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**SABOTAGING SCIENCE:**

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**CREATIONIST STRATEGY**

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**IN THE '90s**

**SPECIAL REPORT**

# SABOTAGING SCIENCE: CREATIONIST STRATEGY IN THE '90s

## ■ Introduction

The Kansas Board of Education's recent decision to remove evolution from the state science standards has once again brought the debate about creationism into the national spotlight. Yet the board's decision is not an isolated incident. For example, Kentucky recently deleted the word "evolution" from its new state science guidelines, substituting the words "change over time" during a last-minute editing session. As in Kansas, the change was done over the objection of educators and scientists involved in the process of drafting the state standards.<sup>1</sup> The Illinois State Board of Education made a similar substitution in 1997.<sup>2</sup> And most recently, Oklahoma joined Alabama in requiring a disclaimer on biology textbooks.<sup>3</sup> Bills pending before the state legislatures in Georgia and Ohio would require teachers to present evidence inconsistent with evolution whenever teaching the topic. School boards in Arizona, Alabama, Illinois, New Mexico, Texas and Nebraska have tried to remove evolution from the state standards or modify its teaching in the past few years.<sup>4</sup> Faced with personal attack and sometimes the loss of livelihood, teachers are increasingly reluctant to teach this fundamental scientific principle.

**Faced with personal attack over the teaching of evolution, teachers are increasingly reluctant to teach this fundamental scientific principle.**

The debate is not new. Brought to the national consciousness in 1925 by the famous "Monkey Trial" in Tennessee which pitted two great orators, William Jennings Bryan and Clarence Darrow, against each other, the teaching of evolution has been accompanied by court battles, school board clashes, and textbook censorship throughout the century.

More recent are the increasingly sophisticated strategies that creationists use in an effort to inject their ideas into public school science curricula. These strategies rely more on presenting evolution and creationism as two equally plausible, although competing scientific theories that should be included in the curriculum rather than on banning evolution outright. They also reflect the Right's successes at the local and state

school board level, enabling pressure to be applied not just from outside the system but from within it as well. Religious Right organizations such as the Christian Coalition, Focus on the Family, Eagle Forum, Concerned Women for America, Citizens for Excellence in Education, American Family Association, Rev. D. James Kennedy's Coral Ridge Ministry, "Christian think-tanks" like the Foundation for Thought and Ethics and the Institute for Creation Research, and Religious Right litigation groups such as the Rutherford Institute and Pat Robertson's American Center for Law and Justice, keep debate alive and use their media outlets to push these strategies.

Because the Kansas incident brought to fruition some of these strategies, this paper will first examine that event, then discuss creationists' developing strategies and arguments, as well as some of the groups advancing the creationist cause.

## WHAT HAPPENED IN KANSAS?

**Also deleted from Kansas' standards were the Big Bang theory, environmental science concepts and any mention of geologic time.**

### ■ KANSAS STATE SCIENCE STANDARDS REVISIONS:

In August 1999, the Kansas State Board of Education voted 6-4 in favor of state science standards from which several topics, including virtually all references to evolution, had been deleted. Students will no longer be tested on these topics in statewide tests, giving local districts the option of not teaching these subjects without fear that students will suffer on state assessment exams. Opponents of the revised standards believe the adopted standards promote bad science and include unclear statements that invite the teaching of creationism in science classes.<sup>5</sup>

Although the press focused most of its attention on the board's removal of evolution, these other revisions are equally as serious. The Big Bang theory — as central to modern astronomy and cosmology as evolution is to biology — no longer appears in the standards. The sentence explaining that the Big Bang theory "places the origin between 10 and 20 billion years ago" was stripped from the document along with a reference to the formation of the universe. There is no mention of geologic time and the standards downplay any reference to the age of the earth, in one case even substituting the words "in the past" for "long ago." Examples of patterns of cumulative change (of which evolution is just one example) such as plate tectonics, fossilization and erosion are also gone.<sup>6</sup>

Deleted also are such environmental science concepts as the sustainability of populations and a question asking students to evaluate “the benefits of burning fossil fuels to meet energy needs against the risks of global warming.” In the latter example, the board substituted a question asking students about the temporary changes in atmosphere caused by cars and trees. Also deleted was the statement that “sexuality is basic to healthy human development.”<sup>7</sup>

These revisions endanger the integrity of science itself. Eliminating such unifying theoretical frameworks as evolution and the Big Bang theory renders science education a rote exercise in memorizing unconnected facts. As the National Science Teachers Association has noted, “Scientific disciplines with a historical component such as astronomy, geology, biology, and anthropology, cannot be taught with integrity if evolution is not emphasized.”<sup>8</sup>

#### ■ HISTORY OF THE CONTROVERSY:

The controversy that culminated in these standards began when a 27-member committee of scientists and educators was appointed to upgrade the state’s science standards. Committee members — some appointed by the State Board of Education itself — spent over a year developing standards, using the National Science Education Standards as a framework,<sup>9</sup> and incorporating input from educators, scientists, citizens and board members. After numerous revisions and months of public hearings at which creationists attacked the proposed standards, State School Board member Steve Abrams escalated the controversy when he proposed his own revisions, among them his definition of creation as “the idea that the design and complexity of the cosmos requires an intelligent designer.”<sup>10</sup> While this language did not make it into the final version, it ignited the statewide battle.

