

General Counsel



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The Debate over Intelligent Design

In some ways, this installment of *General Counsel* is less practical than my past columns and articles. Rather than provide the nuts and bolts of a particular area of law that affects planetarians' daily work, this quarter's discussion will provide some background on the intelligent design debate and the legal principles that underlie a recent court decision in Pennsylvania, which held that a public school district could not incorporate intelligent design concepts into its curriculum. Although the case received a great deal of coverage in the mainstream media, few accounts of the case outside of the legal community actually examined and explained the legal tests that courts apply to determine whether certain government

actions violate the Constitution.

In recent years, "intelligent design" has been proposed as a valid scientific theory and as an alternative to the widely-accepted theory of evolution. Efforts have been made at both the state and local level to include intelligent design alongside evolutionary theory. Proponents of the theory argue that intelligent design is a scientific theory that warrants coverage in mainstream science curriculum, while critics respond that intelligent design is merely a religious belief cloaked in a new name and as such, has no place in public science classrooms. Although the issues surrounding intelligent design typically center around biology classes, there are aspects of the debate that may likely affect the material presented in planetarium programs or astronomy classes.

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What is Intelligent Design?

According to the Intelligent Design Network, a nonprofit organization which claims to "seek institutional objectivity in origins science" (www.intelligentdesignnetwork.org), the theory of intelligent design "holds that certain features of the universe are best explained by an intelligent cause rather than an undirected process such as natural selection." In essence, proponents of intelligent design as a valid scientific theory argue that life on Earth is too complex to have occurred spontaneously or without some higher guiding intelligence.

Leaders of the intelligent design movement argue that intelligent design is a valid scientific theory - a theory that deserves equal consideration with the teaching of evolution. Accordingly, some intelligent design supporters believe that public schools should be required to teach both evolution and intelligent design, so that students may hear both sides of the origins-theory debate.

But critics argue that the debate is a fallacy, since evolution has gained such widespread acceptance in the scientific commu-

nity as a reality. Because intelligent design cannot be tested or verified by conventional scientific methods, due primarily to its reliance on the existence of an inherently unverifiable supreme being, intelligent design is not a true theory in the traditional scientific sense. Intelligent design is thus viewed by its opponents as a religious, rather than a scientific, theory, and as such, they argue, should not be included in science curriculum.

Spurring the Debate

As with most religion-in-the-schools debates, the discussion over intelligent design has been a vibrant one. Several recent maneuvers by school boards have propelled the issue into the limelight.

In 1999 the Kansas State Board of Education dropped evolution from its science standards, leaving the decision of whether to cover the topic up to local school boards.

While the board's action neither required nor prohibited schools from discussing intelligent design, many scientists regarded the decision as a dangerous step towards the introduction of intelligent design, creationism, and other religious concepts into the science classroom. Similarly, in 2002 the Cobb County (Georgia) School Board attempted to place disclaimers on biology textbooks, noting that evolution is essentially just scientific speculation and that students should remain open to alternative theories. In January 2005 a federal judge found that the disclaimers were unconstitutional.

Perhaps the most widely publicized case in recent years, and indeed, the first to fully address the specific issue of intelligent design, comes from Pennsylvania, where the U.S. District Court for the Middle District of Pennsylvania was asked to consider whether the Dover Area School District ("DASD" or the "District") could legally require its biology teachers to read a statement to high school biology students that, like the disclaimer on the Cobb County textbooks, stated:

The Pennsylvania Academic Standards require students to learn about Darwin's Theory of Evolution and eventually to take a standardized test of which evolution is a part.

Because Darwin's Theory is a theory,

General Counsel is intended to serve as a source of general information on legal issues of interest to the planetarium community. Planetarians seeking information on how the principles discussed in a General Counsel column apply to their own circumstances should seek the advice of their own attorneys. Christopher S. Reed holds Juris Doctor and Master of Intellectual Property degrees from Pierce Law in Concord, New Hampshire, where he serves on the editorial advisory board of IDEA®. The Intellectual Property Law Review.

