

Intelligent design on trial: Is it science?

by [Larry Witham](#) in the [November 29, 2005](#) issue

A 21-day Pennsylvania trial on the teaching of evolution in public schools—which lasted 13 days longer than the 1925 Scopes trial—turned out to be an extended argument over the meaning of certain key words—*theology*, *science*, *politics*, *education* and especially *creation*. Having heard the testimony of nine experts and 25 other witnesses, a federal judge will rule on whether a religious belief in “creationism” motivated the Dover school board to require students to hear a statement about intelligent design along with the teaching of evolution. Eight families had sued the board, charging that the requirement to mention ID amounted to teaching religion.

The C-word loomed largest and may be the basis of Judge John E. Jones’s decision. Much testimony at the Harrisburg trial was devoted to the questions, What is creationism and Who is a creationist? The plaintiffs argued forcefully that ID is a repackaged version of creationism. The ID theory espouses “special creation,” the plaintiffs said, a doctrine at odds with evolution’s idea that natural processes produced life with a common ancestry. Plaintiff experts repeatedly used the phrase “intelligent design creationism” to identify the culprit.

The defense had a range of responses. It tried to show that some board members thought creationism refers only to beliefs based on the book of Genesis, and that ID is something different. The defense also pushed the incriminating word to absurd lengths. For example, when an evolutionist confirmed that evolution “creates” life, the defense inquired whether that view should be referred to in the scientific literature as “creation evolution.”

Part of the lawsuit focused on the board’s decision to put an ID textbook, *Of Pandas and People*, in the school library. The plaintiffs called Kenneth Miller, a Brown University biologist, to testify on the errors in *Pandas*. Miller was an ideal witness: he is a Catholic who has spoken widely on how he has reconciled faith with science. He

said that God created the laws of evolution, a view he has elaborated on in *Finding Darwin's God*.

The defense tried to use this approach to its advantage. It showed that, by some lights, Miller is also a creationist. And it argued that if the presence of *Pandas* in the library is unconstitutional because it refers to a "master intelligence" in the universe, then Miller's book and even Charles Darwin's *The Origin of Species* also should be kept out of school libraries, since they use terms such as *creation*, *creator*, and *God*.

The trial then moved into theology. The plaintiffs' attorneys questioned two ID biologists about the "God of Christianity." The biologists admitted to their own "personal" belief in God, but said their science did not cross into questions of "ultimate causes."

Testifying for the plaintiffs, theologian John Haught of Georgetown University said there is no conflict between religion and science, and he espoused "explanatory pluralism." Science handles the "how" questions of nature, religion the "why" of existence.

Haught said ID is a form of natural theology. It offers an "old theological argument" to prove the existence of God. It is an "appalling theology," he said, since efforts to understand or limit God through nature lead to "idolatry."

Throughout the trial, the defense argued that the religious beliefs of ID theorists are irrelevant to their scientific practice. But since the plaintiffs had made personal beliefs an issue, the defense probed the beliefs of evolutionists. In cross-examination, Haught confirmed that many evolutionists are materialists who deny God.

The plaintiffs traced the origins of ID to its roots in an "archaic science" like astrology and also to old-fashioned Bible creationism. Its proponents, they said, hold to a Logos theology that springs from the Gospel of John.

The defense had its own argument regarding origins. It frequently tied the supporters of the lawsuit to the historic schools of "secular humanism," "scientism" and "atheism." Because one anticreationist minister said "in the beginning" was evolution, the defense argued that Darwinists also use a Logos theology.

The trial also focused on the nature of science. Dozens of scientific facts went into the court record, about everything from retroviruses to molecular clocks, cells, the mammalian middle ear, whales and the Tasmanian wolf. Some of the most humorous moments arose as Judge Jones struggled to digest it all. When the defense announced it would offer testimony on blood clotting, the judge showed mock pleasure: "Oh, really!" As the plaintiffs' attorney began testimony on homology, or comparative anatomy, he added, "Last concept, Your Honor."

The plaintiffs' goal was to show that ID is not science. The school board said it added ID under a Supreme Court ruling that allows for teaching "a variety of scientific theories" in addition to Darwinian evolution. But the board action was wrong, said the plaintiffs, because intelligent design concerns "supernatural causation."

The plaintiffs defined science as that which deals only with "natural causes" that are testable, a rule called "methodological naturalism." Evolution was further defined as a "fact" because "change over time" has really occurred. Evolution is also a "theory," however, since it describes the likely "mechanisms" that drove the changes. The defense argued that this is a self-serving definition of science, since it excludes anything that suggests intelligence or design in nature.