Abrams was aided in his proposed revisions by Tom Willis, president of the Creation Science Association of Mid-America.<sup>11</sup> Willis, a “Young Earth” creationist, cites Genesis as the authority for his contention that the world was created just 6,000 years ago. Young Earthers take exception to Big Bang theory as well as evolution, because it posits a universe 10 to 20 billion years old. Willis also asserts that, contrary to popular belief, dinosaurs lived into the 20th century and were even documented in the 1800s by U.S. government employees because “they just didn’t know it was politically incorrect to report them.”<sup>12</sup> The standards reflect his skepticism in a biased insertion that asks students to identify the

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assumptions and demonstrate the weaknesses in the hypotheses about dinosaur extinction.<sup>13</sup>

The 27-member committee unanimously recommended that the board reject the proposed revisions. Republican Governor Bill Graves strongly and repeatedly urged the board to keep evolution in the standards.<sup>14</sup> The presidents of all of Kansas' public universities wrote to State Board Chairperson Linda Holloway, asking her to reject Abrams' proposed revisions because they "will set Kansas back a century."<sup>15</sup> The board heard testimony demonstrating that removing evolution from the state assessment list would hurt the performance of Kansas students on the SAT and ACT college entrance exams and thereby undermine their ability to enter college.<sup>16</sup>

The board nevertheless ignored the recommendations of its own hand-picked science committee, the governor, nationally renowned scientists, and the leaders of their higher education system, voting 6-4 to remove evolution, Big Bang theory and other key scientific theories and principles from the list of state-assessed science concepts.

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## AFTERMATH OF THE KANSAS BOARD DECISION

The reaction to the Kansas Board's action was immediate, as news headlines around the country can attest. Lest anyone imagine the debate to be purely theoretical, consider the effect the board's decision has *already* had on Kansas' educational institutions, business community, public image, and choice of accurately-written textbooks.

Consider, for example, the warning of a nationally renowned scientist to her colleagues that they stay away from Kansas. Maxine Singer, awarded the Distinguished Presidential Rank Award in 1988 by President Reagan, and winner of the prestigious National Medal of Science wrote, "I would not recommend anyone to take a position in biology in Kansas." Her comment was made in response to a recruitment letter from biology professor Gary Conrad at Kansas State University. "The students who come to Kansas State University will not have had appropriate preparation in biology in high school to undertake serious study," she wrote. "[T]eaching biology without evolution would be like teaching civics without reference to the United States Constitution." Further, "Anyone considering moving to Kansas would have to be concerned about the sort of education that their children would receive."<sup>17</sup>

Professor Conrad agreed, and worries that the vote will hurt universities' ability to recruit top-quality faculty. "What young faculty recruit in

his or her right mind would come to a state where evolution and geologic time scales would not be taught, or watered down when taught?" he asked.<sup>18</sup>

One of the world's largest scientific societies, the American Chemical Society, quickly passed a resolution stating that the Kansas Board's decision "is a giant step backward for Kansas and should sound an alarm for every parent, teacher and student in the United States."<sup>19</sup>

The business community has taken note of the board's decision as well. The president of an Oregon software company scratched Topeka off his list of locations for his company's new regional technical center. Citing the board's vote, he stated that his priority "is whether or not we can count on finding a good selection of well-educated future employees in the area... Following [the board's] decision, that is in doubt." Indiana and Iowa now head the software company's list.<sup>20</sup>

Naturally, such headlines disturb Gov. Bill Graves and local chambers of commerce. Graves' spokesman noted, "We don't want to give them an excuse not to look at Kansas. The governor has a concern this will do just that."<sup>21</sup> On the day of the board's vote, Gov. Graves issued a one-sentence statement: "This is a terrible, tragic, embarrassing solution to a problem that did not exist."<sup>22</sup>

