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The SEDIMENTARY Record

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INSIDE: THE BATTLE OVER EVOLUTION: HOW GEOSCIENTISTS CAN HELP

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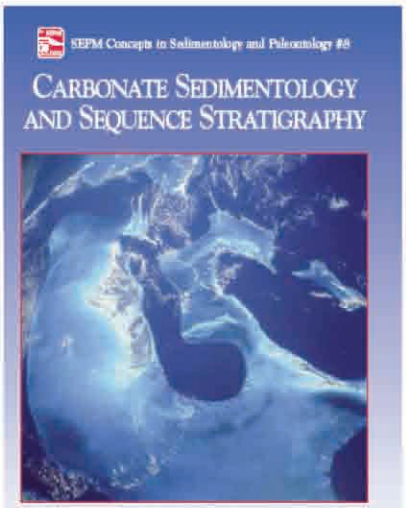

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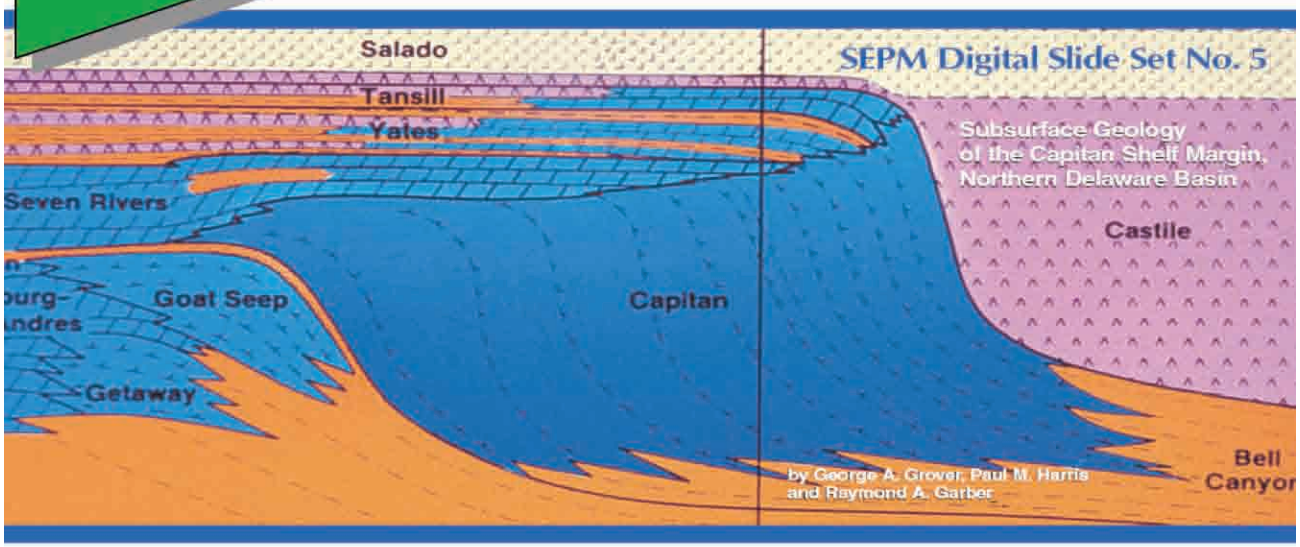

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On the Cover: The Grand Canyon—millions years old or thousands years old? See the article by G. Branch, this issue. Photograph by Alan Gishlick.

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The Battle Over Evolution: How Geoscientists Can Help

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ABSTRACT

Eighty years after the Scopes trial, evolution is still under attack in the public school science classroom. Geoscientists are in a unique position to help, but in order to do so, they need to appreciate the history of the controversy, to understand the variety of ways in which creationists attempt to compromise evolution education, and to work together to use their scientific expertise effectively in the education policy arena.

CURRENT CHALLENGES TO EVOLUTION EDUCATION

It is eighty years after the Scopes trial, and the media is full again with stories about battles over the place of evolution in the public school science curriculum. Unfortunately, not all the stories are mere nostalgic reminiscences of the eight scorching days in July 1925, when John Thomas Scopes was on trial in a Tennessee courtroom for violating the state's Butler Act, which forbade teachers in the public schools "to teach any theory that denies the story of the Divine Creation of man as taught in the Bible, and to teach instead that man has descended from a lower order of animals." Indeed, the Scopes trial is usually cited as a harbinger of current battles over evolution, whether in the classroom, the courtroom, or the legislature. And there is, unfortunately, no shortage of such battles on which to report.

In the small Pennsylvania town of Dover, for example, after a summer of wrangling over biology textbook adoption, the school board adopted a policy in October, 2004 providing that "[s]tudents will be made aware of gaps/problems in Darwin's Theory and of other theories of evolution including, but not limited to, intelligent design." The board subsequently required a disclaimer to be read aloud in the classroom, according to which evolution is a "Theory ... not a fact," "Gaps in the Theory exist for which there is no evidence," and "intelligent design" is a credible scientific alternative to evolution. After the teachers refused to read the disclaimer, citing their professional responsibilities, administrators were forced to do so. A lawsuit challenging the constitutionality of the policy is scheduled to begin trial in September 2005.

Recently, a different antievolution policy in Cobb County, Georgia, was successfully challenged in the courts. Since 2002, labels about evolution (Figure 1) were affixed to textbooks in the Cobb County School District, warning students, "This textbook contains material on evolution. Evolution is a theory, not a fact, regarding the origin of living things. This material should be approached with an open mind, studied carefully and critically considered." In a decision issued in January 2005, a federal judge ruled that, by derogating evolution and in effect promoting religious objections to it, these stickers violated the Establishment Clause of the First Amendment of the Constitution. But the case is under appeal to the Eleventh Circuit Court of Appeals, so the story is by no means over.

