to serve that function.⁷⁶ There are many examples of such complex systems in nature and in the fossil record.⁷⁷ Yet, ID theorists do not generally acknowledge this research, except to state that it is wrong.⁷⁸ They do not attempt to falsify their fundamental principles.⁷⁹

String theory is the ultimate foil for the claims of ID theorists because it has become an accepted paradigm among many theoretical physicists, even as others have suggested that the inability to falsify it makes string theory more philosophy than science.⁸⁰ As noted above, string theorists do not respond by saying, “we don’t need to prove the existence of strings because they are so well demonstrated by nature.” They argue that strings are well demonstrated by phenomenon in the physical universe,⁸¹ but at the same time they acknowledge that until they can prove their ultimate hypothesis through experimentation, they may be going down a path that will prove to be wrong.⁸² In fact, the reason string theory became generally accepted was because of the complex mathematical calculations that support it, as well as the many real world phenomena it seems to explain.⁸³ Without the math, however, no one would have bought it.⁸⁴ Whether string theory ultimately results in a paradigm that is accepted by the community of physicists will be based on its ability to use the tools of that community to demonstrate and convince others that it is superior to earlier paradigms.⁸⁵

The evolution of string theory itself is practically a page out of Kuhn’s work. After some initial promise, it became more marginalized as quantum mechanics (the study of the very small, such as atoms, in physics) and cosmology (generally connected more with relativity and the study of larger phenomena in the universe) went in other directions.⁸⁶ After years of complex mathematical computations, the theory

⁷⁴ *Kitzmiller*, 400 F. Supp. 2d at 734–38; PENNOCK, *supra* note 2, at 263–72.

⁷⁵ See PENNOCK, *supra* note 2, at 109–16.

⁷⁶ *Id.*

⁷⁷ *Id.* at 109–10.

⁷⁸ *Id.* at 263–72.

⁷⁹ *Id.*

⁸⁰ See, e.g., GREENE, *supra* note 67, at 212–15; Davidson, *supra* note 68.

⁸¹ See, e.g., GREENE, *supra* note 67, at 4–5.

⁸² *Id.* at 384–86; Davidson, *supra* note 68.

⁸³ See generally GREENE, *supra* note 67, at 15–20 (describing string theory as “the Unified Theory of Everything” and discussing the current state of string theory).

⁸⁴ Cf. KUHN, *supra* note 12, at 94, 145–47, 153–54, 167–69, 177–79, 206–07 (suggesting that without some persuasive evidence that can be accepted by the community of scientists, new scientific paradigms are unlikely to be persuasive or to lead to a scientific revolution).

⁸⁵ See *id.*

⁸⁶ GREENE, *supra* note 67, at 3–6, 136–40.

had a rebirth of sorts and became quite popular.⁸⁷ It was said to merge things on the quantum level and relativity—i.e., it merged gravity with the three fundamental forces of quantum mechanics.⁸⁸ This led to an explosion of work in the area that created several mathematical models that seemed inconsistent with each other.⁸⁹ This was, of course, problematic if the theory was to actually unify relativity and quantum mechanics. It was also problematic because these models required ten space-time dimensions instead of the generally accepted four dimensions.⁹⁰ Yet, the calculations made sense, and extra dimensions, particularly at the quantum level, explained a number of natural phenomena.⁹¹ Then, Professor Ed Witten determined that the various mathematical models could actually gel because they were all reflections of the same phenomenon in various contexts.⁹² This led to the revelation that there is an eleventh dimension in string theory.⁹³ The eleventh dimension solved a number of problems in the theory and also allowed its broader application at the level of cosmology.⁹⁴

The problem remained, however, that all of this was hard to prove or falsify in the physical world.⁹⁵ The mathematical calculations were complex and meticulous, but did they explain anything real? Some physicists argued that unless string theory is falsifiable, it is not science but rather philosophy.⁹⁶ String theorists responded that the calculations themselves could be falsified,⁹⁷ but moreover, that until string theory is proven or falsified in the real world through experimentation, the verdict is out on its validity.⁹⁸ They then set out to prove or disprove the real world validity of string theory.⁹⁹ Other physicists suggest this is impossible,¹⁰⁰ but that, of course, is

⁸⁷ *Id.* at 139–40.

⁸⁸ *See generally* GREENE, *supra* note 67, *passim* (explaining the basics of superstring theory).

⁸⁹ *Id.* at 283–306.

⁹⁰ *Id.* at 203.

⁹¹ *Id.* at 184–227.

⁹² *Id.* at 308–19.

⁹³ *Id.* at 203–04.

⁹⁴ *Id.* at 308–19.

⁹⁵ *Id.* at 383–87.

⁹⁶ *See* KARL POPPER, *CONJECTURES AND REFUTATIONS: THE GROWTH OF SCIENTIFIC KNOWLEDGE* (5th ed. 2002) (classic text addressing Popper's theories on science); LEE SMOLIN, *THE TROUBLE WITH PHYSICS: THE RISE OF STRING THEORY, THE FALL OF A SCIENCE, AND WHAT COMES NEXT* xii–xxii (2006).

⁹⁷ *See* GREENE, *supra* note 67, at 283–97, 306 (noting the meticulous path of string theory calculations and the importance of the fact that they ultimately worked out); *id.* at 308–19 (discussing the importance of Witten's M-Theory in uniting previously conflicting versions of string theory).

⁹⁸ *Id.* at 20, 383–87.

⁹⁹ *Id.* at 222, 383–87.

¹⁰⁰ *See* SMOLIN, *supra* note 96, at xiv.

a question of the ability of technology to prove it.¹⁰¹ If technology can not prove it, string theory will be seen as a dead end.¹⁰² If it can, then the debate will likely rage on.¹⁰³ Thus, even the most borderline (between philosophy and science) scientific theories still must prove themselves using the scientific method in order to prevail.

B. Teaching Intelligent Design

There is a significant amount of case law holding that public university officials may insist that professors teach within the stated curriculum.¹⁰⁴ It is equally clear that within the curriculum, professors are accorded a great deal of academic freedom;¹⁰⁵ although there are some limitations.¹⁰⁶ Some of these cases involve professors

¹⁰¹ GREENE, *supra* note 67, at 222, 383–87.

¹⁰² *Id.* at 20.

¹⁰³ *Id.*

¹⁰⁴ *See, e.g.,* Edwards v. Cal. U. of Pa., 156 F.3d 488, 491 (3d Cir. 1998) (“[A] public university professor does not have a First Amendment right to decide what will be taught in the classroom.”), *cert. denied*, 525 U.S. 1143 (1999); Keen v. Penson, 970 F.2d 252, 257 (7th Cir. 1992) (“This Court has recognized the supremacy of the academic institution in matters of curriculum content.”); Bishop v. Aronov, 926 F.2d 1066, 1075 (11th Cir. 1991) (noting that university officials may control curriculum decisions); Scallet v. Rosenblum, 911 F. Supp. 999, 1011 (W.D. Va. 1996) (recognizing that schools have a right to determine their own curriculum which must be followed), *cert. denied*, 521 U.S. 1105 (1997); Cooper v. Ross, 472 F. Supp. 802, 809 (E.D. Ark. 1979) (“[A] state university has the undoubted right to prescribe its curriculum, to select its faculty and students and evaluate their performances, and to define and maintain its standards of academic accomplishment.”).