Textbook content has already been affected as well. One Nevada-based publisher has removed a chapter on Kansas geology and paleontology from a state history textbook for fear that it would be otherwise unmarketable. *Kansas: The Prairie Spirit Lives* (working title) no longer makes any reference to fossils, nor mentions that the state had at one time been covered with water. Neither does it mention the mosasaur, an extinct sea lizard whose fossilized remains are displayed at a natural history museum in Hays, Kansas.<sup>23</sup> One Wichita paleontologist called the publisher's action "a unique form of censorship." "The next thing you know, we will be removing the Holocaust from history textbooks because it's objectionable to some people," said Kansas State Board member Bill Wagnon, who voted against the majority.<sup>24</sup>

In the newest wrinkle to this controversy, the board will have to rewrite a substantial portion of the science standards, which rely heavily on the *National Science Education Standards* (published by the National Research Council), *Benchmarks for Science Literacy* (published by the American

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Association for the Advancement of Science) and *Pathways to the Science Standards* (published by the National Science Teachers Association).<sup>25</sup>

Following the board's vote, these three national science organizations denied the board permission to utilize the portions of their standards as revised by the Kansas Board. Their joint statement explains that "By selectively removing specific standards and indicators that correspond to the origins of life and the Earth, many Kansas students will not have formal opportunities to explore and think critically about the evidence for or against one of the most important set of ideas to be developed in the history of science. The elimination of selected aspects of evolutionary theory is thus anathema to both the vision and content of our publications."<sup>26</sup>

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## CREATIONIST STRATEGIES

### ■ STRATEGY 1: CREATIONISM AS SCIENCE

Where creationists once promoted creationism as a religious imperative, supporters now package their beliefs as "better science." Since 1968, when the Supreme Court in *Epperson v. Arkansas* struck down an Arkansas law prohibiting the teaching of evolution on the grounds that the state cannot tailor its curriculum to a particular religious doctrine, creationists have adapted their methods and rhetoric to suit the climate. *Epperson* gave rise to the new name "creation science" to evade charges of religious teaching, as well as to attempts to legislate "balanced treatment" of creationism in science classes.<sup>27</sup> "Balanced treatment" too was struck down by the Supreme Court, in *Edwards v. Aguillard*. The Court ruled a Louisiana "balanced treatment" law unconstitutional on the grounds that it "advances a religious doctrine by requiring either the banishment of the theory of evolution from public school classrooms or the presentation of a religious viewpoint that rejects evolution in its entirety."<sup>28</sup>

However, the Court also stated that teaching "a variety of scientific theories about the origin of humankind to schoolchildren might be validly done with the clear secular intent of enhancing the effectiveness of science instruction," opening the door to the newest "intelligent design" argument.<sup>29</sup>

This most current and sophisticated permutation avoids all reference to God and creationism, seeking to justify creationism through science. However, intelligent design rests on the assumption of an unnamed

“intelligent designer” who created the world and can be inferred through the complexity of living organisms. Because a scientific theory must be based on observation and experimentation in the natural world, and since the existence of an intelligent designer is a matter of faith that cannot be proven or disproven, “intelligent design” theory is by definition not a *scientific* theory.<sup>30</sup> It is this language that Kansas State Board member Abrams attempted to inject into the standards.

*Of Pandas and People* is the signature textbook for “intelligent design” proponents and perhaps the most successful example of this strategy. Subject to fierce debate since publication in 1989 by the Foundation for Thought and Ethics, based in Richardson, Texas, *Pandas* argues that earth’s complexity can only be explained by the existence of an “intelligent agent.” According to *Pandas*’ introduction,

“Walking along a beach you may be impressed by the regular patterns of ripples in the sand. The scene may be artistic but it isn’t likely that you would look around for an artist who might be responsible. A natural cause, you rightly conclude. But if you come across words unmistakably reading ‘John loves Mary’ etched into the sand, you would know that no wave action was responsible for that. Nor would you be likely to imagine that, given enough time, grains of sand would spontaneously organize themselves so uniquely. Rather, you would look around for an intelligent cause: John ... perhaps even Mary.”<sup>31</sup>

*Pandas*’ assertions include the idea that messages encoded in DNA were the result of an intelligent cause and that an intelligent designer shaped clay into living organisms.<sup>32</sup> *Pandas* also rejects the concept of homology (the study of structural similarities in different species to detect evidence of common ancestry). According to *Pandas*, body parts are pre-designed, interchangeable units that can be plugged into biological “circuits” (species): “Like a car engine, biological systems can only work after they have been assembled by someone who knows what the final result will be.”<sup>33</sup>

*Pandas*’ proponents deny that the text promotes creationism by another name. But a glowing book review by the creationist organization Answers in Genesis makes *Pandas*’ intent plain: to inject “creationists’ interpretations” into public schools:

“Intended for textbook use in public schools, this superbly written book has no Biblical content, yet contains creationists’ interpretations for classic evidences usually found in standard textbooks supporting evolution. Junior high and above will appreciate easy-to-follow explanations/arguments for intelligent refutation of evolution theory. Beautifully illustrated, thoroughly researched!”<sup>34</sup>

The Southern Baptist Convention recently reported in its newsletter that ‘intelligent design theory’ is a ‘wedge’ to get religion back into science, and then into the schools.



