

## Introduction

Glenn Branch

Received: 23 March 2009 / Accepted: 25 March 2009 / Published online: 11 April 2009  
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Speaking at a conference in Kansas in 2002, the philosopher J. P. Moreland was concerned to emphasize the relevance of philosophy to the debate over teaching intelligent design in the public schools. “From high school on,” he explained, “people are not trained to look at their disciplines with philosophical understanding. With such an erosion of philosophical training—and thus understanding—it is absolutely essential that those of us interested in this conversation understand its philosophical dimensions” (Moreland 2008, pp. 43–44). Understanding philosophy is essential, he argued, because it is philosophers, not scientists, who are professionally competent to decide whether intelligent design qualifies as scientific. He thus ended with a peroration recommending that his audience seek to understand the philosophical issues, for “people are trying to cut the legs out from underneath us by arguing philosophically, and when they do, we need to have a response” (Moreland 2008, p. 65). What is noteworthy about Moreland’s talk was not so much the claims he advanced on behalf of philosophy’s relevance as the audience that he was urging to acquire philosophical nous: creationists.

In 1999, the Kansas state board of education voted to adopt a set of state science standards that was systematically compromised: topics such as evolution, the age of the earth, and the Big Bang were downplayed, misrepresented as controversial, or omitted altogether. (In the United States, state science standards provide guidelines for local school districts to follow in their individual science curricula; their importance was cemented by the federal No Child Left Behind Act, enacted in 2002, which requires states to develop and periodically revise standards for various subjects, including science.) The vote was widely criticized, both in Kansas and nationally, by scientific and educational authorities—to say nothing of late night talk show hosts. Adding insult

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G. Branch (✉)

National Center for Science Education, 420 40th Street, Suite 2, Oakland, CA 94609-2509, USA  
e-mail: branch@ncseweb.org

to injury, it was revealed that the version of the standards adopted by the board was influenced by the Mid-America Creation Science Association, whose president Tom Willis is reportedly skeptical about not only evolution but also heliocentrism (Holmes 2000). Ultimately, the voters reacted at the polls, and in 2001, a newly constituted board of education voted to restore a previous, uncompromised, set of science standards.

As the controversy in Kansas was unfolding, the Intelligent Design Network was founded in 1999, with a twofold goal: “To promote evidence-based science education with regard to the origin of the universe and of life and its diversity. To enhance public awareness of the evidence of intelligent design in the universe and living systems.” Unspoken but clearly in evidence was a third goal: undermining the treatment of evolution in the state science standards, whether by supporting the compromised standards of 1999 or by supporting revisions to the restored standards of 2001. Toward that end, the Intelligent Design Network began to sponsor a yearly conference. It was at such a conference—“Darwin, Design, and Democracy III: Teaching Origins Science Objectively”—that Moreland spoke. Also on the program in 2002 were Michael J. Behe and Jonathan Wells, luminaries of the intelligent design movement; a representative of the Discovery Institute’s Center for Science and Culture, the de facto institutional headquarters of the movement; and *The Rule*, a one-act play “about the trial of a biology teacher who seeks to teach origins science objectively.”

Subsequently, the composition of the Kansas state board of education changed again, enabling the Intelligent Design Network to attain a momentary triumph: in 2005, the board voted to adopt a set of science standards in which the treatment of evolution and the nature of science was again compromised. The scientific problems with the adopted standards were numerous and typically traceable to creationism. Indeed, the most thorough critique described it as “a haphazard collection of objections to evolution,” all of which “can be traced directly to established, long-discredited creation science and intelligent design claims” (Matzke and Gross 2006, p. 55). The standards were also criticized for their scientific flaws by the American Association for the Advancement of Science, the American Institute for Biological Sciences, the Kansas Association of Teachers of Science, the National Academy of Sciences, the National Science Teachers Association, a group of thirty-eight Nobel laureates, and the committee of scientists and teachers that wrote the draft set of standards before the state board of education took it upon itself to revise it along the lines suggested by the Intelligent Design Network.

Equally as problematic were changes to the standards of a philosophical nature. The draft standards defined science as “the human activity of seeking natural explanations for what we observe in the world around us.” In the adopted standards, however, science was defined as “a systematic method of continuing investigation that uses observation, hypothesis testing, measurement, experimentation, logical argument and theory building to lead to more adequate explanations of natural phenomena.” The significance of the change is that according to the original definition, scientific explanations are incapable of appealing to the supernatural. (The definition reflects a philosophical principle sometimes called methodological naturalism; see Pennock 1999, pp. 181–214.) On the revised definition, no such incapability is recognized, and it was widely inferred in Kansas that the purpose of the revision was to encourage teachers to present creationism as a scientifically credible view. Moreland, for his part, told his 2002 audi-

ence that “the claim that science can appeal only to natural causes and explanations is not religiously neutral” (Moreland 2008, p. 45); the Intelligent Design Network went farther, arguing that methodological naturalism promotes atheism (Overbye 2005).