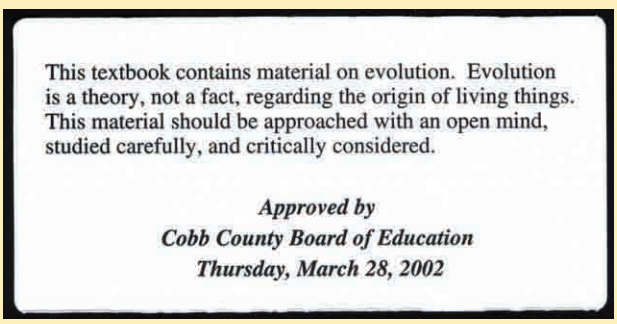


Figure 1. The Cobb County evolution disclaimer.

In Kansas, a creationist majority on the state board of education is sedulously attempting to compromise the place of evolution in the state's science standards, currently under revision. In order to provide political cover, they orchestrated a hearing at which a parade of witnesses expressed their support for a so-called minority report version of the standards (written with the aid of a local "intelligent design" organization), complained of repression by a dogmatic evolutionary establishment, and claimed to have detected atheism lurking "between the lines" of the draft science standards. As previously in 1999, the board is poised to compromise the teaching of evolution in Kansas in order to gratify those who regard it as a threat to their sectarian religious beliefs.

Dover, Cobb County, and Kansas are only the three most significant assaults on evolution at the moment. The problem is endemic throughout the United States. It is also a problem that is primarily limited to the United States, although the rest of the developed world is not immune from such assaults. There have been recent episodes in the United Kingdom, Italy, the Netherlands, and Serbia, for example, but in general they are sporadic and viewed as aberrations. Part of the reason for the persistence of the problem here is the existence of a massive, if disunified, network of antievolution groups that produces a steady stream of antievolution propaganda and that inspires, and occasionally coordinates, antievolution activity around the country. This movement prospers because of the prevalence of antievolution sentiment at the grassroots level.

According to a pair of recent national polls, a majority—60–65%—favors teaching creationism along with evolution, while a large minority—37–40%—favors teaching creationism instead of evolution (Figure 2). The situation is not quite as dire as these data suggest. In a poll that offered respondents a wider array of choices, only 13% favored teaching creationism as a "scientific theory" along with evolution, and only 16% favored teaching creationism instead of evolution (Figure 3). But it is alarming to think that even 29% of the population considers creationism to merit a place in a science curriculum. Part of the

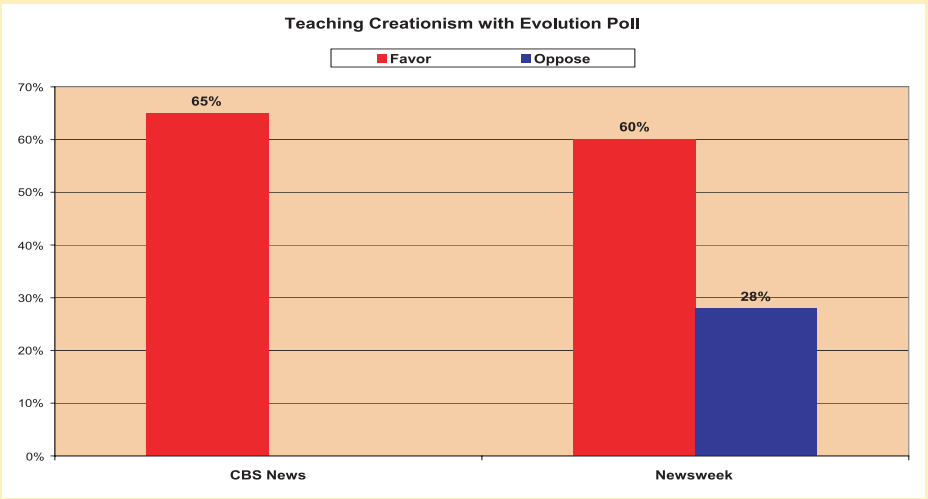
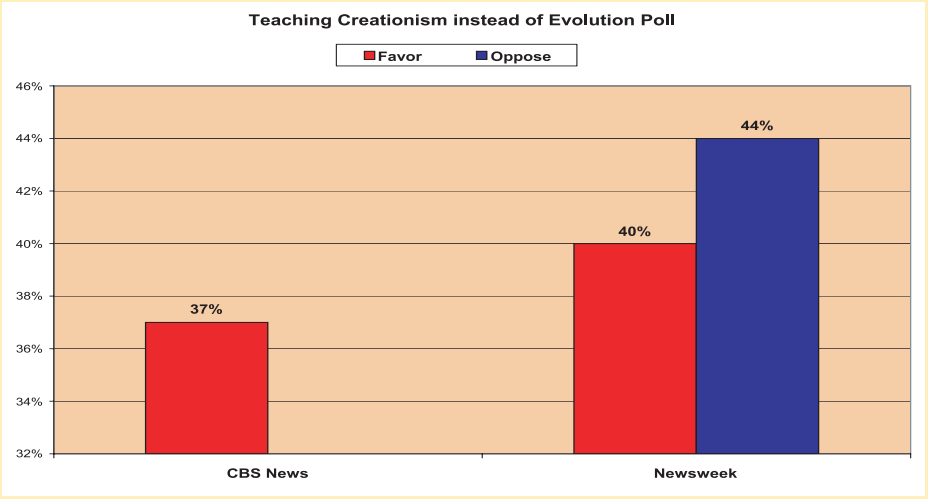