Creationists appropriate appealing concepts such as freedom of speech, tolerance for diversity, individual choice and opposition to censorship.

Further undermining proponents' claims is the candid statement of *Pandas* co-author Percival Davis, professor of life science at Hillsborough Community College in Tampa, Florida, on his purpose in writing the text: "Of course my motives were religious. There's no question about it."<sup>35</sup> The Southern Baptist Convention recently affirmed Davis' view, saying in its newsletter that "intelligent design theory" is a "wedge" to get religion back into science, and then into the schools.<sup>36</sup>

An equally disturbing example of "religion-free" anti-evolutionary material aimed at public school students entitled *Evolution: Fact or Belief?* is also lauded by Answers in Genesis:

"A powerful, no-holds barred video presentation addressing misguided evolutionary interpretation of geology. Easy-to-absorb graphics for lasting impact. Perfect for 'creation evangelism.' No religious content; can be used in public schools."<sup>37</sup>

No religious content, yet perfect for "creation evangelism" in public schools.

*Of Pandas and People* is currently being reviewed for inclusion in the curriculum in Pratt, Kansas. The proponent is a biologist for the Kansas Department of Wildlife and Parks, who contends that the book is "pure science" and that those who oppose its use are using religion as a means of censorship. He is opposed by such members of the community as Rev. Larry A. Carver, vicar for Episcopal churches in Pratt and several other towns, who believes that most people would interpret *Pandas*' "intelligent designer" as God, which would promote religion in science class in violation of the First Amendment's separation of church and state.<sup>38</sup> Pratt is not alone in this debate; the Foundation for Thought and Ethics claims that this book is being used in all 50 states and around the world.<sup>39</sup>

#### ■ STRATEGY 2: SHIFTING RHETORIC

In 1987, Paul MacKinney, chairman of the Midwest Creation Fellowship, predicted that in the wake of the Supreme Court decision barring "equal time" for creationism, the movement would need to change its public relations and legal strategy in order to portray itself as a victim of discrimination.<sup>40</sup>

He was right. Creationist proponents appropriate such immensely appealing concepts as freedom of speech, tolerance for diversity, individual choice, and opposition to censorship. "*Pandas* stalked by censors," declaimed Phyllis Schlafly upon the failure of the text to

receive a “fair” hearing by Alabama’s textbook committee.<sup>41</sup> “Those who oppose censorship are not as zealous for free speech as they say. Sexual perversity, gory violence — anything goes — except if you question one of their most cherished beliefs: evolution,” criticized James Dobson’s *Focus on the Family* magazine on the “blacklist[ing]” of creationist scientists.<sup>42</sup> Concerned Women for America chairwoman Beverly LaHaye rejoiced that the Kansas Board vote was “a return to freedom, federalism, and fairness in Kansas’ public schools,” praised the return of free thought, and noted that “Historically, it has been the totalitarian societies that suppressed such activities in schools.”<sup>43</sup> Such charges ignore the fact that students can and do learn about creationism in appropriate classes, such as comparative religion or history courses, where they learn about the beliefs of different religious groups.

“Anti-censorship” language also made its way into the Kansas science standards. In the introduction, the board first deleted language addressing the need for teachers to treat student beliefs with respect. It likewise deleted recommendations that, should a student bring up an issue outside the realm of science, the teacher should “encourage the student to discuss the question further with his or her family and clergy.” After deleting the entire paragraph relating to Kansas state statutes’ protection of students’ religious freedom, the board inserted: “No evidence or analysis of evidence that contradicts a current science theory should be censored.”<sup>44</sup>

Pro-creationist board President Linda Holloway clearly understood the implication of this revision when she told a national Religious Right magazine that the inserted statement would free teachers to address the many objections to evolutionary theory, and thereby made all the trouble worthwhile. “I’d fall on my sword over this issue,” she told *Citizen*, *Focus on the Family’s* magazine, “I wasn’t going to let evolution become the central focus of science in Kansas.”<sup>45</sup>

The appeals not to censor “alternative theories” of creation were enormously successful in Kansas. Creationists argue: Why not present both, and let the student decide? On the face of it, this seems fair and eminently reasonable. Yet in substance, the proposal is no different than having a math teacher walk into class and write on the board  $2+2=4$  next to  $2+2=5$ , and telling the class to decide. Ironically, this is the relativistic approach for which conservatives have traditionally attacked liberals.

