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DOES INTELLIGENT DESIGN HAVE A PRAYER?

by

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I. Introduction

Picture a high school science class. What comes to mind? Perhaps a teacher writing out equations on a chalk board. Maybe a cluster of students performing a simple chemistry experiment. It may seem fairly innocuous, maybe even a little dull, depending on your academic preferences. Whatever you pictured, it hardly seems like the setting for one of the most contentious issues in Establishment Clause jurisprudence, but that is precisely what it is. More precisely, the debate centers on biology, and the issue of the origins of life. Almost from its very inception, Darwin's theory of evolution has generated opposition from those whose religious beliefs conflict with the theory.¹ Those whose beliefs conflict with evolution are of course free to disagree, but the confrontation has spilled over into the public school setting. Children must attend school, and have no choice over what they learn, including the theory of evolution. This understandably upsets those parents who feel that forcing their children to learn evolution undermines the religious beliefs they have instilled in their children.² In order to counter-act this perceived influence, school boards and government entities have attempted numerous strategies to banish or subvert the teaching of evolution in public school science classes.³

Over the years, governmental entities have tried different strategies to either excise evolution or inject religious beliefs into the biology curriculum.⁴ The U.S. Supreme Court has addressed these attempts on different occasions. It prohibited banning evolution outright on Establishment Clause grounds; it held that governments cannot refuse to teach a valid scientific theory simply because it conflicts with certain beliefs of a religious group.⁵ The Court had seemingly disposed of the issue in 1987, when it decided *Edwards v. Aguillard*.⁶ In that case, the Court found that a "balanced treatment" statute also violated the Establishment Clause.⁷ It

seemed to be a cut and dried conclusion: governments could not mandate the teaching of creationism alongside of evolution in public school science classes.⁸ It was in the aftermath of the *Edwards* decision that the new theory of Intelligent Design began to gain momentum.⁹

Intelligent Design will be explained in greater detail below. For now, it is enough to note that it is an alternate theory of human origins which has been used to challenge the teaching of evolution in public school science curricula. Opponents of Intelligent Design claim that it is nothing more than previously banned creationist theory dressed up in pseudo-scientific terminology. But, as proponents of the theory strenuously point out, the theory of Intelligent Design consciously avoids overt religiosity, and styles itself as a valid scientific theory, based upon empirical evidence. This is the latest phase in the controversy surrounding evolution in public schools. What makes this particular theory hard to deal with is that Intelligent Design seems custom-built to fit through loopholes that exist in *Edwards*. The question left to courts to answer is: can Intelligent Design be taught alongside evolution in public school science classes, where overtly religious creationist theories cannot?

In the first judicial test of a school district's Intelligent Design (ID) policy, in *Kitzmiller v. Dover Area School District*, the answer was a resounding no.¹⁰ The district court in that case went to great pains to show that Intelligent Design was not a scientific theory, and was in fact inherently religious.¹¹ The court went on to find that teaching Intelligent Design in public school science classes violates the Establishment Clause.¹² However, if there is one thing history has taught us, it is that this debate is far from over. Intriguing questions still linger. Did the *Kitzmiller* court get it right? Will teaching Intelligent Design always violate the Establishment Clause, or is there a set of circumstances under which it could evade unconstitutionality?

The goal of this paper is to examine the theory of Intelligent Design and the relevant constitutional jurisprudence to determine if and when Intelligent Design could be constitutionally taught in public school science curricula. In order to accomplish this goal, I will look to the relevant theories that have been used to gain a better understanding of the terms this paper will be dealing with throughout. Next, I will examine the relevant constitutional jurisprudence, to see how courts are likely to deal with an Establishment Clause challenge to teaching Intelligent Design in public schools. Then, I will attempt to apply the tests a court is likely to use to determine if there exists a set of circumstances under which Intelligent Design can be constitutionally taught. Finally, I will discuss whether there are any other contexts in which Intelligent Design may be taught outside the science classroom.

II. The Relevant Theories

First and foremost, before examining the current constitutional jurisprudential landscape surrounding evolution, creationism and intelligent design (ID) within public school science curricula, it will be beneficial to briefly define those three theories in order to frame the issue.

IIA. Evolution

The theory of evolution is generally credited to Charles Darwin, which he expounded in his seminal work, “On the Origin of Species.”¹³ Darwin’s theory posits that:

species of flora and fauna do not permanently exist in their present forms. Rather, they vary over time as individual members develop inheritable adaptations to their natural environments that make them more likely to survive than members of the same species that have not changed or have changed in less advantageous ways. Mutations upon mutations lead to diversification within, and eventually among, species.¹⁴

This process is often called Natural Selection.¹⁵

As our understanding of genetics has improved, the next major leap in evolutionary theory has been taken.¹⁶ We now know that these adaptations are the product of variations within a species' genes, and that they arise from adaptation as well as mutation.¹⁷

Today, the theory of evolution can be broken down into two general categories, microevolution and macroevolution.¹⁸ Microevolution embraces the idea that genetic diversity within a species, over time and through the process of sexual selection is responsible for differentiation within the species.¹⁹ Macroevolution is an extension of microevolution, in that it posits that over time the differentiation within a species will lead to the creation of a new species distinct from the initial species.²⁰ Looking backward, macroevolution posits that all species come from a common ancestor, and that the process of microevolution can best explain the existence and variety of life on earth as we know it today.²¹

The theory of evolution is considered to be the cornerstone of any study of biology.²² It enjoys the overwhelming support of the scientific community today, and is widely regarded as well a substantiated theory as exists in modern science.²³

IIB. Creationism

Generally speaking, creationism rejects the theory of evolution and believes instead that each species on earth was put there by a divine being.²⁴ The Dictionary of Science and Creationism defines creationism as the belief in the creation of the universe, including man and all other life forms, by a supernatural creator as specifically described in the biblical book of Genesis.²⁵ The primary creationist perspectives are categorized as Young Earth Creationism, Old Earth Creationism and Theistic Evolution Theory.²⁶

Young Earth creationists adhere to a “strict and literal interpretation of the Bible, which asserts that all organisms were formed on the Earth in a single event and that God created plants, animals and humans in their final forms.”²⁷ They do not believe that the earth is billions of years old, instead positing that the earth is closer to 6,000 to 10,000 years old.²⁸ They reject the position that humans descended from a lower order of animal.²⁹ They maintain that humans were created fully formed, as we appear today, distinct and separate from other life forms.³⁰

One scholar aptly described Old Earth creationists as follows: “As the name suggests, old-earth creationists concede the earth to be billions of years old. They maintain that God individually created ‘kinds’ of plants and animals sequentially over great spans of time, and that God works through biological processes to create diversity within species.”³¹ Both Young Earth and Old Earth creationists agree with microevolution’s stance that changes can occur within species over time, but they reject the theory of common descent and maintain, based on the book of Genesis’ account of divine creation, that humans were created separately.³² They maintain the essential belief that humans are unique: even if evolution can explain the diversity of life in lower orders of plants and animals, human beings never shared a common ancestor with other animals and we were created distinctly by God in essentially the same form we now embody.

The beliefs of Theistic Evolution Theorists have been described as such:

[They] do not subscribe to a literal interpretation of Genesis, but still adhere to an idea of divine creation and consider the natural processes identified by Darwin as a plan intended for the world by a Creator. Specifically, they believe that a God created time, space, and matter, but left the majority of life changes to the natural workings of evolution. They believe one species can give rise to another consistent with Darwin’s theory.³³

As of 1996, this perspective was the Catholic Church’s official position on the origin of life.³⁴

IIC. Intelligent Design

Intelligent Design (ID) is a theory that maintains that intelligent agency, as an aspect of scientific theory-making, has more explanatory power in accounting for the complexity of some physical systems, including biological entities and the existence of the universe as a whole, than the blind forces of nature.³⁵ Though proponents of ID claim that it can be demonstrated across a variety of scientific disciplines,³⁶ my focus is on how ID attempts to explain the origins and diversity of life in the field of biology. The theory holds that living things are too complex to have arisen by chance, and therefore must be the work of a designer.³⁷ However, proponents of ID are quick to point out that ID is not a religious theory.³⁸ They do not speculate on who or what such a designer might be or when such a design occurred and claim to have no commitment to defending the book of Genesis story of creation or any other religious tenet.³⁹ ID simply claims that the presence and actions of some kind of intelligent designer are responsible for creating complex living things.⁴⁰

One aspect of ID is that it attempts to show gaps in the theory of evolution because if such gaps do exist, this demonstrates inherent flaws in evolutionary theory.⁴¹ Gaps in the theory of evolution it exposes are used as evidence that if evolution cannot explain it, it must be something else, and that something else must be an intelligent designer.⁴² ID purports to be a scientific theory which is empirically provable; as one scholar notes, “At the core of ID research is the set of criteria by which its proponents claim they can detect or falsify design.”⁴³ The two main premises upon which ID proponents depend to prove this assertion are the concepts of “specified complexity” and “irreducible complexity.”⁴⁴ Specified complexity was proposed by ID proponent and mathematician William Dembski who enumerated three components to

specified complexity: contingency, complexity and specification.⁴⁵ To simplify as much as possible, specified complexity estimates the probability that a given structure or pattern could have arisen by chance.⁴⁶ When a structure is both complex (made up of multiple parts) and specified (containing a coherent pattern or formation) simultaneously and the probability of such complexity and specification occurring together is low enough, then one can infer intelligent design.⁴⁷ Dembski illustrates this phenomenon in different ways: “A single letter of the alphabet is specified without being complex (i.e., it conforms to an independently given pattern but is simple). A long sequence of random letters is complex without being specified (i.e., it requires a complicated instruction-set to characterize but conforms to no independently given pattern). A Shakespearean sonnet is both complex and specified.”⁴⁸ He states that biological details of living things can be similarly characterized, such as “bacterial flagellum that are wonderfully complex, elegant, and integrated.”⁴⁹

The second major premise ID uses to prove life is too complex to have arisen randomly is irreducible complexity. Irreducible complexity was put forth by biochemist Michael Behe.⁵⁰ He starts with the premise that if a complex system could not have been formed through successive, slight evolutionary changes, then the theory of evolution cannot account for such systems.⁵¹ Behe defines an irreducibly complex system as a single system composed of several well-matched interacting parts that each contribute to the basic function of the system.⁵² Removal of any one of the parts of an irreducibly complex system would cause it to effectively cease functioning, since each part depends on the others to produce the system’s function.⁵³ To illustrate this point, one can think of a car engine. If one essential part of the engine is removed, the engine does not function; it relies on all parts functioning in their separate roles together in order to work as a cohesive whole. If removing one part would cause the entire system to fail,

Behe would argue that it then follows that any intermediate form of the part would not allow the system to function either. He argues that changing the form one part takes is tantamount to removing it, with the same result.⁵⁴ A more rudimentary form of the part will not function in the same way as the current form of the part, and the current form is the only form that allows the system to function as it is supposed to.⁵⁵ If the part could not have gradually changed into what it currently is, he argues, it must have been designed as it is and not formed and changed through natural selection.⁵⁶

In sum, specified complexity and irreducible complexity are essentially offered as scientific proofs of design. Specified complexity is offered as a way to set criteria for detecting design, and an irreducibly complex system exhibits all the characteristics the criteria are meant to detect.⁵⁷ ID attempts to use accepted scientific methods to prove that evolution cannot account for existence of complex organisms and this in turn means that such organisms must have been designed by an intelligent designer.

There is a problem with this conclusion, aside from its questionable validity and widespread disapproval from the majority of the scientific community which in themselves are not insubstantial hurdles.⁵⁸ The problem is that the existence of an intelligent designer cannot be proven or tested for using the same scientific methods ID proponents use to discredit evolution.⁵⁹ There is no small irony in that, but the problem for ID proponents is that their search for an intelligent designer cannot be considered science as that term is defined by the scientific community. So they face not only the task of disproving evolution in the context of complex systems and organisms, but the additional hurdle of changing the definition of what constitutes “good” science so that an intelligent designer may be included. This dual debate over whether

their methods in dismissing evolution are valid and whether Intelligent Design may be considered science at all will be discussed in greater detail below.

III. The State of Establishment Clause Jurisprudence in Regards to Evolution

The teaching of evolution in public schools as an explanation of human origins has generated much controversy throughout its tenure as an accepted scientific theory.⁶⁰ Throughout the years, governmental entities have used various alternative theories of origin to supplant, supplement or qualify the teaching of evolution in public schools; ID is the newest of such alternative theories.⁶¹ Because these theories of human origin touch upon religion, courts have scrutinized such government policies under the Establishment Clause, to ensure that the government is not impermissibly establishing a religious doctrine.⁶² Examining the way the United States Supreme Court has analyzed previous governmental policies regarding the teaching of human origins in public school science classes, and how some lower courts have dealt with similar issues, will provide a framework for how courts in the future will likely handle challenged ID policies.