¹⁰⁵ *See, e.g.,* Keysihian v. Bd. of Regents, 385 U.S. 589, 603 (1967) (“Our Nation is deeply committed to safeguarding academic freedom, which is of transcendent value to all of us and not merely to the teachers concerned. That freedom is therefore a special concern of the First Amendment, which does not tolerate laws that cast a pall of orthodoxy over the classroom.”); Hardy v. Jefferson Cmty. Coll., 260 F.3d 671, 679 (6th Cir. 2001) (involving a professor using profane language; however, because the course was one dealing with interpersonal communication, the court found the course to be within the ambit of the curriculum despite the university’s protests), *cert. denied*, 535 U.S. 970 (2002); Vanderhurst v. Colo. Mountain Coll. Dist., 208 F.3d 908, 913 (10th Cir. 2000) (noting that academic freedom is a “special concern” of the First Amendment); Bishop, 926 F.2d at 1075 (noting that there is a strong recognition of academic freedom as it relates to the First Amendment); Scallet, 911 F. Supp. at 1014 (noting the importance of academic freedom).

¹⁰⁶ *See, e.g.,* Edwards, 156 F.3d at 491 (noting that, while a professor may advocate for a change in the curriculum *outside* the classroom, the professor may not use those materials *in* the classroom); Cohen v. San Bernardino Valley Coll., 92 F.3d 968, 972 (9th Cir. 1996) (acknowledging the potential limitations on academic freedom), *cert. denied*, 520 U.S. 1140 (1997); Keen, 970 F.2d at 257 (recognizing there may be conflicts between academic freedom and control over the curriculum that require some limiting of academic freedom); Bishop, 926 F.2d at 1077 (recognizing that the university’s interest in having its courses taught without religious bias outweighed the countervailing concerns related to academic freedom within the curriculum); Clark v. Holmes, 474 F.2d 928, 931 (7th Cir. 1972) (“[W]e do not conceive

inserting their religious views into courses unrelated to religion.¹⁰⁷ In the end, courts have held that courses at public universities are so connected with the educational function of these institutions that university officials have a right to enforce “legitimate pedagogical interests” as to the general substance of courses.¹⁰⁸ These interests either outweigh any claims of academic freedom asserted by professors¹⁰⁹ or are said to be invalid when it comes to teaching (at least in the core curriculum).¹¹⁰ Thus,

academic freedom to be a license for uncontrolled expression at variance with established curricular contents and internally destructive of the proper functioning of the institution. First Amendment rights must be applied in light of the special characteristics of the environment in the particular case.”), *cert. denied*, 411 U.S. 972 (1973); *Scaliet*, 911 F. Supp. at 1014 (noting that not all speech will implicate the First Amendment and academic freedom).

¹⁰⁷ *Bishop*, 926 F.2d at 1075; *see also Edwards*, 156 F.3d at 490 (involving courses unrelated to religion on educational media being taught with a religious bias). Other cases related to academic freedom and curriculum dealt with secular concerns. For example, one prominent case dealt with, among other things, a professor’s in-class discussions relating to diversity in a first-year required writing course. *Scaliet*, 911 F. Supp. at 1003–04. The court found that, despite the fact that the issue was one of public concern, the university’s interest in a consistent curriculum outweighed the professor’s First Amendment rights and his speech was not protected. *Id.* at 1017.

¹⁰⁸ *See, e.g., Vanderhurst*, 208 F.3d at 914 (“[W]hether [the] termination reasonably related to the College’s legitimate pedagogical interests is the test for determining whether [the] speech fell within the ambit of First Amendment protection.”); *Scaliet*, 911 F. Supp. at 1016, 1011 (noting that a professor’s use of certain materials violated the university’s legitimate pedagogical interests; however the case also notes that the pedagogical concerns are less forceful at the university level than at lower educational levels such as high school); *Silva v. Univ. of N.H.*, 888 F. Supp. 293, 314 (D.N.H. 1994) (recognizing a right to protect valid pedagogical purposes, but finding the policy in this case too subjective to merit protection).

¹⁰⁹ *See, e.g., Bonnell v. Lorenzo*, 241 F.3d 800, 802–03 (6th Cir.) (involving the use of profanity during class by a professor and finding that the interests of the professor were outweighed by the university’s concerns), *cert. denied*, 534 U.S. 951 (2001); *Bishop*, 926 F.2d at 1076 (recognizing the university’s interest in having its courses taught without religious bias outweighed the countervailing concerns related to academic freedom within the curriculum); *Scaliet*, 911 F. Supp. at 1016–17 (recognizing a balancing test, and in this case the professor’s interest was outweighed by the university’s interest in having its curriculum taught without significant disruption). *But see, e.g., Hardy*, 260 F.3d at 682 (discussing a situation where the college’s pedagogical interests did not outweigh the activities and speech of the professor); *Cohen*, 92 F.3d at 972. While the lower court in *Cohen* found that the professor’s interest in teaching the controversial material was outweighed by the university’s interest in effective education as determined by its curriculum, the appellate court found that the university’s policies in this regard were too vague to be enforceable. *Id.*

¹¹⁰ *See, e.g., Edwards*, 156 F.3d at 491 (finding it unnecessary to inquire further into the issue of the First Amendment standard given at the trial level, because “a public university professor does not have a *First Amendment* right to decide what will be taught in the classroom” (emphasis added)); *Martin v. Parrish*, 805 F.2d 583, 585 (5th Cir. 1986) (determining that the First Amendment concerns related to academic freedom did not apply, as the language in question was unrelated to the subject matter of the class); *Hetrick v. Martin*, 480 F.2d 705,

arguments for including ID in the science curriculum based on “equal access” or “formal neutrality” in the aid context are inapposite here, because there is no public or limited public forum and there is no facially neutral program of “private choice.”¹¹¹ This is further backed by the argument above that ID is not science, because even if there were a limited public forum in this context—and there is not—that forum would be limited to “science” courses in the science curriculum.¹¹²

At one level this is a bit disturbing to academics like myself. I had thought that academic freedom was quite broad in the classroom both as a matter of law and policy, but reading the cases, it seemed more and more like this is true as a matter of policy, but not necessarily as a matter of law. Yet, the ascendance of ID theory suggests there are reasons why the courts have ruled as they have. Most of the cases do not involve garden variety teaching disputes.¹¹³ They more frequently involve either overt sexualized or profane statements in courses that do not touch on sex or profanity in any way, or they involve the insertion of material that may run contrary to the focus of the courses involved.¹¹⁴ Many of the cases involve required courses as opposed to electives, and the professors involved frequently teach primarily at the undergraduate level.¹¹⁵

The most relevant of these cases for present purposes is *Bishop v. Aronov*, decided by the United States Court of Appeals for the Eleventh Circuit.¹¹⁶ Bishop

708 (6th Cir.) (determining that a university may dismiss a professor based on disagreements with the professor’s “pedagogical attitudes”), *cert. denied*, 414 U.S. 1075 (1973).

