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Molleen Matsumura Network Project Coordinator

As the last issue of *Reports* (v. 16, no. 3) went to press, NCSE learned that Answers in Genesis (AIG), a "creation science" ministry based in Florence, Kentucky, had been denied the zoning variance needed to construct "Genesis Park." AIG's proposed plan included a museum and theme park to be located about four miles from Big Bone Lick State Park, a famous paleontological site.

The county's Zoning Commission had recommended granting the variance, although some problems described in a staff report were unresolved. The final decision was made on December 10 by the Boone County Fiscal Court (the equivalent of the "Board of Supervisors" in many other counties). The proposed "Genesis Park" had met with opposition from a variety of sources, including a local minister. Some area residents worried about possible noise from the park's outdoor amphitheater and possible traffic and sewage disposal problems. Scientists around the state joined together with some Boone County residents to argue that the park did not qualify as the "proper mu-

seum" as specified in the county's land-use plan. Area residents were so concerned they formed a non-profit corporation, Concerned Citizens of Boone County, Inc., and hired an expert on zoning issues to represent them before the Fiscal Court.

Officials of both the Zoning Commission and the Fiscal Court declared that their decisions would be based solely on "zoning issues," however, public testimony, letters to the court, and press coverage addressed other aspects of a heated public controversy. Public discussion included numerous opinion pieces and edi-

torials presenting both the views of "scientific creationists," and scientific and theological criticisms of Answers in Genesis.

The state's educational television station aired a panel discussion on its "Kentucky Tonight" broadcast. In support of the Genesis Park proposal was Gary Parker, an AIG employee and former designer of the museum of the Institute for Creation Research (ICR) in Santee, California. Opposing the proposal were the Reverend Mendle Adams, a Boone County minister, local attorney Edwin Kagin, and Christopher

"GENESIS PARK" continued on p. 8

Carl Sagan, 1934-1996

Carl Sagan died just before Christmas, fairly soon after receiving one of the best gifts he could have wanted—an avalanche of new information about possible fossil life on Mars and the emergence from near-space astronomical research of planets by the dozens and hundreds. If billions of new planets are discovered by humans, it will be in large measure because Sagan inspired us to look and ask the right, really big questions. Sadly, the prophet won't be on hand to participate in the discoveries soon to come.

Sagan was one of the earliest and always one of the most enthusiastic supporters of NCSE. While his primary research interest was astronomy, his lifelong avocation was popularizing science in general. Indeed, he was often scornfully labeled

SAGAN continued on p. 11

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Thanks to Dr. Stephen Easley of Alamogordo, NM, for the Carl Sagan quotes used throughout this issue.

In our last issue we reported an incorrect address for the internet location of Pope John Paul II's October, 1996 address to the Pontifical Academy of Sciences. The correct address should be <http://www.cin.org/jp2evolu.html>. We apologize for the error.

It's textbook time again! Adoption proceedings are underway in Tennessee and Texas, and once again, evolution is a point of contention. NCSE Executive Director Dr. Eugenie Scott writes about changes in the adoption procedures in Texas that may have far-reaching effects on the way publishers address evolution to serve their larger markets for biology texts. And thanks to NCSE supporter Dr. Kenneth Miller, Tennessee reversed a decision to put all textbooks with evolutionary content on hold. Miller was on hand to assist the representatives of Prentice-Hall which publishes a biology text he wrote.

Molleen Matsumura provides the details that we promised in the last issue about the proposed Genesis Park, a museum and theme park complex proposed near the Big Bone Lick State Park in Boone County, Kentucky by the Answers in Genesis (AIG) ministry. The two civic bodies charged with reviewing the proposal found it failed to meet most civic criteria for the necessary permits. Dan Phelps also contributed his impressions about the proceedings and the interactions between AIG supporters and scientists who attended.

We note in this issue the deaths of Carl Sagan and Mary Leakey. Sagan was, of course, well known and highly recognizable to the general public. In his obituary, contributing editor John Cole tells us that Sagan epitomized the outlook of NCSE and similar organizations—I) that it is worth the effort to put the very best and most up-to-date science before the public and to help them understand it; and 2) that it is equally important to oppose pseudoscientific and scientific distortions of the understanding of the natural world gained through the hard work and scholarship of centuries of scientific effort. Sagan will be missed both by the public and by organizations like NCSE who share his vision and his enthusiasm for science.

Perhaps less familiar to the general public, Mary Leakey can truly be considered a "giant among men!" Her pioneering work in human paleontology and tool technology set the stage for much of the research in East Africa in the last two decades. Frank Harrold details the life and career of this outstanding scientist and her impact on the paleontology of humans and their ancestors.

Fairfax County VA, Clayton County GA, Mesa AZ, and Louisville OH top the list of other ongoing stories. We see school boards, school-board candidates, administrators, community leaders, and even some teachers pressing to include "evidences against evolution" and disclaimers in textbooks in these and other locations.

Finally, please check your mail for a questionnaire from the Bernard C. Harris Publishing Company. Harris is producing the new NCSE Membership Directory and your prompt response to the membership questionnaire will assure us an accurate and up-to-date directory. For more information, look for the notice in this issue.

Remember, this is your *very* last issue of *NCSE Reports*, but don't despair! The next NCSE publication you see will be the new *Reports of the National Center for Science Education* which will combine the features of this publication and our journal, *Creation/Evolution*. *RNCSE* 17, number 1 will premier in February and will continue the volume numbers of our previous series. Read more about the change in *NCSE Reports* 16, no. 1 (1996): 10-11.

When the new publication is in full swing we will have completed the transition of moving the entire editing, production, and printing operation to Madison. Melinda Carr will join us as production editor in 1997. We look forward to completing this transition, but we will miss Deborah Ross Whitford's involvement. She has meant so much to NCSE over the past few years—first teaming up with former editor, John Cole in modernizing the "look" of *NCSE Reports* and later as a firm foundation as we began to move the editorial office from Massachusetts to Wisconsin. This change for us is emotionally mixed, but does represent the completion of a process that we knew had to happen when we began operations a year ago.

We look forward to continuing to bring you an informative and useful publication with the sorts of reports, features, reviews, and commentaries that you have come to expect—and, of course, your letters.

—Anj Petto and Laura McMahon

Mary Leakey (1913-1996)

Francis B. Harrold
Univ. of Texas, Arlington

Mary Leakey died in Nairobi, Kenya on December 9, 1996 at the age of 83. She was a major figure in paleoanthropology and one of the last members of the pioneering generation of human-origins researchers in Africa. When she arrived in Africa in 1935, next to nothing was known about human evolution there, and Asia was widely thought to be the cradle of humankind. By the time of her death, it was abundantly clear that humans emerged from their ancestral stock in Africa with the earliest members of our biological family (the hominids) dating back at least four million years. This explosion of scientific knowledge was due in no small part to Mark Leakey.

Born Mary Nicol, she developed an early interest in archeology while living in France with her mother and artist father. As a budding archeologist and archeological illustrator, she met Louis Leakey in 1933 and agreed to illustrate a book that the dynamic young anthropologist from Kenya was writing. Their professional relationship soon became a romantic one; eventually Leakey left his wife and family for Mary, and they married in 1937.

By that time, Mary had become captivated by Africa—by its spectacular beauty, teeming wildlife, and fascinating fossil and archeological records. She and Louis lived through tumultuous times in east Africa, including the Second World War, the Mau Mau rebellion, and the coming of Kenyan independence. They also faced many personal challenges: uncertain finances, the difficulties of raising three often-rebellious sons,

and, in their later years, a gradual distancing of their once-close relationship. But the main thing was always their work.

In their early years together, the unobtrusive Mary was outshone by her charismatic husband. But as early as 1937, she began to carry out her own archeological excavations of sites from the Late Stone Age, Neolithic, and Iron Age, and she would soon establish herself as a painstaking field worker. She worked as an equal with Louis at Olduvai Gorge, Tanzania, where lake and stream deposits between 200,000 and 1.9 million years old had long yielded well-preserved animal fossils and many stone tools. It was Mary who discovered that 1.8 million-year-old skull of a close human relative—a robust australopithecine—in 1959. This find led to the Leakeys' research's finally being adequately funded (thanks to the National Geographic Society) and furthermore to a fossil "gold rush" that continues today and has greatly enhanced our understanding of human evolution.

After 1959, Mary directed the excavations at Olduvai Gorge as Louis's administrative and fund-raising work decreased his involvement there. To be near her excavations, Mary lived at Olduvai for nearly 20 years. She instituted excavation procedures that set new standards for rigorous data recovery and analysis, allowing the uncovering of the ancient land surfaces ("occupation floors") on which prehistoric humans left stone tools and animal bones. She eventually published two massive volumes detailing the results of her 1960-1963 and 1968-1974 Olduvai excavations, tracing human biological and cultural evolution in east Africa over a period of nearly two million years. After Louis's

death in 1972, Mary Leakey became the leading figure in African human-origins research. We owe much of our understanding of early humans, their environments and adaptations, and especially their stone-tool technology to her and the multidisciplinary team that she led.

Mary Leakey directed important work at Laetoli, 50 km. south of Olduvai, from 1975 to 1978. There she and her team found important hominid fossils and, most spectacularly, a trail of footprints in soft volcanic ash left by three hominids some 3.6 million years ago. This find established beyond a doubt that these ancestors walked upright.

Reserved and sometimes prickly, Mary Leakey had little patience for those whose work did not meet her own high standards, but those who did pass the test found her a generous mentor and colleague.