**The board deleted from the Kansas science standards an entire paragraph on state laws that protect students’ religious freedom.**

The National Academy of Sciences said, 'to reintroduce [creationism] into the public schools ... would be akin to requiring the teaching of Ptolemaic astronomy.'

These calls for “fairness” in science may sound appealing but they are bad science: evolution is in fact the only *scientific* theory regarding the origin and modification of species. There is ongoing debate within the scientific community as to *how* evolution occurs, but virtually no question *that* it occurs.<sup>46</sup> “Alternative theories” like intelligent design posit an intelligent hand in creation that is not subject to observation and experimentation and are therefore not scientific by definition. Exposure to inaccurate information is not a measure of freedom of thought. The National Academy of Sciences sums up the potential detriment to students’ learning in the following way:

“[T]o reintroduce [creationism] into the public schools at this time as an element of science teaching would be akin to requiring the teaching of Ptolemaic astronomy or pre-Columbian geography ... In rejecting evidence for the great age of the universe, creationists are in conflict with data from astronomy, astrophysics, nuclear physics, geology, geochemistry and geophysics” as well as evidence provided by “paleontology, comparative anatomy, biogeography, embryology, biochemistry, [and] molecular genetics.” “Incorporating the teaching of such doctrines into a science curriculum *stifles the development of critical thinking patterns in the developing mind* and seriously compromises the best interests of public education. [emphasis added]”<sup>47</sup>

#### ■ STRATEGY 3: PITTING SCIENCE AGAINST FAITH

Not new but enormously popular is the erroneous argument that evolution precludes belief in God and that all evolutionists are perforce atheists. Yet in fact many scientists are religious, and most mainline religions see no conflict between their faith and evolutionary theory. In pleading for good science education, Kansas university presidents wrote, “The simple fact is, demonstrated in our universities every day, that people can believe both in God and evolution.”<sup>48</sup>

Pope John Paul II reaffirmed his support for evolutionary theory and scientific inquiry in 1996, reiterating a similar statement he made to the Pontifical Academy of Sciences almost 20 years ago.<sup>49</sup> In fact the Catholic Church went on record in 1950 with Pope Pius XII, who wrote that there is “no opposition between evolution and doctrine of the faith about man and his vocation.”<sup>50</sup>

Nonetheless, Pope John Paul II’s statement incurred the wrath of the creationist group Answers in Genesis, which charged that the Pope “contradicts the teaching of Jesus, the apostles, and even church tradition — that Adam’s literal Fall in a literal Garden of Eden caused death and

suffering in the world.” Citing syndicated columnist Cal Thomas, AiG claimed that the Pope had succumbed to the tyranny he had fought all his life by accepting a “philosophy that stands at the core of communism.”<sup>51</sup>

Catholicism is not alone in its recognition that scientific inquiry and religious faith do not conflict. Merely a few decades after Darwin published *The Origin of Species* in 1859, the Church of England accepted evolution by natural selection.<sup>52</sup> *Voices for Evolution*, published by the National Center for Science Education in California, is a compendium of statements supporting evolution made by scientific organizations, educational groups and religious organizations. The latter includes the United Presbyterian Church in the U.S.A; Lutheran World Federation; United Methodist Church; Episcopal Church, General Convention; Unitarian Universalist Association, American Jewish Congress, Roman Catholic Church, and many more.<sup>53</sup>

For their part, scientists do not contend that evolution precludes faith. Charles Darwin himself wrote, “It seems to me absurd to doubt that a man may be an ardent Theist and an evolutionist.”<sup>54</sup> The overwhelming majority of scientists regard religion and science as separate realms of inquiry that do not contradict each other. As America’s largest professional society of physicists puts it, “Scientific inquiry and religious beliefs are two distinct elements of the human experience. Attempts to present them in the same context can only lead to misunderstandings of both.”<sup>55</sup>

#### ■ STRATEGY 4: ‘IT’S JUST A THEORY’ THEORY

The common charge of creationists, that evolution is “just a theory,” distorts the term “theory” as used in the scientific context. In science, a theory is a testable explanation based on a large body of evidence.<sup>56</sup> Because creationists are prevented by law from teaching creationism as science, the next best option is to discredit evolution, primarily through misinformation, mischaracterization of the fossil record, and misrepresentations about the healthy debate within the scientific community regarding the way in which evolution occurs in a given instance.

“Theories do not become facts; they explain facts,” states the New Orleans Geological Society. To a scientist, a theory “is a concept firmly grounded in and based upon facts, contrary to the popular conception that it is a hazy notion or undocumented hypothesis.” Unlike faith, “science is not a belief system. It is simply a method for studying and accumulating knowledge about nature.”<sup>57</sup> Like evolution, gravitational theory,

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atomic theory, plate tectonics, Copernican theory, geological theory of rock formation, and Einstein's theory of relativity are all theories based on massive bodies of evidence. All are subject to modification in light of new scientific evidence.