¹¹¹ See *Zelman v. Simmons-Harris*, 536 U.S. 639 (2002) (formal neutrality); *Good News Club v. Milford Cent. Sch.*, 533 U.S. 98 (2001) (equal access).

¹¹² See *supra* Part I.A.

¹¹³ See, e.g., *Hardy*, 260 F.3d at 675 (involving the use of profane language in the classroom); *Vanderhurst*, 208 F.3d at 911 (involving a series of profane and offensive remarks unrelated to the curriculum); *Edwards*, 156 F.3d at 490 (involving courses being taught with a religious bias); *Cohen*, 92 F.3d at 972 (involving intentionally shocking discussions regarding profane language and controversial topics including cannibalism and consensual sex with children); *Bishop*, 926 F.2d at 1076 (involving a university’s concern that courses not be taught with a religious bias).

¹¹⁴ See, e.g., *Hardy*, 260 F.3d at 675 (involving profane language and using such terms as “nigger” and “bitch” during class discussions on social deconstructivism); *Bonnell*, 241 F.3d at 803 (involving use of profanity during class by a professor); *Vanderhurst*, 208 F.3d at 911 (outlining a series of vulgar/offensive remarks the professor made unrelated to the course material or, in many cases, any educational purpose whatsoever); *Cohen*, 92 F.3d at 972 (involving profane language and controversial topics which were arguably outside the curriculum of the class); *Bishop*, 926 F.2d at 1068 (inserting religious material/perspective into a course which did not deal with religion, but instead with science); *Martin*, 805 F.2d at 583–84 (involving profanity in the classroom).

¹¹⁵ See, e.g., *Scallet v. Rosenblum*, 911 F. Supp. 999, 1003 (W.D. Va. 1996) (involving a required communications course and a professor inserting his opinions on matters outside the core course curriculum), *cert. denied*, 521 U.S. 1105 (1997).

¹¹⁶ 926 F.2d 1066 (11th Cir. 1991).

was a professor in the Department of Health, Physical Education, and Recreation in the College of Education at the University of Alabama, where he taught exercise physiology.¹¹⁷ He was also the director of the college's Human Performance Laboratory.¹¹⁸ The university issued Bishop a letter requiring him to abstain from inserting religious statements in his teaching.¹¹⁹ The subject matter of Bishop's statements, as attested to by him in an affidavit, included remarks like the following:

I want to invest my time mainly in people. I personally believe God came to earth in the form of Jesus Christ and he has something to tell us about life which is crucial to success and happiness. Now this is simply my personal belief, understand, and I try to model my life after Christ, who was concerned with people, and I feel that is the wisest thing I can do. You need to recognize as my students that this is my bias and it colors everything I say and do. If that is not your bias, that is fine. You need, however to, filter everything I say with that (Christian bias) filter.¹²⁰

Bishop also organized an after-class event for his students and others who were interested at which he lectured about the "Evidences of God in Human Physiology."¹²¹ The session was held shortly before exams, and the university felt this may have placed pressure on students to attend.¹²² Although Bishop utilized a blind grading system, the university did not think he adequately separated the out-of-class event from the course itself.¹²³ The university would have allowed him to hold such an event if it was not seen as being associated with the course, but the university saw no such separation between the course and the after-class event in this case.¹²⁴

The court held that a university classroom is not a public forum for speech.¹²⁵ Thus, the university has the right to determine what substance is appropriate in the curricular context, so long as it has legitimate pedagogical interests for doing so.¹²⁶ This must be done through case-by-case analysis.¹²⁷ In *Bishop*, the university had valid concerns regarding the relevance of the professor's religious statements to a course in exercise physiology.¹²⁸ Bishop had the freedom to hold events on his views

¹¹⁷ *Id.* at 1068.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 1069.

¹²⁰ *Id.* at 1068.

¹²¹ *Id.* at 1068–69.

¹²² *Id.* at 1076.

¹²³ *Id.* at 1069.

¹²⁴ *Id.*

¹²⁵ *Id.* at 1071.

¹²⁶ *Id.* at 1074.

¹²⁷ *Id.*

¹²⁸ *Id.* at 1076.

of G-d's role in human physiology on campus so long as those events were not connected to his courses.¹²⁹ Thus, Bishop was not denied the freedom to discuss his religious convictions, he was only denied the ability to outwardly do so in the manner that he had in his exercise physiology course.¹³⁰

The key issue was the department, college, and university's right to control curriculum based on legitimate pedagogical interests.¹³¹ In this case, those interests included concerns about the pedagogical effects of students feeling religiously coerced in a basic physiology course.¹³² The notion of legitimate pedagogical interests was taken from a line of cases involving secondary schools.¹³³ The court acknowledged that it was borrowing from these secondary school cases; although those cases would have to be adapted to the university setting.¹³⁴

In an effort to calibrate the Constitution in this case . . . we consider the context: the university classroom during specific in-class time and the visage of the classroom as part of a university course in an after-class meeting. This context also leads us to consider the coercive effect upon students that a professor's speech inherently possesses and that the University may wish to avoid. The University's interest is most obvious when student complaints suggest apparent coercion—even when not intended by the professor.

Second, it follows, we consider the University's position as a public employer which may reasonably restrict the speech rights of employees more readily than the [sic] those of other persons. As a place of schooling with a teaching mission, we consider the University's authority to reasonably control the content of its curriculum, particularly that content imparted during class time. . . .

Last and somewhat countervailing, we consider the strong predilection for academic freedom as an adjunct of the free speech rights of the First Amendment. There are abundant cases which acclaim academic freedom.¹³⁵

In holding that the University had not violated Bishop's free speech rights, the court stated:

¹²⁹ *Id.*

¹³⁰ *Id.* at 1076–77.

¹³¹ *Id.*

¹³² *Id.*

¹³³ *Cf. id.* at 1074 (using cases that relied on “legitimate pedagogical interests” language, but not using that exact language as set forth in those cases).

¹³⁴ *Id.* at 1074.

¹³⁵ *Id.* at 1074–75.