Figure 2. Poll data on teaching creationism along with or instead of evolution. Sources: CBS News, nationwide random sample of 885 adults interviewed by telephone November 18–21, 2004, margin of error +/- 3%; Newsweek*, nationwide random sample of 1009 adults interviewed by telephone December 2–3, 2004, margin of error +/- 3%. Neither CBS News's report nor* Newsweek*'s report indicated the exact wording of the questions asked; no indication of the number of respondents who opposed teaching creationism was present in CBS News's report.*



problem is that the strength of the overwhelming evidence for evolution is not generally understood. Poll data suggest that the population is split almost evenly between thinking that evolution is supported by the evidence, thinking that it is not, and not knowing whether it is or not (Figure 4). In contrast, the National Academy of Sciences describes the evidence for evolution as "overwhelming" (NAS, 1999). It is not mere scientific illiteracy that is at the root of the problem; it is instead the notion that evolution is antithetical to religion, as a review of the history of the antievolution movement shows.

FROM SCOPES TO "INTELLIGENT DESIGN"

The trajectory of the antievolution movement in the United States is sinusoidal. Whenever there is a significant change in the extent or quality of evolution education, a backlash quickly materializes. Accordingly, historians often identify three phases in the antievolutionist movement. The following account is indebted to Larson (2003). The first phase of the antievolution movement, which began after World War I, involved attempts to ban evolution in response to its appearance in high school textbooks around the turn of the century. Due in part to the rise of organized fundamentalism, legislation such as the Butler Act, under which Scopes was prosecuted, was widely proposed and sometimes enacted. Although Scopes's conviction was overturned on appeal, the trial exerted a chilling influence on science education. Under the pressure of legislation, administrative decree, and public opinion, evolution quickly disappeared from textbooks and curricula across the country.

It was not until after the launching of Sputnik that evolution returned in force to the public school science classroom. Fearing a loss of scientific superiority to the Soviet Union, the federal government funded a massive effort to improve science education, which included, naturally, a strong emphasis on evolution. Particularly conspicuous were the biology textbooks produced by Biological Sciences Curriculum Study, established in 1958 by a grant from the National Science Foundation to the education committee of the American Institute of Biological Sciences. The Tennessee legislature repealed the Butler Act in 1967, anticipating the Supreme Court's 1968 decision in *Epperson v. Arkansas* that laws prohibiting the teaching of evolution violate the Establishment Clause of the First Amendment. The time was ripe for a new phase of the antievolution movement.

After it was no longer possible to ban the teaching of evolution, it became necessary to argue that creationism was a viable scientific alternative that deserved treatment alongside evolution. During the second phase of the antievolution movement, science teachers, school administrators, and textbook publishers found themselves pressured to provide equal time to "scientific creationism" or "creation science"—terms that were coined to emphasize the supposedly scientific, rather than the

DYG/PFAW Poll	
Teach only evolution in science class	**66%**
... without mentioning creationism at all	20%
... discussing creationism as a "belief" in science class	29%
... discussing creationism as a "belief" in a non-science class	17%
Teach creationism along with evolution	**17%**
... in science class	13%
... somehow (not sure)	4%
Teach creationism instead of evolution in science class	**16%**
No opinion	**1%**

Figure 3. Poll data on teaching creationism along with or instead of evolution. Source: DYG/People for the American Way, nationwide random sample of 1500 adults interviewed by telephone November 3–12, 1999, margin of error +/- 2.6%. After Evolution and Creationism In Public Education: An In-depth Reading Of Public Opinion *(2000), p. 15; available on-line at http://www.pfaw.org/pfaw/dfiles/file_36.pdf.*

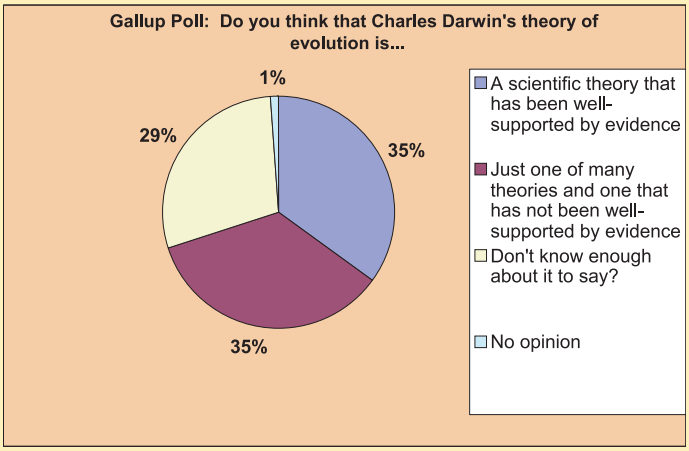


Figure 4. Poll data on the evidence for evolution. Source: Gallup, nationwide random sample of 1016 adults interviewed by telephone November 7–10, 2004; margin of error +/- 3 %.

scriptural, basis of creationism. And creationists started to prepare their own textbooks, such as the Institute for Creation Research's (1974) *Scientific Creationism* (Figure 5), for use in the public schools.

In 1980, scientific creationism received a boost from Republican presidential nominee Ronald Reagan, who endorsed teaching creationism whenever evolution was taught. But the writing was on the wall for the equal time strategy: first in a federal district court (*McLean v. Arkansas*, 1982) and then in the Supreme Court (*Edwards v. Aguillard*, 1987), the teaching of creationism was ruled to violate the Establishment Clause of the First Amendment.