Mary Leakey retired from field work in 1983, but remained busy, publishing her final volume of Olduvai Gorge data and analysis in 1994. She is survived by her sons, including Richard (himself a towering figure in paleoanthropology), and 10 grandchildren. One of the grandchildren, Louise Leakey, is continuing the family tradition by embarking on her own career in paleoanthropology. Her grandmother has left her an impressive intellectual legacy.

Readers interested in learning more about Mary Leakey can consult her autobiography, *Disclosing the Past* (Doubleday, 1994) or Virginia Morrell's *Ancestral Passions: The Leakey Family and the Quest for Humankind's Beginnings* (Simon & Schuster, 1995), which has a good bibliography of her scientific publications. ■

Origins & Design: A Journal, not Just a Debate Ploy!

John Cole
Contributing Editor

A new (well, 1996) journal, *Origins & Design*, has been created by the folks at Students for Origins Research a.k.a. Access Research Network. NCSE readers will recognize a lot of familiar faces at the new journal, but they are not the old Institute for Creation Research-related people. *O&D* lists on its masthead a veritable Who's Who of people who have been both active in the antievolution campaign and subtly disdainful of being identified with young Earth creationism's supposed excesses. It's an eclectic list (See box on p. 5) united around the new creationist flag of "design theory" (No creationists around *here*, folks—just advocates of non-religious designism; it's just *your* idea that there is a designer . . .). Philosophical naturalism, long a rather obscure debate topic worrisome only to conservative theologians, is proposed as a replacement for the smaller topic of "Darwinism" as the target of this new creationism which identifies more with university philosophy departments than evangelical tent shows.

▼
We are like
butterflies who
flutter for a day
and think it is
forever.

—Carl Sagan

▲

Articles in the recently-arrived volume 17, no. 2 (it continues the SOR publication sequence) are by Marcel-Paul Schutzenberger ("The Miracles of Darwinism") and William Lane Craig ("Cosmos and Creator"). French Academy member and mathematician Schutzenberger muses that all existing theories of evolution fall short, and Craig, a theistic philosopher of science, discusses why theology must contribute to cosmology. Other features in the journal issue are useful and detailed synopses of other journal articles, many book reviews, and correspondence.

I should note that this new journal is such a cut ahead of other creationist publications as to make it unique and to shame the others. It is a subtle improvement upon the earlier SOR efforts in that it brings in a wider cast of contributors and contributing editors and higher editorial/scholarly standards. Congratulations are due to its editor, Paul Nelson, recently of a short stint at *Bible-Science Newsletter* where he obviously found hostile grounds for intellectualism, even though it supported the cause. This does not make it the long-sought "equal opponent" for evolution, but it makes the journal a force to be reckoned with by evolutionists. It will often *seem* to present a secular anti-evolutionism, and many of its contributors may well believe this is what it is up to. It is something like what I would design (sic) as a seemingly-secular cover for creationism, and it is definitely an example of what evolutionists must contend with intelligently in coming years as creationists mutate and respond to the natural selection against overtly idiotic arguments.

SOR was always one of the most responsible creationist publishers in that it always disdained flamboyant and patently wrong arguments such as (for example) Texas footprint claims which other creationist organizations bought to varying degrees (some hook, some line, some sinker, too). SOR transmogrified into Access Research Network several years ago. At first, it was a sort of second front, then a cover term for SOR. Now ARN is the publisher of *O&D*—which is the successor to SOR's *SOR Newsletter*.

A glance at the editorial board [box] reveals that, for the most part, the people involved are university-based, "real" scholars of a quite different sort than associated with the Institute for Creation Research and similar creationist organizations. This is not an accurate cross-section of current scholars, but it certainly is not an obvious fringe, either. Conservative polemicist Tom Bethell has for many years made evolution one of his "left-wing" targets, but most are apparently much like Berkeley law professor Phillip Johnson—people with an indirect political focus, except that some people seem to relish challenging evolutionary theory as materialistic, counter to their unarticulated designer theory, and perhaps quixotically fun to attack. Johnson, for example, has made it clear that he does not respect ICR creationists—yet he lobbies for ICR ends. Nelson is both a "Young Earther" and a moral person opposed to misrepresentation, lying, wishful thinking and fraud in the creationist cause he grew up with.

I remain puzzled why some people are so concerned about the

importance of injecting supernaturalism into science where natural causation has served so well in constructing explanations and predictions, but their ostensible mission is subtler by far than the ICR approach. The few of these neo-creationists I know personally are scholars and not just "apologists" (a term with specific, non-pejorative meaning in theology). They have in the past been forced to lie down with the most appalling creatures and have bitten their tongues. They never (or seldom) spoke ill publicly of coreligionists, even while disdaining them. Inventing a new journal may well give them a more comfortable forum in which to advance their agenda(s). Unlike the American Scientific Affiliation (to which some of the people here belong), *O&D* promises to fixate on the issue of origins, not just the general situation of conservative Christians in science. It is thus ultimately the same old goal but pursued with philosophical arguments dressed up for formal occasions miles away from the ICR and BSA tent shows, and as such it deserves attention. ■

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An Invitation to NCSE Members

Adrian Melott

Univ. of Kansas, Lawrence

I am a physicist whose primary research area is cosmology. My collaborator (Gaye Grondlund, an early childhood education consultant) and I are in the final stages of field testing a curriculum which should interest NCSE supporters. The project, aimed at children in grades K-3, serves to introduce them to ideas of the Big-Bang cosmology, the evolution of life forms including humans, and the scientific method. Although it was developed under Unitarian Universalist funding as a Sunday-

School curriculum, it has very little sectarian content. It could be easily adapted to various religious traditions by removing the few references to denominational documents and substituting one's own. The main focus is on presenting a scientific view of the universe which preserves a sense of wonder and reverence. The curriculum kits contain a picture-story book, *How We Happened: The Beginning of Everything*, a resource list, and a set of lesson plans for teachers. The lessons include activity-based plans centered on the first presentation of ideas like gravity, the beginnings of things, and

testing ideas by experiment. Field test results to date suggest a high level of enthusiasm among both children and volunteer teachers for the program. We expect to have a final version ready early in 1997. If any of your readers is interested in finding out about the published version, they could write (or better, email) me:

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Texas Textbook Adoptions: Whither (Wither) Evolution?

Eugenie C. Scott
NCSE Executive Director

Texas is the largest single purchaser of textbooks in the nation, thus what Texas wants in its textbooks strongly influences what other states get. In past years, evolution was systematically deleted or downplayed in textbooks because Texas required textbooks to print a disclaimer that any textbook dealing with evolution

... shall identify it as only one of several explanations of the origin of humankind and avoid limiting young people in their search for meaning of their human existence. [Evolution must be treated] ... as a theory rather than fact [and] ... in a manner which is not detrimental to other theories of origin.



Who are we? We
find that we live on
an insignificant
planet of a
humdrum star lost
in a galaxy tucked
away in some
forgotten corner
of a universe in
which there are far
more galaxies than
people.

—Carl Sagan



In 1984, the Texas attorney general declared that the requirement was unconstitutional, and it was dropped. Shortly thereafter, evolution began to make a re-appearance in textbooks, assisted in large part when California required extensive coverage of the subject in its curriculum guide, the California Science Framework. In 1990, when Texas adopted its biology textbooks, the Proclamation (Texas's curriculum guide) required evolution to be included. The textbooks of the early 1990's included more evolution than had been seen in textbooks since the late 1960's. They didn't always get it right, but at least it was *in* there!

Now Texas has issued a new Proclamation for biology textbooks, and it does not mention the "e-word." Further changes in the adoption procedure make us doubt that textbook publishers will be encouraged by the state to treat evolution as a necessary component of biology (as directed by the National Science Education Standards). We hope we will not be moving back to the bad old days.

The state legislature has partly decentralized the textbook selection procedure and in some ways weakened the formerly highly-centralized process. Whether this is good or bad remains to be seen. A document entitled the "Texas Essential Knowledge and Skills" (TEKS) will direct publishers as to what to include, but the first draft of the TEKS did not include evolution, though it mentioned the "theory of natural selection." After teachers complained, the second and third drafts men-

tioned evolution, but not prominently. As this issue goes to press, the third draft has not yet been accepted by the state board of education.

Books and other instructional materials will be divided into those "conforming" to the TEKS (i.e., meeting all requirements), "nonconforming" (meeting 50% of the TEKS), and "open" (no content guidelines). Basic curricula such as science, social science, language arts, and mathematics must have instructional materials from the first two lists—districts are not free to choose just any old book and spend state money on it. Whether creationist books like *Of Pandas and People* will meet either standard is yet to be determined. The legislature also sought to eliminate the textbook adoption process, but it succeeded only in decentralizing it. Local districts will have more authority in the choice of books and two lists to choose from, rather than one. If creationist materials are approved, it will require stringent monitoring of local districts by NCSE members to insure that inferior materials are not adopted locally.

Biology books are coming up for adoption in 1997. Prospective textbooks will be available at regional centers for review before the textbook committee holds public hearings in November. Publishers are well aware of complaints against textbooks with "too much evolution" and need little encouragement to diminish their coverage of evolution. NCSE will keep you posted on developments. ■

Evolution Protested at Tennessee Textbook Adoptions

Eugenie C. Scott
NCSE Executive Director

Tennessee is an "adoption state," which means that a school district cannot use state money to pay for textbooks that are not on a list approved by the state Board of Education. The Tennessee Textbook Commission met on November 4, 1996 to consider textbooks submitted for K-12 science classes. Publishers' representatives, on hand to answer questions about their books, were surprised when commissioner Nancy Tucker Northcott presented them with a 93-page, single-spaced document blasting most of the books submitted. Although some criticism was directed at "environmentalism" and at some presentations of sexuality, evolution was the prime focus of the analyses prepared by Northcott and her associates.