Though we are mindful of the invaluable role academic freedom plays in our public schools, particularly at the post-secondary level, we do not find support to conclude that academic freedom is an *independent* First Amendment right. And . . . we cannot supplant our discretion for that of the University. Federal judges should not be ersatz deans or educators. In this regard, we trust that the University will serve its own interests as well as those of its professors in pursuit of academic freedom. University officials are undoubtedly aware that quality faculty members will be hard to attract and retain if they are to be shackled in much of what they do.¹³⁶

The court did acknowledge that the university did not have the right to preclude Bishop from engaging in independent research on such topics.¹³⁷

In the context of ID in the science curriculum, one can glean from the cases that university officials, as well as departmental curriculum committees, can exclude the teaching of ID if they choose to.¹³⁸ The same would be true regarding astrology, alchemy, etc. In addition to the balancing test from *Bishop*, courts have based such holdings directly on the secondary school cases¹³⁹—determining whether the university's decision is based on legitimate pedagogical concerns and whether the course in question is seen as university speech,¹⁴⁰ which most courts hold it

¹³⁶ *Id.* at 1075 (emphasis added).

¹³⁷ *Id.* at 1076–77; *see infra* Part I.C.

¹³⁸ Based on the case law, public universities have a fairly wide latitude to determine what will be taught. In this context, excluding ID from the science curriculum is in line with other curricular decisions. *Cf.* *Edwards v. Cali. Univ. of Pa.*, 156 F.3d 488, 491 (3d Cir. 1998) (“[A] public university professor does not have a First Amendment right to decide what will be taught in the classroom.”), *cert. denied*, 525 U.S. 1143 (1999); *Keen v. Penson*, 970 F.2d 252, 257 (7th Cir. 1992) (“This Court has recognized the supremacy of the academic institution in matters of curriculum content.”); *Bishop v. Aronov*, 926 F.2d 1066, 1075 (11th Cir. 1991) (noting that university officials may control the curriculum decisions); *Scallet v. Rosenblum*, 911 F. Supp. 999, 1011 (W.D. Va. 1996) (recognizing that the schools have a right to determine their own curriculum which must be followed), *cert. denied*, 521 U.S. 1105 (1997); *Cooper v. Ross*, 472 F. Supp. 802, 809 (E.D. Ark. 1979) (“[A] state university has the undoubted right to prescribe its curriculum, to select its faculty and students and evaluate their performances, and to define and maintain its standards of academic accomplishment.”). The ability of a university to control science curriculum appears to be especially true as it pertains to ID and science, as at least one prominent decision has determined that ID is not science. *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707 (M.D. Pa. 2005).

¹³⁹ *See, e.g.*, *Hardy v. Jefferson Cmty. Coll.*, 260 F.3d 671, 678 (6th Cir. 2001) (reviewing a number of secondary school cases to support its determination), *cert. denied*, 535 U.S. 970 (2002); *Vanderhurst v. Colo. Mountain Coll. Dist.*, 208 F.3d 908, 913 (10th Cir. 2000) (same); *Bishop*, 926 F.2d at 1072–74 (same); *Scallet*, 911 F. Supp. at 1016–17 (same).

¹⁴⁰ *See, e.g.*, *Brown v. Armenti*, 247 F.3d 69, 75 (3d Cir. 2001) (discussing on what basis a university may regulate professors based on its own pedagogic concerns over academic

is,¹⁴¹ and thus distinguishable from cases involving private speech.¹⁴² Other courts have based their decisions on the cases involving the free speech rights of teachers for out-of-class speech or the speech rights of government employees generally.¹⁴³ These courts generally weigh the interests of the government employee as a private citizen in “commenting on matters of public concern” against the interest of the government as employer in promoting its interests.¹⁴⁴ Still others apply both approaches.¹⁴⁵

freedom); *Vanderhurst*, 208 F.3d at 914 (“[W]hether [the] termination reasonably related to the College’s legitimate pedagogical interests is the test for determining whether his speech fell within the ambit of First Amendment protection.”); *Bishop*, 926 F.2d at 1074 (“[E]ducators do not offend the First Amendment by exercising editorial control over the style and content of student [or professor] speech in school-sponsored expressive activities so long as their actions are reasonably related to legitimate pedagogical concerns.” (quoting *Hazelwood Sch. Dist. v. Kuhlmeier*, 484 U.S. 260, 272 (1998))); *Scaliet*, 911 F. Supp. at 1014 (determining that the speech in question was seen as university speech); *Silva v. Univ. of N.H.*, 888 F. Supp. 293, 314 (D.N.H. 1994) (recognizing a right to protect valid pedagogical purposes, but finding the policy in this case too subjective to merit protection).

¹⁴¹ See, e.g., *Edwards*, 156 F.3d at 492 (noting that in this case regulation of the speech was allowed because the university, through the professor, could be considered the speaker and could make decisions as to the content of its own derivative speech); *Bishop*, 926 F.2d at 1071 (recognizing the university has an interest in the professor disseminating his beliefs under the guise of university instruction); *Scaliet*, 911 F. Supp. at 1014 (holding that the speech is university speech).

¹⁴² See, e.g., *Edwards*, 156 F.3d at 492 (discussing why a university may control a private individual’s speech where it is done in a manner which makes it, in reality, university speech); *Bishop*, 926 F.2d at 1073 (“While a student’s expression can be more readily identified as a thing independent of the school, a teacher’s speech can be taken as directly and deliberately representative of the school. Hence, where the in-class speech of a teacher is concerned, the school has an interest not only in preventing interference with the day-to-day operation of its classrooms as in *Tinker*, but also in scrutinizing expressions that ‘the public might reasonably perceive to bear [its] imprimatur.’”); *Scaliet*, 911 F. Supp. at 1014 (finding that the speech in question was public not private). But see *Bonnell v. Lorenzo*, 241 F.3d 800, 811 (6th Cir.) (involving a case of mixed private and public speech), *cert. denied*, 534 U.S. 951 (2001).

¹⁴³ See, e.g., *Vanderhurst*, 208 F.3d at 913–14 (discussing the free speech rights of a public school teacher); *Levin v. Harleston*, 966 F.2d 85, 88 (2d Cir. 1992) (focusing on the free speech rights of the professor in question).

¹⁴⁴ See, e.g., *Brown*, 247 F.3d at 75 (finding that the professor’s contentions regarding the grading policy were not matters of public concern); *Hardy*, 260 F.3d at 679 (focusing on aspects of the speech related to speaking on a matter of public concern); *Dambrot v. Cent. Mich. Univ.*, 55 F.3d 1177, 1188 (6th Cir. 1995) (focusing on whether the speech was a matter of public concern); *Blum v. Schlegel*, 18 F.2d 1005, 1011 (2d Cir. 1994) (involving, in part, whether or not a law school professor’s advocating for legalized marijuana was a matter of public concern); *Keen v. Penson*, 970 F.2d 252, 258 (7th Cir. 1992) (discussing the balancing of comments on matters of public concern, but failing to find the speech was a matter of public concern in this particular case); *Martin v. Parrish*, 805 F.2d 583, 584–85 (5th Cir. 1986) (noting that the test for matters involving public employees is whether their speech touched on a matter of public concern).