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. A theory is defined as a well-tested explanation that unifies a broad range of observations.

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. As a Standards-driven district, class instruction focuses on preparing students to achieve proficiency on Standards-based assessments.

What follows is a discussion of the *Kitzmiller* case and the constitutional principles under which it was decided. Much of the discussion about the case comes from the written opinion issued by Judge John E. Jones II on December 20, 2005. For those interested in reading the full opinion (a lengthy 139 pages), I have posted a copy on the web at <http://www.csrmedia.com/kitzmiller.pdf>.

Constitutional Underpinnings & the Role of the Courts

The First Amendment to the United States Constitution states, in part, that "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof." This so-called establishment clause contains two key concepts that have become ubiquitous principles of United States law: (1) that the government will not establish a national religion (popularly known as "separation of church and state"); and (2) the government will not prohibit any individual from practicing whatever religion they choose. While these two ideas seem fairly straightforward, arguments over their interpretation have been considered by the courts ever since the Constitution was ratified.

One principle to note at the outset is that the Constitution provides protection to individuals against only the government, and not other private parties. Accordingly, while the First Amendment prevents the government from taking certain actions or engaging in certain behavior, it generally cannot be used to prevent other private parties from those same actions or behaviors. While some constitutionally-based concepts have been applied to private parties, such as certain antidiscrimination principles, such application takes place by way of specific legislative

action (i.e., a specific law), and not by the plain language of the Constitution itself.

Our justice system is based on the principle of formal equality: we treat cases with similar legal and factual issues similarly, and different cases differently. Our law develops over time through acts of the government (Congress and state legislatures) but also through the courts, which are periodically called upon to interpret the intent of the lawmakers. Each case heard by a court sets forth a rule or legal proposition that courts will follow in the future when deciding similar cases. The collective body of law is

precedent. In the United States, our federal court system has three levels. The lowest level, known as the district court level, is where lawsuits are first filed, where criminal charges are first brought, and ultimately where trials are held. After a verdict is entered by a district court, litigants may appeal their decisions to intermediate appellate courts known as circuit courts, organized by geographic region (Figure 2 illustrates which states fall into which circuit). If a litigant is still unhappy with a decision after circuit court review, it may appeal to the Supreme Court, which serves as the final arbiter of all federal law issues.

The decisions from each court are binding on - that is, they must be followed by - the courts below it. Thus, district court decisions are binding on nobody except the parties in the lawsuit, because they are the lowest on the jurisprudential food chain.

Decisions by circuit courts are binding only on the district courts within their circuit. For example, the U.S. District Court for the District of Colorado would be required to follow the rule of law prescribed in cases from the Court of Appeals for the Tenth Circuit, but cases from other circuits would merely be instructive. As you might imagine, sometimes the legal status of a particular issue can become fairly complicated, because decisions of courts may differ across circuits. Such conflicts, typically called circuit splits, become ripe for review by the Supreme Court.

Decisions by the Supreme Court are, of course, binding on all federal courts across all

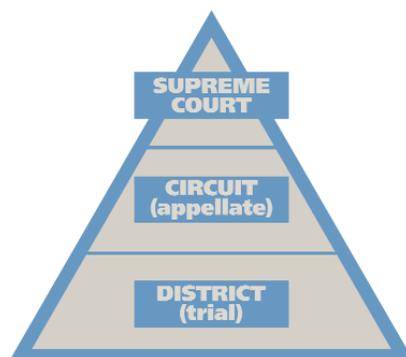


Figure 1: Three levels of federal courts. Graphic by Greg Dina.

known as precedent. Together with the statutes and regulations set forth by the government, precedent forms the body of law that we, as citizens, must operate within.