Shortly before the meeting, NCSE received a request for information from the state Department of Education and prepared a brief document outlining some of the many problems with Northcott's analysis. The document was rife with page after page of obligatory misquotations from "famous scientists who criticize evolution" such as Karl Popper, Ernst Mayr, Harold Morowitz, Stephen Jay Gould, Richard Dickerson, Colin Patterson and others, which seem to prosper in creationist literature unhindered by correction. One regular feature on the anti-evolution circuit is the first sentence of Darwin's quotation about the vertebrate eye: "To suppose that the eye . . . could have been formed by natural selection, seems I freely confess, absurd in the highest possible de-

gree." Unfortunately for Darwin and evolution education, anti-evolutionists never seem to notice the next sentence: "Yet reason tells me, that if numerous gradations from a perfect and complex eye to one very imperfect and simple, each grade being useful to its predecessor, can be shown to exist . . . then the difficulty of believing that a perfect and complex eye could be formed by natural selection, though insuperable by our imagination, can hardly be considered real."

Punctuated equilibria and species selection were equated with Goldschmidt's "hopeful monster" idea, and concepts of homology were similarly mangled. The fragmentary and controversial fossil *Protoavis* was presented as "proving" that the fossil bird *Archaeopteryx* was not an intermediate between reptiles and birds—and on and on and on.

On the basis of the Northcott analysis, all the biology textbooks initially were tabled for later consideration, except, ironically, a BSCS textbook that is chock-full of evolution (*Biology: A Molecular Approach*—the BSCS "blue" book) which had been approved before the motion to table. The tabling of the books was a shock to publishers' representatives, who had anticipated easy passage of their textbooks. Prentice Hall was the only publisher that anticipated a challenge, and brought a scientist, biologist Ken Miller of Brown University, one of the authors of its book, *Biology*, who was able to tell the commission why criticisms of his textbook were inaccurate. Miller, an NCSE supporter and a scientist very knowledgeable about creationist

criticisms of evolution, both defended his book and defused Northcott's document. All but two of the other textbooks were reconsidered and approved.

At the same meeting, another commission member, Eleanor Rooks, submitted an anti-evolution memo which ended with a proposal that the commission require textbooks to include a disclaimer identical to the Alabama disclaimer discussed in *Reports* 15, no. 4 (1995): 10-11. After discussing the cost of such a measure (publishers, to their credit, refused to pick up the tab) and whether the commission had the authority to insert such a disclaimer, the idea was voted down.

Textbook adoption (see "Texas Textbook Adoptions," p. 6) is an important determinant of the content of textbooks. Publishers are constrained by what adoption states require, especially the largest ones, Texas and California. NCSE hopes that as the National Science Education Standards filter down to the states, there will be more similarity from state to state in the various requirements publishers have to meet. In this age of modular publication, it is easy for publishers to customize instructional materials for different states and districts—omitting evolution here, omitting the Big Bang there, and so forth. Although the curriculum standards of most states have at least a line or two requiring that evolution be taught, Tennessee and several other states do not include evolution, which weakens the case of publishers who have included the subject because it is required in other states. ■

▼
We sometimes pretend something is true not because there's evidence for it but because we want it to be true, we confuse reality with our hopes and fears.

—Carl Sagan



Microcassettes and KEEPING YOUR TEMPER

Daniel J. Phelps

Creation evangelists sometimes use some odd tactics when dealing with scientists and other critics of their ideas. Often it is difficult to keep one's temper in the face of incredible behavior. Some creationists must realize this and have decided to exploit our irritation. On November 25, 1996 a hearing was held concerning Answers in Genesis's (AIG) zone-change request. After more than two hours of dry legal wrangling, the public was allowed to make comments.

When the meeting was adjourned, several of Ken Ham's followers came to the part of the courtroom where most of the opposition sat and began asking questions of the scientists and ministers. Interestingly, the owners of land surrounding AIG's proposed site, the vast majority of the zone change's opponents, were ignored. Several minutes into this activity I noticed that at least one of Ham's followers had a microcassette recorder

palmed in his hand; he was taping everything without most people's knowledge. This made me rather angry, and I began to point the hidden recorder out to everyone in the surrounding area. At this point he held up the recorder in plain sight and continued taping.

Unfortunately, I played right into his plans. He asked me why no evidence had been presented in favor of evolution. Angrily, I told him he and his coworkers were idiots. He asked about the Cambrian "explosion." When I tried to explain the length of time involved in the "explosion" or the recent papers in the *Journal of Paleontology* documenting Basal Cambrian shelly faunas, he just tried to change the subject. He didn't want to listen.

He asked why "Stephen Jay Gould said there were no transitional fossils?" I told him Gould said no such thing and pointed out Gould's recent column in *Natural History* documenting the evolution of whales from terrestrial

mammals. The creationist then said "Oh, you mean when the whales grew wings." It was obvious that he was not interested in answers to his questions and was only there to provoke an angry response. I remember using the words "liar" and "stupid" several times during the encounter. Fortunately, I didn't use obscenities. I finally had the sense to walk away.

I think my behavior hurt our cause. Ken Ham and his ministry are skilled at propaganda. He will exploit negative comments made about creationists to raise money from the faithful. Hearing or reading that the opposition called them "idiots" may encourage some to open up their checkbooks and begin writing. Even though creationists lost the zoning battle, they will use their defeat to raise money. I encourage others who encounter "creation evangelists" under similar circumstances to either hold their temper in the face of outrageous nonsense or simply walk away. ■

"GENESIS PARK" continued from p. 1

Toumey, professor of anthropology at the University of Kentucky and author of *God's Own Scientists: Creationists in a Secular World*. In a moment that captured the essence of the controversy, a caller called for more "balance" because the panel included one creationist and three evolutionists. In response, Toumey commented, "There are one atheist and three Christians."

According to the AIG press release of December 10, "Genesis Park" . . . had been met with extreme opposition from evolution-

ary humanists. . . Ken Ham, executive director, [said] . . . , "The opposition led a massive campaign of misinformation against us, and some of the press swallowed their stories about AIG being a large commercial organization." . . . The Fiscal Court received about 700 letters and faxes in support of Genesis Park; only 12 letters were written in opposition. . . . AIG had been urging members around the country to act, and it is possible that hundreds of letters from out of state strengthened the impression

that AIG's commercial activities would be too intense.

Letters opposing the Museum addressed both the question of whether "Genesis Park" would be the "proper museum" called for in the county land-use plan and issues of zoning and land use. Daniel J. Phelps, President of the Kentucky Paleontological Society, wrote, "[AIG's] ideas have been discredited in the sciences of geology and paleontology since early in the nineteenth century,

"GENESIS PARK" continued on p. 9

"GENESIS PARK" continued from p. 8

well before Darwin published the *Origin of Species*. . . . Already this 'museum' has been nicknamed the 'Fred and Wilma Flintstone Museum' because of the ignorant pseudoscience it wishes to promote."

Dr. Mary Lucas Powell, Director of the Museum of Anthropology at the University of Kentucky, wrote to the Fiscal Court about the proposed museum:

. . . the Kentucky Cabinet of Tourism has already on file a commissioned development plan for a Big Bone Lick Museum at Big Bone Lick State Park, developed in 1993. . . . The citizens of Boone County, Kentucky, and the central Ohio River Valley would be far more positively served by construction of this genuine "proper museum" than by the AIG proposal. . . .

There are three important ways in which the AIG "Creation Museum" would fail to provide a "proper museum:"

1. The AIG "Creation Museum" is fundamentally unlike the types of institutions designated as "museums" by the American Association of Museums Institute of Museum Services . . . , because its explicit purpose is to present *as scientific fact* a narrowly fundamentalist Christian view . . . mandating the interpretation of data in strict conformity with a previously formulated . . . ideology.
2. The "Creation Science" interpretation of the history of the world . . . *directly contradicts* the interpretation of Boone County's early history presented in the extensive His-

toric Preservation Element of the Boone County Comprehensive Plan.

3. . . . AIG's "primary spokesmen" . . . were all staff members with the Institute for Creation Research (ICR). . . . Although AIG has not made detailed information available about the content of the exhibits to be shown in the AIG "Museum," numerous published articles have been written about the ICR . . . exhibits.

Two of these articles, . . . are attached. . . . The blatant racism, homophobia, and explicit "demonizing" of anyone who accepts the natural sciences interpretation of the evolution of life on earth manifest in these exhibits are chilling in the intensity of their hatred [*emphases in original*].

A major zoning concern was the question of how much additional traffic would be carried by the two-lane road providing access to the "Genesis Park" site. Powell wrote a detailed analysis of the contradictory figures concerning the proposed size of the museum presented in the concept plan submitted by AIG. She then demonstrated that even using the more conservative figures, AIG had drastically underestimated its annual attendance in comparison with known ratios between square footage and attendance at existing science museums. She commented, "I do not know whether this surprising discrepancy reflects a lack of professional museum experience on the part of major AIG personnel, or . . . their desire to minimize any actual adverse impact such a heavy volume of traffic would have."

At their December 10 meeting, members of the Fiscal Court voted unanimously not to grant the variance. As promised, they expressed their decision in terms of zoning issues, explaining that the proposed land use was too intensive and that the warehouse and office complex included in the project plan were inappropriate for an agricultural zone.

While Answers in Genesis has announced that they will seek another site for their "Genesis Park," their failure to get permission to build near Big Bone Lick Park is a genuine victory for the opposition. Boone County will not face the embarrassment of housing a theme park whose primary message is that visitors shouldn't believe the genuine scientific information presented at the state park, and there is hope that further development at Big Bone Lick will now go forward.