¹⁴⁵ See, e.g., *Bonnell*, 241 F.3d at 812 (primarily using a public concern approach, but also discussing the rights of public employees); *Bishop*, 926 F.2d at 1072 (discussing both the free

Whether a public university would run afoul of the Establishment Clause if it did allow ID to be taught in the science curriculum will be addressed in Part II.

A somewhat analogous scenario might prove helpful. Imagine a law professor who teaches a course on agriculture and law. The professor does not teach anything directly about the law relating to agriculture. Instead the professor teaches seed biology and uses this to demonstrate that the relevant law is “wrong.” This is not done by teaching the law in a critical fashion—approaching it from a variety of angles, including its incongruence with seed biology—but rather by using seed biology to attack gaps in the legal framework rather than by addressing the framework as a whole. One might expect that after a student complains the law school might suggest that the professor teach the course in the agriculture school, if that school wants such a course, but not at the law school. The same could be true of courses in intelligent design. A university can insist that such courses be taught in the philosophy or religion departments, if those departments want, but not in the biology department.¹⁴⁶

It is important to note that the level of curricular control accorded university officials may limit the paradigms that can be taught in certain courses. However, in most cases this will not be so, because most new scientific paradigms will support themselves from within previous scientific paradigms and will simply be taught as new theories.¹⁴⁷

C. Research on ID Theory in Public University Science Departments

While the case law is quite clear about the right of university officials and faculty committees to affect the substance of certain courses despite academic freedom concerns, the case law is not so clear regarding the university’s role in research. *Bishop* acknowledges that academic freedom is far greater when it comes to research.¹⁴⁸ Yet we know that in hiring, tenure, promotion, and merit increase decisions in the sciences much depends on the researcher’s publication output, ability to get grants from recognized granting sources, and professional reputation among peers. It is also

speech rights of government employees generally and the weighing of interests on matters of public concern); *Marinoff v. City Coll. of N.Y.*, 357 F. Supp. 2d 672 (S.D.N.Y. 2005) (same); *Scallet*, 911 F. Supp. at 1014 (same).

¹⁴⁶ Cf. *Edwards*, 156 F.3d at 491 (“[A] public university professor does not have a First Amendment right to decide what will be taught in the classroom.”); *Keen*, 970 F.2d at 257 (“This Court has recognized the supremacy of the academic institution in matters of curriculum content.”); *Bishop*, 926 F.2d at 1076 (noting that university officials may control the curriculum decisions); *Scallet*, 911 F. Supp. at 1011 (recognizing that the schools have a right to determine their own curriculum which must be followed); *Cooper v. Ross*, 472 F. Supp. 802, 809 (E.D. Ark. 1979) (“[A] state university has the undoubted right to prescribe its curriculum, to select its faculty and students and evaluate their performances, and to define and maintain its standards of academic accomplishment.”).

¹⁴⁷ KUHN, *supra* note 12, at 94, 129–30, 145–47, 153–54, 167–69, 177–79, 206–07.

¹⁴⁸ *Bishop*, 926 F.2d at 1076–77.

clear that ID theorists are not generally published in mainstream science journals, their work is not highly regarded (if regarded at all) by scientific peers, and their ability to get grants from mainstream granting institutions is basically nonexistent.¹⁴⁹ Thus, two questions naturally arise. First, despite the academic freedom to pursue ID research, can science departments choose not to recognize that research as meaningfully aiding the department's research interests—either substantively through grants and publications or reputationally? Relatedly, could a science department simply exclude ID research from any support or recognition? In other words, could a science department simply decide that ID is not science, and therefore that ID research has no place in a science department (or using the name of such a department)? Second, could a science department revoke the tenure of a faculty member who, post-tenure, engages only in ID research and refuses to teach courses that do not include ID?

As will be seen, the answer to the first question is yes, but the answer to the second question is far more complex. There is a vast difference in tenure revocation policies among universities,¹⁵⁰ but if the faculty member is willing to teach his or her assigned courses without focusing on ID (assuming it is not appropriate to the courses) and he or she is willing to engage in appropriate service activities, such as committee work, etc., “for cause” tenure revocation would not, and should not, be allowed under most university policies.¹⁵¹ It is one thing to deny merit increases and research support to a faculty member because his or her ID research is essentially useless to a department, but it is quite another to revoke a faculty member's tenure because he or she is engaged in “junk theory” outside of his or her teaching and service. Unless a department is willing to revoke tenure for all non-productive researchers, it seems problematic to revoke tenure because of what is essentially an outside hobby (since it would not count as scholarship). This seems a logical balance given most

¹⁴⁹ *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707, 737–38, 744–45 (M.D. Pa. 2005).

¹⁵⁰ See, e.g., Donna R. Euben & Barbara A. Lee, *Faculty Discipline: Legal and Policy Issues in Dealing with Faculty Misconduct*, 32 J.C. & U.L. 241, 251 (2006) (describing some of the various ways in which universities sanction tenured professors, including revocation, and the various standards applied); Michael Olivas, *Review of Steven G. Poskanzer's Higher Education Law: The Faculty*, 30 J.C. & U.L. 225 (2003) (providing an overview of some cases dealing with tenure revocation and the various ways with which it is dealt). Compare Kansas State University Handbook, § C 31.5 (dealing with tenure revocation), available at <http://www.k-state.edu/academicservices/fhbook/fhsecc.html#31.5>, with University of New Mexico Faculty Handbook, § 6.2.2(b) (dealing with dismissal of tenured faculty), available at <http://www.unm.edu/~handbook/newhb.html>, and University of Georgia Policy for Review of Tenured Faculty, available at <http://www.uga.edu/provost/polproc/revtefac.html>, and Michigan Technological Institute, Academic Tenure & Promotion policy, available at <http://www.admin.mtu.edu/admin/boc/policy/ch16/ch16p4.htm>. The above examples demonstrate just some of the wide-ranging variances in tenure policies.

¹⁵¹ Cf. STEVEN G. POSKANZER, *HIGHER EDUCATION LAW: THE FACULTY* 208–17 (2002) (explaining circumstances under which “for cause” tenure revocation is generally done).

university policies. A science department could deny any support for ID research (including the use of the department, college, and university name) and give no credit for it in terms of research productivity, but such a department should not treat an ID theorist differently from any other non-productive researcher in terms of tenure revocation.

The first question above involves no special First Amendment analysis. If ID is not science, science departments have no duty to fund it any more than a science department would have a duty to fund a professor's art collection. A department or university would also have the ability to require that its name not be used in connection with the work. For example, if a faculty member wants to engage in a partisan political blog or a blog promoting drug use, a public university would have the right to refuse the faculty member resources for the blog and to require that the university name not be used to promote the blog.¹⁵² This is not required, but the university may do so. The same would be true with ID theory.