The two sides also sparred over the completeness of Darwinian theory. The defense backed the school board terminology referring to "gaps" in evolution, while the plaintiffs' witnesses insisted that evolution suffers only from "apparent gaps" or "incomplete" explanations.

Design was also a term in the dock. Defense experts said biology uses the term *design* extensively. One phenomenon that often evokes the term *design* is the variety of "molecular machines" in cells. But the plaintiffs held that these could surely not be "actual machines" requiring an engineer (as ID hints). The phrase is only a "figure of speech" used by evolutionary biologists.

A main line of attack on ID theorists was that they have not published their work in "peer-reviewed" journals and that the ID movement lacks laboratories, funding, graduate students and research programs. The defense was quick to note that the ideas of famed biologist Gregor Mendel, who discovered the principles of heredity, were rejected by scientists of his day, and that Albert Einstein had no laboratory.

To further make its case, the defense called a sociologist to explain the political nature of science. Stephen Fuller said that all new theories begin as outsiders, and

that the principle of peer review can institute a “self-perpetuating elite network” that seeks to control science funding and exclude rivals.

At the least, Fuller said, ID has “heuristic” value for science—meaning it is a tool to interpret and organize a mass of data. Fuller argued that Isaac Newton was in fact the greatest intelligent design theorist. To find the three laws of motion, Newton imagined himself as “being in the mind of God.”

In defining science, the plaintiffs had nearly every science organization in America on its side, which it documented copiously in trial. What was left out, the defense rebutted, was the “demarcation” problem in defining science: Who draws the line between science and nonscience?

Fuller argued that the line-drawing is very difficult in creative science, though it is politically useful in institutional science. He said ID belongs to the “discovery” stage of science, the stage at which ideas are being formed. Scientists have long imagined “occult” entities, such as atoms, as a way of beginning their research. The next stage, which Fuller called the “justification” stage, subjects all ideas to rigorous empirical testing. He said design theory is perhaps now entering the justification stage. To which the plaintiffs said: If that is so, then what is ID doing in a high school science class?

While Fuller focused on the politics of science, the plaintiffs wanted to show that ID is a political movement. Witnesses for the plaintiffs testified that the “intelligent design creationist movement” is a web of “players” using “camouflage,” a “strategic document” and a “wedge strategy” as part of the religious right’s culture war. The tone was set by philosopher Barbara Forrest, author of *Creationism’s Trojan Horse*. She reviewed documents subpoenaed from the small Christian publisher of *Pandas* to show it has roots in the “creation science” fad of the 1980s. She suggested that the ID movement targeted Dover with a “religious agenda” to “change the ground rules of science.” Forrest also argued that ID proponents seek a “theocracy” in America.

In response, the defense hinted that a secularist “movement” backed the lawsuit. Two movements were at play, the defense argued, but the judge must see that the school board knew nothing about the national machinations.

It is a habit of the evolutionist movement, the defense said, to “retaliate” against ID theorists. Microbiologist and ID theorist Scott Minnich of the University of Idaho

testified to his career risks as evidenced by the negative reaction at his school. “It is risky for me to be at this trial,” he said.

A final topic of battle was the meaning of education. The plaintiffs brought forth Brian Alters of McGill University, who had interviewed 1,000 students about “misconceptions” that made evolution hard to learn. It was mostly religion that thwarted the learning, he said. Using a “constructivist” theory of learning—students construct knowledge from experience—Alters explained how biology teachers free students from misconceptions so that they can learn evolution. Students must move beyond dualist concepts that pit evolution against faith, he said.

Alters rejected the use of “alternative theories” as a foil to teach evolution. He said that approach confuses students and produces “needless misconceptions.” Students are forced to anguish over “defending their faith” in biology class.

But biochemist Michael Behe, an ID theorist, disagreed. Students should hear more than one theory so they can separate facts from assumptions. Without that, he said, “theory will blend into the facts.” The defense agreed that students face misconceptions, but mainly the misconception that Darwinism explains reality and offers the “absolute truth.”

At trial’s end, Judge Jones said he hoped to bring justice under “the facts and the law.” The judge’s narrowest ruling would be that the school board’s “primary purpose” was to put creationist religion in the classroom, which is unconstitutional. The judge might rule broadly, however, defining science or religion. He might analyze the history and motives of groups, interpret educational practice, or assess intelligent design. His ruling is expected by the end of the year. Clearly it will not be the final word in the debate.