IIIA. *Epperson v. State of Arkansas*

The 1968 case of *Epperson v. Arkansas* was the U.S. Supreme Court's first case dealing with the issues of creationism and evolution in public school science curricula⁶³. The statute in question was enacted in 1928 and was based upon the Tennessee law at issue in the famous Scopes Monkey Trial in 1927.⁶⁴ The Arkansas statute made it a misdemeanor for any public school teacher to teach the "theory or doctrine that mankind ascended or descended from a lower order of animal," which would result in the dismissal of the offending teacher.⁶⁵ The Little Rock school district purchased a biology textbook in 1965 that contained a chapter detailing man's descent from a lower order of animal.⁶⁶ This put the teacher in question, Susan *Epperson*, in a

dilemma: she had to teach from the book the school district prescribed, but if she did she would violate the statute and be subject to dismissal.⁶⁷

In its decision, the Court found that the prohibition of teaching evolution was a violation of the Establishment Clause of the First Amendment.⁶⁸ In setting out its opinion the Court noted that the First Amendment commands that the government must be neutral in matters of religious theory and doctrine, and may not aid, foster, or promote one religion against another.⁶⁹ The Court also noted that states have a strong interest in determining their own public school curricula, and as a general matter, courts should not interfere in the daily operation of public schools.⁷⁰ However, the Court stated that it will intervene into conflicts involving school curricula where constitutional interests are implicated, and that nowhere was “the vigilant protection of constitutional freedoms more vital than in the community of American schools.”⁷¹ The Court looked to the primary purpose and effect of the enactment, and stated that if either is found to be the advancement or inhibition of religion then it unconstitutional.⁷² In looking to purpose, the Court found that Arkansas had offered no justification for the law under state policy.⁷³ It further found that sectarian fundamentalist conviction could be the only reason the law was passed; it was intended solely single out a particular theory because of its supposed conflict with the biblical creation story.⁷⁴ The state was not seeking to excise all discussions of the origin of man from its public school curricula, only one theory which conflicted with a literal reading of the Bible.⁷⁵ This ran afoul of the constitutional mandate of neutrality, which violated the Establishment Clause.⁷⁶

This case is important for purposes of this paper in that it effectively laid the groundwork for future creationism and science education cases analyzed under the Establishment Clause, by focusing on the legislature’s non-secular purpose and intent in passing the law. It is

also important to note that the Court was willing to look to the origin and history of the statute, including public reaction, which helped to expose its inherently religious nature.⁷⁷ To sum up, the import of *Epperson* was that a “frontal assault” on evolution in public school science classes would not be permitted under the Establishment Clause.⁷⁸ States were no longer free to ban the teaching of evolution because it conflicts with religious teaching.⁷⁹

IIIB. *McLean v. Arkansas Board of Education*

The *McLean* case was a 1982 Eastern District of Arkansas case dealing with a so-called “Balanced Treatment Act.”⁸⁰ The Act stated that public schools “shall give balanced treatment to creation-science and to evolution-science.”⁸¹ It defined creation science as “the scientific evidences for creation and inferences from those scientific evidences.”⁸² Despite the fact that it is only a district court case, and that the Supreme Court would deal with a very similar statute five years later in *Edwards v. Aguillard*, it is still worthwhile to examine *McLean* in detail. The court’s method of analysis is important to note, particularly the way it interpreted the Lemon test, and the way it went about determining scientific merit in the challenged policy, which will become a vital issue in ID cases. Additionally, *McLean* was the first case to hold that teaching creationism in a public school was in and of itself a religious teaching in violation of the Establishment Clause.⁸³

The statute in question mandated equal treatment in public schools to “creation science” and “evolution science.” The court analyzed the policy under the Lemon Test, first articulated in *Lemon v. Kurtzman*, a Supreme Court case from 1971.⁸⁴ *Lemon* stated that in order to survive Establishment Clause scrutiny, a statute must: 1) have a secular purpose; 2) produce a primary

effect that neither enhances nor inhibits religion; and 3) not foster excessive government entanglement with religion.⁸⁵

In applying the Lemon test, however, the *McLean* court expanded the purpose prong. The court focused on whether the legislature's actual motivation was to promote religion, instead of simply required finding a valid secular purpose, even if other religious purposes were present.⁸⁶ In looking to legislative purpose, the court focused on the history and motivations of the bill's author and sponsor, but also went farther in examining the history of creationists' opposition to evolution, both in general and in the state of Arkansas.⁸⁷ It also focused on the unusual events surrounding the bill's passage (no scientific testimony, no experts from the department of education, no findings of fact, etc.) and even the motives of Arkansas residents who pushed for the bill.⁸⁸ Taken all together, all the apparent favorable bias toward religion was enough for the court to determine that there was no secular purpose, only the purpose to introduce the biblical version of creation into the public schools.⁸⁹

What is interesting is how far back the court was willing to go to establish a link between "creation-science" and fundamentalist opposition to evolution as a contradiction of the literal truth of the Bible.⁹⁰ Normally, the bill's author's statements, such as his intent to "kill evolution," and linking evolution to social ills such as Nazism, and his view of the whole debate as a "battle between God and anti-God forces" should have been enough to show an actual motivation to advance religion.⁹¹ But, by establishing a link with fundamentalist hostility toward religion all the way back to the 1920s, it seems the court was trying to send the message that no matter what the legislative history, creationism could never escape its ties to fundamentalism, and it's obviously religious motives.⁹² The Court in *Epperson* documented the fundamentalist link with the statute at issue there simply because the statute was passed in the 1920s at the

height of that period's upswing in fundamentalism, and so was an integral part of the "historical context of the act" which was fit for consideration.⁹³ In *McLean*, the court saw the historical context of the statute as part of an unbroken line of those with religious motivations attempting to inject biblical creation into public schools, not simply as the historical context around the time the law was passed.⁹⁴ The fact that the court could link the motives of the legislature to this historical motive just added more weight in deciding that the statute's purpose was to advance religion.

Perhaps the most important thing to note about the *McLean* case was the court's willingness to go beyond legislative motive and historical context and declare that the purpose of the statute was religious because the creation-science it mandated was both religious and not science at all.⁹⁵ The court first began by noting that the definition of creation-science in the act was clearly identical to the first eleven chapters of Genesis, and then noted that creation from nothing involved belief in a supernatural intervention, which it found to be inherently religious, despite being presented as science.⁹⁶ Once the court had defined creation-science as manifestly religious, it removed all doubt that the purpose of the statute was religious by finding that it was not science.⁹⁷ This court, unlike the court in *Epperson*, gave a definition of the essential characteristics of science: 1) It is guided by natural law; 2) It has to be explanatory in reference to natural law; 3) It is testable against the empirical world; 4) Its conclusions are tentative, i.e. not the final word; and 5) It is falsifiable.⁹⁸ The court adopted this standard based upon expert testimony given at trial.⁹⁹ It is important to note that court never defined explicitly what it meant by "natural law." However, it did refer to the fact that divine creation could not be science, as the court defined it, because we cannot know the processes used, or if the processes exist or operate in the natural universe.¹⁰⁰ It would seem that the court meant naturally occurring,

observable and predictable processes, such as the laws of physics when referring to natural law. The distinction is important only to distinguish the court's use of "natural law" as a defining characteristic of science in this case from the term as used by legal philosophers in other contexts.¹⁰¹

Applying this standard, the court found creation-science as defined in the statute could not be science for a variety of reasons. Among other things, the court found that creation-science's dependence on supernatural intervention, lack of general acceptance within the scientific community, its absolutist and dogmatic methodology where a supreme being must always be the answer, and its false dual dichotomy where any evidence against evolution must mean support for creation science all fail to qualify under the court's five-part definition of science.¹⁰² Once the policy was found not to be science, the court determined that it could not enhance science education, and because it was also inherently religious, it was unconstitutional.¹⁰³ Without getting into too much more detail, it is enough to note for now that many of the arguments made on behalf of creation-science to be considered science that were rejected by the court in *McLean* are nearly identical to the arguments that proponents of ID would use later in attempting to justify ID as science.

IIC. *Edwards v. Aguillard*

In 1987, the Supreme Court handed down its decision in *Edwards v. Aguillard*, taking on a balanced treatment statute from Louisiana similar to the one at issue in *McLean*.¹⁰⁴ The act at issue in *Edwards* forbid the teaching of evolution in public schools unless accompanied by instruction in creation science.¹⁰⁵ No school was required to teach evolution or creation science, but if either was taught, the other must also be taught.¹⁰⁶ The statute defined evolution and creation science as "the scientific evidence for creation or evolution and the inferences from

those scientific evidences.”¹⁰⁷ The Court analyzed the statute under the Lemon Test, noting that it was the appropriate test in this context.¹⁰⁸

In applying the Lemon test, the Court again reiterated that states and local school boards are generally given considerable discretion in operating their public schools and setting their curricula.¹⁰⁹ However, the Court again stated that the public elementary and secondary school setting must be closely monitored, as “families entrust public schools with the education of their children, but condition that trust on the understanding that the classroom will not purposely be used to advance religious views . . . Students in such institutions are impressionable and their attendance is mandatory.”¹¹⁰

Under the purpose prong of Lemon, the Court, as did the court in *McLean*, chose to apply a strict interpretation, asking whether a government’s actual purpose is to endorse or disapprove of religion through examination of legislative intent.¹¹¹ The court went on that an intention to promote religion is clear when the state enacts the law to serve a religious purpose, evidenced by promotion of religion in general, or by advancement of a particular religious belief.¹¹² The Court also noted that in finding legislative purpose, it is proper to consider the plain words of the statute, the legislative history, historical context, and the sequence of events that led to the passage of the statute.¹¹³ Here, Louisiana stated that it’s purpose in enacting this statute was to promote academic freedom, but the Court noted that though it is normally deferential to the state’s stated purpose, that stated purpose must be “sincere and not a sham.”¹¹⁴

The Supreme Court struck down the Louisiana statute, finding that it failed the secular purpose prong of the Lemon test.¹¹⁵ The Court looked to the legislative history and determined the purpose of the bill’s sponsor was to “narrow the science curriculum” in favor of a religious doctrine, not “teaching all the evidence with respect to the origins of human beings.”¹¹⁶ The

Court noted the bill's sponsor, Senator Bill Keith, had made his intent clear when he said he would prefer that neither evolution nor creationism be taught, and that he disdained evolution because it conflicted with his religious views. Under legislative motivation, the Court also noted that the same "historic and contemporaneous antagonism" between certain religious doctrines and evolution that helped illuminate religious purpose in both *Epperson* and *McLean* were present in this case as well.¹¹⁷ Perhaps the most damaging to the state, the Court noted that both Senator Keith and the creation experts he relied on all admitted that the theory of creation science included belief in the existence of a supernatural creator.¹¹⁸ The court concluded from this that the legislative history showed that "creation science as contemplated by the legislature . . . embodies the religious belief that a supernatural creator was responsible for the creation of human kind." From this, the Court concluded that the act was designed to either promote a theory which embodied a religious tenet, or to prohibit the teaching of a scientific theory that is disfavored by a particular religious sect, both of which are prohibited by the Establishment Clause.¹¹⁹ The Court also pointed out that the act did not grant teachers any more freedom than they already possessed, as they were already allowed to teach anything based on established fact. It went on to note that if Louisiana truly wished to maximize the effectiveness and comprehensiveness of the science curriculum, it would have encouraged teaching of all theories; instead the bill prevented the teaching of only one theory.¹²⁰ Many other factors combined to show that Louisiana had no secular purpose in enacting the law. These factors included the comments of Senator Keith; the historic conflict between certain Christians and evolution; the fact that the act would not actually advance academic freedom; that the legislature singled out evolution; and that the act itself promoted teaching a religious tenet. The culmination of all these

factors was enough to convince the Court that there was no secular purpose, and that therefore the act was invalid under the purpose prong of Lemon, and unconstitutional.¹²¹

The state argued that it had evidence that creation science as defined in the act, was in fact a valid scientific theory, despite any religious underpinnings.¹²² If that were proven to be true, the policy could pass the first prong of Lemon; teaching valid science in a science class is clearly a secular purpose.¹²³ However, the Court would not rule on whether or not this brand of creation science was in fact science. The Court explained that since the evidence the state wished to use was produced after the state passed the act, it was of no relevance in finding the legislature's purpose in passing the act.¹²⁴ This left an open question of what would happen if the state had relied on such expert testimony before they passed the act, or what would happen if a theory that could be called scientific but nevertheless embraced or embodied certain religious tenets.¹²⁵ It is also important to note also that the Court went out of its way to say that it "does not imply that a legislature could never require that scientific critiques of prevailing scientific theories be taught" and that "teaching a variety of scientific theories about the origins of humankind to schoolchildren might be validly done with the clear secular intent of enhancing science instruction."¹²⁶ The issue of whether a given program or theory can be defined as science then is a critical issue in determining its constitutional validity. Under the Court's reasoning in *Edwards*, if a theory was validly scientific, either in its own right, or as a critique of evolution, then it might pass constitutional muster under the Establishment Clause. It is this loophole that ID proponents hope to exploit in order to have ID taught in a public school science class.¹²⁷

IIID. *Kitzmiller v. Dover Area School District*

We have seen how courts have dealt with attempts to insert creationist theories into public school science curricula. After the Supreme Court's decision in *Edwards*, it was assumed by many that the debate was pretty much over; creationist's attempts to ban evolution or give equal time to "creation-science" had failed.¹²⁸ This was not the end to challenges to evolution however. It was around this time that the theory of Intelligent Design began to gain support as a way to challenge evolution in the classroom.¹²⁹ Opponents of ID will argue that it is simply the creationist argument recast in different terms to get around the Court's ruling in *Edwards*, but ID proponents maintain that the theory is not religiously affiliated and is scientifically valid.¹³⁰ If ID can be found to be scientifically valid, then any overlap with a particular religious belief does not render it less so, and may stand up as a valid secular purpose. The assertions that ID is religiously neutral and scientifically viable posed a challenge to the reasoning in *Edwards*, which stated that teaching a variety of scientific theories might validly be done, and also relied on the religious nature of the challenged pedagogy.¹³¹ Therefore, the critical questions facing a court in determining the constitutionality of teaching ID in a public school science curriculum would be whether or not ID can be considered religious, and whether or not it can be considered scientific.¹³² If ID could be found not to be religious, then Establishment Clause jurisprudence can be avoided altogether and it would become an issue of curriculum choice which the Supreme Court has said it will be reluctant to delve into without First Amendment concerns.¹³³ And similarly, if ID can be considered science, it can be included if the clear, secular intent is to enhance the effectiveness of science instruction. If it can be deemed science, the fact that it coincides with certain religious beliefs would not be enough to invalidate it.¹³⁴ These were the issues the court faced in *Kitzmiller v. Dover Area School District*, an Eastern District of Pennsylvania case decided in late 2005.¹³⁵

This case arose in response to a press release by the Dover Area School District which stated that public school teachers would be required to read a statement to ninth grade biology students which criticized evolution and encouraged students to examine ID. The statement read

“The Pennsylvania Academic Standards require students to learn about Darwin’s Theory of Evolution and eventually take a standardized test on which evolution is a part. Because Darwin’s Theory is a theory, it continues to be tested as new evidence is discovered. The Theory is not a fact. Gaps in the Theory exist for which there is no evidence. . . Intelligent Design is an explanation of the origin of life that differs from Darwin’s view. The reference book, *Of Pandas and People*, is available for students who might be interested in gaining an understanding of what Intelligent Design actually involves. With respect to any theory, students are encouraged to keep an open mind. The school leaves the discussion of the Origins of Life to individual students and their families.”