[NCSE thanks Chris Toumey, Mary Lucas Powell, Rev. Mendle Adams, Dan Phelps, Ed Kagin, and Elizabeth Oldiges, both for ongoing information about the controversy and their contribution to its resolution, and NCSE Board member Robert M. West for providing information about museum accreditation and evaluation.] ■

▼
Skeptical scrutiny
is the means, in
both science and
religion, by which
deep insights can be
winnowed from
deep nonsense.

—Carl Sagan
▲

Updates and Short Takes

MESA, AZ: In our last issue (*NCSE Reports* 16, no. 3) we reported that, according to local news accounts, Heritage Academy, a charter school in Mesa, Arizona, was teaching creationism. NCSE joined People For the American Way (PFAW), a Washington-based civil liberties organization, in urging the State Board for Charter Schools to investigate the allegation. In November, 1996 the board held a hearing and refused to begin an investigation. The board has not yet developed regulations that can be followed in such situations, although such regulations are required by the legislation authorizing establishment of charter schools. PFAW is pressing the the board to do so.

LOUISVILLE, OH: Since the 1987 *Edwards Aguillard* decision outlawed balanced treatment of evolution and "creation science," many in this community have sought new ways to include creationism in the public school curriculum (*NCSE Reports*, 13, no. 1). In February, 1995 the school board voted to accept a donation from a local citizens group of 100 copies of the intelligent design textbook *Of Pandas and People*. The leader of the group, Andrew Aljancic, also supported a recent attempt to pass legislation requiring that "evidence against evolution" be taught alongside evolution (*NCSE Reports*, 16, no. 1). The Ohio ACLU successfully opposed classroom use of *Pandas* in Louisville science classes. But in November, 1996 Aljancic was elected to the Louisville School Board. On December 9, the board passed a resolution requiring that when evolution is taught, "evidence against evolution" must also be taught. *Of Pandas and People* has been distributed to

classrooms. NCSE will keep readers informed of further developments.

CLAYTON COUNTY, GA: In May, 1996 the Clayton County school board adopted an evolution disclaimer to be inserted in biology textbooks at the beginning of the next school term (*NCSE Reports*, 16, no. 2). It was expected that teachers would paste the disclaimers in the books, but teachers were concerned that doing so would be illegal. In November, 1996 a law firm representing the National Coalition for Public Education and Religious Liberty, of which NCSE is a member, wrote to the school board protesting the policy (*NCSE Reports*, 16, no. 3). After school board elections later in the month, a reconsideration of the policy is expected.

FORT WAYNE, IN: According to a report published in the *Fort Wayne News Sentinel* on January 2, 1997, a survey of fifty high school biology teachers in the area found that "at least one in seven . . . rejects the theory of evolution and holds other views at odds with those of most modern scientists," and "23 percent believe that evolution and creationism should be given equal time in the classroom" ("Creation or evolution?," p. 1A). "[O]nly 72 percent of the teachers emphasize it in class. The rest try to present creationism and evolution on an equal footing, or they emphasize creationism over evolution, or they don't mention either one" ("Range of Beliefs" p. 1A). The survey also asked, "If a parent or a student objects to being taught either evolution or creationism, do you try to accommodate him?" Fifty-six percent of teachers replied that they had never received

such a request; 29% said only parents have tried to influence them, but that these attempts are infrequent; and "a few" said school-board members or administrators had cautioned them "not to upset conservative communities with 'extreme' positions" (p. 4A). Another survey question was, "If you could teach only evolution or creationism in your classes, which would you choose?" Six teachers (12%) chose "creationism" and 37 (74%) chose evolution. A series of related stories included interviews with teachers who enthusiastically teach about evolution and with a creationist who said, "It's just a matter of who you put your faith in . . . the speculations of man, or . . . God." Indiana's "Competencies in Science" standard requires that students understand evolution.

MADISON, WI: Madison Teachers, Inc. (MTI) was caught off guard when a candidate it had endorsed in a school-board race for an at-large seat replied to a questionnaire by a local political party that he supported "the teaching of evolution, creation, and creation into evolution in public education" (*Wisconsin State Journal [WSJ]*, January 31, 1997, p. 1A). MTI's president John Matthews confirmed that the union was polling its membership for advice on whether to rescind the endorsement. According to *WSJ*, Matthews said that the policy-setting committee of MTI is concerned about the influence a school-board member with such views may have on the science curriculum. City and state science education standards and guidelines include evolution, but exclude creationism from the science classroom (Wisconsin's Department of Public Instruction is one of the agencies that provided a statement

in support of evolution for NCSE's *Voices for Evolution*). The candidate currently holding the contested seat was quoted in the same article opposing the teaching of creationism in the science classroom, "When you discuss teaching creationism as a science, you cross

the line." Local NCSE members have been in touch with MTI and with school-board members and candidates to provide background information. MTI represents over 3,800 public school teachers and other employees.

[Ed: As this issue went to press, Madison Teachers, Inc. announced that its membership had voted not to endorse the school-board candidate who had advocated creationism in the classroom.] ■

SAGAN continued from p. 1

a "popularizer" by scientists who disdained the public. Sagan embraced the epithet and relished it as an honor—as, indeed, his professional peers came to agree with time. As his admirer Isaac Asimov once remarked of "popularizers," "Who do these people think make science possible and need to understand it—just other SCHOLARS?" In addition to his popular works, Sagan was author/co-author of about 400 technical publications, a leading NASA consultant, and a Fellow of numerous leading scholarly organizations in science. He was David Duncan Professor of Astronomy and Planetary Science at Cornell University.

Sagan made people jump up and down and cheer for discovery. His enthusiasm raised hackles, and he seemed to revel in controversy. I first heard of him as a student when he was debunking Immanuel Velikovsky's claims (and he barely older than I, without the protection of tenure or seniority). That effort to teach beyond the classroom would be the hallmark of his career and the predecessor to the efforts of NCSE and the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP) of which he was a founder. He was a hopeless romantic in some ways—his view of the cosmos was that of the awe-struck child lying in a sleeping bag on a mountain or in Central Park looking into the endless depth of sky and

asking, "Can I understand some of this before I pass by?"

But Sagan always strove to be a skeptic, not a "believer," and unlike most kids he earned a Ph.D. in pursuit of first answers and then kept looking, never satisfied with what he had learned so far. Delivered wisdom made him nervous, and he sometimes upset his peers by boldly leaping into issues of general Western science far beyond astronomy, as he did with his Pulitzer Prize 1978 book *The Dragons of Eden* which delved far into evolutionary theory and speculation. His 1980 "Cosmos" was until recently the most-watched PBS series ever, and with its broadcasts in about 60 other countries, it is doubtless one of the most influential U.S. broadcast documents ever (and it is of course beaming at the speed of light, along with The Beverly Hillbillies, into the Cosmos and will perhaps give some future civilization out there a slightly better image of us than will the general span of broadcasts).

At the time of his death from pneumonia, Sagan was involved with the production of a movie based on his novel *Contact*, written with his third wife Ann Druyan. His latest book, *The Demon-Haunted World: Science as a Candle in the Dark*, a best-seller in 1996, was in some senses a condensation and summation of what he valued about science and his hopes for humanity. He wrote

movingly last year in *Parade Magazine* about his illness and the threat of death. It had reconciled him with his long-estranged sister from whom he received bone marrow transplants for his bone disease, myelodysplasia or "pre-leukemia syndrome," and it refocused his enthusiasm for life and making the most out of the short years allotted us as an opportunity to understand better the cascade of information without the comforting shortcuts of mythology.

He is survived by his widow, five children and one grandchild, as well as his sister—and countless younger people lured into the excitement of science by his enthusiasm, wit, and dramatic sense demonstrated in places as varied as Congressional hearings, scientific meetings, and the "Tonight Show."

Think of his amazing voice, saying anything (NOT "billions and billions," a phrase popularized by comics but which he denied ever saying!)—such as his words in "Cosmos": "There are worlds on which life has never arisen. There are worlds that have been charred and ruined by cosmic catastrophes. We are fortunate. We are alive. We are powerful; the welfare of our civilization and our species is in our hands."