The decision in *Edwards v. Aguillard* was fatal to the ambitions of scientific creationists to have their beliefs taught in the public schools. Prominent among these beliefs are that the earth and the universe are relatively young (on the order of 6,000-10,000 years, consistent with Ussher's chronology), that the earth was inundated by a global flood responsible for a mass extinction and for major geological features such as the Grand Canyon, and that evolution is impossible except within undefined but narrow limits (since God created living things to reproduce "after their own kind"). However, not all creationists accepted all of these claims. Progressive creationists accept a literal reading of the Bible that allows for the great age of the universe and the earth and the local nature of Noah's flood, but still insisting on the impossibility of evolution. Indeed, scientific creationism's acceptance of a young earth and a global flood were, arguably, deviations from the main stream of the antievolutionist movement, which was ready to reassert itself.

A scant two years after *Edwards v. Aguillard*, "intelligent design" was introduced to a wide audience, in *Of Pandas and People* (Figure 6), produced by a fundamentalist organization called the Foundation for Thought and Ethics. Intended for use as a supplementary biology textbook, *Pandas* pioneered both the term "intelligent design" and the characteristic "intelligent design" strategy, of trying to maintain a big tent under which creationists of all persuasions were welcome to shelter. Thus unlike the Institute for Creation Research's (1974) *Scientific Creationism*, which unabashedly argued for a 6000-year-old earth, *Pandas* is shamefully neutral: "Some ["design proponents"] take the view that the earth's history can be compressed into a framework of thousands of years, while others adhere to the standard old earth chronology" (Davis and Kenyon, 1993, p. 92). Its treatment of the fossil record, however, eschews the "flood geology" of scientific creationism in favor of a progressive creationist line that "fossil types are fully-formed and functional when they first appear in the fossil record" (Davis and Kenyon, 1993, p. 22)—as if to suggest separate acts of divine creation.

Calculated to appeal to a broad range of creationists, provided with a deceptive facade of intellectual scrupulousness (Dornbos, 2004), funded lavishly by religious right tycoons, and crafted (it was hoped) to survive constitutional scrutiny by maintaining a tactical silence about the identity of the designer, "intelligent design" was ready to try to replace scientific creationism as the driving force in the antievolution movement. (For a combative but rigorous exposé of "intelligent design," focusing on its notorious "Wedge Strategy," see Forrest and Gross, 2004.) Concomitantly, as states began to introduce state science standards, which provided guidelines for local school districts to follow in their individual science curricula, the treatment of evolution was improving, penetrating even to districts where creationism was taught—Supreme Court or no Supreme Court—or evolution was downplayed or omitted altogether. (The importance of state science standards was cemented by the federal No Child Left Behind Act, enacted in 2002, which requires states to develop and periodically revise standards.) The stage was set for the third phase of the antievolutionist movement, which is going on today.

WHERE CREATIONISM STRIKES

Antievolutionism is not limited to the public schools; any public exposition of evolution is likely to elicit a backlash. For example, a proposal to add a creationist display in the Tulsa Zoo in Oklahoma was recently approved and then reversed; a handful of theaters associated with museums have reportedly declined to screen several IMAX films due to their evolutionary content; and bookstores at Grand Canyon National Park overseen by the National Park Service are still peddling a book expounding the scientific creationist account of the canyon's formation. Examples could be multiplied. Nevertheless, today, as in the Scopes trial eighty years ago, the controversy over evolution is primarily focused on the public school science curriculum. Due to the radically decentralized nature of the educational system in the United States—there are over 15,000 local school districts (Figure 7)—such controversies may arise at different levels, from the individual classroom to the state government, or even, rarely, the federal government itself (Branch and Scott, 2003).

At the level of the individual classroom, teachers may themselves be creationists, or may mistakenly think it fair to present creationism along with evolution, or may decide to omit evolution to avoid controversy. In a survey of Oklahoma biology teachers, for

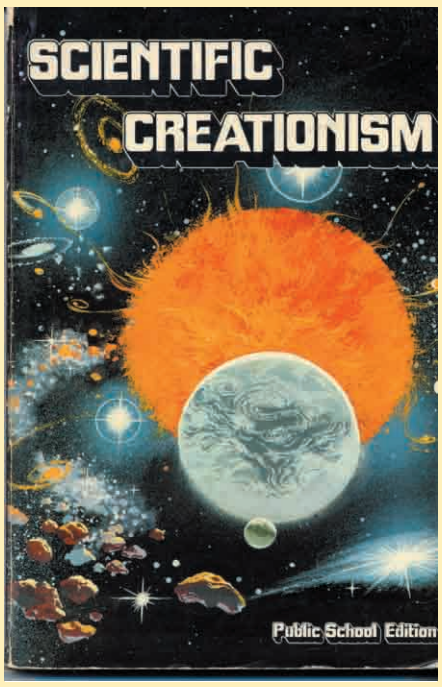


Figure 5. Scientific Creationism*: a textbook advocating creation science.*

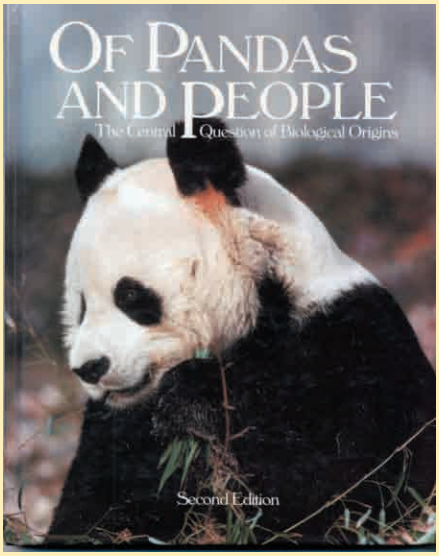


Figure 6. Of Pandas and People*: a textbook advocating "intelligent design."*

example, 12% favored teaching creationism only, 42% favored teaching creationism and evolution, and 22% favored teaching neither (Weld and McNew, 1999). In a recent informal survey among members of the National Science Teachers Association, 30% indicated that they experienced pressure to omit or downplay evolution and related topics from their science curriculum, while 31% indicated that they felt pressure to include nonscientific alternatives to evolution in their science classroom (NSTA, 2005). If nobody is paying attention, poor evolution education in individual classrooms can go unchecked. In Bristol, Virginia, for example, a teacher recently agreed to stop using a samizdat textbook entitled *Creationism Battles Evolution*—after using it for fifteen years without recorded protest.