Kitzmiller v. DASD.

In analyzing the constitutionality of the ID policy, the court noted the applicability of the Lemon test, but also determined that analysis under the endorsement test was also proper. The endorsement test was first articulated by Justice O’Connor in her concurrence in *Lynch v. Donnelly*, and was adopted by a majority of the Court in *Santa Fe Independent School District v. Doe*.¹³⁶ That case was decided in 1989, two years after *Edwards*. The goal of the Endorsement Test is to prohibit actual or reasonably perceived government endorsement of religion.¹³⁷ In the words of Justice O’Connor in a previous case, “Endorsement sends a message to nonadherents that they are outsiders, not full members of the political community, and an accompanying message to adherents that they are insiders, favored members of the political community.”¹³⁸ In determining if a policy in fact conveys a message of endorsement or disapproval of religion, the Court will analyze what message a policy conveys to a “reasonable, objective observer, who knows the policy’s language, origins, and legislative history, as well as the history of the community and the broader social and historical context in which the policy arose.”¹³⁹ This fictional observer will be one of the class of people the message was intended to reach.¹⁴⁰ The

net effect of the endorsement test is that perceived government purpose and perceived government effect can be deciding factors when determining the constitutionality of a challenged government action.¹⁴¹

The court in *Kitzmiller* noted that the Supreme Court had consistently applied the endorsement test in Establishment Clause cases, including religion in public school settings, and decided that it must apply the endorsement test first, and then apply *Lemon*.¹⁴² Using the endorsement test, the court analyzed whether the objective observer would know that ID is a creationist, religious strategy that evolved from earlier forms of creationism.¹⁴³ From that starting point, it went on to analyze whether an objective student would view the statement regarding ID as state endorsement of religion, as they were the intended audience.¹⁴⁴ It also determined whether an objective adult member of the community would view the school board's conduct as an endorsement of religion, because the board had engaged the public defending its policy and thus made the general public in the community an intended audience as well.¹⁴⁵

The court first held that an objective, reasonable observer would know that both ID and a plan to inform students of problems with evolutionary theory are creationist, religious strategies.¹⁴⁶ In so finding, the court relied on four reasons why the observer would know ID is a religious strategy that could be found in the social context and history of the ID movement. The first was that the main premise of ID, namely the existence of an intelligent designer, had its intellectual roots in religious arguments for the existence of God, most notably the arguments of theologians Thomas Aquinas and William Paley.¹⁴⁷ The court noted that although ID does not acknowledge that the designer is God, it concedes that the intelligent designer works outside the laws of nature and science.¹⁴⁸

The second reason the court cited is that leading proponents of the ID movement themselves describe ID as a religious argument.¹⁴⁹ The court cited to a written statement made by Philip Johnson, whom it considered to be “the father of the ID movement,” saying “theistic realism” and “mere creation” are defining concepts of the ID movement, meaning that “God is objectively real as Creator and recorded in the biological evidence.”¹⁵⁰ William Dembski, the leading proponent of the ID theory of specified complexity had written that ID is a “ground clearing operation” to allow Christianity to receive serious consideration, and that “Christ is never an addendum to a scientific theory but always a completion.”¹⁵¹ Perhaps most persuasive to the court in determining that the ID movement considers itself religious was the so-called “Wedge Document.” The Wedge Document was prepared by the Discovery Institute’s Center for Science and Culture.¹⁵² The Discovery Institute is a conservative think tank that was founded in 1991, and is a major proponent of the ID movement.¹⁵³ The Institute’s fellows include William Dembski and Michael Behe.¹⁵⁴ The Wedge Document posits that the ID movement’s “Governing Goals” include replacing science as currently practiced with “theistic and Christian science.”¹⁵⁵ The court found that the document revealed cultural and religious goals, not scientific ones. It also found that ID aspires to change the ground rules of science to make room for religion, specifically beliefs consonant with a particular version of Christianity.¹⁵⁶

Third, the court found that notwithstanding the labels ID proponents themselves would put on it, the religious nature of ID is evident because it involves the existence of a supernatural creator, which the courts in *McLean* and *Edwards* found made creationism a religious proposition.¹⁵⁷ The court noted that the existence of a supernatural designer is a hallmark of ID, and that not one defense expert was able to explain how the supernatural action suggested by ID could be anything other than an inherently religious concept.¹⁵⁸ Further proof that ID requires a

supernatural creator was found in the court's study of the ID textbook suggested to students by the school district, *Of Pandas and People*.¹⁵⁹ The court examined different drafts of the book, one written before *Edwards* invalidated teaching "creation-science," and one revised after. In the pre-*Edwards* draft, the book defined creation science, which was found to be inherently religious in *Edwards*. In the post-*Edwards* draft, the court found that creation science was excised, and that ID was substituted in its place.¹⁶⁰ The current definition of ID was exactly the same as the pre-*Edwards* definition of creation science. It also found that over 150 mentions of the word creation were systematically replaced with the phrase ID; and that the changes all occurred shortly after the decision in *Edwards*.¹⁶¹ Though the words had changed, the inherently religious content had not. Simply changing the phrase creation science to the phrase Intelligent Design could not divorce it from its inherent religiosity.¹⁶²

And fourth the court also noted that ID uses the same or exceedingly similar arguments as creationism, even if divorced from *Pandas*.¹⁶³ The court found that while ID does not mention creationism, the book of Genesis, or young earth, it is substantially similar in all other respects to the conclusions of "scientific" creationism.¹⁶⁴ The court found that these four factors provided the social and historical context in which ID arose of which a reasonable observer, whether adult or child, would be aware.¹⁶⁵

The court next focused on whether an objective student would view the school district policy as official endorsement of religion.¹⁶⁶ In doing so, the court examined the language of the disclaimer mandated by the policy itself, the classroom presentation of the disclaimer, and the historical context surrounding the adoption of the policy, which included the board's reasons for adopting it and the community debate it sparked. First, the court found that the language of the disclaimer read to the students would send the message that the school would rather not teach

evolution, but that state academic standards require it to.¹⁶⁷ The court also found the disclaimer would send the message that the school is singling out evolution from all else in the science curriculum as “just a theory.” The court found that such language suggested to students that evolution is only a highly questionable opinion or hunch, not a reliable scientific theory.¹⁶⁸ Since the court had already found that ID is a religious view, it also found that suggesting Pandas as a valid alternative to evolution would be seen as urging students to contemplate alternative religious concepts.¹⁶⁹

Secondly, the court examined the way in which the students were exposed to the disclaimer. The science teachers refused to read it, and so school administrators came into the classrooms, which the court found carried the message that the disclaimer was special and carried extra weight.¹⁷⁰ The court also found that the fact that students are able to opt out of hearing the disclaimer makes it a novelty, which enhances the importance of the disclaimer in the students’ eyes.¹⁷¹

According to the court, these elements, combined with what the students already know about the religious nature of ID, show that a reasonable, objective student would see the disclaimer as a strong message of official religious endorsement.¹⁷²

Because the board brought the debate to the public by sending out a newsletter to all citizens, the court next looked to whether an objective Dover citizen would perceive the school board’s conduct to be an endorsement of religion.¹⁷³ The court found that such an observer would perceive government endorsement of religion. In doing so, the court examined many factors that the reasonable observer would know. These factors included the language of the disclaimer to be read to students, what the observer would infer from the language used in the newsletter, the Board’s actions at its public meetings and the tenor of the public debate that arose

before the Board adopted the policy. The court found that the newsletter would be perceived as denigrating evolution and advocating ID.¹⁷⁴

The newsletter included the statements “the word evolution has several meanings, and those supporting Darwin’s theory of evolution use that confusion to their advantage,” and “[b]iology took away our status as made in the image of God,” and “advances in molecular biology and chemistry have shown us that . . . fundamental units of life processes cannot be explained by chance.”¹⁷⁵ The court found that such statements would all lead to an objective observer to conclude that the board was attacking evolution and promoting the inherently religious theory of ID.¹⁷⁶ Furthermore, the record included many letters to the editor and editorials from the local newspapers, which revealed that the entire community consistently understood ID to be a religious concept, and that the controversy was about whether a religious view should be taught in the schools.¹⁷⁷ Combining the board’s view expressed in the newsletter and the community’s understanding of the issue as one about the inclusion of religion in the schools with what an observer would know about the disclaimer itself (similar to what a student would infer) the court concluded that a reasonable, objective observer would see government endorsement of a religious view.¹⁷⁸

After detailing how and why the school board’s policy failed the endorsement test, the court went on to declare that ID, while possibly true, was not science, and added that “whether ID is science . . . is essential to our holding that an Establishment Clause violation occurred in this case.”¹⁷⁹ The court based its decision that ID is not science primarily on expert testimony from both the plaintiffs and the defendants.¹⁸⁰ The court found that ID violates the centuries-old ground rules of science by invoking and permitting supernatural causation; that the argument of irreducible complexity is flawed; that ID’s negative attacks on evolution have been refuted by

the scientific community; and that ID has failed to gain the acceptance in the scientific community.¹⁸¹

The court defined science as being limited to the search for natural causes to explain natural phenomena.¹⁸² It found that science restricts itself to testable, natural explanations about the natural world. The National Academy of Sciences agreed that science is limited to empirical, observable and ultimately testable data, and that explanations that cannot be based upon empirical evidence are not a part of science.¹⁸³ Science does not consider issues of “meaning” and “purpose” in the world, but restricts itself to the scientific method.¹⁸⁴ The court noted that every major scientific organization that has taken a position has found that ID is not and cannot be science.¹⁸⁵ The court noted that even ID experts admitted that unless the definition of science was expanded to include supernatural causation, ID could not be considered science. The court concluded that science cannot be defined differently for Dover students than it is defined in the scientific community.¹⁸⁶ The court viewed ID as an “affirmative action program for a view that has been unable to gain a foothold within the scientific community.”¹⁸⁷

The court thought that ID’s failure to meet the ground rules of science was enough to conclude it was not science, but went further. It stated that ID is based upon a false dichotomy, which relied on the premise that to the extent evolutionary theory is discredited, ID is confirmed.¹⁸⁸ The court noted that this was essentially the same “contrived dualism” present in *McLean*, and failed as science here as well.¹⁸⁹ It is faulty logic to assume that if evolution is wrong (which ID has not proven), that therefore ID is right.¹⁹⁰ Insofar as ID proponents’ attacks on gaps in evolutionary theory, the court noted that simply because evolution cannot yet explain certain details of evolution does not mean the theory is incapable of doing so.¹⁹¹

The court found that the cornerstone ID argument of irreducible complexity failed both as a positive argument in favor of ID, and also as a negative argument against evolution.¹⁹²

The court finally noted the complete absence of peer-reviewed publications supporting ID. The court found that the peer review process is “exquisitely important” in the scientific process, as it allows scientists to share empirical research and opens their hypotheses up to study, testing and criticism.¹⁹³ The court also found that not only had ID proponents failed to produce peer-reviewed articles of studies featuring ID, but that ID theories did not feature any scientific research or testing.¹⁹⁴

Based on these findings, the court found that a reasonable, objective observer would reach the inescapable conclusion that ID is an “interesting theological argument, but that it is not science.”¹⁹⁵

Having concluded that the board’s policy failed the endorsement test, the court next turned to analyzing the policy under the Lemon test.