Not every court, however, gets to make

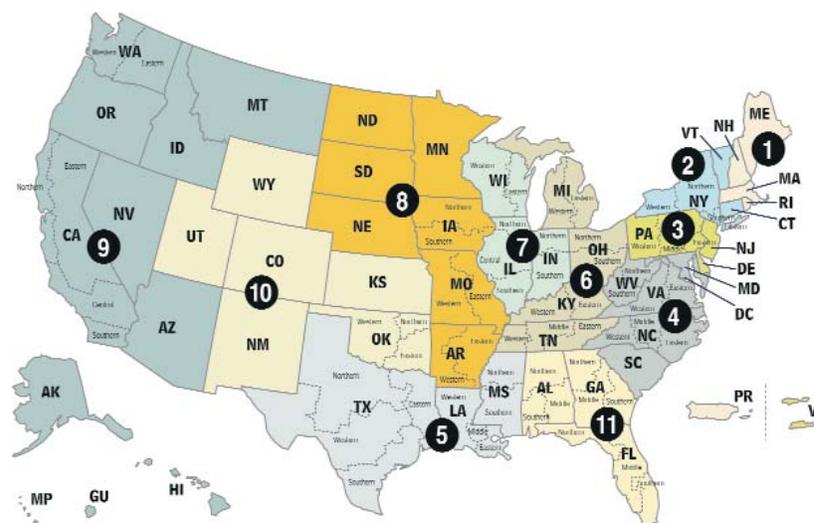


Figure 2: The United States federal court system. Graphic courtesy the Administrative Office of the U.S. Courts.

circuits. Indeed, some of the most popularly-used legal tests or rules are set forth in cases by the Supreme Court and often become known by their original case name. The oft-cited *Miranda* warnings, for example (“you have the right to remain silent...”) originated from a 1966 case, *Miranda v. Arizona*.

Precedent Applied in *Kitzmiller*

[Unless noted otherwise, all quotes in the remainder of this column are from *Kitzmiller v. Dover Area School District*, 400 F. Supp. 2d 707 (M.D. Pa. 2005).]

To decide whether the DASD’s disclaimer violates the Constitution, the district court applied two different tests articulated in prior religious freedom cases decided by the Supreme Court. The first is known as the *endorsement test*, first established in 1989 when the Court considered the case of *County of Allegheny v. ACLU*, 492 U.S. 573 (1989). The test “recognizes that when government transgresses the limits of neutrality and acts in ways that show religious favoritism or sponsorship, it violates the Establishment Clause.” Specifically, the test analyzes the message conveyed by a government policy as interpreted by a reasonable, objective observer and also takes into consideration the social and historical context of the policy. If a reasonable, objective observer would believe that, by its action or policy, the government is engaging in the endorsement of a particular religious belief, the policy or act is unconstitutional.

In addition to the endorsement test, the *Kitzmiller* court also applied the *Lemon* test, so named because of its origins, the 1971 Supreme Court case *Lemon v. Kurtzman*. There, the Court determined that a “government-sponsored message violates the Establishment Clause of the First Amendment if (1) it does not have a secular purpose; (2) its principal or primary effect advances or inhibits religion; or (3) it creates excessive entanglement of the government with religion.” (*Lemon v. Kurtzman*, 403 U.S. 602, 612-13 (1971)).

Application of the Endorsement Test

In considering the DASD disclaimer, the court first determined that a “reasonable observer,” as used in the Endorsement test meant an “informed citizen who is more knowledgeable than the average passerby,” (*Modrovich v. Allegheny County*, 385 F.3d



Figure 3: The Supreme Court of the United States is the final arbiter of federal law. Photo by Chris Reed.

397, 407 (3d Cir. 2004)), and that in this instance “the pertinent inquiry is whether an ‘objective observer’ in the position of a student of the relevant age would ‘perceive official school support’ for the religious activity in question.” The court then engaged in a relatively in-depth discussion about the history of intelligent design and its alleged religious underpinnings. Ultimately, the court concluded that intelligent design is a “religious and not a scientific proposition” and that the average person - adult or child - can be presumed to know that intelligent design is merely creationism in disguise.