John R. Cole
Contributing Editor ■

• RESOURCES •

Books

	LIST	MEMBERS		LIST	MEMBERS
Berra, <i>Evolution and the Myth of Creationism</i>	9.95	7.95	McIver, <i>Anti-Evolution, An Annotated Bibliography</i>	15.95	12.75
Bowler, <i>The Non-Darwinian Revolution</i>	14.95	11.95	McKown, <i>The Mythmaker's Magic</i>	25.95	20.75
Dalrymple, <i>The Age of the Earth</i>	24.95	19.95	Miller & Van Loon, <i>Darwin for Beginners</i>	9.00	7.00
Dawkins, <i>The Blind Watchmaker</i>	10.95	9.50	Moore, <i>The Darwin Legend</i>	11.95	9.50
Dawkins, <i>River Out of Eden</i>	10.00	8.00	Moore, <i>Science as a Way of Knowing: The Foundations of Modern Biology</i>	32.50	26.00
Deford, <i>A Reparation: Universal Gravitation a Universal Fake</i>	6.00	4.80	Newell, <i>Creation and Evolution: Myth or Reality?</i>	12.95	10.35
Dennett, <i>Darwin's Dangerous Idea</i>	16.00	13.00	Nitecki & Nitecki, <i>Evolutionary Ethics</i>	19.95	16.00
Diamond, <i>The Third Chimpanzee</i>	13.00	10.40	Raup, <i>Extinction: Bad Genes or Bad Luck?</i>	10.95	8.75
Ecker, <i>Evolutionary Tales</i>	14.95	12.00	Robinson & Tiger, eds. <i>Man and Beast Revisited</i>	17.95	14.50
Eldredge, <i>The Miner's Canary</i>	*20.00	16.00	Ruse, <i>But Is It Science?</i>	22.95	18.50
Eve and Harrold, <i>The Creationist Movement in Modern America</i>	13.95	11.15	NEW Ruse, <i>Monad to Man</i>	*49.95	39.95
Godfrey, <i>Scientists Confront Creationism</i>	11.95	9.50	Sagan & Druyan, <i>Shadows of Forgotten Ancestors</i>	*23.00	18.50
Goldsmith, <i>The Biological Roots of Human Nature</i>	16.95	13.50	Stanley, <i>Children of the Ice Age</i>	25.00	20.00
Gould, ed. <i>The Book of Life</i>	40.00	32.00	Shreeve, <i>The Neanderthal Enigma</i>	*25.00	20.00
Gould, <i>Bully for Brontosaurus</i>	13.95	11.25	Strahler, <i>Science and Earth History, the Evolution/Creation Controversy</i>	*51.95	41.50
Gould, <i>Dinosaur in a Haystack</i>	*25.00	20.00	Strahler, <i>Understanding Science</i>	*27.95	22.25
Gould, <i>Eight Little Piggies</i>	10.95	8.75	Tattersall, <i>The Fossil Trail</i>	*25.00	20.00
Gould, <i>Ever Since Darwin</i>	10.95	8.75	Tattersall, <i>The Human Odyssey</i>	*27.50	22.00
Gould, <i>Flamingo's Smile</i>	11.95	9.55	Thomson, <i>H.M.S. Beagle: The Story of Darwin's Ship</i>	*25.00	20.00
Gould, <i>Full House</i>	*25.00	20.00	Toumey, <i>Conjuring Science</i>	17.95	14.00
Gould, <i>Hen's Teeth and Horse's Toes</i>	10.95	9.50	Toumey, <i>God's Own Scientists</i>	16.00	13.00
Gould, <i>The Panda's Thumb</i>	11.95	9.75	Webb, <i>The Evolution Controversy in America</i>	*34.95	28.00
Gould, <i>Wonderful Life</i>	11.95	9.75	Weiner, <i>The Beak of the Finch: The Story of Evolution in Our Times</i>	13.00	10.50
Gross & Levitt, <i>Higher Superstition</i>	25.95	23.95	Whitfield, <i>From So Simple a Beginning: The Book of Evolution</i>	19.95	15.95
Harrold & Eve, <i>Cult Archaeology and Creationism</i>	13.95	11.25	NEW Wilson, <i>Did the Devil Make Darwin Do It? (sorry, no member discount available)</i>	19.95	19.95
Holton, <i>Nonscience and Anti-science</i>	14.95	11.95	Wilson, <i>The Diversity of Life</i>	14.95	11.95
Howells, <i>Getting Here</i>	19.95	15.95	Zimmerman, <i>Science, Nonscience, and Nonsense</i>	25.95	20.75
Jones et al. <i>The Cambridge Encyclopedia of Human Evolution</i>	34.95	28.00	Kids' Books		
Kauffman, <i>The Origins of Order</i>	33.75	27.00	Barker, <i>Maybe Yes, Maybe No</i>	12.95	10.25
Larson, <i>Trial and Error</i>	10.95	8.95	Jackson, <i>The Tree of Life</i>	*14.95	11.95
Lewin, <i>The Thread of Life</i>	19.95	15.95	Prehistoric Zoobooks (10-vol. hardback set; requires \$5.50 shipping charge)		55.00
Matson & Troll, <i>Planet Ocean</i>	19.95	15.95	Stein, <i>The Evolution Book</i>	12.95	10.35
Matsumura, ed., <i>Voices for Evolution</i>	10.00	8.00	Stein, <i>The Science Book</i>	9.95	7.95
Maynard Smith, <i>Did Darwin Get it Right?</i>	18.95	16.25	Troll & Matsen, <i>Raptors, Fossils, Fins, and Fangs</i>	14.95	11.95
Mayr, <i>One Long Argument: Charles Darwin and the Genesis of Evolutionary Thought</i>	14.00	11.25	*cloth		
McGowan, <i>Dinosaurs, Spitfires and Sea Dragons</i>	14.95	12.00			
McGowan, <i>In the Beginning... A Scientist Shows Why the Creationists Are Wrong</i>	19.95	16.00			

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• RESOURCES •

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Henke: Origin of Theses		10.00
Sonleitner: Creationist Movies		5.00
Sonleitner: What's Wrong with Pandas?		5.00
Stassen: C/E & Newsletter Index		5.00

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1987 Bakken/Gish	5.00
1988 Saladin/Gish Debate II	10.00
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1990 Zindler/Gish	5.00
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Manuscripts

Sonleitner, What's Wrong with Pandas?	12.00
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Audio Cassettes

Debates

1977 Awbrey/Thwaites/Morris/Gish	3 tapes	15.00
1987 Fezer/Doughty	2 tapes	10.00
1988 Thwaites/Gish	3 tapes	15.00
1988 Saladin/Gish	2 tapes	10.00

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Symposia

1987 Annual Meeting, Full Symposium	2 tapes	10.00
1988 Annual Meeting, Full Symposium	4 tapes	20.00
1989 Annual Meeting, Full Symposium	2 tapes	10.00
1994 AAAS Symposium	2 tapes	14.50
with papers by Ayala, Levitt, Ortiz de Montellano, Padian, and Scott		
1993 AAAS Symposium	3 tapes	15.00
"The New Antievolutionism"		
with papers by Miller, Ruse, Scott, Marks and Godfrey, and Thwaites		
1982 AAAS Pacific Division Symposium	6 tapes	30.00
"Evolutionists Confront Creationists"		
with papers by Patterson, Dalrymple, Cracraft, Sarich, and Thwaites		
1988 AAAS Pacific Division Symposium	3 tapes	15.00
"Communicating Evolution to the Public"		
with presentations by Scott, Moore, Skoog, Dalrymple, Beard, and Petit.		

Lecture

1976 K. Mather, <i>The Scopes Trial</i>	1 tape	4.00
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• RESOURCES •

*A sampling of world-wide web sites maintained by anti-evolutionist organizations and individuals. Sites marked with * relate to items in this issue of NCSE Reports.*

Access Research Network Home Page*

<http://www.arn.org/arn>

Answers in Genesis*

<http://www.ChristianAnswers.net/menu-ac1.html>

<http://www.ChristianAnswers.net/aig/fa008.html>

Creation Research Society

<http://www.iclnet.org/pub/resources/text/crs/crs-home.html>

Creation Science Center Home Page

<http://emporium.turnpike.net/C/cs/index.htm>

<http://emporium.turnpike.net/C/cs/links.htm>

Creation Science Research Center

<http://www.parentcompany.com/friends/csrc/rek.htm>

Creation vs. Evolution

<http://top.monad.net/~artude/creation.html>

Institute for Creation Research

<http://www.icr.org/>

Internet Center For Creation Science

<http://schdist23.bc.ca/iccsnet/creation.html>

Johnson, Phillip E.

<http://www.origins.org>

<http://id-www.ucsb.edu/fscf/LIBRARY/JOHNSON/>

<http://www.gospelcom.net/ivpress/title/1610.html>

Johnson-Miller Online Debate (PBS)

<http://www.pbs.org/wgbh/pages/nova/odyssey/debate/>

Kenyon, Dean H.

<http://www.mrccos.com/arn/orpages/or152/bio101.htm#sanfranl>

Origins & Design*

<http://www.mrccos.com/arn/pubs.htm>

Origins Research

<http://www.mrccos.com/arn/orpages/or.htm>

Ten Facts Concerning Human Evolution That You Are Not Likely to Hear on Your Local PBS Station

<http://www.deltanet.com/users/igby/evolve.html>

The Collapse of Evolution, Scott M. Huse

<http://cyberadvantage.com/Bookstore/Evolution/Evolution.html>

Online Book Reviewers

John Cole

Contributing Editor

NCSE books such as *Voices for Evolution* are available via commercial bookstores—including at least one on the World Wide Web. Amazon.com Books is the biggest online bookstore, and they invite—indeed, beg for—short reviews of the books they sell. They also ask for brief comments on the reviews or the books. This is a good place to enter the debate with your own book review which will be searchable by keywords and otherwise useful to a world-wide audience. Needless to say, creationists are not bashful about praising their own books, and pro-evolution NCSE members should pitch in. The Amazon site

(<http://WWW.amazon.com>) is not a debate forum, and no endless c-e battling is of any interest—just reviews to sell books or to critique them.

And remember to order books directly from NCSE (if they are available) to get your member discounts and to bolster NCSE coffers slightly. ■

Creationist Response to Darwin's Black Box

Linked through a Dawkins fan's page

(<http://www.spacelab.net/~catalj/>) . . .

"Complexity—Yes! Irreducible—Maybe! Unexplainable—No!

"A Creationist Criticism of Irreducible Complexity" by Terry M. Gray of the Department of Chemistry at Calvin College (http://mcgraytx.calvin.edu/evolution/irred_compl.html). In it, Gray refutes Behe's claims and expresses concern for the consequences of jumping too quickly to the conclusion of intelligent design, saying that in the long run it does great damage to theism.

[Contributed by David C. Wise] ■

Museum Rejects Creationist Docent

Molleen Matsumura
Network Project Coordinator

In August, 1996, the Buena Vista Museum of Natural History opened in Bakersfield, California with a variety of exhibits including the largest Miocene marine mammal exhibit in the country. As is the case for most museums of this size, Buena Vista depends heavily on well-trained volunteers to carry out its mission and programs for the public. For example, all the labor needed to refurbish the building and prepare several fossils was done by volunteers including geologists, anthropologists, paleontologists and amateur science lovers, some coming from hundreds of miles away. The museum prepared for its opening by holding classes to train some volunteers in fossil preparation and others as docents (Bakersfield *Californian*, August 9, 1996 and October 12, 1996).