The court stated that the purpose prong of Lemon asks “whether government’s actual purpose is to endorse or disapprove of religion,” and that the court may consider the policy’s language, enlightened by its contemporaneous legislative history, the historical context of the enactment, and the specific sequence of events leading up to its passage.¹⁹⁶ The court found that under the cumulative evidence, the district’s purpose was to advance creationism, an inherently religious view, both by introducing it under the label of ID and by disparaging the scientific theory of evolution.¹⁹⁷

In coming to that conclusion, the court exhaustively documented the legislative history, and sequence of events that led to the policy’s passage.¹⁹⁸ Without documenting every example the court cites, I will briefly outline the sequence of events it used in determining purpose. In

2003, a board member repeatedly asserted that he was concerned with the teaching of evolution and stated he wanted creationism to be taught “fifty-fifty” with evolution.¹⁹⁹ He was concerned about teachers presenting information to students that conflicted with the religious message parents taught at home. He felt the disparity would leave students with the impression that “someone is lying.”²⁰⁰ He also stated that the concept of common ancestry offended his religious beliefs. In 2004, a board member was contacted and had discussions with a lawyer affiliated with the Discovery Institute, which, as previously mentioned, was a dedicated proponent of ID. The board arranged to have the science teachers watch a video sent to it by the Discovery Institute, and allowed lawyers from the Institute to make a legal presentation to the board about the merits of ID.²⁰¹ During this time, the board was delaying its purchase of the new biology textbook recommended by the science advisory committee, of which science teachers were part. The book the teachers recommended contained information on evolution, and made no mention of any alternative theories. The board delayed because it was looking into purchasing a book that included a balance of evolution and creationism.²⁰² Many board members stated their preference for such a balanced treatment book. One member went so far as to say “this country was founded on Christianity and our students should be taught as such.”²⁰³ It was during this time that members of the public spoke at the board meetings, and argued that the Genesis version of creationism should be taught in the school.²⁰⁴ At a board meeting, a board member distributed a pamphlet outlining views on the origins of life. This pamphlet included information on the “Intelligent Design Movement,” credited to Phillip Johnson and Michael Behe, which was listed under the heading “Old Earth Creation.”²⁰⁵

Later that year a group of board members blocked the purchase of the faculty recommended biology book unless the board also voted to purchase the ID textbook *Of Pandas*

and People, to be used as companion texts to the biology book.²⁰⁶ The teachers feared not getting any biology book at all, and agreed to the purchase of *Pandas*. Amazingly enough, a Board member arranged for 60 copies of *Pandas* to be bought by his church, with money that was donated from the congregation and were subsequently given to the school.²⁰⁷ The company from whom the books were bought listed *Pandas* under “Creation Science.” After the purchase the board passed the disclaimer at issue in this case, and amended its science curriculum without following many of its normal procedures.²⁰⁸ The policy was adopted without any discussion among the board members as to how it could or would improve science education. The board gave no justification for the curriculum change.²⁰⁹ In fact, several of the board members who voted for the curriculum change testified that they had utterly no grasp of what ID was. The superintendent’s entire understanding of the issue of ID was that “evolution has a design.”²¹⁰ As noted, the science teachers refused to read the disclaimer, for fear that students would believe that “intelligent design is a valid scientific theory, perhaps on par with the theory of evolution.”²¹¹

The board’s stated purpose in enacting the policy was to improve science education and to exercise students’ critical thinking skills. However, given the laundry list of legislative history and context, the court found that the board’s stated purpose was a sham, and that its real purpose was to promote religion.²¹² Had the board truly been interested in improving education, they would have consulted scientific materials, organizations, or even paid heed to the views of their science teachers.²¹³ Instead of relying on scientific experts, the board relied only on legal advice from the Discovery Institute, an organization which the court found to have demonstrably religious, cultural and legal missions, not grounded in science. The board’s stated goal of improving science education was belied by the fact that most of the board who voted in favor of

the curriculum change conceded they did not know precisely what ID is, nor how it could improve science education.²¹⁴ Thus, the secular purposes claimed by the board were found to be a pretext for its real purpose of promoting religion in the public school classroom, which violates the Establishment Clause.²¹⁵

Although the court found that the district's actions failed the purpose prong of Lemon, it continued on to analyze the policy under the effects prong as well.²¹⁶ The court stated that while it treats the Lemon and endorsement tests separately, the effects prong of Lemon covers largely the same ground as the endorsement test, so the court incorporated its findings of fact and legal conclusions made under its endorsement analysis into the effects prong analysis.²¹⁷ The effects prong of Lemon asks whether the effect of the enactment would be government endorsement of religion, and uses the endorsement principle of what the reasonable, objective observer would perceive to answer that question.²¹⁸ The court reiterated its findings that a reasonable observer would know that ID is not science, and that the only real effect of the ID policy would be the advancement of religion. The court also found that the disclaimer has the effect of bolstering alternative religious theories by suggesting that evolution is a problematic theory.²¹⁹ The court further found that reading the disclaimer disavowed endorsement of valid evolutionary educational materials and juxtaposed that disavowal with an urging to contemplate alternative religious concepts, which implied the school board approved of a religious principle. Therefore, the effect of the board's actions was to impose a religious view of biological origins into the biology course, in violation of the Establishment Clause.²²⁰

The court in *Kitzmiller* went to great lengths to show that the ID policy could not pass muster under any part of either test which applied. It also took great pains to find that ID was both a religious theory and not a scientific one. Once those two things were determined, it was

possible to find that the district had endorsed religion, had no secular purpose and had the primary effect of advancing religion. The next questions to ask are whether the court correctly applied the tests it did, and whether or not there can be a set of circumstances under which ID might be taught that does not violate the Establishment Clause.

IV. Can ID Survive Establishment Clause Scrutiny?

The first step in this inquiry will be to determine which tests a court could and would apply. It has been pointed out that the Lemon test has been criticized by three current justices, as inadequate or inappropriate for Establishment Clause analysis.²²¹ With two new members on the Supreme Court who have not yet ruled on an Establishment Clause case, the argument can be made that with the three who currently disapprove of Lemon, there is the possibility that a majority of the Court could overturn the Lemon test.²²² However, the Supreme Court has applied the Lemon test in many public school Establishment Clause cases, and recently declined to abandon the test.²²³ And until it is overturned, it must be assumed that it is still good law, and that courts will continue to apply it. Additionally, Lemon does have precedential value in this particular context, as it was last used to determine a religion/evolution clash in public school science curriculum in *Edwards*.²²⁴

In the same vein, the Supreme Court has not used the endorsement test in regards to religion in the public school science curriculum, but as was noted by the court in *Kitzmiller*, the Supreme Court has consistently applied Endorsement in the public school setting.²²⁵ The Supreme Court stated in 2000 that “[i]n cases involving state participation in a religious activity, one of the relevant questions to ask is ‘whether an objective observer . . . would perceive it as state endorsement of religion.’”²²⁶ That case was about prayer at a public school sponsored event,

so the Court has been willing to use the endorsement test in public school cases. It might be argued that of the two tests, when not used in tandem, endorsement is more favored. Evidence of endorsement's preferred status came in 2005, when the Court held that endorsement principles could also be used to find perceived government purpose as well as perceived effects for which it had previously been used.²²⁷

When analyzing Establishment Clause issues in public schools, the key questions the Court has asked are whether there is a secular government purpose for the enactment, and what the effect of the enactment is.²²⁸ Whether a court uses actual purpose and effect, as in *Lemon*, or perceived purpose and effect, as in endorsement, the critical questions remain the same. The method a court would use to get the answers varies, but if a court is looking for government purpose and effect, the natural choices seem to be *Lemon* and endorsement.

Whether the Court would use the two tests separately as the *Kitzmiller* court did, or use a combination of both remains to be seen, but for purposes of this paper, it would be prudent to analyze ID under both tests.

A. *Lemon*'s Purpose Prong

In invalidating the statute in question in *Edwards*, the Court took a multiple step approach. First, the Court concluded that the purpose articulated, namely academic freedom, was not actually furthered by the statute, and so could not be its actual purpose.²²⁹ Once it was determined that the articulated purpose could not be the actual purpose, the Court set out to determine what the actual purpose was.²³⁰ If the actual purpose was to advance religion, it would be struck down.²³¹

In order for an enactment to have the primary purpose of advancing religion, it must both be religious in and of itself and have no scientific value in its own right. We know this because

if a challenged pedagogy is not religious, then there is no need to analyze it under the Establishment Clause. If it is not religious then, as the Court has repeatedly stated, it will give great deference to day-to-day school choices unless they implicate the First Amendment.²³² The Court has more than once stressed that authority for running public schools is left to the states, but that protecting constitutional rights in public schools is “vital.”²³³ But no such constitutional rights are implicated if a pedagogy is not religious, and so would likely be given deference by a court as a rational curriculum choice.

The Court has also stated that teaching multiple *scientific* theories might be validly done if there was a valid secular purpose.²³⁴ If a certain pedagogy is considered to be validly scientific, then it seems self-evident that its purpose would be to enhance the science curriculum and be found to be validly secular, and so it would not matter that it coincides with certain religious beliefs. If it is validly scientific, the secular purpose of enhancing science education will be enough to pass the purpose prong, even though the pedagogy might embrace certain religious tenets. So, the question becomes twofold: whether an ID policy could be considered to be not religious, thus removing it from Establishment Clause scrutiny; or can ID be deemed a scientific theory, thus bestowing it with the valid secular purpose of improving science education. It is worth noting that the court in *Edwards* relied almost exclusively on legislative history in making those determinations about the challenged acts in that case.²³⁵

The first question to be answered then is: can ID ever be considered not to be religious? As was previously said, the Court in *Edwards* relied almost exclusively on the legislative history to find that creation science embodied a religious principle. It found this from the statements made by legislators, and the experts they relied on, that made it clear that the legislature intended for creation science to encompass the religious concept of creation ex nihilo.²³⁶ The legislature

intended that “creation science” be taught, and understood that term to include the belief that man was created from nothing, which is an inherently religious concept. So, in effect, the legislature intended for religion to be taught in the public school science curricula when it mandated the teaching of creation science, regardless of whatever else was meant by that term. In *Kitzmiller*, under the purpose prong, the court considered the policy’s language, context and contemporaneous legislative history.²³⁷ The court considered evidence of historical context, specific sequence of events leading up to passage, departures from normal procedures, and contemporaneous statements from the legislative sponsor as part of the analysis of legislative history.²³⁸ Through legislative history, the court found that the board understood ID to be a religious theory and thought of ID as a way to get religious content into the science curriculum. In both cases, the governmental unit made it clear through its actions that its intent was to inject religious principles into the science class.²³⁹

However, legislative history may not always be fatal. The problem with relying on legislative history is that it can be manipulated if a legislative body is able to conceal its motives.²⁴⁰ The statements of the legislators in *Edwards* were fairly blatant in their assertions that they had a religious motivation. The leading expert came right out and said “the theory of creation science included belief in the existence of supernatural causes.” And, it is hard to imagine a worse case for testing ID, from a pro-ID standpoint, than that in *Kitzmiller*. The school board there made about so many mistakes as it possibly could and made it clear they were religiously motivated. It had a church buy its ID books, consulted with Discovery Institute lawyers, made it clear it was delaying the purchase of a biology book because it included evolution, disparaged evolution on religious grounds during school board meetings, a board member burned an evolution mural, the list goes on and on.

However, this does not need to be the case. If a school board wanted to implement an ID policy, and even if it wanted to do so for improper religious reasons, it would not be that difficult to create a much “cleaner,” yet more deceptive legislative history. Simply avoiding saying and doing things like the board in *Kitzmiller* would be a good start. Of the factors courts will look to to determine legislative intent, a school board or government entity can control contemporaneous statements of the legislative sponsor, statements by any board member generally, and departures from normal procedure. If it is careful to avoid casting the debate in religious terms, or betraying personal feelings favorable toward or creationism or against evolution, and follows normal procedure in adoption, a government entity could go a long way toward tipping the balance away from religious purpose. The sequence of events leading up to passage is somewhat out of the control of a governmental entity, but if it avoids inflaming the public and keeps a low profile, it may be able to exert some form of control.