Evolution, too, promotes atheism, at least according to the revised standards, which insisted, “Biological evolution postulates an unguided natural process that has no discernable direction or goal.” The claim is perhaps not indefensible on a suitable interpretation, but it is easy to understand it as misrepresenting evolution to be intrinsically atheistic—as history shows. In 1995, the National Association of Biology Teachers issued a statement that similarly described evolution as “unsupervised,” provoking the philosopher Alvin Plantinga and the religious studies scholar Huston Smith to complain that the adjective was both scientifically unwarranted—“How,” they asked, “could an empirical inquiry possibly show that God was not guiding and directing evolution?”—and likely to provide “aid and comfort to extremists in the religious right for whom it provides a legitimate target” (quoted in Scott 1997). Recognizing the justice of the complaint and not wishing to misrepresent evolution as intrinsically atheistic, the NABT revised the statement. But in Kansas ten years later, extremists in the religious right—the Intelligent Design Network and its confederates on the state board of education—were insisting on such a misrepresentation.

As in the previous episode in Kansas, the voters reacted at the polls, and the balance of power on the state board of education again shifted. In 2007, a newly constituted board of education voted—on the day after Darwin’s birthday, as it happened—to adopt a set of state science standards in which evolution and the nature of science were no longer misrepresented. But Kansas was hardly the only place where the teaching of evolution was controversial in the new millennium. In 2005 alone, the National Center for Science Education recorded more than eighty controversies in thirty states over the teaching of evolution (Branch 2006). And not all activity aimed at undermining the teaching of evolution in the public schools incites a public controversy. In the same year, the National Science Teachers Association reported that in a survey of its membership, 30% of respondents indicated that they experienced pressure to omit or downplay evolution and related topics from their science curricula, while 31% indicated that they felt pressure to include nonscientific alternatives to evolution in their science classrooms (NSTA 2005).

Indeed, attempts to remove, balance, or compromise the teaching of evolution are a recurring feature of American science education from the 1920s onward. The involvement of philosophers in the debate, however, is apparently increasing. In the first wave of antievolution activity—the attempts during the 1920s to remove evolution from the classroom—philosophers were all but uninvolved in the debate. Although the impresario of the Scopes trial, George Rappelyea, hoped to get John Dewey to testify for the defense (de Camp 1968, p. 80), only experts in science and religion were selected, and in the event they were not permitted to testify (Larson 1997, pp. 170–193). Only Whitehead, of the leading American philosophers of the day, reacted to the trial, according to a study of American intellectuals and Darwinism (Conkin 1998, p. 145). And his muted reaction took the form of a piece in the *Atlantic Monthly*, published after the trial, which mentioned evolution just once and Scopes, the law under which he was prosecuted, and the trial itself not at all (Whitehead 1925).

In the second wave of antievolution activity—after the Supreme Court declared that the Scopes-era bans on teaching evolution were unconstitutional (*Epperson v. Arkansas*, 393 U.S. 97 [1968])—creationists began to argue that creationism was a viable scientific alternative that deserved to be taught alongside evolution. Legislation calling for equal time for creationism was introduced in no fewer than 27 states, successfully in both Arkansas and Louisiana in 1981. The Arkansas bill provoked a major legal challenge (*McLean v. Arkansas*, 529 F. Supp. 1255 [ED Ark. 1982]), in which the testimony of a philosopher, Michael Ruse, was important. As Ruse reflected, for the purposes of the lawsuit, “Someone [was] needed to talk at a more theoretical level about the nature of science—any science—and then show that creation-science simply does not fit the part. As a philosopher and an historian, it is my job to look at science, and to ask precisely those questions about defining characteristics” (Ruse 1983, p. 150). In the course of his subsequent distinguished career, of course, Ruse returned again and again to address creationism (see, e.g., Ruse 2005).

Ruse’s testimony in *McLean*, articulating a set of criteria for a discipline to qualify as a science and arguing that creation science failed to satisfy those criteria, became the focus of a minor philosophical industry (see part 2 of Pennock and Ruse 2009 for a sampling) as well as a stock topic in the philosophy of science. He was not the only philosopher to take a serious interest in the topic; Philip Kitcher, for example, devoted his first book to creationism (Kitcher 1983). Still, in the wake of *McLean*, as well as the subsequent case over the Louisiana bill, which elicited a declaration from the Supreme Court that teaching creationism in the public schools violates the Establishment Clause of the First Amendment to the Constitution (*Edwards v. Aguillard*, 482 U.S. 578 [1987]), it may have seemed to philosophers that creationism was essentially a dead issue. Yet it was not long after *McLean* that the newest incarnation of creationism—intelligent design—was starting to emerge (Matzke 2009), complete with a program of philosophical argumentation intended to enable creationism to circumvent Ruse’s strictures as well as to survive constitutional scrutiny.