Museum officials touched off a local controversy when they decided not to accept the services of Micah Turner, a teen-aged volunteer docent. The museum's educational director explained, "Micah took our docent course. . . . But when we became aware of the fact that he is a creationist, we felt it would be inappropriate to ask him to do something that is clearly in conflict with his religious beliefs" (Bakersfield *Californian*, October 12, 1996). Museum officials could not tell Turner of their decision until opening day when, according to the same article, Turner was stunned, though he went on to say, "Yeah, I thought there was a risk they might not accept me, but I thought it was something God wanted me to do."

Turner's parents say they hope to determine their rights as museum members and are considering legal

action. His mother said, "The museum is saying you can only work here if you believe in my faith—which is an atheistic view." While public discussion has centered on the usual questions of the relationship between scientific and religious views, this incident raises an issue that also surfaced when a volunteer at the Tulsa, OK zoo attempted to force changes in signs at

zoo exhibits that discussed evolution (*NCSE Reports* v. 15, no. 4): Should popular opinion or the scientific consensus decide what information is presented at museum, zoos, and nature centers?

[NCSE thanks Don Lindsay for providing information about these events.] ■

Jeane L. Dixon (1918–1997)

Andrew Petto

Astrologer and syndicated columnist Jeane Dixon died recently. Dixon predicted in 1956 that a tall young man with blue eyes and thick brown hair would be elected President in 1960 and would die in office in 1963. After John Kennedy's assassination, political columnist Ruth Montgomery turned Dixon into a celebrity with her book, *A Gift of Prophecy: The Phenomenal Jeane Dixon*.

The biography on her web site (<http://www.jeanedixon.com>) lists some predictions that came true: in 1944, she predicted a communist take-over in China; in 1949, a future presidency for Richard Nixon; in 1977, a powerful woman would be a latter-day Churchill and rescue Britain (Margaret Thatcher was elected Prime Minister in 1979).

Less well known are her other, equally dramatic predictions that never came true. Dixon predicted that World War III would break out in 1958 over islands off the coast of China and that the Soviets would win the race to the moon. She also predicted the election of Richard Nixon in 1960 and the presidential candidacy of labor leader Walter Reuther in 1964. Her predictions (and those of other seers) are tallied

in the Bay Area Skeptics' newsletter, *BASIS* each spring.

Dixon's daily horoscopes will continue for about two more years. A statement in Madison's (WI) *The Capital Times*, says that predictions are made by a careful observation of the locations and movements of the planets and stars which are regular and predictable and can be charted well in advance. Putting it that way makes *astrology* sound almost scientific; but of course, it is the *astronomers* who tell us the positions and movements of these objects; the astrologers insist that they have a measurable impact on events in our lives and on our personalities.

Jeane Dixon was a large presence among astrologers and psychics. Her death may make the battle for scientific literacy a little more difficult for lack of a clear, well-known example of the pseudoscience that pervades daily life. Dixon certainly did her part to contribute to an increase in scientific illiteracy in North America; her "hits" were loudly proclaimed but her "misses" ignored. However, the death of "America's Most Famous Psychic," may not necessarily improve critical thinking; she has plenty of associates who rapidly can fill the void. ■

U.S. Department of Education

Molleen Matsumura
Network Project Coordinator

How many times have you read an article or letter to the editor in which a supporter of "scientific creationism" boasts that the Graduate School of the Institute for Creation Research (ICR), or a similar institution, is "fully accredited?" Have you ever wondered what that really means? We generally accept accreditation of schools as a guarantee of minimum quality, separating legitimate educational institutions from "diploma mills." A recent decision by the U.S. Department of Education has blurred that distinction.

"Who watches the watchers?" by certifying that accrediting agencies are financially viable, avoid conflicts of interest, maintain professional standards of evaluation, and so forth.

Beyond assuring that a given school is reputable, accreditation also carries other practical benefits. Institutions approved by a certified accreditor are recognized by some state agencies, and their students become eligible to receive certain kinds of Federal funding, such as Pell grants and Perkins loans. Graduates will not be qualified for some types of employment unless their school was properly accredited.

and that several students were themselves skeptical that they would be employable.

A founding director of TRACS was Henry Morris, who was recently replaced by his son John as president of the ICR. In 1991, Department of Education (DoEd) staff recommended against certifying TRACS, based on a regulation "that required an applicant agency to show that its policies, standards, evaluation methods, and decisions were accepted by other nationally recognized accrediting agencies (§4(c)). . . . [However,] TRACS argued that § 602.14(c) allowed nationally recognized accrediting agencies to have undue influence over an agency seeking initial recognition" (DoEd staff report, 1996, p. 7). This argument is like saying that the Environmental Protection Agency shouldn't expect a car manufacturer to meet existing emissions standards, because that would give an advantage to other manufacturers already in business. The DoEd staff report continues, "Specifically, TRACS wrote to former Secretary Lauro Cavazos . . . to argue that §602.14(c) opposed the Secretary's . . . stated desire to foster appropriate competition. . . . (Those sentiments were expressed by former secretary William Bennett. . . .)" (p. 7). Cavazos left office, and in 1991, Secretary of Education Lamar Alexander certified TRACS as an accrediting agency on a par with such regional accreditors as WASC.

In May, 1995, when TRACS' certification was reviewed by the National Advisory Committee on Institutional Quality and Integrity (NACIQI), some aspects of its accreditation procedures and internal structure were found to be inadequate, but a provisional ex-

▼
Absence
of evidence
is not
evidence of
absence.

—Carl Sagan

▲
The best known accrediting agencies are regional organizations like the Western Association of Schools and Colleges (WASC). WASC accredits public institutions like the University of California, private institutions like Reed College, and some religious institutions, such as the Franciscan Theological Seminary and other schools in the Graduate Theological Union in Berkeley, California. WASC accredits graduate schools based on such criteria as whether "faculty are adequate in number and sufficiently diversified in discipline" and "learning resources necessary to support the extensive and in-depth research activities of faculty and students are provided."

These accreditors must be certified by the National Advisory Committee on Institutional Quality and Integrity (NACIQI), which is advised by staff at the Office of Postsecondary Education in the federal Department of Education (DoEd). NACIQI's job is to answer the question,

The ICR Graduate School is accredited by the Transnational Association of Schools and Colleges (TRACS). It is not accredited by the Western Association of Schools and Colleges (WASC). NCSE does not know whether the school ever applied for WASC accreditation. ICR *did* apply for certification by the Private Postsecondary Education Division of California's Department of Education and was initially denied certification based on the recommendations of a team of professionals who visited the ICR Graduate School and prepared an extensive, detailed evaluation. Among other problems, they found that the institution didn't employ enough full-time faculty, that the library facilities fell far short of published standards, that the graduate students could not answer questions about their fields that should be understood by undergraduate college students, that students' master's theses and doctoral dissertations were substandard,

Lowers Standards

tension was granted, subject to review. NACIQI met on November 20-22, 1996, accepted a staff report to the effect that TRACS had improved substantially, and extended certification for three years. However, it also required TRACS to submit annual interim reports showing that it was continuing to improve. In accordance with DoEd staff recommendations, TRACS reports must show continuing efforts to "review the validity of its criteria and standards beyond its initial work. . . . [and] adopt an official policy requiring it to maintain a systematic program of review" (p. i); "develop its study of the validity of its standards" (p. ii); and "adopt a policy requiring it to provide a thorough explanation to the Secretary if it ever grants status to an institution which received an adverse action from another accrediting agency" (DoEd Staff Report, Nov. 1996, p. iv).

These requirements reflect the DoEd staff's belief that TRACS's procedures have improved, but there are still problems that need monitoring. In fact, TRACS has taken action since May 1995 to remove such conflicts of interest as procedures that allowed TRACS-accredited schools to choose members of TRACS's Accreditation Commission. However, important questions about academic standards remain. The staff report did not suggest how much improvement of purely academic standards can be expected in light of the fact that TRACS's petition for certification says of their standards for candidates, "The principal focus of the institution's educational program must be the education and academic preparation of students within a distinctly and

clearly Christian context." Also, there are real questions about the extent to which TRACS has improved its methods for academic evaluation.

Lisa Thureau, executive director of the National Coalition for Public Education and Religious Liberty (PEARL), a coalition of more than 50 organizations including NCSE, the American Association of School Administrators, and ACLU, opposed TRACS's recertification at the NACIQI hearing. She reported that when asked what distinguished TRACS from other accreditors, the TRACS representative cited their "rigorous" standards, but did not define "rigorous" when asked. The DoEd staff report states that TRACS has adopted a "more stringent approach." It has placed some institutions under review, removed or denied candidacy to others (p. 3), and "expanded its overall accreditation experience by removing four institutions from candidacy" (p. 20). The DoEd staff report also cites a "dramatic increase in adverse decisions handed down by . . . recently appointed no-nonsense professionals" (pp. 49-50). However, the report doesn't state the reasons, doctrinal or academic, for these actions, or describe the content of the programs that were found inadequate.

The strength of TRACS institutions appears to be what TRACS says it should be—religious education. The DoEd staff report notes, "Approximately 63 percent of the graduates from regionally-accredited-institutions are working in an occupation directly related to their education, compared to approximately 76 percent of the graduates from TRACS-accredited institutions."