However, a government entity will not be able to control the historical context of such a policy. If a court can establish a link to the past historical conflict between certain fundamentalist Christian beliefs and the teaching of evolution, there may not be much that a government entity could do. The courts in *Epperson*, *Edwards*, *McLean* and *Kitzmiller* all found such a link between the statutes at issue in those cases and the historical conflict between certain religious groups and evolution. The courts in those cases were willing to impute the historical religious animus to evolution to the governmental entities because of the statements and actions of those entities. However, if a board were to keep itself from using religious arguments against teaching evolution, and to keep any religious objections to itself, there is no real reason why a court should infer those same religious motives to it as plagued other governmental entities.²⁴¹

One problem with historical context, however, is that a government entity has no control over how ID came to be. In *Kitzmiller*, the court went to great lengths to point out that ID was simply a recasting of creationism using different terminology.²⁴² Creationism was found to be inherently religious, and could not escape its religious roots, no matter how the government tried to clothe it in scientific terms.²⁴³ Those findings are now precedent only in the Eastern District of Pennsylvania, but there is nothing to say other courts will not follow its lead, as the Supreme Court did when it adopted reasoning from *McLean*.²⁴⁴ If that is so, it will be hard for ID to escape from the religious pall *Kitzmiller* cast over it. Between the inherently religious statements, the numerous admissions and concessions offered up in court by ID experts, the post-*Edwards* revision of *Pandas*, and especially the implications of the Wedge Document, there may be little any government entity can do to escape ID's characterization as religious. The Wedge Document is especially damning, simply because of the prominent role the Discovery Institute played in the development of ID.²⁴⁵ In one fell swoop, pretty much every plausible argument for why ID can stand alone and is not tied to religion, went out the window when the Wedge Document's 5-year plan for overthrowing Darwinism was exposed.²⁴⁶ Still, could historical context alone show religious purpose, if a government entity did everything else it could to avoid a religious purpose? The court in *Kitzmiller* found that the historical character of ID was a proper subject of review, and such character was relied on as dispositive in *McLean*.²⁴⁷ It seems doubtful that ID could escape its lineage when courts are willing to look to historical context and ID has many established ties to creationism. And, in any case, given courts avowed sensitivity to religion in the public school setting, it seems likely a court would be willing to delve into historical context.²⁴⁸ If a court were to examine ID's historical context, finding its religious nature will depend on what experts are called. But the court in *Kitzmiller* had a wealth of

evidence linking ID to creationism, and it is hard to imagine a scenario where similar testimony could not be produced.²⁴⁹

What's more, even if an ID policy could be divorced from any creationist roots, and a government entity could avoid showing religious intent, it seems fairly unlikely any ID policy could be considered not religious for two reasons. First of all, the court in *Kitzmiller* found that when examining the challenged ID policy, it would be required to consider of the policy's legislative history and historical context to determine what is meant by the term ID.²⁵⁰ If ID is in and of itself an inherently religious theory, then it will receive scrutiny under the Establishment Clause regardless of any historical predecessors.²⁵¹ Though ID claims to eschew religion, the court in *Kitzmiller* found that the theory depended on the presence of a supernatural designer, which makes it a religious proposition according to *McLean* and *Edwards*.²⁵² ID proponents argue ID cannot be religious because it does not define who or what the designer is.²⁵³ By a quite literal definition, ID does not state that the designer is supernatural. It makes no claims as to the identity of the designer, natural or otherwise.²⁵⁴ But, one of the tenets embraced by ID is that natural processes such as evolution cannot account for the complex life forms we see today.²⁵⁵ At some point, ID demands the designer act outside the laws of nature to generate irreducibly complex biological systems, which ID proponents argue could not have arisen from any natural process.²⁵⁶ If natural processes cannot explain the designer, and it works outside the realm of natural laws, by definition this must be supernatural.²⁵⁷ In examining the historical context in which ID arose, a court will almost certainly be able to ascertain that it depends upon a supernatural designer, and that therefore ID is precluded by its own tenets from claiming it is not a religious belief.²⁵⁸

So, it seems unlikely that ID could be considered not religious, but that alone does not preclude it from being constitutional under the Establishment Clause when taught in a public school science classroom. If ID can be considered science, then it has a valid, clear secular purpose: improving science education. The purpose need not be exclusively secular, so long as the policy is not entirely motivated by a purpose to advance religion.²⁵⁹ In *Edwards*, the Supreme Court did not define either “religion” or “science.” However, in terms of religion, the Court made analysis much easier by holding that, if nothing else, belief in a supernatural creator is a religious concept, which obviated the need to define it totally.²⁶⁰ Unfortunately, the court declined to offer up even such a partial definition for science in the opinion. It declined to review any evidence the government had that suggested creation-science was in fact valid science because it did not need to do so in order to resolve the case.²⁶¹ So the question then becomes how do we define science? The answer to that question will be important; if ID is valid science, it has a secular purpose, and could be constitutionally taught in public school science curricula.²⁶²

The court in *McLean* took it upon itself to define science, at least for its purposes in resolving that case.²⁶³ Based upon expert testimony, the court came up with a five part definition of the essential characteristics of science.²⁶⁴ The court in *Kitzmiller* also defined science’s “ground rules,” based on expert testimony.²⁶⁵ The definition used in *McLean* and the definition used in *Kitzmiller* share certain attributes. Both conclude that science is limited to the search for natural causes to explain natural events, that testability is an essential feature, as is compiling empirical data that is testable, replicable, and observable.²⁶⁶ Both definitions stress the importance acceptance in the scientific community and of the peer-review process in weeding out bad science from good. The definition both courts came up with have much in common with

each other, and would very likely be accepted by the majority of the scientific community, as far as they go.²⁶⁷ However, these ad hoc, case by case definitions can be problematic. For one, judges cannot be expected to be scientific experts, yet courts will need to examine the validity of pseudoscientific claims, especially in the context of religious challenges to science curricula.²⁶⁸ Another problem will be consistency; depending on what experts one calls, one will get slightly differing definitions. There may not there be one monolithic definition that can encompass what science truly means, but the subtle differences that could arise could lead to differing results, and a theory like ID might be slippery enough to slip through a crack.

It is with those concerns in mind that I address the Supreme Court's articulation of the Daubert test.²⁶⁹ This was a case interpreting the Federal Rules of Evidence, but in so doing the Court formulated a rule for the admissibility of scientific expert testimony. The Court stated that it is the judge who has a general gate keeping function, which means he or she must ensure that any potential scientific expert testimony must be based on scientific knowledge and to determine whether such testimony will assist the trier of fact (reliability and relevance).²⁷⁰ For the purposes of this paper, we are interested in only the reliability portion of the test. The Daubert case defined what can be "scientific knowledge" upon which experts may base their testimony.

The Court found four factors to consider when determining if an expert's testimony is based on scientific knowledge. The court will look to the method the expert used in order to come to his or her conclusions.²⁷¹ The first factor the Court identified was whether or not the method used can be or has been tested. In explaining the factor the Court elaborated that "scientific methodology today is based on generating hypotheses and testing them to see if they can be falsified; indeed, this methodology is what distinguishes science from other fields of human inquiry."²⁷² The Court also stated that "the statements constituting a scientific test must

be capable of empirical test.”²⁷³ So, the first factor involves whether or not a method can be empirically tested and through testing be proven false. Secondly, the Court found that whether the theory or technique has been subjected to peer- review and publication was a relevant consideration.²⁷⁴ The Court went on to note that publication is not necessarily indicative of good science, but that submission to the scrutiny of the scientific community is a component of “good science,” in part because it increases the likelihood that substantive flaws in methodology will be detected.²⁷⁵ Third, the Court pointed out that it should consider the known rate of error, and the existence and maintenance of standards controlling the technique’s operation.²⁷⁶ This reflected the Court’s concern with reliability; if the method too often yields differing or incorrect results, or is not applied the same way every time, it may not constitute scientific knowledge. And fourth, the Court found that “general acceptance” can have a bearing on the inquiry.²⁷⁷ The Court stated “[a] known technique which has been able to attract only minimal support within the community may properly be viewed with skepticism.”²⁷⁸ This factor relates to, but is not the same as peer review. General acceptance reflects whether or not a given method has gained recognition as acceptable science within the relevant scientific community. However, the Court went on to note that the standard was a flexible one; the list of four factors is not exhaustive, and none of the four are necessary to find admissibility.²⁷⁹

This reliability standard is only used to determine admissibility of scientific expert testimony, but I think it could easily be adapted for Establishment Clause purposes. The question the Daubert test seeks to answer is whether or not expert scientific testimony is admissible. That question is answered by examining if the methods used to create that expert testimony are scientifically valid. And that is precisely the question facing courts in ID cases: whether or not the methodology used to create ID principles and hypotheses are scientifically

valid. It is important to note that the Daubert test emphasizes the need for naturalism, empirically verifiable data, and peer review.²⁸⁰ Many of those criteria were incorporated into the definitions of science reached by the courts in *McLean* and *Kitzmiller*. The Daubert test would seem to be a ready-made method to determine the scientific validity of ID that was so vital in *Kitzmiller*.²⁸¹

If the Daubert test had been used in *Kitzmiller*, would ID still have failed as valid science? It seems likely that it would. ID would not be able to satisfy the first Daubert factor. ID's hypothesis that an intelligent designer created complex life cannot be tested and cannot be falsified.²⁸² Because the designer works outside of natural processes, we cannot replicate what it has done, and we cannot naturally observe any act of creation. By removing creation from the realm of the naturally observable, ID cannot claim a methodology that is testable and falsifiable.²⁸³ Furthermore, there has been very little ID theory that has been subject to peer review.²⁸⁴ And even if ID hypotheses are subjected to peer review, they cannot be subject to the scrutiny of the scientific community, because they cannot be proven wrong. Likewise, there is no known rate of error for a court to look at, simply because there is no way of proving whether ID is right or wrong. Because we cannot observe or replicate this act of creation, there is no way of knowing whether it is consistent. And finally, ID has failed to win the acceptance of any sizeable portion of the scientific community.²⁸⁵ Although ID proponents claim that ID is a growing theory that is continually gaining support, it is clear that it is a minority position, and that the vast majority of scientists support evolution.²⁸⁶ ID proponents claim this hostility toward ID arises from their commitment to the scientific method, which ID threatens.²⁸⁷ This argument will be addressed below, but for now it is enough to note that even if such bias exists, ID would

still fail two of four of the recommended criteria. Under Daubert, it seems unlikely that ID would be considered valid science.²⁸⁸

In any case, the Supreme Court has avoided defining science in its Establishment Clause cases, but with ID sure to be tried again, perhaps it will have to. If it does, the Daubert test will be a waiting as a tried and accepted method of defining science.

ID failed to be classified as science under the test articulated in *Kitzmiller*, and would likely fail if analyzed under Daubert as well. This is not the end of ID's claims of scientific validity, however. ID proponents accepted that their theory did not fit the definition of science used in *Kitzmiller*, but they continue to argue that science needs to be redefined to include the study of supernatural phenomena.²⁸⁹ One of the principle spokesmen of this epistemological argument is Francis Beckwith. He discusses science's supposed commitment to methodological naturalism – MN - (i.e. the scientific method, including limiting science to postulating natural causation) which has caused mainstream science to dismiss ID without cause.²⁹⁰ ID cannot be reconciled with MN, as it cannot be explained by reference to natural causes. He feels that MN is only a philosophical presupposition of science, not a defining characteristic of science. In other words, the scientific community's adherence to natural causation is not a necessary component of scientific inquiry, only an interpretative filter we have placed on science.²⁹¹ To Beckwith, "if the arguments for ID are reasonable and the resulting conclusions sound (even if they conflict with MN), we may conclude that MN is not a necessary precondition of natural science" and can include supernatural causes in the study of science.²⁹²

This argument is flawed for a few reasons. Science does not claim that events can have only natural causes, but that the only causes we can understand scientifically are natural ones. Supernatural causes are beyond the laws of nature, and thus beyond the scope of science.²⁹³

Science is a self-contained paradigm that has its own rules, and whose properties obey those rules. But nothing about science says those rules are universal truths. It is merely one way of looking at the world.²⁹⁴

Secondly, Beckwith makes the assumption that if ID arguments are reasonable, and its conclusions sound, then it should be part of science.²⁹⁵ The problem is he has not shown the arguments for ID are reasonable. How can he, when we have no way of knowing whether he is correct? He has proposed a supernatural cause, but we cannot study it, and we have no way of knowing if the conclusions are sound because we cannot test them. As one scientist makes clear, “supernatural explanations fail to account for natural phenomena in ways that are intellectually useful.”²⁹⁶ Once a supernatural being has been credited with creation, the inquiry must stop, because we have no way to study that being. To put it another way, “to appeal to magical thinking merely shifts the relevant question a little farther out of reach.”²⁹⁷ While this epistemological debate is interesting, and while there very well may be other, better ways to know things, in the end including supernatural causes in science just does not fit the definition of science.

As was said, a methodological debate is interesting, but in the end, a court will need an objective definition of science to apply, whether garnered from *McLean* or *Kitzmiller* as precedent, borrowed or modified from *Daubert*, or gathered by a court from its own expert witnesses. And, that definition will almost certainly not include supernatural causation, and that likely means ID cannot be considered science. Since an ID policy will likely be found to be religious, and not be scientific, it is hard to see how it could pass the purpose prong of *Lemon*.