Because the local press often reports on school board meetings, antievolution proposals adopted by administrators or board members are less likely to escape notice. Two of the three vignettes above—Dover, Pennsylvania, and Cobb County, Georgia—involved actions taken by school boards that compromised the teaching of evolution in their districts in response to the antievolution sensibilities of a segment of their constituencies, even over the protests of their own science teachers. Due to the increased likelihood of media scrutiny of such actions, it is common for such proposals to undergo hasty refinement. As introduced, they may call for teaching scientific creationism or "intelligent design," but after their proponents realize that such policies are constitutionally problematic, they often rewrite them to require disclaimers about evolution (as in Cobb County) or call for "teaching the controversy" about evolution—that is, teaching evolution in such a way as to instill scientifically unwarranted doubts about it (Scott and Branch, 2003a).

At the state level, the most conspicuous activity is often legislation. During the first half of 2005, antievolution legislation was introduced in at least twelve states, including calls for the teaching of scientific creationism (Mississippi), the teaching of intelligent design (Arkansas, New York, Pennsylvania), or forms of "teaching the controversy" (Alabama). Such bills typically languish and die in committee, however, and it is the development of state science standards—as required by the No Child Left Behind Act—that now offers creationists a better opportunity for mischief. Kansas was the pioneer, starting in 1999, when the state board of education rewrote a draft set of science standards to remove evolution, deep time, and related concepts. The current situation in the state is more subtle. The board is trying simultaneously to derogate evolution and to redefine science to allow for discussion of the supernatural in the science classroom. The treatment of evolution in state standards was also a cause of controversy in Alaska, Minnesota, New Mexico, Ohio, and West Virginia. In all these states, evolution was treated appropriately in the final version of the standards, but only thanks to the work of concerned citizens, teachers, and scientists.

ENTER THE GEOSCIENTISTS

In the face of such relentless assaults on evolution education, geoscientists are in a unique position to help. It is, after all, the geosciences that vouch for the great age of the earth, that uncover the forces responsible for geological changes through deep time, and that discover the history of life as preserved in the fossil record. Who, if not geoscientists, will testify about the need for students to understand what the geosciences have revealed about the earth and the history of life on it? It is not given to everyone to follow the example of, say, G. Brent Dalrymple or Stephen Jay Gould or Norman D. Newell in serving as a national voice on behalf of science education, of course. But it is possible for any geoscientist to make a difference, too.

HOW TO MAKE A DIFFERENCE

First, prepare. Research the historical background to the controversy over evolution education in the United States (Larson, 2003 and Ruse, 2005 are useful), and become familiar with the relevant scientific, legal, theological, educational, and philosophical aspects to the controversy (Scott, 2005). Realize that there is a broad spectrum of creationists whose sophistication, both scientific and strategic, varies considerably—to stereotype creationists as untutored Bible-thumpers bent on banning evolution and preaching the gospel in science classes is to underestimate the seriousness of the threat they pose to the integrity of science education. Understand, and be ready to confront, the three pillars of antievolutionism—1) that evolution is a theory in crisis, 2) that evolution is a threat to religion, particularly Christianity, and 3) that it is only fair to teach "both sides" of the issue—which have been constant refrains in the antievolutionist move-

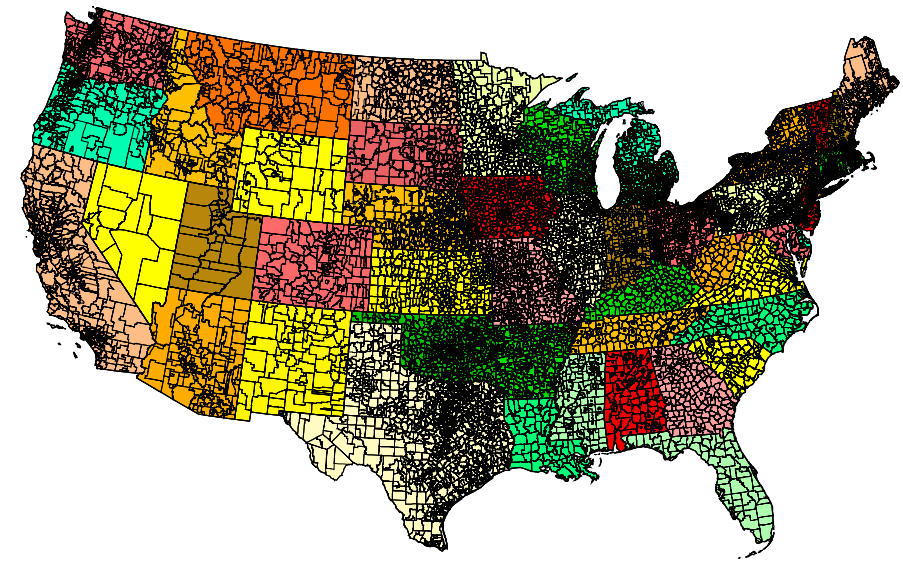


Figure 7. Boundaries of local school districts in the continental United States. Source: map constructed by Nicholas J. Matzke using data from the United States Census, 2000.