The credit issue is even easier to deal with. Science departments, like other departments, need not support or reward research that does not meet the basic criteria set for such support or reward.¹⁵³ If an ID researcher cannot place work in accepted

¹⁵² It is likely that such a decision would fall under the ambit of decisions which involve universities' right to determine the curriculum and thus implicitly for which activities it will provide funding. *Cf. Edwards v. Cali. Univ. of Pa.*, 156 F.3d 488, 491 (3d Cir. 1998) ("[A] public university professor does not have a First Amendment right to decide what will be taught in the classroom."), *cert. denied*, 525 U.S. 1143 (1999); *Keen v. Penson*, 970 F.2d 252, 257 (7th Cir. 1992) ("This Court has recognized the supremacy of the academic institution in matters of curriculum content."); *Bishop v. Aronov*, 926 F.2d 1066, 1076 (11th Cir. 1991) (noting that university officials may control curriculum decisions); *Scallet v. Rosenblum*, 911 F. Supp. 999, 1011 (W.D. Va. 1996) (recognizing that the schools have a right to determine their own curriculum which must be followed), *cert. denied*, 521 U.S. 1105 (1997); *Cooper v. Ross*, 472 F. Supp. 802, 809 (E.D. Ark. 1979) ("[A] state university has the undoubted right to prescribe its curriculum, to select its faculty and students and evaluate their performances, and to define and maintain its standards of academic accomplishment.").

¹⁵³ *See Urofsky v. Gilmore*, 216 F.3d 401, 410 (4th Cir. 2000) (determining that a Virginia statute limiting access to sexually explicit material for research did not violate the academic freedom of the professors; this is similar to limiting, by not giving credit for, research related to ID); *Keen*, 970 F.2d at 257 ("This Court has recognized the supremacy of the academic institution in matters of curriculum content."); *Bishop*, 926 F.2d at 1075 (noting that university officials may control the curriculum decisions, likely including ones involving what research will be credited within the department); *Scallet*, 911 F. Supp. at 1011 (recognizing that the schools have a right to determine their own curriculum which must be followed); *Cooper*, 472 F. Supp. at 809 ("[A] state university has the undoubted right to prescribe its curriculum, to select its faculty and students and evaluate their performances, and to define and maintain its standards of academic accomplishment."); *see also Dow Chem. Co. v. Allen*, 672 F.2d 1262 (7th Cir. 1982). The court determined that, related to academic freedom, "it [is] clear that whatever constitutional protection is afforded by the First Amendment extends as readily to the scholar in the laboratory as to the teacher in the classroom." *Id.* at 1275. This proposition may be read to support the cases above in the sense that the professors have a wide latitude

peer review journals, get grants from (scientifically) credible granting institutions, and/or get favorable peer review from scientists, there is no duty to support the work.¹⁵⁴ It is not science.¹⁵⁵ One would not expect science departments to have to fund research on ufology, why the Earth is flat, or why the Earth is the center of the universe. The same is true for ID research. Departments could fund such research, unless it would pose an Establishment Clause issue, but they need not, and are not likely to, fund or reward such research. Of course, such research might be relevant in religion or philosophy departments, an issue not addressed in this Article.

The question of tenure-revocation is quite different. First of all, there is a question of tone. Denying credit to “junk science” is a refusal to give a carrot to those who do not engage in serious scientific work, but revoking tenure is a punishment. One is based on merit, whereas the other, even if arguably based on merit, is punitive in nature and will be treated by courts as such.¹⁵⁶ The issue is not one that can be addressed in broad terms.

First, there is the fact that various states and public universities have different tenure-revocation policies.¹⁵⁷ Second, there is the practical reality that tenure-revocation is a rare occurrence and is not generally based on research alone. As a general matter, “for cause” tenure-revocation has occurred where there is a complete lack of performance—that is, a failure to meet duties in teaching, scholarship, and service, as opposed to failing to fulfill responsibilities in just one category.¹⁵⁸ Even then, there is generally notice and an opportunity for the faculty member to improve performance as well as general due process rights.¹⁵⁹ Other cases may involve extreme malfeasance by a faculty member such as embezzlement, significant plagiarism, significant criminal conduct, and the like.¹⁶⁰

Assuming the faculty member is meeting his or her teaching duties with the caveats discussed in Part I.B and meeting service requirements (usually involving committee work), tenure-revocation would appear more like punishment for the faculty member’s religious and/or political views. This is not a valid basis to revoke tenure. If, on the other hand, a faculty member refuses to teach his or her courses or refuses to teach them without including ID, and that faculty member engages primarily in ID research—which does not help, and may hurt, a science department’s reputation—tenure-revocation would be a possibility; but even then it would depend

within their research area but cannot simply research outside subjects like ID (just as they cannot simply teach ID) without university approval of the curriculum/research.

¹⁵⁴ See *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707, 737–38, 744–45 (M.D. Pa. 2005).

¹⁵⁵ *Id.* at 735–46; see *supra* Part I.A.

¹⁵⁶ See POSKANZER, *supra* note 151, at 208–17.

¹⁵⁷ See *supra* note 150 and accompanying text.

¹⁵⁸ See POSKANZER, *supra* note 151, at 208–13.

¹⁵⁹ Euben & Lee, *supra* note 150, at 301–03.

¹⁶⁰ POSKANZER, *supra* note 151, at 211–17.

on university policies, and due process would certainly be required. The reason for revocation would be failure to perform even the basic requirements of the job, however, and not the faculty member's belief in ID.

The above dichotomy between the requirements for refusal to support and reward ID work and revoking tenure makes sense when one views the former as refusal of support and the latter as punishment. There are a number of cases that demonstrate the distinction between the government's ability to grant or deny support to activities performed on behalf of the government and the government's ability to punish the private speech of government employees on matters relevant to public discourse.¹⁶¹ While ID theorists are likely to argue that denial of research support is punishment, given that the government can choose what speech to fund on its own behalf, the case law is not on their side.¹⁶² Nor, for that matter, is common sense. While the refusal to fund could be seen as punishment at some level, it is different in kind than revoking rights already given. If the former is considered punishment for speech activity rather than failure to support speech the public institution does not wish to support with its name and money, public universities would arguably be required to fund and/or reward anything and everything that a faculty member claims to be research, including astrology, alchemy, flat earth theory, and Raelian "science." While a great deal of leeway should be given for research topics in any academic institution, one can see in this argument the long shadow of science departments having to fund research in alchemy, astrology, and flat earth theory. Thus, while great leeway should be given to research topics, that leeway is not limitless, especially in fields with relatively accessible disciplinary boundaries.