However, it has been shown that courts sometimes will not strike down laws based on the purpose prong.²⁹⁸ And in one recent case, a lower court found that a policy challenging

evolution did in fact pass the purpose prong. In *Freiler v. Tangipahoa Parish Board of Education*, the school board mandated that a disclaimer be read that stated that the teaching of evolution was not intended to dissuade students from believing in the biblical version of creation.²⁹⁹ The board asserted three purposes for the disclaimer, to promote freedom of belief; to disclaim any orthodoxy of belief that could be inferred from exclusive placement of evolution in the curriculum; and to reduce offense to the sensibilities of parents and students caused by the teaching of evolution.³⁰⁰ The court found that the disclaimer passed the purpose prong because the disclaimer did in fact further the two purposes of disclaiming the inference of the orthodoxy of evolution, and did reduce the offense to parents and teachers.³⁰¹ The court further held that these two purposes promoted the valid secular goal of accommodation of religion.³⁰² Since the stated purposes were secular and the disclaimer did further those goals, it passed the purpose prong.³⁰³ The court so held, despite finding that the purpose of protecting freedom of belief was a sham, and stating that “we find that the disclaimer on the whole furthers a contrary purpose, namely the protection and maintenance of a particular religious viewpoint.”³⁰⁴ It is worthwhile to note however, that the court did go on to find the disclaimer to violate the effects prong of *Lemon*.³⁰⁵

Regardless of whether one thinks that protecting the feelings of students who believe in biblical creation or disclaiming an orthodoxy of belief in evolution are valid secular goals, the relevant question for purposes of this paper is can such an approach allow an ID policy pass the purpose prong of *Lemon*? It will depend upon the stated purpose given by the legislative body. Thus far, I have assumed that the asserted purpose for an ID policy would be to strengthen the science curriculum. Whether that purpose is a sham depends on whether ID can be categorized as science, which seems unlikely. So, what if the stated purpose for an ID policy

were changed to include disclaiming the inference of the orthodoxy of evolution and to accommodate the feelings of students and parents whose religious beliefs clash with the teaching of evolution? First, while accommodation of the feelings of religious believers might be a valid secular goal, there will come a point where government accommodation of religion will be perceived as endorsement of religion.³⁰⁶ When accommodation reaches that point, it will become a violation of the Establishment Clause. The court in *Kitzmiller* found ID to be an inherently religious theory because it embraced the religious belief of a supernatural creator.³⁰⁷ If a future court were to likewise find that ID is a religious theory, the question will be whether or not a reasonable observer would perceive the teaching of that religious theory in a public school science class as government endorsement of religion. The answer seems self-evident. If a school were to single out a single religious belief to be taught, a reasonable observer would likely see government endorsement of that particular belief over other religious beliefs. If the school wished to accommodate religion without endorsing any one in particular, it would have to present multiple views about the origins of life, not just the one presented by ID. If a court were to find that ID is not an inherently religious theory, then it seems obvious that teaching ID does not further the goal of accommodating religion. So regardless of whether or not ID is considered a religious theory, accommodating religious beliefs will likely not be a valid secular purpose. Furthermore, even if sparing the feelings of religious adherents was a valid secular goal, there is no way to judge whether an ID policy would in fact reduce the offense a child or parent would feel. They may be just as offended by ID as by evolution. There is no accurate way to judge if an ID policy would in fact further the goal of reducing offense at being exposed the theory of evolution. If a student or parent is offended by the teaching of evolution, it is difficult to see how teaching an alternative theory would alleviate those feelings. Evolution would still be

taught, and the student or parent would still be offended. If a school truly wanted to alleviate mental anguish on the parts of students and parents over having to learn evolution, then the simplest course of action would be to not teach evolution. However, that is not an option after the Court decided *Epperson*.³⁰⁸

Presenting an alternative theory like ID would surely advance the purpose of disclaiming the orthodoxy of evolution. The question is whether or not such a disclaimer is a valid secular purpose. Such a disclaimer is in effect telling school children that the school will be teaching them evolution, but that they should be aware that other theories on the origin of life exist. What secular reasons could a school have for such a statement? The purpose of alerting children to alternate theories can only be to encourage them to think critically about evolution, and thus improve science education, or to encourage them to seek out those alternative theories. If that is so, then presenting ID as such an alternative theory would only further the purpose of improving science education if it were found to be validly scientific. As discussed above, it seems unlikely that ID could be validly scientific, and therefore cannot further the goal of advancing science education.

Having examined the purpose prong of Lemon from different angles, it seems that while a legislative body might be able to increase their odds, or make it harder for a court to find a lack of secular purpose, ID is unlikely to pass muster under the first prong of Lemon. So long as a court will be able to determine that ID is not a scientific theory, but a religious one, I do not believe an ID policy can pass the purpose prong of Lemon.

B. Lemon's Effects Prong

If by some chance an ID policy passes the purpose prong of Lemon, the next step is to analyze such a policy under the effects prong.³⁰⁹ The Court never addressed the effects test in

Edwards, but the court in *Kitzmiller* did, and found that the test had the “animating requirement that . . . [an official act’s] principle or primary effect . . . be one that neither advances nor inhibits religion.” The court went on to note that government may not place its prestige, coercive authority, or resources behind a single religious faith or behind religious faith in general. The government cannot convey to adherents of the religious view espoused that they are insiders in society and are politically favored, nor can it convey to non-adherents that they are outsiders, and politically disfavored. The court in *Kitzmiller* also noted that the Lemon effects test covers mostly the same criteria as the endorsement test, and as such primarily relied on its findings of law and fact expounded in its endorsement analysis. As noted above, the endorsement test is applied frequently to Establishment Clause cases, and seems to be becoming more and more standard as time goes on. In more recent cases like *Kitzmiller* and *Freiler*, courts have consistently interpreted the effects prong to entail using endorsement principles to determine primary effect in religion and public school science curricula issues. One court stated “[i]n assessing the primary effect of the contested [act,] we focus on the message conveyed by the [act] to the students who are its intended audience.”³¹⁰ Because the effects prong of Lemon asks what a reasonable, objective observer would perceive the effect of the government action to be, whether or not an ID policy could pass the effects prong will be analyzed with the endorsement test below.³¹¹

C. Endorsement

The endorsement test was used to determine the constitutionality of ID in *Kitzmiller*, and would likely be used again. As stated above, the effects prong of Lemon incorporates endorsement principles, and the endorsement test is worth analyzing on those grounds alone. However, the Supreme Court has used the endorsement test in all manner of public school cases

that implicate religion.³¹² The court in *Kitzmiller* declared that, based on Supreme Court precedent, the endorsement test “must be utilized.”³¹³

The endorsement test asks whether a reasonable, objective observer would perceive government endorsement of religion based on its actions. Courts will presume the observer is familiar with “the policy’s language, origins, legislative history, as well as the history of the community and the broader social and historical context in which the policy arose,” in determining what the observer would perceive.³¹⁴ The observer will be a member of the class which the government action is meant to reach.

First of all, it is important to note that the factors that are proper for consideration under endorsement mirror the factors a court may analyze in attempting to find legislative purpose under *Lemon* in many respects; namely the consideration of the policy’s language, legislative history and historical context.³¹⁵ The only difference in these regards is who is doing the consideration. Under *Lemon*, it is the court and under endorsement it will be a hypothetical observer. The question becomes what can a judge discover from language, legislative history and historical context that a reasonable observer cannot, if anything? In other words, does the reasonable observer’s knowledge go as deep as a court’s would be? One scholar has said that “throughout the reasonable observer’s existence in Establishment Clause jurisprudence, there is little the reasonable observer has been presumed not to know about social practices or legal requirements.”³¹⁶ The court in *Kitzmiller* stated the “objective observer thus considers the publicly available evidence . . . to ascertain whether the policy ‘in fact conveys a message of endorsement or disapproval’ of religion, irrespective of what the government might have intended.”³¹⁷

In determining whether or not an ID policy can survive the endorsement test, the objective, reasonable observer must first be identified. Using a hypothetical ID policy, the intended audience will be the students to whom ID would be taught. Therefore that observer must “interpret the challenged conduct . . . with the level of intellectual sophistication that a child of the relevant age would bring to bear.”³¹⁸ Any analysis under the endorsement test will be fact specific, so for the purposes of this paper it will be assumed that this hypothetical school district has enacted a policy that allows ID to be taught in the science curriculum. It will also be assumed that the district has acted appropriately whenever it could in not overtly endorsing religion. This means it has not made statements disparaging evolution or the like, and has acted within the bounds of its normal procedure for adopting curricula. Much like the analysis employed above under the purpose prong of Lemon, there will be things the district can control, and some it cannot. It can control the language and origins of the policy, and legislative history, but not how the policy will be perceived by the reasonable high school observer. The simplest way try to avoid conveying a message of endorsement is to keep the language of such a policy as neutral as possible, and keep any kind of comments about creationism or religious motivation out of the legislative record.³¹⁹

However, because this is the endorsement test, the focus will be on how the observer interprets the actions of the school district. And since the observer will be presumed to know the historical context in which ID arose, and have a working knowledge of what ID entails, it is hard to see how the observer would not perceive endorsement. As has been laid out above, one who is familiar with ID would be presumed to know the religious purpose many of the initial proponents of ID held.³²⁰ Also included in this historical context would be such things as the Wedge Document, created by the Discovery Institute which is one of the main ideological forces

behind ID.³²¹ If the observer is familiar with the Wedge Document, it is hard to envision he or she would not perceive ID to be endorsing religion.

Not only is there such evidence in the historical context, but the observer will also be presumed to be familiar with exactly what it is ID tries to teach because he or she will be taught those ideas. And as has been stated, one who knows that ID presupposes an intelligent designer will be able to recognize that the existence of a designer is tantamount to a supreme creator, which the observer would know is an inherently religious concept.

Because the objective observer would be familiar with the historical context in which ID arose, and would be familiar with the teachings of ID, he or she would know that ID relies on faulty science, and contains religious arguments. Armed with this knowledge, it seems likely that the observer would perceive the government to be conveying a message of endorsement for no valid secular reason. Again, ID cannot be defined as science, and it contains an inherently religious concept, which a reasonable observer would know. Knowing those two things, it is hard to see how any objective observer would fail to see government is sending the message that it is preferring religion to non-religion.

The reasoning above is essentially the same as the court in *Kitzmiller* used to find endorsement in that case.³²² The observer's level of knowledge of the historical context in which ID arose was a key part of the court's finding of endorsement. However, it is fair to ask if the reasonable, objective high school student would have the level of knowledge the court imputes to him or her. How familiar would such a student be with the historical context in which ID arose? Would he or she know about the religious motivations of some of the founders of ID? Could a high school student reasonably be believed to be familiar with the Wedge Document? In *Santa Fe*, the U.S. Supreme Court used a reasonable, objective high school student to determine that

the school's policy regarding prayer at a football game would be perceived as endorsement.³²³ In that case, the Court examined the perspective of the reasonable student in regard to the text and history of the policy, and delivery of the prayer.³²⁴ Exactly how much the student can be presumed to know will depend on how liberally a court interprets the phrase "historical context in which the policy arose." If it is interpreted to mean the observer will only be familiar with the context of the policy, then such knowledge could not extend beyond the time the government entity submitted, debated and passed the policy. If that is the case, then there is no way the student could know about the Wedge Document, or about the early religious biases of some of ID's proponents; provided the hypothetical school district did not discuss ID's religious roots or contact the Discovery Institute while implementing its policy.

However, there is evidence to suggest that a more liberal interpretation should be given to what the observer would know. Justice O'Connor, the architect of the endorsement test has stated that the reasonable observer is "fully cognizant of the history, ubiquity, and the context of the practice in question."³²⁵ One who is fully cognizant of the history and context of teaching ID could reasonably know about the origins of ID, and the religious mission of the Discovery Institute. If a reasonable student is aware of the history of ID, then presumably he or she will be aware of the first major legal test for ID, *Kitzmiller*, in which ID was found to be religious.³²⁶ In any case, the reasonable observer is more knowledgeable than the average class member, and seems to be getting more knowledgeable all the time. As one scholar put it, "[t]he overall trend . . . has been to pack more awareness of relevant factors into the reasonable person."³²⁷ Another author has stated that "today's reasonable observer is a veritable Jeopardy! champion."³²⁸ Given this trend, it does not seem farfetched to impute detailed knowledge of ID's historical context to the reasonable student.

And, even if such historical knowledge was denied to the student, he or she would be familiar with ID itself, because he or she would be taught it in school. If that is the case, then he or she would be familiar with ID's core premise of an intelligent designer.³²⁹ Presumably the student, game show champion or no, would be able to determine that an intelligent designer is equivalent to a supernatural being, which is inherently religious.³³⁰ If the student knows ID depends on an inherently religious principle, he or she would likely be able to perceive endorsement, whether they are familiar with ID's roots or not.

No matter the reasonable student's level of knowledge, the fact that he or she will be taught ID will be enough for him or her to recognize ID's inherent religiosity. If that is the case, a court will likely have little trouble determining that an ID policy is an impermissible endorsement of religion.

V. Alternatives to ID in the Science Curriculum

After thorough analysis, it seems ID cannot escape from being labeled religious and not science. The combination of the two factors seems to preclude ID from being included in a public school science curriculum. However, if the goals of ID proponents are to simply get ID into the schools, and criticize evolutionary theory, there may yet be avenues open to them.

Even though ID will likely be considered to contain a religious tenet does not mean it can never be taught in public schools. The Court has noted that not all subjects which touch upon religion are banned from the classroom, and that study of religious works can be educationally valuable, if not invaluable.³³¹ It would be entirely possible to get ID taught in a public school classroom. A religious idea may be taught in public school classrooms, so long as it is not presented as truth, it is presented in a way so as not to favor it, and there are no attempts at proselytizing.³³² The idea would also have to be studied in an elective course such as philosophy

or comparative religion.³³³ This is not the same as getting ID in the science classroom, and would signal an admittance that ID is not science, but at this stage, this is perhaps the best ID can hope for.³³⁴

A second strategy would be to remove any mention of ID or a designer from a disclaimer like the one at issue in *Kitzmiller*.³³⁵ Again, this is tantamount to admitting that ID is not science, and does not get ID into schoolrooms, but it will have the secondary benefit of attacking evolution, which is part of ID's focus.³³⁶ This could be allowed, as the court in *Edwards* stated that it "[did] not imply that a legislature could never require that scientific critiques of prevailing theories be taught."³³⁷ However, it should be noted that courts are wary of any policy that singles out evolution for scrutiny.³³⁸ So long as the government entity has not made it clear through its actions that its purpose is to denigrate evolution because it clashes with their religious beliefs, it should stand up, as it has the valid secular purposes of promoting critical thinking and improving science education by presenting scientific evidence.

The combination of offering ID as part of an elective course in philosophy or comparative religion and using valid scientific critiques of evolution in the science curriculum will likely be as close to accomplishing their goals as ID advocates can get without violating the Constitution. It is not what they would prefer, I am sure.