Having established that intelligent design is fundamentally a religious and not scientific theory, the court’s analysis under the Endorsement Test moved to the issue of whether a reasonable, objective observer would view the DASD’s evolution disclaimer as an endorsement of intelligent design, and thus an endorsement of religion. In considering this aspect of the Endorsement Test the court conducted a paragraph-by-paragraph review of the disclaimer, noting that the first paragraph “directly addresses and disavows evolutionary theory” by setting off that aspect of the science curriculum unlike any other topic, which do not carry similar disclaimers.

With respect to the second paragraph, the court noted that the disclaimer’s emphasis on the fact that evolution is “just a theory” is misleading to most students, because it plays on conventional notions of “theory” which typically mean something based on mere conjecture as opposed to rigorous scientific testing such as evolutionary theory. Finally, the court noted that the disclaimer, although encouraging students to keep an open mind about the theory of evolution, offers no plausible non-religious alternative.

After careful consideration of the core

principles that underlie intelligent design and a meticulous reading of the disclaimer language proffered by the DASD, the court concluded that the disclaimer constitutes endorsement of a particular religious view and as such, violates the Establishment Clause of the Constitution.

Application of the Lemon Test

After determining that the DASD disclaimer violates the Constitution under the Establishment Test, the court considered the disclaimer again under the *Lemon* test, the three-pronged inquiry set forth

above. In analyzing the first and second prongs - whether a particular government policy serves a secular purpose and whether the principal effect of the policy advances or inhibits religion - the court concluded that the context and conditions in which the disclaimer was conceived, including an ongoing series of discussions regarding the incorporation of creationism into the District’s curriculum, “inevitably lead to the conclusion that [the District] consciously chose to change Dover’s biology curriculum to advance religion.” Accordingly, the court held that the disclaimer did not serve a secular purpose, but rather was designed to advance a religious agenda.

The court, having held that the disclaimer fails the first two prongs of the *Lemon* test, could have ended its discussion there. For the sake of completeness, however, the court continued to analyze the last prong of the test - whether the policy creates excessive entanglement of the government with religion. The court recognized that many of the facts it used in concluding that the District’s disclaimer policy violated the Endorsement Test are also relevant here, ultimately concluding again that the disclaimer “was to impose a religious view of biological origins into the biology course” which renders the policy unconstitutional.

The Role of the Courts: Precedent Revisited

Under both analytical frameworks - the Endorsement Test and the *Lemon* test - the DASD evolution disclaimer and incorporation of intelligent design into school curriculum was found to be unconstitutional. Opponents of intelligent design were understandably pleased with the ruling, while supporters of the theory were quick to accuse Judge Jones of being an “activist judge.”

Notwithstanding the apparent victory for the scientific community, it is important to understand the relative importance of the ruling in the larger legal context.

Shortly before the *Kitzmiller* ruling was issued, Dover area residents voted to oust the members of the school board who had originally championed the evolution disclaimer; the new board rescinded the policy, rendering the court's decision somewhat moot. The new school board has said they do not plan to appeal the decision, and as of this writing (mid-April 2006), no such appeal has been filed.

Although the ruling is unusually lengthy for a district court, providing a comprehensive and detailed basis for its ultimate holding, the decision has little precedential value, since it was issued by a federal trial court and is binding on nobody except the DASD. While opponents of intelligent design were understandably pleased with the District's decision to not pursue an appeal, other courts will not be required to follow the court's ruling. The *Kitzmiller* case thus does

little to resolve the intelligent design issue outside of the Dover area. From a legal perspective, it would have been helpful if the case were considered by an appellate court, since any decision there would bind all courts below it, thereby establishing a more uniform treatment of the intelligent design issue, albeit only in a particular geographic region.

Pennsylvania exists within the Third Circuit, meaning that the District would have filed its appeal with the Court of Appeals for the Third Circuit located in Philadelphia. Any decision issued by that court would have been binding on all federal trial courts within that circuit (Delaware, New Jersey, and Pennsylvania). Of course, to get true national uniformity, the case would have to be appealed once again - to the Supreme Court.