II. ID IN PUBLIC UNIVERSITIES AND THE ESTABLISHMENT CLAUSE

The primary Establishment Clause concern regarding ID in science departments at public universities involves teaching ID. Support for research may also be an issue, but as will be seen, the teaching of ID poses a far more significant problem under the Establishment Clause. The *Bishop* court relied, in part, on the university's justified fear of religious endorsement and coercion when it upheld the university's right to preclude Professor Bishop from teaching a religious approach in his exercise physiology class.¹⁶³ An important implication was that this was a general science class and not an upper level seminar and that it was a science class, as opposed to a class

¹⁶¹ Compare *Nat'l Endowment for the Arts v. Finley*, 524 U.S. 569 (1998) (government as speaker), and *Rust v. Sullivan*, 500 U.S. 173 (1991) (same), with *United States v. Nat'l Treasury Employees Union*, 513 U.S. 454 (1995) (public employee speech); and *Rankin v. McPherson*, 483 U.S. 378 (1987) (same); and *Connick v. Myers*, 461 U.S. 138 (1983) (same); and *Pickering v. Bd. of Educ.*, 391 U.S. 563 (1968) (same).

¹⁶² See sources cited *supra* note 161.

¹⁶³ *Bishop v. Aronov*, 926 F.2d 1066, 1074, 1076–77 (1991), *cert. denied*, 505 U.S. 1218 (1992).

in religion or philosophy.¹⁶⁴ These concerns were also echoed in *Kitzmiller*.¹⁶⁵ Since ID was found not to be science and to be a religiously based approach, the *Kitzmiller* court held that allowing even a disclaimer in a science textbook would create endorsement problems.¹⁶⁶ Of course, *Kitzmiller* involved secondary schools and not the college or university setting.¹⁶⁷ *Bishop* engages similar reasoning in the university context, but the Establishment Clause issue was not directly before the court. Rather, it was one of the University of Alabama's reasons for precluding the religious material in the science class.¹⁶⁸ Thus, it is worth briefly analyzing the question under the tests generally used in education situations under the Establishment Clause.

The tests that have been applied in these situations are the endorsement test,¹⁶⁹ the coercion test,¹⁷⁰ and the *Lemon* test (as combined with endorsement analysis or as a separate analysis).¹⁷¹ As will be seen, teaching ID in science classes, as opposed to philosophy or religion courses, does raise significant Establishment Clause problems, while research support for individual researchers (if any credible science department would provide it) does not. The obvious reason for this is the difference between classroom and "scholarly" contexts.¹⁷²

When one registers for a course in the science curriculum, one does not expect to have religious positions on creation thrust upon oneself.¹⁷³ Once one is registered for the course, it may be hard to withdraw for any number of reasons.¹⁷⁴ If the professor imposes his or her religious views on the scientific subject matter of the course or, for religious reasons, skews his or her teaching so as to create a false impression that a generally scientific approach is invalid, there are clear problems of endorsement and coercion.¹⁷⁵

In the endorsement context the question is whether the purpose or effect of the government actor's actions endorses religion or a particular religion and makes

¹⁶⁴ *Id.*

¹⁶⁵ *Kitzmiller v. Dover Area Sch. Dist.*, 400 F. Supp. 2d 707 (M.D. Pa. 2005).

¹⁶⁶ *Id.* at 723–35.

¹⁶⁷ *Id.* at 708–09.

¹⁶⁸ *Bishop*, 926 F.2d at 1076–77.

¹⁶⁹ *Santa Fe Indep. Sch. Dist. v. Doe*, 530 U.S. 290 (2000); *Edwards v. Aguillard*, 482 U.S. 578 (1987); *Wallace v. Jaffree*, 472 U.S. 38 (1985); *Kitzmiller*, 400 F. Supp. 2d 707.

¹⁷⁰ *Santa Fe*, 530 U.S. 290; *Lee v. Weisman*, 505 U.S. 577 (1992).

¹⁷¹ *Santa Fe*, 530 U.S. 290; *Edwards*, 482 U.S. 578; *Kitzmiller*, 400 F. Supp. 2d 707.

¹⁷² The classroom involves a captive audience setting, *Sch. Dist. of Abington Twp. v. Schempp*, 374 U.S. 203 (1963), and the professor at a public university is a state employee. Scholarship is generally engaged in by the professor, perhaps with help from research and lab assistants who can choose to apply for a position. *Cf. Bishop*, 926 F.2d at 1076–77 (indicating that a professor's independent research may be free of university control).

¹⁷³ *Bishop*, 926 F.2d at 1074, 1076–77 (discussing possibility of students feeling coerced).

¹⁷⁴ *Id.*

¹⁷⁵ *See id.*; *Kitzmiller*, 400 F. Supp. 2d at 714–35 (providing an example of endorsement in high school setting).

religious outsiders feel like outsiders in the political community or religious insiders feel favored.¹⁷⁶ The purpose aspect of this analysis is not as easy at it may appear at first glance. The first question that needs to be asked is whose purpose are we looking at: the professor or the university? If the professor is teaching ID as a valid theory and one looks to the professor's purpose, there would be a strong case that the professor's purpose is to endorse religion.¹⁷⁷ The professor would be teaching, as valid, a religious theory that is not scientific, and any argument that doing so promotes secular pedagogical purposes in a science classroom is inadequate once ID material is taught as science.¹⁷⁸ If anything, teaching ID as a valid scientific theory in a science classroom would go against secular pedagogical purposes.¹⁷⁹

If one looks at the public university, however, the question would be whether the university had any purpose to endorse religion in offering the course or allowing it to be taught after having received complaints. As a general matter, there would appear to be a secular purpose under either circumstance. Certainly, offering science courses has a secular purpose, and even if the university is aware of concerns regarding ID it may allow the course to continue based on the university's sense of academic freedom rather than an intent to endorse religion. This issue is of little import, however, because teaching ID as valid scientific theory in a science classroom would violate the effects element of the endorsement test.¹⁸⁰

As the *Edwards*, *Bishop*, and *Kitzmiller* courts all note, the effect of teaching religious theories of creation in a secular science classroom is to promote or endorse religion.¹⁸¹ Using the podium of a state university science department to promote a religious theory of origins that has been rejected by the broader scientific community is an endorsement of religion. As the *Bishop* court explained, it could make students feel that they must "take it" or have their grades affected,¹⁸² and as the *Kitzmiller* court explained, it can create a false sense of scientific views on central issues in students who do not have a strong grounding in biology, chemistry, etc.¹⁸³

¹⁷⁶ *Santa Fe*, 530 U.S. at 309–10; *Lynch v. Donnelly*, 465 U.S. 668, 688 (1984) (O'Connor, J., concurring).

¹⁷⁷ *Cf. Bishop*, 926 F.2d at 1076–77 (addressing a university's potential concern that Bishop's religious messages in the course could create an "appearance of proselytizing by a professor").

¹⁷⁸ *See Kitzmiller*, 400 F. Supp. 2d 707.

¹⁷⁹ *See id.*

¹⁸⁰ *Cf. id.* at 714–28 (dealing with a disclaimer regarding evolution and ID in high school science sources).