V. Conclusion

Intelligent Design is the latest theory to be used in a long line of attempts to replace, qualify or supplement the teaching of the theory of evolution in public school science curricula. Proponents of ID have gone to great lengths in trying to separate the theory from the creationist theories that came before it, which were struck down by the Supreme Court as violating the Establishment Clause. After examining the relevant theories and constitutional jurisprudence, it

is my belief that ID will suffer the same fate as its predecessors and will be found unconstitutional. Proponents of the theory claim ID is both religiously neutral and scientifically valid.³³⁹ However, because ID depends on the existence of a supernatural creator, I think it will be very difficult, if not impossible for a court to find that ID is not religious. Likewise, because ID's central hypothesis cannot be tested or falsified I believe ID will not be able to be called valid science under any test a court may use. Those two factors will likely cause ID to fail the relevant Establishment Clause tests. Because ID cannot be considered valid science, it will have no secular purpose under the Lemon test.³⁴⁰ And, because a reasonable student would know ID's religious roots and inherently religious principles, he or she would perceive teaching ID in a public school science class as endorsement of religion.³⁴¹ Such a perception would cause ID to fail both the effects prong of Lemon and the endorsement test. Proponents of Intelligent Design theory can call it whatever they choose, and cloak it in as much scientific rhetoric as they please, but in the end the fact that ID embraces religious beliefs and cannot be considered valid science will ultimately prevent it from being constitutionally taught in a science classroom. If done properly, the theory of ID could still end up being taught in public schools. But as to being taught in public school science classes as a valid alternative to evolution, I don't think it has a prayer.

¹ Stephanie L. Shemin, *The Potential Constitutionality of Intelligent Design?*, 13 GEO. MASON L. REV. 621, 624 (noting that Darwin's theories have provoked "a firestorm of controversy").

² See Jill Burcum, *Kid's Book on Evolution Stirs Censorship Debate in Monticello*, MINNEAPOLIS STAR TRIB., May 12, 2005, available at www.commondreams.org/headlines05/0512-08.htm.

³ See generally Philip A. Italiano, *Kitzmiller v. Dover Area School District: The First Judicial Test for Intelligent Design*, 8 RUTGERS J.L. & RELIGION 4, 2 (2006).

⁴ See *id.* at 1.

⁵ *Epperson v. Arkansas*, 393 U.S. 97, 107 (1968).

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

⁷ *Id.* at 636-40.

⁸ Shemin, *supra* note 1, at 640.

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- ⁹ See McRoberts & Timothy Sandefur, *Piercing the Veil of Intelligent Design: Why Courts Should Beware Creationism's Secular Disguise*, 15 KAN. J.L. & PUB. POL'Y 15, 15 (2005).
- ¹⁰ See generally *Kitzmiller v. Dover Area School District*, 400 F.Supp.2d 707 (E.D. Pa. 2005).
- ¹¹ See generally *id.* at 735-746.
- ¹² *Id.* at 765.
- ¹³ Kristi L. Bowman, *Seeing Government Purpose Through the Objective Observer's Eyes: The Evolution-Intelligent Design Debates*, 29 HARV. J.L. & PUB. POL'Y 417, 427 (2006).
- ¹⁴ *Id.*
- ¹⁵ See Francis J. Beckwith, *Science and Religion Twenty Years After McLean v. Arkansas: Evolution, Public Education, and the New Challenge of Intelligent Design*, 26 HARV. J. L. & PUB. POL'Y 455, 463 (2003).
- ¹⁶ See NATIONAL ACADEMY OF SCIENCES, SCIENCE AND CREATIONISM: A VIEW FROM THE NATIONAL ACADEMY OF SCIENCES 10 (2d. ed. 1999), available at <http://www.nap.edu/books/0309064066/html/>.
- ¹⁷ See Beckwith, *supra* note 15, at 466 (noting that “We now know that all living things, from bacteria to ourselves, are closely related at the biochemical level”).
- ¹⁸ See Beckwith, *supra* note 15, at 463.
- ¹⁹ See generally *id.*
- ²⁰ See Beckwith, *supra* note 15, at 463.
- ²¹ See generally *id.*
- ²² See AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, A STUDY GUIDE FOR THE EVOLUTION DIALOGUES: SCIENCE, CHRISTIANITY, AND THE QUEST FOR UNDERSTANDING 13, http://www.aaas.org/spp/dser/images_Doser/Publications/evol_dialogue_study_guide.pdf (last visited May 16, 2007).
- ²³ See Shemin, *supra* note 1, at 625 (stating that “the vast majority of scientific, scholarly, educational, religious, and civil libertarian organizations accept the theory of evolution”).
- ²⁴ See Beckwith, *supra* note 15, at 460.
- ²⁵ Shemin, *supra* note 1, at 625-26 (interpreting ROBERT L. ECKER, DICTIONARY OF SCIENCE & CREATIONISM 57 (1990)).
- ²⁶ See *id.* at 626.
- ²⁷ *Id.*
- ²⁸ *Id.*
- ²⁹ See *id.* at 628.
- ³⁰ See Bowman, *supra* note 13, at 431.
- ³¹ *Id.*
- ³² See *id.* at 431-32.
- ³³ Shemin, *supra* note 1, at 628.
- ³⁴ See *id.*
- ³⁵ See *id.* at 628-29; see also McRoberts *supra* note 9, at 16-19; see also Bowman, *supra* note 13, at 432-39; see also Beckwith *supra* note 15, at 470; see also Chet K.W. Pagar, *The Establishment of Evolution: Public Courts and Public Classrooms*, 81 TUL. L. REV. 17, 47-54 (2006).
- ³⁶ See Beckwith, *supra* note 15, at 471 (noting that ID proponents have “pioneered alternative scientific theories and research methods that recognize the reality of design and the need for intelligent agency to explain it”).
- ³⁷ See *id.* at 470.
- ³⁸ See Chet K.W. Pagar, *The Establishment of Evolution: Public Courts and Public Classrooms*, 81 TUL. L. REV. 17, 47-54 (2006).
- ³⁹ See McRoberts, *supra* note 9, at 18.
- ⁴⁰ See *id.* (explaining that “ID demands a supernatural Creator acting outside the laws of nature to generate those structures and processes that design advocates argue cannot result from natural processes”).
- ⁴¹ See Shemin, *supra* note 1, at 631-32, 666.
- ⁴² See *id.* at 666.
- ⁴³ Beckwith, *supra* note 15, at 478.
- ⁴⁴ See *id.*; see also McRoberts, *supra* note 9, at 23.
- ⁴⁵ See Beckwith, *supra* note 15, at 478.
- ⁴⁶ See *id.* at 479.
- ⁴⁷ See *id.*

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- ⁴⁸ William A. Dembski, *Explaining Specified Complexity*, available at <http://www.leaderu.com/offices/dembski/docs/bd-specified.html> (last visited May 16, 2007).
- ⁴⁹ William A. Dembski, *Is Intelligent Design Testable?*, http://www.arn.org/docs/dembski/wd_isidtestable.htm (Jan. 24, 2001).
- ⁵⁰ See Bowman, *supra* note 13, at 433.
- ⁵¹ See *id.*
- ⁵² See *id.*
- ⁵³ See *id.*
- ⁵⁴ See *id.*
- ⁵⁵ See *id.*
- ⁵⁶ See *id.*
- ⁵⁷ See generally Beckwith, *supra* note 15, at 480-82.
- ⁵⁸ *Kitzmiller v. Dover Area School District*, 400 F.Supp.2d 707, 738 (E.D. Pa. 2005)(noting that “wherein defense experts concede that ID is not a theory as that term is defined by the NAS [National Academy of Sciences] and admit that ID is, at best, a ‘fringe science’ which has achieved no acceptance in the scientific community”).
- ⁵⁹ See Beckwith, *supra* note 15, at 477-78.
- ⁶⁰ See Shemin, *supra* note 1, at 624-25.
- ⁶¹ See McRoberts, *supra* note 9, at 25.
- ⁶² *Epperson v. Arkansas*, 393 U.S. 97, 105-07 (1968).
- ⁶³ See McRoberts, *supra* note 9, at 26.
- ⁶⁴ See Epperson, 393 U.S. at 98.
- ⁶⁵ *Id.* at 98-9.
- ⁶⁶ *Id.* at 100.
- ⁶⁷ *Id.*
- ⁶⁸ See Pager, *supra* note 38, at 24-25.
- ⁶⁹ Epperson, 393 U.S. at 104.
- ⁷⁰ *Id.*
- ⁷¹ *Id.*
- ⁷² *Id.* at 107.
- ⁷³ *Id.* at 108.
- ⁷⁴ *Id.* at 103.
- ⁷⁵ *Id.* at 109.
- ⁷⁶ *Id.*
- ⁷⁷ *Id.*
- ⁷⁸ See generally Shemin, *supra* note 1, at 24-5; McRoberts, *supra* note 9, at 27
- ⁷⁹ See Epperson, 393 U.S. at 107.
- ⁸⁰ *McLean v. Arkansas Bd. of Educ.*, 529 F.Supp. 1255, 1256 (E.D. Ark. 1982).
- ⁸¹ *Id.* at 1256.
- ⁸² *Id.* at 1264.
- ⁸³ See Shemin, *supra* note 1, at 639.
- ⁸⁴ *McLean*, 529 F.Supp. at 1258.
- ⁸⁵ *Lemon v. Kurzman*, 403 US 602, 612-613 (1971).
- ⁸⁶ Louis J. Virelli III, *Making Lemonade: A New Approach to Evaluating Evolution Disclaimers Under the Establishment Clause*, 60 U. MIAMI L. REV. 423, 437-38 (2006).
- ⁸⁷ *McLean*, 529 F.Supp. at 1263.
- ⁸⁸ *Id.*
- ⁸⁹ *Id.*
- ⁹⁰ See McRoberts, *supra* note 9, at 28.
- ⁹¹ *McLean*, 529 F.Supp. at 1261-62.
- ⁹² *Id.* at 1263 (stating that “Arkansas has a long history of official opposition to evolution, which is motivated by the adherence to Fundamentalist beliefs. . .”).
- ⁹³ Epperson, 393 U.S. at 107-09.
- ⁹⁴ *McLean*, 529 F. Supp. at 1263.

⁹⁵ *Id.* at 1265 *fn.*20 (noting that “concepts concerning . . . a supreme being of some sort are manifestly religious . . . These concepts do not shed that religiosity merely because they are presented as philosophy or as a science . . . (quoting *Malnak v. Yogi*, 440 F. Supp. 1284, 1322 (D.N.J. 1977)).

⁹⁶ *Id.* at 1264-65.

⁹⁷ *Id.* at 1272 (noting that “creation science has no scientific merit or educational value as science . . .”).

⁹⁸ *Id.* at 1267.

⁹⁹ *Id.*

¹⁰⁰ *Id.* *fn.*25.

¹⁰¹ See *Black’s Law Dictionary* 467-68 (defining “natural law” as both the physical laws of nature, and the philosophical “divine justice”).

¹⁰² *McLean*, 529 F. Supp. at 1266-69.

¹⁰³ *Id.* at 1272 (finding that “[s]ince creation science is not science, the conclusion is inescapable that the only real effect . . . is the advancement of religion”).

¹⁰⁴ *Edwards v. Aguillard*, 482 U.S. 578 (1987).

¹⁰⁵ *Id.* at 581.

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 583.

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 584.

¹¹¹ *Id.* at 585.

¹¹² *Id.*

¹¹³ *Id.* at 595.

¹¹⁴ *Id.* at 586-87.

¹¹⁵ *Id.* at 593.

¹¹⁶ *Id.* at 586-87.

¹¹⁷ *Id.* at 591.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 591-92.

¹²⁰ *Id.* at 588-89.

¹²¹ *Id.* at 593.

¹²² *Id.* at 595.

¹²³ *Id.* at 594.

¹²⁴ *Id.* at 595-96.

¹²⁵ See *McRoberts*, *supra* note 9, at *fn.* 111.

¹²⁶ See *Edwards*, 482 U.S. at 593-94.

¹²⁷ *McRoberts*, *supra* note 9, at 31.

¹²⁸ *Id.*; see also *Shemin*, *supra* note 1, at 640.

¹²⁹ *McRoberts*, *supra* note 9, at 32.

¹³⁰ See *Pager*, *supra* note 38, at 47-48; see also *Mary Katherine Hackney, Is This Apple for Teacher an Apple From Eve? Reanalyzing the Intelligent Design Debate From a Curricular Perspective*, 85 N.C. L. REV. 349, 356 (2006).

¹³¹ See *Edwards*, 482 U.S. at 593-94.

¹³² See *McRoberts*, *supra* note 9, at 33-34.

¹³³ *Edwards*, 482 U.S. at 583; see also *Hackney*, *supra* note 130, at 365.

¹³⁴ See *McRoberts*, *supra* note 9, at 36-37 (noting that “if a court accepted that ID is a scientific enterprise . . . it might consider it improper to delve into legislative “motivations” at all”).

¹³⁵ See generally *Kitzmiller*, 400 F.Supp.2d 707.

¹³⁶ See *Bowman*, *supra* note 13, at 450-51.

¹³⁷ See *Kitzmiller*, 400 F.Supp.2d at 712.

¹³⁸ *Lynch v. Donnelly*, 465 U.S. 668, 688 (1984).

¹³⁹ *Kitzmiller*, 400 F.Supp.2d at 712-13.

¹⁴⁰ See *Santa Fe Indep. School Dist. v. Doe*, 530 U.S. 290, 308 (2000).

¹⁴¹ See generally *McCreary County v. ACLU*, 545 U.S. 844 (2005).

¹⁴² *Kitzmiller*, 400 F.Supp.2d at 712.

¹⁴³ *Id.* at 717-23.