PEARL's comments to the NACIQI quote TRACS's self-reported data as claiming that "approximately 79% of the graduates indicated that they were involved in a church related ministry as a result of their education . . ." (p. 1). This statistic shows that graduates of TRACS schools are able to find jobs with denominations sharing their doctrinal standards. It does not reveal whether TRACS institutions offer courses *academically* comparable with other schools' offerings in subjects that are also in secular programs, such as ancient Near Eastern history or marriage counseling, and certainly doesn't tell us whether TRACS accreditors can evaluate the quality of the courses in biology and science education taught at the ICR graduate school.

In another approach to the question of TRACS's acceptability and comparability to other accreditors, the DoEd staff report comments on page 22, ". . . the Department has not received any written third-party comments directed against TRACS from an educator, [or] educational institution. . . . Although an orchestrated campaign against TRACS or any other agency could suddenly appear, there has been no documented evidence that TRACS is not acceptable to the educational community at-large. The only current third-party written commentary . . . centered on constitutional issues. . . . TRACS has received endorsements from a diverse group. . . ." This view is not entirely accurate.

First, the organization that submitted comments, PEARL, repre-

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It is of interest to note that while some dolphins are reported to have learned English—up to fifty words used in correct context—no human being has been reported to have learned dolphinese.

—Carl Sagan

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EDUCATION continued on p. 18

EDUCATION continued from p. 17

sents a coalition that *does* include educational organizations. Second, PEARL's comments specifically referred to the problem of a TRACS-accredited institution that teaches "scientific creationism;" court decisions on this issue specifically refer to the proper definition of science—which is an academic issue—and litigants in these cases did include educators and educational associations. The section of the staff report responding to PEARL's comments completely ignored the issue of "scientific creationism."

Finally, whatever support there may be in the educational community, this diversity was not to be found in a study of 22 letters of support for TRACS sent to NACIQI in the weeks preceding the hearing. Nine letter-writers specifically cited TRACS's religious orientation as the reason for their support, and of them, seven used the same boiler-plate language. Seven more writers wrote for churches or mission organizations, or from Bible colleges — some of them accredited by TRACS. Of two letters that cited social contributions (such as community service) by TRACS-accredited schools, one noted that a copy had been sent to the school in question, suggesting that the legislator writing the letter was responding to a request. One was from a graduate of a TRACS institution. Only one of the letters referred solely to academic quality fostered by TRACS. According to PEARL's Lisa Thureau, who attended the NACIQI meeting, some committee members questioned the value of the letters of support when they noticed that many contained identical, distinctive phrasing. (For example, letters from both California and South Carolina contained the

phrase, "... quality higher education based upon Biblical morality and the Judeo/Christian values which historically have characterized our great nation since its inception.")

It may be that, as some letters asserted, TRACS is helping improve some academic standards at "institutions whose missions are characterized by a belief in Biblical inerrancy." Yet there is a serious question about the academic standards of an agency that accredits schools awarding graduate degrees in science on the basis of courses in "scientific creationism." If they have already accredited an institution that was denied accreditation by another agency, that accreditation stands because the federal requirement is not retroactive. Worse, if another school that teaches "scientific creationism" goes directly to TRACS without seeking accreditation by its regional agency, TRACS can accredit it without explanation. This possibility is significant in light of the fact that, according to PEARL, "Most of these states [that expressed interest in

TRACS after it was certified] are located in the jurisdiction of regional accreditation associations which have found TRACS's schools fail to meet commonly accepted educational standards" ("Comments" to NACIQI, August 22, 1996).

Yes, the Institute for Creation Research Graduate School is fully accredited by an agency certified by the U.S. Department of Education—and the value of accreditation as a guarantee of academic quality has been gravely damaged. Still worse, according to Lisa Thureau of PEARL, "The public should know that this case is only the tip of the iceberg, in a system where many schools with questionable standards receive accreditation." She gave as an example Maharishi International University in Iowa, an accredited institution, which teaches a curriculum filled with pseudoscience. Thureau added, "Thanks to NCSE's concern about TRACS, we've discovered a much more widespread problem." ■

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The universe is not required to be in perfect harmony with human ambition.

—Carl Sagan



Happy 6,000th Anniversary to the Universe!

I recently realized that an important date was imminent, comparable in its significance to January 1, 2001, the beginning of the Third Millennium. According to Archbishop Ussher, the creation occurred in 4004 BC, beginning (if I remember correctly) on October 23. If he is right, then the next time that date rolls around, October 23, 1997, will be the

6000th anniversary of everything! (The anniversary was not in 1996, as a [simple] calculation might suggest, because there was no year zero.) I take note of this in the hope that someone will have the necessary good humor to organize an appropriate celebration.

John G. Fletcher
Livermore, CA

TEN TIPS for Successful Letter Hacking

Mary Lou Mendum

While most of the battle against creationism has necessarily focused on the political and legal battles over textbooks and curriculum development, it is important to remember that public opinion plays a major role in determining the material actually taught in biology classrooms. One inexpensive and effective way to educate the public on the nature of science in general, and evolution in particular, is through the editorial pages. Letters to the editor are widely read, and fundamentalists have long been using letter campaigns to push their agenda.

A well-written and well-researched rebuttal can stop such a campaign. When the *Vacaville Reporter* suddenly started printing letters attacking Margaret Sanger, the founder of Planned Parenthood, I noticed a suspicious monotony to the quotes from her writings. I located the quoted book and wrote a letter describing the context of the misquotes. Since the Vacaville library didn't have the book, and I had checked out the only copy in the University of California library system, I accused Vacaville's Sanger critics of dishonestly quoting from a book they probably had never seen, much less read. No further letters on the subject of Margaret Sanger have been published in the Reporter.

While fundamentalists are unlikely to be as easily silenced on a subject so central to their beliefs as Genesis, by promptly detailing the scientific errors in

creationist letters, NCSE members have the opportunity to expose creationism as the pseudoscience that it is.

Here are ten guidelines to consider when writing rebutals to creationist letters:

1. Criticize facts, not opinions. Honest statements of belief in creationism as an article of faith are not open to argument, and they serve the useful purpose of revealing its religious basis. Instead, concentrate on exposing misquotes and factual errors. Name calling is not advisable, but accusations of sloppy scholarship and ignorance, in combination with suitable documentation, can be devastating.
2. Do your homework. If you are criticizing creationists for poor scholarship, you can't afford to make the same mistake yourself. On the other hand, if you can back up your statements with references to the scientific literature, or document misquotation, you can greatly increase the impact of your letter.
3. Don't cover more than one or two points in each letter. Your goal should be to destroy the credibility of the local creationists, not to give an introductory biology seminar. A lengthy point by point discussion of transitional fossils is less effective than a short letter detailing one misquote and one major scientific error. If you try to cover too many topics, the editor is likely to delete half of them.
4. Keep it short and succinct. The more concise your letter is, the less chance there is that the editor will either reject it entirely, or edit it beyond recognition. Make sure that every word is essential to the overall point of your letter. This is particularly important if you are writing to conservative papers, as they have a tendency to delete all those annoying little facts that make evolution sound more scientific than creationism. Letters of one page are much more likely to be published than those of two or more pages. If you use a computer, and your letter is still a little too long after editing, try expanding the margins and changing the font. That won't change the word count, but your letter will look shorter, and that might be enough to keep it from being rejected out of hand.
5. Humor is helpful. A funny, entertaining letter is much more memorable to both editor and readers than an angry or sarcastic one. Creationism is a laughable attempt to cloak religion in the garb of science—so don't be afraid to laugh at it.
6. Slant your letter towards the newspaper's style. Don't attack the creationists' right to advocate their beliefs when you write to a liberal paper—you might even want to include a statement that you support their freedoms of speech and religion, when they are exercised outside of the science classroom. Ap-

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In order to
make an
apple pie
from
scratch,
you must
first create
the
universe.

—Carl Sagan



TEN TIPS continued on p. 20

TEN TIPS continued from p. 19

peals to scientific authority are very effective in letters to conservative papers, while liberal papers prefer more specific references.

7. If you have credentials, mention them. Few creationists writing letters to local newspapers have any scientific training. If you have earned a degree or done research in a relevant scientific field, you are automatically more credible than a person who has not. If you are affiliated with a university, use your departmental address. Most newspapers will print such information under your name, and that is far more impressive to readers than the usual home town.

8. Two letter hacks are more effective than one. Letters editors like to keep lively debates going, but they will seldom print two letters from any one person during an exchange, and if two people submit good letters on the same topic at the same time, chances are that only one of them will be published. If you coordinate your efforts with one or more other people, you can be sure that any creationist attacks on your letters will be responded to promptly and effectively.

9. Don't limit your writing to creationism. The New Right agenda goes far beyond creationism, and an effective defense of science requires that the constitutional basis for rejecting the teaching of creationism remains intact. Letters advocating strict church-state separation on issues such as tuition tax credits and school prayer are just as important as letters which debunk creation-

ist pseudoscience. Remember, the same First Amendment is used by our scientifically illiterate judiciary to decide all three issues. Likewise, if you can document scientific inaccuracies in a fundamentalist's anti-abortion letter, he or she will be less likely to use the same tactics to attack evolution.

10. Be persistent. It may take five or six tries before a newspaper publishes one of your letters, especially if it has a large circulation. Don't be discouraged; eventually the letters editor will tire of printing yet more letters on the latest election scandals and start looking for a little variety. It is very unlikely that even the best letter-writing campaign will

convince hard-core fundamentalists to abandon creationism. However, by writing in to correct their factual errors and dishonest scholarship, it is possible to discourage them from using the letters pages to promote bad science.