AGI

Scientific evidence indicates beyond any doubt that life has existed on Earth for billions of years. This life has evolved through time producing vast numbers of species of plants and animals, most of which are extinct. Although scientists debate the mechanism that produced this change, the evidence for the change is undeniable. Therefore, in the teaching of science [the American Geological Institute] oppose[s] any position that ignores this scientific reality, or that gives equal time to interpretations based on religious beliefs only.

AGU

The American Geophysical Union affirms the central importance of scientific theories of Earth history and organic evolution in science education. An educated citizenry must understand these theories in order to comprehend the dynamic world in which we live and nature's complex balance that sustains us. ... AGU opposes all efforts to require or promote teaching creationism or any other religious tenets as science. AGU supports the National Science Education Standards, which incorporate well-established scientific theories including the origin of the universe, the age of Earth, and the evolution of life.

GSA

The Geological Society of America recognizes that the evolution of life stands as one of the central concepts of modern science. ... The immensity of geologic time and the evolutionary origin of species are concepts that pervade modern geology and biology. These concepts must therefore be central themes of science courses in public schools; creationist ideas have no place in these courses because they are based on religion rather than science. Without knowledge of deep time and the evolution of life, students will not understand where they and their world have come from, and they will lack valuable insight for making decisions about the future of their species and its environment.

Figure 8. Excerpts from AGI, AGU, and GSA statements on teaching evolution.

ment since the days of the Scopes trial (Scott and Branch, 2003b).

Then, if a controversy over evolution education arises locally, become active. Work to resolve the controversy amicably but without compromising on the quality of science education. Write letters and op-eds; attend and speak at meetings of the board of education; organize in support of evolution education with your neighbors and friends and colleagues; turn out the vote on election day. Explain the consensus of the scientific community on such issues as the age of the earth, the fossil record, and evolution, and emphasize the scientific methodology on which the consensus is founded. Emphasize the economic importance of a scientifically literate workforce—a policymaker who may be unimpressed with a paean to the scientific evidence for the age of the earth, for example, is still likely to pay attention to someone able to explain the dollars-and-cents value of a scientific education uncompromised by creationist dogma.

Even in the absence of a controversy, there are ways to support evolution education. Donate books and videos about evolution and related concepts to both school and public libraries; offer to speak on such topics to school classes, civic groups, and church groups. Urge educators and educational policymakers (administrators in the local school district and the state department of education, members of the local and state school boards, legislators) to retain and expand the coverage of evolution and related concepts in state standards, textbooks, and local curricula. Encourage and support science education in informal learning environments, such as museums, parks, and zoos, and in the media. Use the internet to learn about the latest threats to evolution education—the National Center for Science Education's website (http://www.ncseweb.org) is useful, as are listserves such as those maintained by the American Institute for Biological Sciences and the National Center for Science Education (http://www.aibs.org/mailing-lists/the_aibs-ncse_evolution_list_server.html) and blogs such as The Panda's Thumb (http://www.pandasthumb.org). Join—or, if necessary, establish—a state-level grassroots organization like Kansas Citizens for Science or Georgia Citizens for Integrity in Science Education to monitor and confront antievolution activity.

Work through professional geoscience societies as well. Encourage them to issue position statements supporting evolution education, such as those issued by the American Geological Institute, the American Geophysical Union, and the Geological Society of America (Figure 8), and to provide similar support as needed. For example, SEPM - Society for Sedimentary Geology, AGI, AGU, and GSA, as well as the Clay Minerals Society, the Paleontological Society, the Society of Economic Geologists, the Soil Science Society of America, and many others were all signatories on a friend-of-the-court brief submitted in support of the decision in Cobb County, Georgia. Urge your societies to continue to publish relevant articles and reviews in their journals and newsletters and on their websites, and even to produce stand-alone materials. In 2001, AGI and the Paleontological Society published a booklet, *Evolution and the Fossil Record* by John Pojeta, Jr. and Dale Springer, which was supported by Paleontolological Research Institute, Howard Hughes Medical Institute, California Science Teachers Association, the University of California Museum of Paleontology, as well as SEPM, AAPG, AGU, GSA and many other organizations. At conferences, organize sessions on evolution education for the attendees, and provide workshops about teaching geosciences and evolution for the local teachers. (A blueprint for organizing such workshops is available at http://www.ucmp.berkeley.edu/ncte/twb/.) Above all, help professional geoscience societies to help their members to support evolution education in their local communities!

Contemplating the evisceration of the Kansas science standards in 1999, Stephen Jay Gould wrote, "Evolution is not a peripheral subject but the central organizing principle of all biological science. No one who has not read the Bible or the Bard can be considered educated in Western traditions; so no one ignorant of evolution can understand science" (Gould 1999). Geoscientists who, like Gould, recognize the importance of evolution to scientific literacy ought to bear the famous admonition of Margaret Mead in mind: "Never doubt that a small group of thoughtful, committed citizens can change the world." It is a maxim that creationists have taken to heart: it is a maxim that scientists ought to take to heart, too. Only by standing together to promote and defend the teaching of evolution in the public schools can the scientific community hope to make a difference.

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PRESIDENT'S COMMENTS

The Year Ahead – Rewards and Opportunities

As your new President, I want to thank you for affording me the honor of helping to guide the Society during the next year - I am very enthused and encouraged about the prospects ahead. I am also fortunate to be following Rick Sarg as President and to be working with a talented and dedicated Council. The Society owes a debt of gratitude to Rick, Councilor for Sedimentology Maria Mutti, and Councilor for Paleontology Steve Leslie whose terms expired in June. The Society has been fortunate to have had their counsel.