¹⁴⁴ *Id.* at 723-28.
¹⁴⁵ *Id.* at 729-35.
¹⁴⁶ *Id.* at 720.
¹⁴⁷ *Id.* at 718.
¹⁴⁸ *Id.* at 718-19.
¹⁴⁹ *Id.* at 719.
¹⁵⁰ *Id.*
¹⁵¹ *Id.* at 719-20.
¹⁵² *Id.* at 720.
¹⁵³ *See* Beckwith, *supra* note 15, at 471.
¹⁵⁴ *Id.*
¹⁵⁵ Kitzmiller, 400 F.Supp.2d at 720.
¹⁵⁶ *Id.*
¹⁵⁷ *Id.*
¹⁵⁸ *Id.*
¹⁵⁹ *Id.* at 721.
¹⁶⁰ *Id.*
¹⁶¹ *Id.*
¹⁶² *Id.* (noting that “a change in words was effected without a corresponding change in content”).
¹⁶³ *Id.* at 722.
¹⁶⁴ *Id.*
¹⁶⁵ *Id.* at 723.
¹⁶⁶ *Id.*
¹⁶⁷ *Id.* at 724.
¹⁶⁸ *Id.*
¹⁶⁹ *Id.* at 725-26.
¹⁷⁰ *Id.* at 727.
¹⁷¹ *Id.* at 727-28.
¹⁷² *Id.* at 729.
¹⁷³ *Id.*
¹⁷⁴ *Id.* at 731.
¹⁷⁵ *Id.* at 730.
¹⁷⁶ *Id.*
¹⁷⁷ *Id.* at 732.
¹⁷⁸ *Id.* at 734.
¹⁷⁹ *Id.* at 735.
¹⁸⁰ *Id.* at 735-736.
¹⁸¹ *Id.* at 735.
¹⁸² *Id.* at 735-36.
¹⁸³ *Id.*
¹⁸⁴ *Id.* at 735.
¹⁸⁵ *Id.* at 737.
¹⁸⁶ *Id.* at 738.
¹⁸⁷ *Id.*
¹⁸⁸ *Id.*
¹⁸⁹ *Id.*
¹⁹⁰ *See* Pager, *supra* note 38, at 51-52.
¹⁹¹ Kitzmiller, 400 F.Supp.2d at 738.
¹⁹² *Id.* at 739.
¹⁹³ *Id.* at 744.
¹⁹⁴ *Id.* at 745.
¹⁹⁵ *Id.* at 745-46.
¹⁹⁶ *Id.* at 746-747.
¹⁹⁷ *Id.* at 763.
¹⁹⁸ *Id.* at 748-63.

¹⁹⁹ *Id.* at 748.
²⁰⁰ *Id.* at 749.
²⁰¹ *Id.* at 750-51.
²⁰² *Id.* at 750.
²⁰³ *Id.* at 751.
²⁰⁴ *Id.* at 751-752.
²⁰⁵ *Id.* at 753.
²⁰⁶ *Id.* at 754.
²⁰⁷ *Id.* at 756-57.
²⁰⁸ *Id.* at 757.
²⁰⁹ *Id.* at 758.
²¹⁰ *Id.* at 759.
²¹¹ *Id.* at 761.
²¹² *Id.* at 763.
²¹³ *Id.* at 757-758.
²¹⁴ *Id.* at 763.
²¹⁵ *Id.*
²¹⁶ *Id.*
²¹⁷ *Id.* at 764.
²¹⁸ *Id.* at 715.
²¹⁹ *Id.* at 764.
²²⁰ *Id.*
²²¹ See Pager, *supra* note 38, at 33 (noting that “factions on the court have rejected it outright. . . and bemoan the problems with determining legislative purpose and the definition of religion”); see also Virelli, *supra* note 86, at 437-38 (noting that “legislative motivation is inadequate because it is both over and under-inclusive.”).
²²² *Id.* at 33-34.
²²³ *Id.* at 33 (explaining that “In 2005, the use of the Lemon test was once again affirmed in *McCreary County v. ACLU of Kentucky*”).
²²⁴ See Edwards, 482 U.S. at 583.
²²⁵ Kitzmiller, 400 F.Supp.2d at 713.
²²⁶ Santa Fe, 530 U.S. at 308.
²²⁷²²⁷ See generally *McCreary*, 545 U.S. 844; Bowman, *supra* note 13, at 454-55.
²²⁸ See Epperson, 393 U.S. 97; see generally Edwards, 482 U.S. 578.
²²⁹ See Edwards, 482 U.S. at 586-589.
²³⁰ *Id.*
²³¹ *Id.* at 583.
²³² Epperson, 393 U.S. at 104-05.
²³³ *Id.* at 104.
²³⁴ Edwards, 482 U.S. at 593.
²³⁵ See *McRoberts*, *supra* note 9, at 31.
²³⁶ Edwards, 482 U.S. at 587.
²³⁷ Kitzmiller, 400 F.Supp.2d at 747.
²³⁸ *Id.*
²³⁹ Italiano, *supra* note 3, at 5, 24.
²⁴⁰ See Virelli, *supra* note 86, at 439 (noting that “As judicial focus on legislative motivation becomes more apparent, lawmakers are able to conceal their motivations by drafting facially neutral statutes and creating legislative records that highlight secular justifications.”).
²⁴¹ See Virelli, *supra* note 86 at 439.
²⁴² See Kitzmiller, 400 F.Supp.2d at 716-23.
²⁴³ *Id.*
²⁴⁴ See Edwards, 482 U.S. at 590, fn 9.
²⁴⁵ See Beckwith, *supra* note 15, at 470-71 (“The intellectual epicenter of ID is the Center for Science and Culture . . . housed in the Seattle-based think-tank, the Discovery Institute.”).
²⁴⁶ See Kitzmiller, 400 F.Supp.2d at 720-21.
²⁴⁷ *Id.* at 719, fn. 5.

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- ²⁴⁸ See *Edwards*, 482 U.S. at 583-84 (“The Court has been particularly vigilant in monitoring compliance with the Establishment Clause in elementary and secondary schools.”).
- ²⁴⁹ See *Kitzmiller*, 400 F.Supp.2d at 718-23.
- ²⁵⁰ *Id.* at 747, fn. 20.
- ²⁵¹ See *Edwards*, 482 U.S. at 584 (The Establishment Clause directs that schools cannot use the classroom to advance religious views.).
- ²⁵² *Id.* at 12.
- ²⁵³ See *Hackney*, *supra* note 140, at 356.
- ²⁵⁴ *Id.*
- ²⁵⁵ See *Beckwith*, *supra* note 15, at 470.
- ²⁵⁶ *McRoberts*, *supra* note 9, at 18.
- ²⁵⁷ *Id.*
- ²⁵⁸ *Shemin*, *supra* note 1, at 679 (“The evidence that intelligent design is a product of creationism . . . is compelling.”).
- ²⁵⁹ See *Freiler v. Tangipahoa Parish Bd. of Educ.*, 185 F.3d 337, 348 (E.D. La. 1999).
- ²⁶⁰ *Edwards*, 482 U.S. at 591.
- ²⁶¹ *Id.* at 595, 600 fn2.
- ²⁶² *Id.* at 594 (generally noting that “teaching a variety of scientific theories of human origin might be done, so long as there is a secular purpose”).
- ²⁶³ *McLean*, 529 F. Supp. at 1267.
- ²⁶⁴ *Id.*
- ²⁶⁵ *Kitzmiller*, 400 F.Supp.2d at 735-36.
- ²⁶⁶ *Id.* at 735; *McLean*, 529 F.Supp. at 1267.
- ²⁶⁷ *Kitzmiller*, 400 F.Supp. 2d. at 735 (noting that the “National Academy of Sciences, the most prestigious scientific association in the country, agrees that science is limited to empirical, observable and ultimately testable data”).
- ²⁶⁸ See *McRoberts*, *supra* note 9, at 14.
- ²⁶⁹ *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 593 (1993).
- ²⁷⁰ *Id.* at 591.
- ²⁷¹ *Id.* at 594.
- ²⁷² *Id.* at 593.
- ²⁷³ *Id.*
- ²⁷⁴ *Id.*
- ²⁷⁵ *Id.* at 593-94.
- ²⁷⁶ *Id.* at 594.
- ²⁷⁷ *Id.*
- ²⁷⁸ *Id.*
- ²⁷⁹ *Id.* at 594-95.
- ²⁸⁰ See *Pager*, *supra* note 38, at 12.
- ²⁸¹ *Kitzmiller*, 400 F.Supp.2d at 735.
- ²⁸² See *Shemin*, *supra* note 1, at 669 (“intelligent design . . . can neither be tested nor verified.”).
- ²⁸³ See *Pager*, *supra* note 38, at 52 (“explanations that involve supernatural forces . . . can never be studied by the basic approaches of science, which are observation and experiment.”).
- ²⁸⁴ *Kitzmiller*, 400 F.Supp.2d at 744 (noting the complete absence of peer-reviewed publications supporting ID); *Pager*, *supra* note 38, at 52-53 (there in fact have been no peer-reviewed scientific journal articles in support of intelligent design).
- ²⁸⁵ *Kitzmiller*, 400 F.Supp.2d at 743 (evolution is “overwhelmingly accepted by the scientific community . . . and is the dominant scientific theory of origin accepted by the majority of scientists.”).
- ²⁸⁶ See *Beckwith*, *supra* note 15, at 470 (ID as a research program is embraced by a “small, though growing, platoon of academics.”).
- ²⁸⁷ See *Id.* at 477-78.
- ²⁸⁸ See *Pager*, *supra* note 38, at 43-44.
- ²⁸⁹ See *Kitzmiller*, 400 F.Supp.2d at 738 (“experts concede that ID is not a theory as that term is defined by the NAS [National Academy of Science]).
- ²⁹⁰ See *Beckwith*, *supra* note 15, at 478.
- ²⁹¹ *Id.*

²⁹² *Id.*

²⁹³ *See* McRoberts, *supra* note 9, at 39 (ID is exempt from the “requirements of objective science because of its reliance on a creative Force that transcends nature.”).

²⁹⁴ *Id.* at 41.

²⁹⁵ Beckwith, *supra* note 15, at 478.

²⁹⁶ *See* McRoberts, *supra* note 9, at 41.

²⁹⁷ *Id.*

²⁹⁸ *See* Bowman, *supra* note 13, at 444 (“the Court noted in McCreary County, the government purpose prong of Lemon has rarely been invoked to invalidate a government statute or policy.”).

²⁹⁹ Freiler v. Tangipahoa Parish Bd. of Educ., 185 F.3d 337, 341 (1999).

³⁰⁰ *Id.* at 344.

³⁰¹ *Id.* at 345.

³⁰² *Id.* at 345-46.

³⁰³ *Id.*

³⁰⁴ *Id.* at 344-345.

³⁰⁵ *Id.* at 348.

³⁰⁶ *See* Bowman, *supra* note 13, at 446 (Endorsement is found when the reasonable objective observer would perceive government endorsement).

³⁰⁷ Kitzmiller, 400 F.Supp.2d at 720.

³⁰⁸ *See* McRoberts, *supra* note 9, at 27.

³⁰⁹ *See* Kitzmiller, 400 F.Supp.2d at 763.

³¹⁰ Freiler, 185 F.3d at 346.

³¹¹ *See* Kitzmiller, 400 F.Supp.2d at 764.

³¹² *See* Bowman, *supra* note 13, at 460.

³¹³ Kitzmiller, 400 F.Supp.2d at 713.

³¹⁴ *Id.* at 714-15.

³¹⁵ *See* Bowman, *supra* note 13, at 454.

³¹⁶ *Id.* at 476.

³¹⁷ Kitzmiller, 400 F.Supp.2d at 714.

³¹⁸ *Id.* at 723.

³¹⁹ *See* Virelli, *supra* note 86, at 436.

³²⁰ *See* Kitzmiller, 400 F.Supp.2d at 716-23.

³²¹ Beckwith, *supra* note 15, at 470-71.

³²² *See generally* Kitzmiller, 400 F.Supp.2d 707.

³²³ *See* Bowman, *supra* note 13, at 450-451.

³²⁴ *Id.*

³²⁵ Elk Grove Unified School District v. Newdow, 542 U.S. 1, 40 (2004).

³²⁶ *See* Kitzmiller, 400 F.Supp.2d at 764.

³²⁷ Kent Greenwalt, *Quo Vadis: The Status and Prospects of “Tests” Under the Religion Clauses*, 1995 SUP. CT. REV. 323, 372.

³²⁸ Bowman, *supra* note 13, at 454.

³²⁹ *See* McRoberts, *supra* note 9, at 16-17.

³³⁰ *See* Pager, *supra* note 38, at 61.

³³¹ Sch. Dist. v. Schempp, 374 U.S. 203, 225 (1963).

³³² *Id.*

³³³ *See* Shemin, *supra* note 1, at 684-686.

³³⁴ *Id.* at 685.

³³⁵ *Id.* at 683-84.

³³⁶ *See* Shemin, *supra* note 1, at 628 (“Intelligent design asserts that purely natural forces cannot adequately explain the origin . . . of living organisms.”).

³³⁷ Edwards, 482 U.S. at 593.

³³⁸ *Id.*

³³⁹ *See* Hackney, *supra* note 140, at 357 (“Although the concept of intelligent design is in direct contrast to that of evolution, it is not an overtly religious theory.”).

³⁴⁰ *See* Kitzmiller, 400 F.Supp.2d at 763.

³⁴¹ *See Id.* at 734.