While requiring a physics teacher to teach gravitational theory as "just a theory" is patently absurd, this is precisely how creationists hope to weaken support for evolution. In Alabama, for example, the state school board ordered that a disclaimer be inserted into all biology textbooks.

The disclaimer describes evolution as "a controversial theory some scientists present as a scientific explanation for the origin of living things.... No one was present when life first appeared on earth. Therefore, any statement about life's origins should be considered as theory, not fact."<sup>58</sup> Former Republican Governor Fob James, who at the time was also president of the state school board, pushed for inclusion of the disclaimer, noting that he was taught evolution but "they said it was just a notion, and no more than a theory ... And if one wanted to know something about the origin of life you might want to look at Genesis and you can get the whole story, period."<sup>59</sup> A similar disclaimer was recently struck down by the United States Court of Appeals' Fifth Circuit. The Tangipahoa, Louisiana school district's disclaimer, read to all elementary and secondary school students before learning about evolution, was found to advance and maintain a particular religious viewpoint — that of the Biblical version of creation — in violation of the Establishment Clause of the Constitution.<sup>60</sup>

While it would be absurd to require physics teachers to teach gravitational theory as if it were 'just a theory,' this is precisely how creationists hope to weaken support for evolution.

Creationists also seek to exploit the general public's confusion regarding the ongoing scientific debate over evolution. "There is no longer a debate among scientists over *whether* evolution has taken place. There is considerable debate about *how* evolution has taken place ..." states the National Science Teachers Association. With regard to evolutionary theory, "there is abundant and consistent evidence from astronomy, physics, biochemistry, geochronology, geology, biology, anthropology and other sciences that evolution has taken place."<sup>61</sup> Says Michael Hadfield, past president of the American Society of Zoologists, "There's heated debate [in the scientific community], but it's not over whether evolution is reality ... When it comes to the idea of mutation and natural selection causing a differentiation of species, it's settled for 99 percent, if not 100 percent, of us."<sup>62</sup>

## ■ STRATEGY 5: LOCAL CONTROL

“We just handed the baton to the locals. I am very pro-local control,” said Kansas Board of Education member Mary Douglass Brown in defense of her vote to eliminate evolution from the state standards.<sup>63</sup>

Brown’s remark obscures the facts of this vote: teaching evolution was *already* a matter of local control in Kansas. Yet school districts do not generally exercise their option to eliminate it. Proponents might argue that concern over the state test would have precluded local districts from taking this action, but board members’ willingness to jeopardize student performance on such high-stakes tests as the SAT and ACT substantially undermines this argument.

Board members’ local control argument becomes even more suspect in light of their previous votes. These same members who voted to eliminate evolution in the name of local control voted to eliminate local control for programs with which they disagreed. For example, conservative board members opposed the state’s school-to-work program on ideological grounds, claiming it was a federal program with strings attached — a common conservative argument against such voluntary federal programs as Goals 2000.<sup>64</sup> Yet the school-to-work program was completely voluntary: each local school district determined whether to participate; if the district opted in, it had the further option of selecting among many programs. But conservatives on the state board had no problem eliminating that already-existing local control option.

These same board members similarly micromanaged the administration of the 4th grade statewide math tests by eliminating the use of calculators in some sections against the recommendation of the math committee, and pulling critical thinking questions from parts of the test because they wanted only “objective” scoring.<sup>65</sup> (Ironically, these same board members argue that teaching evolution and creationism will allow students to develop their critical thinking skills by choosing the scientific theory that makes sense to them.)

John Staver, co-chairperson of the 27-member science standards committee, finds conservative board members’ local control argument unconvincing, noting that the “board has been very pro-active in creating state standards in all of the subject areas. To single out one theoretical framework, evolution, represents a major inconsistency.”<sup>66</sup>

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Interestingly, in the publicity following the board's vote, virtually all presidential candidates turned down the opportunity to support good science education, and instead took refuge in the "local control" argument. Republican frontrunner George W. Bush affirmed both local control and the teaching of creationism. Sen. John McCain dodged the issue by reverting to the local control argument, while Steve Forbes was more explicit in his support for creationism. Religious Right candidate Gary Bauer went even further in his rejection of evolutionary theory while reiterating his support for local control. Vice President Al Gore, generally known for his appreciation for science education, surprised supporters and opponents alike by affirming local school boards' right to decide, quickly amending his statement to say this should be done within the context of religious courses. Presidential hopeful Bill Bradley did not comment specifically on the Kansas Board's decision, but affirmed his support for teaching evolution in public schools.<sup>67</sup> This appreciation for local primacy comes just as federal and state governments assert their influence on standards design, assessment and reform legislation.