In the last issue of *The Sedimentary Record*, President Sarg recounted the many achievements of the past year and, having attended our Annual Meeting, held in Calgary, I can now add another highlight to his list. Vice Chair Brian Zaitlin, co-Vice-Chair Bob Dalrymple, and the program committee (Guy Plint, James MacEachern, Cindy Riediger, Dave Eberth, Jeff Lukasik, and Lisa Griffith) delivered an excellent program of technical sessions (including a tribute to Wolfgang Schlager, this year's Twenhofel Medalist), field trips, and short courses. The short courses and field trips had the highest attendance in many years. The Society also greatly benefited from $55,000 in contributions to underwrite costs associated with the meeting, including student participation in courses and field trips, thanks largely to the considerable efforts of SEPM Sponsorship Chair Bruce Shultz and Executive Director Howard Harper.

Looking ahead, the upcoming year will be one of many rewards and several challenges. First the rewards….

• We can look forward to an excellent technical program at next year's Annual Meeting, to be held in Houston. Vice Chair John Snedden, co-Vice Chair Brad Prather, and the program committee (Laura Zahm, Ron Waszczak, Denise Butler, and Laura Ann Banfield) have planned an excellent series of technical session themes (which are awaiting your submissions of abstracts), field trips, short courses, and an exceptional core workshop on giant fields, organized by Mitch Harris and Jim Weber.

• Research Councilor Vitor Abreu and the Research Committee are planning at least three Research Conferences with themes including deep-water depositional systems, Quaternary reefs, and the application of earth-system modeling to exploration - reflecting the diverse interests of the membership.

• Special Publications Editors Laura Crossey and Don McNeill are expecting publications on deltas, ichnology, incised valleys, Phanerozoic climates, and Proterozoic tectonics, climate, and biogeochemistry of western Laurentia.

From the above, it is clear that the Society is scientifically very healthy. We are also on solid financial ground, thanks in large part to Chairman John Robinson and the Headquarters Business Committee (which monitors the Society's budget) and Chairman Rod Tillman and the Investment Committee (which is responsible for directing the Society's investment portfolio).

Our near-term challenges include…

• The Society, through Howard Harper's efforts, has been a leader in the launch of the online geoscience publication aggregate GeoScience World (GSW), a collection of 30 journals published by 22 societies and institutes. Having been instrumental in the successful launch of GSW, the Society's challenge now is to manage our costs and revenues as more libraries subscribe to GSW as a substitute for their print subscriptions to *JSR* and *PALAIOS*.

• The Society also faces another digital challenge. Increasingly, our highly regarded journals find themselves competing with online publications which offer unlimited color and the potential for large-format figures, videos, and other visual enhancements that are either not possible or prohibitively expensive in print format. Planning how best to transition our journals to a primarily digital format will be a major effort over the near term (this topic is discussed in more detail elsewhere in this issue).

• After several years of decline, the Society's membership has stabilized at close to 4,000 members, but our demographics are heavily weighted to members older than 40 (your president included). We have been successful in attracting new student members, but retention of them continues to be a challenge.

Looking toward the Society's longer-term future, I will be organizing a strategic planning meeting for early 2006. Why do this now? The last strategic planning meeting, which was organized by Dag Nummedal and Peter McCabe, was held in February 2002. Most of the recommendations stemming from that meeting have been successfully addressed. *The Sedimentary Record* and the Society's increased collaboration with other societies are two of the outgrowths of that meeting. So, it is time to have a critical look and develop a plan for where the Society should be heading for the next few years. The challenges noted above will be some of the issues addressed.

Finally, the Society has undergone several staff changes in the past few months. In April, Judy Tarpley and Kris Farnsworth departed for other opportunities. Both Judy and Kris made substantial contributions to SEPM, and we wish them well in their new careers. Kris and Judy's departures came at the peak activity level for the Annual Meeting, and the Society is greatly indebted to SEPM staff Howard Harper, Theresa Scott, and Michele Woods who undertook additional duties and spent long hours preparing for the meeting. Thanks also to Diane Harper (Howard's wife) who volunteered her time to help at the meeting. The Headquarters Business Committee is currently evaluating the Society's staffing needs, but I am very pleased to report that Bob Clarke has joined the SEPM staff and was able to help at the Calgary meeting. Many of you know Bob as one of our talented electronic editors for Special Publications. Bob will continue in that role, but he will take the additional responsibilities of managing the book publications process. Bob is a former paleontologist for Mobil who was responsible for running Mobil's training and field seminars before he retired a few years ago. Therefore, in addition to his editing skills, Bob brings a wealth of experience in the realm of field-trip logistics that will be very helpful in planning the Society's field trips and Research Conferences.

In summary, expect an exciting and challenging year. But, with challenges come opportunities, and your Council looks forward to mapping a plan for the Society that will ensure a continuation of scientific excellence and a solid financial foundation.

I welcome your comments and suggestions. You can reach me at w.a.morgan@conocophillips.com.

Sincerely,
Bill Morgan, President, SEPM

COUNCIL COMMENTS

The E-Journal Plan

Scientific publishing is undergoing a rapid transformation from print media to digital. SEPM has been responding to this trend in a timely and cautious manner, offering both of its flagship journals, *JSR* and *PALAIOS*, in digital format while retaining the traditional print form. However, the digitization of publishing continues, with the appearance of digital-only journals and the increased demand by authors to publish rapidly and to incorporate video, animations and other digital media in their publications. At the same time, both mailing and print media costs are rising steadily. Both Rick Sarg and Bill Morgan (past and current Presidents) have warned that SEPM (and every scientific society publisher) must face these significant financial challenges. In the case of *JSR*, the Society is also confronted with increased competition from journals that offer unlimited online color and other digital enhancements that cannot be provided within the current print version of *JSR*.

