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Creation Science Still Plays Well in Peoria

Ranse Traxler
St. Louis Area Liaison

During the heyday of vaudeville, the test of any road show was how it played in Peoria. Such a test of popularity and money-making potential proved nothing about artistic or literary merits. In a gross anachronism, the Institute for Creation Research's traveling road show has been playing to captive audiences in Peoria public schools for 12 years running.

Last spring, ICR boasted that it had presented "creation science" to "hundreds of public school students" in Illinois. The ICR performer/proselytizer/speaker, Ken Ham, "had the exciting opportunity of speaking to 30 science classes in four major public high schools in Illinois during their normal science-lesson class time" (*Acts and Facts*, April 1989). Furthermore, "over 600 public school students attended the various sessions. Local pastors will be following up with students."

The Chicago CC and the St. Louis Association for the Teaching of Evolution (SLATE) wrote the Illinois superintendent of education and asked for a policy statement on this issue and help in correcting this problem with our education system. The Chicago CC got a short brush-off from an underling. SLATE received a reply from Robert Sampson, curriculum improvement section manager. Sampson said creationists have as much right to present creationism to students in a science class as scientists have to present evolution; further, unlike Texas or California, Illinois does not have a problem with creationism, so we do not need a state policy! After two more letters,

SLATE finally received a responsible reply from Don Roderick at the state office.

SLATE also began a search for the schools at which Ken Ham spoke. The Chicago CC heard that he spoke at schools in Peoria, Peoria Heights, Sparland, and Morton. These schools are all in the Peoria area (most in Peoria County), so I started to investigate.

In February, after months of long-distance phone calls and inquiry letters, I finally made progress. I received a letter from Chester V. Dugger, Ed.D., executive director of high school programs for the Peoria district. In it he states "we encourage ... science teachers to take

Peoria, continued on p. 9

ICR Sues Honig and California Department of Education

As we reported last issue, on 16 March, California Superintendent of Public Instruction Bill Honig rejected the Institute for Creation Research Graduate School's application for continued approval to grant graduate degrees in science (see "ICR's Graduate Program in Science Flunks," *NCSE Reports* 10(2):15). On 13 April, ICRGS filed suit in the U.S. District Court for the Southern District of California to reverse the decision. Three days later, they filed an administrative appeal with the Superintendent of Public Instruction (that is, Honig).

ICR Sues, continued on p. 19

Meanwhile, I await a reply from the new Peoria school district superintendent, Dr. John M. Strand, who may not have been aware of this problem. In my letter, I informed him of two problems with their current policy.

First, many federal court cases in the last 25 years (*Epperson v. Arkansas*, *McLean v. Arkansas*, *Edwards v. Aguillard*) have found that creationism, unlike evolution, is not science but a sectarian religious belief, and to teach it as science in our public schools violates the separation of church and state guaranteed by our Constitution. It is illegal to teach creationism to students in any way other than objectively as one of many religious beliefs.

Second, evolution deserves a place in the classroom as an important scientific theory; creationism does not. Creationism has a place in the history of science as an early belief proved false by use of the scientific method. To teach it as valid science is like teaching that diseases are caused by demonic possession, that mice can generate spontaneously from dirty rags, and that the Earth is flat and the center of the solar system.

As I wait for replies to my letters and telephone messages, I cannot help but muse over the irony of this anachronism. Vaudeville, which made Peoria famous, has but a handful of followers today because our tastes have evolved. Creationism, which still plays well in Peoria, has fewer followers today because our knowledge has evolved.

But followers of creationism are devoted to their beliefs and have, in many cases, forced us to watch their vaudevillian act against all reason. Creationism, like vaudeville, is an anachronism best left to the historians of its field. Those who study it should be historians of the Dark Ages, not future scientists of our evolving technological world.

Until the textbooks for Texas and California are submitted and examined, we won't know whether there is a tide toward the proper treatment of evolution...

Are Textbooks Starting to Shape Up?

Eugenie C. Scott

Precollege textbooks have been famous for omitting evolution or treating it as a "controversial" topic, largely because of pressure from Religious Right activists. This may be changing, according to a textbook author who has recently finished a high school level biology book. At first reluctant to write the book, he was eventually convinced to do it by an editor who assured him that "he could do whatever he wanted with evolution." From the standpoint of the company, it was a business decision; they felt that "the marketplace wants a strong treatment of evolution," and though some would complain, "more people out there want it!"

Until the textbooks for Texas and California are submitted and examined, we won't know whether there is a tide toward the proper treatment of evolution, but news such as this is encouraging.

NCSE and CC members throughout the country can be proud that their advocacy of good textbooks has contributed to this changing "market climate." Keep up the good work!