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Gospel.'**

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#### PROponents OF CREATIONISM

Several well-known creationist think tanks, as well as a number of local groups, involve themselves with such local actions as school board races and curriculum design. In keeping with the strategic trend toward promoting "scientific" bases for creationism, these groups attempt to establish credibility through the testimony of scientists, as opposed to clergy. Creationists emphasize that their scientists have degrees from prestigious institutions and use them in an effort to validate their claims.

The Institute for Creation Research, founded in 1970<sup>68</sup> and based in California, is one of the best-known creationist organizations. ICR founder and President Emeritus Henry Morris is considered "the founder of the modern creationist movement."<sup>69</sup> According to Morris, "Creation is the basis of all real science, of true Americanism ... and of true Christianity," and "all things in the Universe were created and made by God in the six literal days of the Creation week."<sup>70</sup> Current President John Morris writes that ICR's mission is "to see science return to its rightful God-glorifying position ... [and] removing roadblocks to the Gospel." Its graduate school "exists to train students in scientific research and teaching skills, preparing effective warriors for the faith."<sup>71</sup>

ICR finds evolutionary theory dangerous because it “leads to the notion that each person owns himself, and is the master of his own destiny. This is contrary to the Bible teaching that mankind is in rebellion against God.” While some creationists advocate equal time for creationism and evolution, ICR would completely eliminate evolution, “the anti-God conspiracy of Satan himself,” from public school curricula on the grounds that non-believers in creationism “must ultimately be consigned to the everlasting fire prepared for the devil and his angels.”<sup>72</sup>

A newer group, the Kentucky-based Answers in Genesis (AiG), specializes in seminars to spread the creationist word. AiG weighed in on the Kansas board’s vote with an ad in *USA Today* promoting the book *Refuting Evolution*. Proclaiming “THE TRUTH ABOUT EVOLUTION EXPOSED!,” the ad urged people to “Read the Book Kansas State School Board Members received and leading evolutionists don’t want you to know about!”<sup>73</sup>

AiG states that “The days in Genesis do not correspond to geologic ages, but are six (6) consecutive twenty-four (24) hour days of Creation,” and makes it clear that attempts to integrate faith and science in any manner that contradicts this literal interpretation of the Bible are heretical. According to AiG, “By definition, no apparent, perceived, or claimed evidence in any field, including history and chronology, can be valid if it contradicts the Scriptural record.” This statement makes clear that AiG rejects the fundamental principles of science — those of observation and experimentation. To help “emphasize a literal viewpoint of Biblical history,” AiG is in the process of building a Creation Museum in Kentucky as a “wonderful alternative to the evolutionary Natural History museums that Satan is using to influence so many minds.”<sup>74</sup>

AiG’s political orientation is made plain through its literature. Non-Christians are damned because “those who do not believe in Christ are subject to everlasting conscious punishment, but believers enjoy eternal life with God.” The “evil fruits of evolution” are to blame for “the tragedy of abortion” as well; the breakdown of the family, homosexuality, lawlessness and pornography are also related to lack of faith in creationism.<sup>75</sup>

AiG executive director Ken Ham derides Christians who abide by the idea that they must tolerate “all religious ways, beliefs and practices.” Referring to an organization in his native Australia called “Toleration”

**According to Answers in Genesis, ‘the evil fruits of evolution’ include abortion, homosexuality, lawlessness, pornography and the breakdown of the family.**



that opposes teaching creationism, Ham says, “Do you know what tolerance of all religious ways, beliefs and practices means? It means an intolerance of absolutes. Christ said, “I am THE WAY,” (not one of the ways), — THE TRUTH (not one of several different and acceptable approaches to truth). If anyone is intolerant of absolutes, they are intolerant of Christ.”<sup>76</sup>

The Creation Research Society (CRS), one of America’s oldest creationist groups, was founded in Michigan in 1963. Established to circumvent a problem common to its founders — namely, their inability to be published in established, peer-reviewed scientific journals — CRS’ primary function is to publish creationist research in its *Creation Research Society Quarterly*.<sup>77</sup>

CRS’ directory of creationist groups within the U.S. lists almost 100 organizations.<sup>78</sup> Many of these are small local groups; however, such groups can have enormous influence in school board elections, text-book selection and curriculum design.