[Ed. Mary Lou Mendum's excellent advice on letter writing was published originally in NCSE Reports 13, no. 1 (1993). We encourage members to follow these guidelines in writing local letters to the media in your area. Remember that NCSE is here to help you with information and background to make your letter great, but our limited staff cannot write all the letters and comments that these issues deserve nationwide.] ■

▼

In science it often happens
that scientists say,
"You know that's a really good argument;
my position is mistaken,"
and then they would actually change their
minds and you never hear
that old view from them again.

They really do it.
It doesn't happen as often as it should,
because scientists are human
and change is sometimes painful.
But it happens every day. I cannot recall the
last time something like that happened
in politics or religion.

—Carl Sagan

▲

New Book Order System

Erik Wheaton
Office Manager

Tully Weberg, NCSE bookkeeper, now handles *all* of NCSE's books—balancing both our book sales and our fiscal “books”—and has put a new book order system in place. The new system allows us to fulfill and track orders more quickly and efficiently. Designed by NCSE office manager, Erik Wheaton, the new book order system tracks back orders, payments, and balances due. Members and others who order will now receive detailed sales invoices with each order. If an item is in

stock we can generally ship the next day after receipt of an order. Orders for items that are not in stock or are on backorder will be acknowledged immediately. Remember, *NCSE Reports* lists only part of the books available. A full listing is on our web site: <http://www.natcensci.ed.org>. We are in the process of preparing a new updated book catalog for this Spring which we plan to send to all NCSE members. Why not try a book order and see for yourself. Call 1-800-290-6006 to order. Mastercard and VISA accepted. Purchase orders are also welcome. ■



Unsung Heroes

Erik Wheaton
Office Manager

The NCSE is not only dependent on our membership to keep us going, we also depend on volunteers and those who give us “pro-bono” service. Our computer consultant Yves Barbero is one of the more important ones to the NCSE. Yves furnishes the NCSE with its computer hardware and configures our machines. His consulting and configuration are “pro-bono,” and he helps us locate, install, and use computer hardware and software that has been donated or at the lowest possible prices.

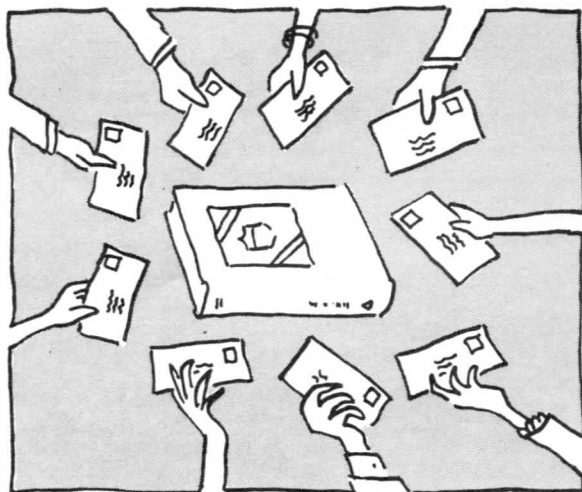
We are able to do so much with so small a staff due in part to Yves's supplying us with up-to-date computer hardware so that we can use our computers to maximum efficiency. Some have looked at our computer “wish list” and commented that we have high hopes indeed. This is true, but the bottom line is that we must be efficient; there's much to do with a small office staff and so many times requests that come into the office must be handled *yesterday!* ■

All New National Center for Science Education Membership Directory is Underway

More than 3,550 NCSE members recently received questionnaires for their entries in the upcoming edition of the NCSE Membership Directory, scheduled for release next fall. This comprehensive “who's who” will be the definitive reference of over 3,500 NCSE members. As an NCSE member you are part of an important network

of individuals who constantly exchange ideas, concerns, and information. And now doing so will be as easy as turning the pages in our directory.

If you haven't already done so, please complete and return your questionnaire today. This will ensure that your entry will be complete and accurate in this unique resource. Just check the information that is listed on your questionnaire and enter only the information that needs to be changed. Then put the whole works in the pre-addressed envelope and drop it in the mail. ■



• LETTERS •

■ Eugenie Scott's letter in the Dec. 20 issue of *Science* was excellent. I would suggest that [NCSE's] . . . most valuable contribution to the cause of science education might be the education of scientists themselves about the dangers of the formal debates [she] describe[d] in [her] letter. Many of our current problems with science education and public misunderstanding of the role of evolution in modern science stem from misguided past encounters with creationists. Many com-

petent scientists shoot themselves in the foot by thinking these encounters were about science when they were in fact about publicity. Keep up the good work.

Bob Harrison

■ You are right. When we attempt to "debate" creationists we lose much more than we gain.

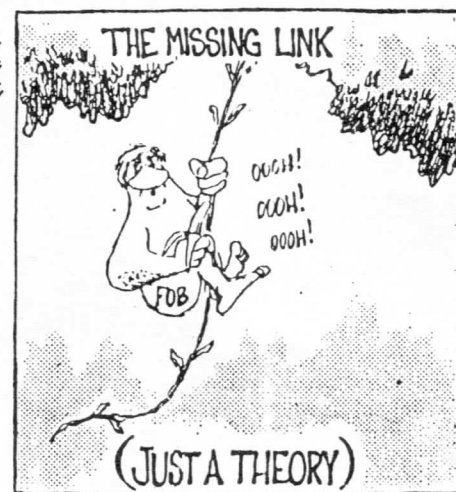
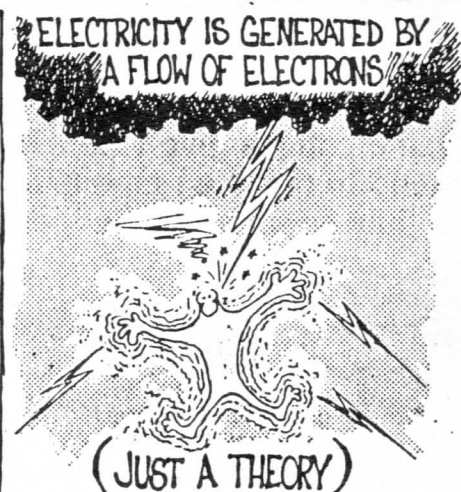
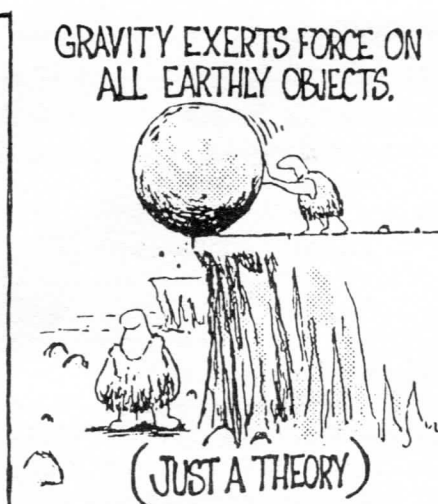
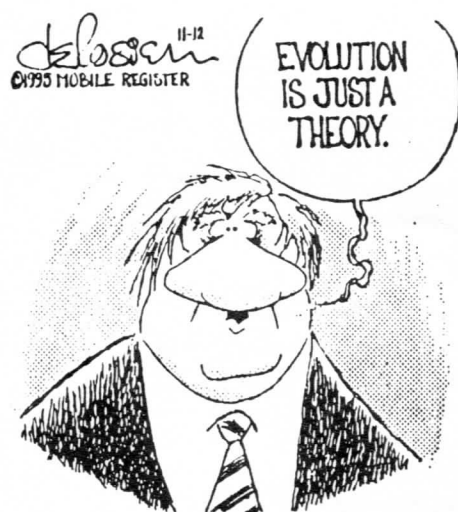
A few weeks ago I attended . . . a Creationist "seminar" at a local church

. . . and just sat and listened like a bump on a log. The Lady Hope story of Darwin's supposed deathbed conversion (see "The Darwin Legend," *NCSE Reports* 16, no. 1 [1996]: 3, 8) was again related by the "instructor." When another person rose to say that this story is a well-known lie, the instructor told the audience that whether it was a lie or not was not important; saving souls by preventing the spread of evolutionary ideas was and that anything that combatted

the theory . . . should be used. He also told the audience the usual gamut of well-refuted arguments (dust on the moon, salt in the sea, etc.) and that although these had been disproved, they could still be used for people "of the same education as yourselves!!!!!" (emphasis added).

No, it is no use debating in these forums.

James L. Sutton



JOHN DE ROSIER/Mobile Register

Drawn by John deRosier and published in the Mobile (Alabama) Press Register on November 12, 1995. Reprinted with permission.



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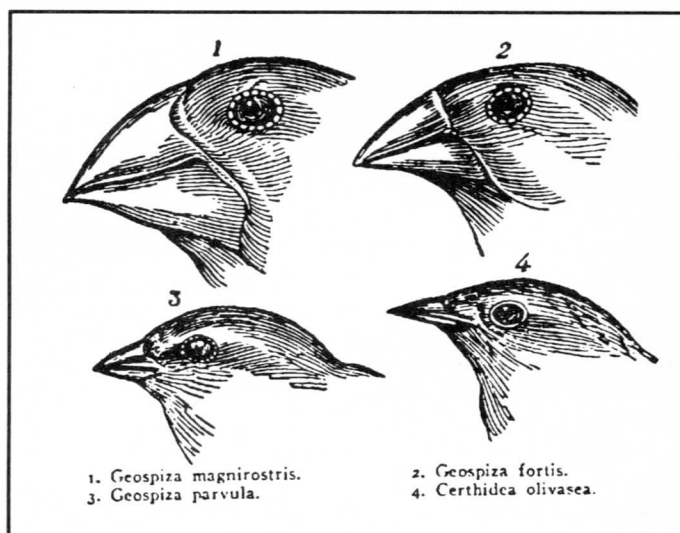
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