¹⁸¹ *Id.*; *Edwards v. Aguillard*, 482 U.S. 578 (1987) (considering the elementary and secondary school context); *Bishop*, 926 F.2d at 1076–77 (noting this would be a valid concern for a university).

¹⁸² *Bishop*, 926 F.2d at 1074, 1076–77.

¹⁸³ *Cf. Kitzmiller*, 400 F. Supp. 2d at 724–29 (discussing the potential of disclaimer to evolution in textbooks to mislead students).

Certainly, those who do not share the narrow Christian views promoted by ID¹⁸⁴ would be made to feel like outsiders in the political community and those who support that view like insiders.¹⁸⁵ This would be the effect of teaching the material as valid scientific theory in a science course—either promoting ID or using its concepts to attack evolution—regardless of whether one views the speaker as the professor or the university.¹⁸⁶ Many students, even college-aged students, may not separate the message from the professor and the university.¹⁸⁷

Moreover, if the university allows ID teaching to continue after complaints by students, as would generally be the case if the courts became involved, the effect of teaching ID would be even more intense regardless of the university's reasons for not acting to prevent ID in the science curriculum. The above analysis would also be applicable under the first two prongs of the *Lemon* test—whether the government entity has a secular purpose and whether the primary effect of the relevant government action is to advance or inhibit religion.¹⁸⁸ The third prong of the *Lemon* test might also be implicated based on the political divisiveness these issues raise, but the current role of this element is up in the air, and at any rate it is unnecessary because the purpose and effect elements would have been violated.¹⁸⁹

The Establishment Clause makes the public university's role in limiting the teaching of ID in science courses mandatory. The likely argument in defense of allowing ID based on free exercise and/or free speech is doomed to failure because, as noted above in Part I.B, the university has the ability to preclude ID theory from being taught in the science curriculum. Thus, there are no free speech or free exercise rights involved because there is no unlimited right to teach whatever one wants regardless of curricular needs or academic merit.¹⁹⁰ The same would be true for the teaching of astrology, alchemy, or ufology in the science curriculum, except that since these theories are not generally religious in nature there would be no duty to preclude the material (of course, no science department would likely allow that material to be taught as valid science). The one exception on this latter point might be

¹⁸⁴ See *id.* at 714–45.

¹⁸⁵ See *id.* at 723–35 (examining the possible interpretation of the disclaimer at issue on the objective child and adult).

¹⁸⁶ Cf. *id.* at 714–45 (holding that teaching or referring in disclaimer to ID as valid scientific theory endorses religion in high school context); *Bishop*, 926 F.2d at 1074, 1076–77 (noting that endorsement or promotion of religion is a valid concern when professor uses religious approach in teaching secular science course).

¹⁸⁷ *Bishop*, 926 F.2d at 1074, 1076–77.

¹⁸⁸ See *Kitzmiller*, 400 F. Supp. 2d at 746–64.

¹⁸⁹ See, e.g., *Edwards v. Aguillard*, 482 U.S. 578, 582–83 (1987) (finding that any one prong of the *Lemon* test is adequate to demonstrate an Establishment Clause violation under that test); *ACLU of N.J. v. Black Horse Pike Reg'l Bd. of Educ.*, 84 F.3d 1471, 1488 (3d Cir. 1996) (en banc) (holding that there was no need to address the entanglement prong of *Lemon* when other prong(s) are met).

¹⁹⁰ See *supra* Part I.B.

religious versions of ufology, such as the Raelians,¹⁹¹ which are not generally part of the “mainstream” ufology community.¹⁹² To the extent such religious motivations are the reason for teaching the material, and assuming a university would consider allowing it in a science classroom, the same Establishment Clause analysis would apply as applies to ID theory.¹⁹³

Finally, courts might apply the indirect coercion test to these situations. That test requires that the government sponsor a religious exercise that obliges the participation of objectors.¹⁹⁴ The teaching of ID as science in a science classroom would certainly oblige the participation of objectors who may not be able to drop the course without significant concerns and, if the course is required for any reason, may not be able to drop it at all.¹⁹⁵ The government certainly sponsors the class, and a state actor is the one promoting the religious theory on state property, using state equipment, while being paid by the state. The only question would be whether teaching ID theory would be seen as a “religious exercise.” Given that ID promotes central tenets of Christianity and would be taught to a captive audience in the classroom, it is likely that most courts confronting the issue would find it to be a religious exercise. The age of the students, which can be important under the indirect coercion test,¹⁹⁶ would not preclude the application of that test here because even though the students would be college-aged, as in *Bishop*, they are a captive audience being taught by a state employee.¹⁹⁷ As noted above, when one enrolls in a science class, one expects that one will be taught science, and that religion, if involved at all, will not be taught as science.¹⁹⁸ One might seek such discussion in philosophy of science, philosophy generally, religion, or maybe even in history of science courses.

CONCLUSION

This Article addresses questions that arise when ID theory is brought into science departments at public universities. When one evaluates the case law, philosophy of science, and the substance of modern science, it becomes clear that ID is not a

¹⁹¹ For information on the Raelian cult, including the Raelian argument for alien “intelligent design,” see The Raelian Movement, <http://www.rael.org/> (last visited Jan. 20, 2008).

¹⁹² Susan Palmer, *The Raëlian Movement International*, in *NEW RELIGIONS AND THE NEW EUROPE* 194, 200 (Robert Towler ed., 1995).

¹⁹³ See *supra* Part I.B.

¹⁹⁴ *Santa Fe Indep. Sch. Dist. v. Doe*, 530 U.S. 290, 301–07 (2000); *Lee v. Weisman*, 505 U.S. 577 (1992).

¹⁹⁵ Cf. *Bishop v. Aronov*, 926 F.2d 1066, 1068–69, 1074, 1076–77 (11th Cir. 1991) (addressing potential coercion from a religious approach to a general science course).

¹⁹⁶ *Weisman*, 505 U.S. 593.

¹⁹⁷ Cf. *Bishop*, 926 F.2d at 1074, 1076–77 (noting potential coercion when a religious approach is used in university science class).

¹⁹⁸ See *id.* at 1069 (discussing student complaints regarding religious approach in a science course).

scientific theory. The case law, at least, along with statements and documents from the ID movement, makes it clear that ID is a religiously motivated theory. This Article asserts that as a result of both this and the law governing academic freedom and university curricular control, public universities and science departments may preclude ID from being taught in science classes. Establishment Clause concerns could make this “may” a “must.”

Academic research is another matter. This Article asserts that the general standards of science departments, which include peer review, publication, and grant requirements, would enable a public university science department to deny tenure, research support, merit increases, and other forms of support and recognition to those whose research focuses on ID. There would be no need to go beyond those standards if they are not met. Tenure revocation, however, is far more unlikely and is not warranted where the professor is adequately performing his or her other duties (including teaching, as outlined above). Of course, such teaching and research may be recognized and supported in philosophy or religion departments should universities choose to do so.