**Project Educate, a Wichita group that supports the board’s decision to change the standards, predicts the vote ‘will encourage local people to take on local school boards.’**

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## CONCLUSION

As with many attempts to limit intellectual inquiry, the Kansas board’s decision to de-emphasize evolution may have done just the opposite. Says one high school biology and genetics teacher, “I think there is more interest in evolution now that this has happened ... It [the state board’s decision] has almost backfired.” An earth science and astronomy teacher at another high school comments, “It’s funny — it has caused me to spend more time on this than usual... Kids have more questions.”<sup>79</sup>

At the university level, two student senates have adopted resolutions condemning the board’s action and supporting the teaching of evolution and three university faculties have done the same. Other universities are considering similar resolutions, and symposia are ongoing. These resolutions may gain legislative support: Kansas

House Appropriations Committee Chairman Rep. David Adkins is considering offering legislation that would amend the Board of Regents’ university admissions policy to require students to complete coursework in evolution.<sup>80</sup> Wichita State University minister Teri Messner commented “I have yet to meet a student on campus that agrees with the Board of Education decision ... All the students are very passionate about having students exposed to learning.”<sup>81</sup>

These efforts are encouraging, and mitigate the predictions of Kansas students' education prospects. But many anticipate that the vote will have a chilling effect, as schools and individual teachers are pressured to eliminate or downplay evolution. The leader of Project Educate, a Wichita group that supports the board's decision, is doubtful that creationists will make much headway in large districts but predicts that the board's vote "will encourage local people to take on local school boards" in smaller communities. She cites Pratt's consideration of *Of Pandas and People* as a hopeful sign from her perspective.<sup>82</sup>

Beyond Kansas, the debate continues in statehouses and school districts around the country and shows no evidence of letting up. Kentucky's reluctance to even permit the word evolution to appear in that state's science standards points to the level of controversy. Though Kentucky officials say it is a change of form, not content, teachers are concerned that they cannot count on the state to justify teaching good science.<sup>83</sup>

At the core of this debate is whether we as a nation will stand up to support rigorous science education for all students. Every presidential candidate campaigns on support for rigorous, high-standards education, yet virtually all caved in to the "local control" argument. Real education requires accurate information and free inquiry. Otherwise the recent experience of one Texas teacher will be replayed in classrooms across the country. This teacher says:

"[Her students believe] that men have one less rib than women, and that the science textbooks are inaccurate in their portrayals of human skeletons ... [they have been taught] to answer questions such as 'Why is there air in the desert if there are no plants?' with 'Because God put it there.' And if I count the answer wrong, I have hell to pay."<sup>84</sup>

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- <sup>2</sup> "State Skirts Evolution Dispute: Illinois Standards Dodged Issue Long Before Kansas Flap," Chicago Tribune, October 24, 1999.
- <sup>3</sup> "Oklahoma panel OKs disclaimer on evolution," Washington Times, November 11, 1999.
- <sup>4</sup> "Creation vs. Evolution Debate Rages Elsewhere," Wichita Eagle, August 12, 1999.
- <sup>5</sup> "Evolution Gets Boot, 6-4, from State BOE," Wichita Eagle, August 12, 1999.
- <sup>6</sup> "I Teach, Therefore I Worry, in Kansas," Brad Williamson, Wichita Eagle, August 29, 1999; "Comparison of the 27 Member Writing Team's Version and the Final Adopted Science Standards From the August 11th Kansas Board of Education Meeting," Kansas Citizens For Science Update, October 7, 1999, p. 1. For a complete collection of online documents regarding the Kansas State Science Standards revisions, including a comparison of final revisions, please see <http://rnaworld.bio.ukans.edu/evolve/ksboe/ksboe.html>
- <sup>7</sup> "Comparison of the 27 Member Writing Team's Version and the Final Adopted Science Standards From the August 11th Kansas Board of Education Meeting," Kansas Citizens For Science Update, October 7, 1999.
- <sup>8</sup> "An NSTA Position Statement: The Teaching of Evolution," National Science Teachers Association, 1997, p. 2.
- <sup>9</sup> The National Science Education Standards, published by the National Research Council, were created by scientists and educators across the country to serve as a model that local and state boards can elect to use in creating their standards and curricula. To see an online version of the National Science Education Standards, go to <http://books.nap.edu/html/nses/html/>.
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- <sup>15</sup> "Graves Blasts Science Standards," Wichita Eagle, August 7, 1999.
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- <sup>17</sup> "Scientist Urges Biology Professors to Stay Away," Wichita Eagle, August 27, 1999.
- <sup>18</sup> "Scientist Urges Biology Professors to Stay Away," Wichita Eagle, August 27, 1999.
- <sup>19</sup> "Chemists' Group Criticizes Board's Evolution Decision," Wichita Eagle, August 24, 1999.
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- <sup>23</sup> "Chapter of Book Removed Following Vote," Topeka Capital-Journal, August 22, 1999.
- <sup>24</sup> "Chapter of Book Removed Following Vote," Topeka Capital-Journal, August 22, 1999.
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**SABOTAGING SCIENCE:**

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**CREATIONIST STRATEGY**

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**IN THE '90s**

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