Prominent among the leaders of the intelligent design movement are a disproportionate number of philosophers: William A. Dembski (who also holds a Ph.D. in mathematics), Stephen C. Meyer (the director of the Discovery Institute’s Center for Science and Culture), and Paul Nelson. Additionally, biochemist Michael J. Behe and law professor Phillip Johnson have published in the philosophical literature—Behe (2000) in *Philosophy of Science* and Johnson (1996) in *Biology and Philosophy*, for example—usually in response to their critics. The journal *Philosophia Christi*, published by Biola University for the Evangelical Philosophical Society, routinely publishes articles expounding intelligent design and reviews lauding books by its proponents, and Biola University itself offers a master’s degree in science and religion with a heavy emphasis on intelligent design. And intelligent design’s sympathizers include philosophers as eminent as Alvin Plantinga.

It was no surprise, then, when the constitutionality of teaching intelligent design in the public schools was challenged in Dover, Pennsylvania, in 2005, a philosophical contingent of the intelligent design movement was on hand. Among those scheduled to testify in *Kitzmiller v. Dover* as expert witnesses for the defense of the Dover Area School Board (which adopted a policy requiring teachers to notify students that evolution was a theory, not a fact, and that intelligent design as described in the

textbook *Of Pandas and People* was a scientifically credible alternative) were Dembski and Meyer, as well as Warren A. Nord, a lecturer in philosophy at the University of North Carolina, Chapel Hill, and Steve Fuller, a philosopher-turned-sociologist at the University of Warwick, both academics with sympathies for intelligent design. Owing to a dispute between the Discovery Institute and the Thomas More Law Center, which was representing the school board, Dembski and Meyer withdrew from the case. Nord was not called to testify, and although Fuller testified, his testimony was widely viewed as unhelpful or even counterproductive for his cause. (See Chapman 2007; Humes 2007; Lebo 2008; Slack 2007 for accounts of the trial, and Branch 2007 for a discussion of the literature.)

Testifying on behalf of the plaintiffs challenging the constitutionality of the policy were two philosophers, Robert T. Pennock of Michigan State University and Barbara Forrest of Southeastern Louisiana University. Pennock argued, as he argued in *Tower of Babel: The Evidence against the New Creationism* (1999) that intelligent design fails to be science, while Forrest argued, as she and Paul R. Gross argued in their *Creationism's Trojan Horse: The Wedge of Intelligent Design* (2004), that intelligent design was historically and conceptually continuous with creationism. Using materials obtained by subpoena about the development of *Of Pandas and People*, Forrest further argued that the textbook was clearly creationist in origin. For example, according to the book, “Intelligent design means that various forms of life began abruptly through an intelligent agency, with their distinctive features already intact—fish with fins and scales, birds with feathers, beaks, and wings, etc.” (Davis and Kenyon 1993, pp. 99–100). During the *Kitzmiller* trial it was revealed that in a draft, the same definition appeared, except with “Creation” and “Creator” appearing where “Intelligent design” and “agency” appear in the published version.

The decision in *Kitzmiller* (400 F. Supp. 2d 707 [M.D. Pa. 2005]) was scathing about the scientific credibility of intelligent design, which the judge wrote “is not science and cannot be adjudged a valid, accepted scientific theory as it has failed to publish in peer-reviewed journals, engage in research and testing, and gain acceptance in the scientific community.” Efforts to promote the teaching of intelligent design in the public schools faltered, with legislators in Indiana and Utah modifying their plans to introduce measures to require it. But creationist attacks on evolution continue, increasingly hiding their ulterior purpose and intended effect in apparently secular slogans such as “teach the strengths and weaknesses of evolution” or “teach the full range of scientific views” or “teach the controversy” (Branch and Scott 2009). Even if public interest in intelligent design dwindles after *Kitzmiller*, as public interest in creation science dwindled after *Edwards*, the profound if misguided discomfort with evolution that actuates such assaults on evolution is bound to remain. Also bound to remain are philosophical controversies over creationism. As David Lewis (1983, p. x) observed, “Philosophical theories are never refuted conclusively. (Or hardly ever. Gödel and Gettier may have done it.)” While the philosophical controversies over creationism are not even the right type to be dispelled by the work of a latter-day Gödel or Gettier, they certainly continue to attract the attention of talented philosophers, including those who have contributed to the present issue.

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