Conclusion

At over 100 pages, the court's opinion in the *Kitzmiller* case was extremely comprehensive and offers a solid basis upon which

intelligent design issues may be considered by other courts in the future. Unfortunately, because of the court's place on the judicial food chain, the case is of limited impact for future courts that may be called upon to consider similar issues.

Judge Jones's order is far more detailed and provided far more depth than I have been able to offer here. This column was designed to provide a brief overview of the basic constitutional principles and arguments that were used in deciding the case and to provide the planetarium community with a sense of how such issues are decided. In the interest of relative brevity, I opted to leave out some of the court's discussions that led to its ultimate conclusion of unconstitutionality. Those interested in reading more about it are urged to read the full opinion of the court by pointing their browsers to the URL I have provided above. ☆

Thanks to Nikki Hough and Jim Beaber for their assistance in preparing this article.

(Reviews, continued from page 43)

The Sun: A Biography covers a remarkable array of subjects from the historical to the scientific, the mythological to the personal. David Whitehouse leads off with a story about Air Force One losing touch with the outside world while crossing the Pacific Ocean in 1984. The culprit? Intense "space weather" associated with a string of sunspots in Active Region 4474. The ways in which the Sun can affect the modern world have become increasingly complex, but its role as a central heavenly body (in more ways than one) forms the foundation of the book.

Jumping back and forth in time, the book balances a topical arrangement with a distinct chronological order. The interlocking narrative first becomes apparent somewhat incongruously in the form of interstitial images that appear between each chapter. Whitehouse leads with subjects such as "the Goldilocks star" and a brief history of the universe, but the images that separate the chapters include a Celtic glyph depicting an eclipse and a relief showing "the four-pointed disk of Shamesh." By the time archaeological records get addressed in the text, we've already seen pictures that have introduced the topic.

A rich history of the Sun's influence on humanity extends back for millennia, and Whitehouse lavishes loving attention on everybody from the Babylonians to the

... Whitehouse's style nonetheless manages to entertain and engage without losing the core narrative. In many ways, *The Sun* feels like a reference book, yet it reads quite easily and enjoyably.

Chinese, from the Irish to the Aztecs (notably absent in his survey is anything related to the Maya, however). Once we get past the Scientific Revolution, a plethora of observations bolster the central story, which continues to explore human understanding of our parent star.

We learn about Thomas Harriot's 1610 drawing of sunspots, Giovanni Cassini's highly accurate 1672 estimate of the Sun's distance, John Winthrop's 1761 observations of the transit of Venus, Richard Carrington's 1859 recording of a visible solar flare - the list goes on and on. Whitehouse tracks the divergent events and ideas with the dogged determination of a scientific sleuth resolved to turn up every available clue about the Sun and its history. Characterized by lengthy asides and digressions, Whitehouse's style nonetheless manages to entertain and engage without losing the core narrative. In many ways, *The Sun* feels like a reference book, yet it reads quite easily and enjoyably.

Although history plays an important role, the science and understanding of the Sun holds center stage, and a staggering amount of current science gets worked into the account: thermonuclear fusion, sure, but also the solar dynamo, space weather, and stellar evolution, to name just a few.

Despite the lengthiness of his book, Whitehouse manages brief and accurate explanations of complex topics. For example, a few simple sentences connect the magnetic loops of material (seen in ultraviolet and X-ray images of the Sun) with sunspots seen in visible light: "In the regions of high magnetic field, the outward flow of energy is impeded and a cooler region ensues where the loops appear, often in pairs. Welcome to a sunspot." It's hard to get more succinct than that.

Whitehouse, a longtime BBC News Online science editor and European Internet Journalist of the Year in 2002, makes his American debut with *The Sun* (an earlier "biography" of the Moon has not appeared in the United States). If he has the wherewithal to maintain the momentum established in this book, we can expect great things in the future. He has provided us with a spectacularly detailed written portrait of the Sun: rife with historical and scientific details, a story materializes about not just the detailed nature of Earth's parent star, but also about the process by which science proceeds and the methodology of discovery. ☆