The SEPM Council has examined these complex issues at length and has approved plans for the Society to take the next step in the transition from print-only publishing to a dominantly digital and online publishing world. These plans are the result of a large amount of work and discussion by Colin North and Kitty Milliken (JSR Editors), Chris Maples (PALAIOS Editor), Council, Staff and the members of the Headquarters and Business Committee. The transition will include a period where both traditional print and innovative online media will be available to both members and library subscribers. Beginning in 2006, the "official copy of record" for our journals will be the online digital version. That version, at the editors' discretion, may contain significantly more color, more large-format figures, and additional digital data and support files that cannot be accommodated in the print version. The journals, however, will continue to be published officially in volumes and issues representing the final format.

As SEPM members, these changes will affect all of us. Beginning in 2006, the default subscription for SEPM members as part of the annual dues will be online access to *JSR* and/or *PALAIOS* and a year-end CD for each journal. Members will be able to choose a print version instead of the CD for no extra cost in 2006, but Council is urging all members not to request a print copy unless absolutely necessary. This will save the Society significant publication costs, thereby helping to ensure its financial health. Within one to two years, print copies will carry a surcharge to cover the additional cost of print and, longer term; the Society may discontinue print publication of the journals as printing costs become prohibitive.

These are significant changes for the Society, and Council recognizes that they may require a difficult adjustment for some members. To help acquaint everyone with the advantages of online journal access, all members will receive free online access beginning in September 2005. Please take this opportunity to explore both the current issues and archive issues of *JSR* and *PALAIOS* at the GeoScienceWorld (GSW) website, which you must access through SEPM's website. Go to the publishing page at the SEPM website and choose the online access from GSW. At the security page, enter your member number for your ID (contact the office if you do not remember it) and enter "sepm" as the password. At the GSW website, SEPM members can also run literature searches of journals within GSW, set up individual registrations for email notification of new issue uploads and for articles meeting specific search criteria, and have access to many other options not available through print media.

Libraries will be also be given online access and a year-end CD as part of a standard subscription. However, if a print copy is also requested, a small surcharge will be applied to the subscription.

Council and Staff think that the many free options available through GSW are significant enhancements to SEPM membership and we urge you to take advantage of them by making the online digital version of our journals your preferred method of accessing the high-quality, cutting-edge science that we publish.

If you have concerns or questions regarding SEPM's transition to dominantly digital and online publishing, please contact members of the SEPM Council or Howard Harper. Headquarters Staff will be glad to assist you in accessing GSW.

Sincerely,
SEPM Council
Howard Harper, Executive Director

2006 Medalists

Medals and awards are an important part of the Society's mission. It is with great pride that we announce the 2006 awardees. They will be honored at the 2006 President's Reception and Awards Ceremony, during the SEPM Annual Meeting held in Houston, Texas on Tuesday, April 11, 2006. Nominations for the 2007 awards can be made at www.sepm.org/events/awards/awardshome.htm

Distinguished Service Award:	ROD TILLMAN
Honorary Membership:	GAIL ASHLEY
James Lee Wilson Award:	LYNN SOREGHAN
Moore Medalist:	ALLISON PALMER
Pettijohn Medalist:	DANIEL BERNOULLI
Shepard Medalist:	MICHAEL SARNTHAIN
Twenhofel Medalist:	WILLIAM HAY

Open Mike: Research Topics, Beer, and Popcorn at GSA

GSA Annual Meeting
Tuesday, October 18, 2005 4:00-6:00 pm
Room 151 DEF at the Salt Palace Convention Center

Bring your ideas for innovative research topics within and between the geosciences!
Beer and popcorn provided.

Bring a short abstract and give a 5-minute presentation on new or emerging ideas for geoscience research. An LCD projector and a PC with PowerPoint will be ready. We are looking for the most interesting proposals for innovative, cross-disciplinary geoscience oriented research conference topics. The participating organizations (including SEPM, GSL, and GSA) may select your idea and pledge money and support to jointly sponsor a research conference and/or publication.

WWW.GEOLSOC.ORG.UK/DEEPWATER

RESEARCH CONFERENCE

External Controls on Deep-Water Depositional Systems: Climate, Sea-Level , and Sediment Flux

2006
March 27-29
Burlington House
London, UK

Abstract Submission
Deadline—December 1, 2005
Send abstracts to:
Ben Kneller (gmi422@abdn.ac.uk)

CONTROLS……..PROCESSES……..PRODUCTS

Conveners: Ben Kneller (Aberdeen), Ole Martinsen (Norsk Hydro), Bill McCaffrey (Leeds) and Henry Posamentier (Anadarko)

Deep marine clastic environments represent the planet's ultimate sediment sink. The deep marine system thus contains a record of external controls that is more complete than that of any other depositional environment. Moreover, it extends into the distant geological past, providing a record of climate change on time scales that are two orders of magnitude greater than those of the Pleistocene, and including records of a very different Earth from that of today. This three day meeting will explore all of this potential with a mix of keynote presentations, and submitted oral and poster contributions.

Planned Sessions on High Frequency Change in the Quaternary and Lower Frequency Change in the Pre-Quaternary, including presentations on **Controls** (including timescales, cyclostratigraphy, climate cycles, paleoclimate modeling, glaciated versus non-glaciated Earth; clathrates, climate and failure; ancient shelf-edge systems) and on **Expressions** (case studies of modern and ancient fans and turbidite systems).

Keynote Speakers include: Gerard Bond (Lamont Doherty), Chris Paola (Minnesota), Kurt Lambeck (ANU), Mike Blum (LSU), Tim Bralower (Penn State), John Suter (ConocoPhillips).