One Publisher Still Genuflects to Creationists

Karl D. Fezer

The cover of the second edition of Sylvia Mader's *Biology* bears the subtitle *Evolution, Diversity, and the Environment*. Chapter 2 of this 1987 textbook for college freshmen (Wm. C. Brown Publishers, Dubuque, Iowa) focuses on Darwin's reasoning, and the remainder of the book is divided into three sections titled "Evolution," "Diversity," and "Environment."

The third edition of this book (1990) lacks the subtitle. Its two opening chapters, mostly about other things, nevertheless do stress — without mincing words — the importance of evolutionary thought. The rest of the book is now organized into six parts. Ten chapters on “Evolution and Diversity” constitute part 3. The treatment of evolution has actually been expanded slightly, and one could argue that the organization of the book has been improved. But evolution obviously has become less conspicuous.

The changes would not trouble me, except that I have it on good authority — from within W. C. Brown — that it was creationist pressure that led to the dropping of the subtitle and, presumably, to the correlated internal changes.

One other curiosity: Mader, no creationist, nevertheless absorbed somewhere the practice, normally limited to Christian apologetics, of using the plural form of “evidence.” One chapter in both editions is titled “Evidences for Evolution.”

Bush's Dog More Popular Than Education

During 1989, President Bush's dog, Millie, received more attention from the television media than his Secretary of Education, Lauro Cavazos.

This support for education was revealed by the Center for Media and Public Affairs, as reported in *Teacher* magazine, March 1990.

Negative = Positive?

“Gish then presented what he maintained was powerful positive evidence for creation based on thermodynamics, probability laws, and fossils.”

Acts & Facts, May 1990

Teacher Institute Set for Second Year

The Evolution and the Nature of Science Institute for High School Biology Teachers will be held at Indiana University, Bloomington, from July 22 to August 10, with Friday and Saturday follow-up sessions in November 1990 and March 1991. This is the second year this institute has been held.

Thirty-five participants from a 400-mile radius of Bloomington will receive a stipend, travel expenses, room and board, tuition, and three optional graduate credits in biology. The faculty members (a biologist, anthropologist, and science educator) also serve on NCSE's Teacher Institute Task Force.

For information, contact Craig Nelson, Department of Biology, Indiana University, Bloomington, IN 47405, (812) 855-1345 or (812) 855-7322.

The Far Side of the Law

If you edit a newsletter sent to members of your CC or any other group (office, PTA, interest group, and so on) **do not** include cartoons from the newspaper or other copyrighted art work unless you get written permission. A new copyright law signed in 1989 makes you liable for \$5,000 per occurrence (that's right — per issue distributed!) when material is published without permission of the copyright holder.

In a case earlier this year, a business used a newspaper cartoon of a popular cat character in an in-house newsletter distributed to about 350 employees, and they received a friendly letter from the syndicator requesting \$10,000. They paid, because the alternative might have been to pay \$3,500,000. The syndicate virtually *has* to sue to protect its legal claim to the property.

A word to the wise.

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Dawkins, <i>The Blind Watchmaker</i>	7.95	6.35
Dietz and Holden, <i>Creation/Evolution Satiricon</i>	9.95	7.95
NEW – Ecker, <i>The Dictionary of Science and Creationism</i>	*32.95	26.35
Edey and Johanson, <i>Blueprints</i>	*10.95	15.55
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Harold and Eve, <i>Cult Archaeology and Creationism</i>	*20.00	16.00
Hawking, <i>A Brief History of Time</i>	*18.85	15.10
NEW – Larson, <i>Trial and Error</i> ,	9.95	7.95
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McIver, <i>Anti-Evolution, An Annotated Bibliography</i>	*39.95	33.95
NEW – Montagu, <i>Science and Creationism</i>	13.95	11.16
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Quammen, <i>Natural Acts</i>	6.95	5.55
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Ruse, <i>But is it Science?</i>	*24.95	19.95
NEW – Ruse, <i>The Darwinian Paradigm</i>	*25.00	20.00
NEW – Smith, <i>Did Darwin Get it Right?</i>	*22.95	18.35
Strahler, <i>Science and Earth History, the Evolution/Creation Controversy</i> (see below for special shipping fee)	*39.95	31.95
UNESCO, <i>700 Science Experiments for Everyone</i>	*13.95	11.15
VanDiver, <i>Imprints of Time: The Art of Geology</i>	19.95	15.95
NEW – Van Till, Young, and Menninga, <i>Science Held Hostage</i>	7.95	6.35
Weinberg, ed., <i>Reviews of Thirty-One Creationist Books</i>	5.00	4.00
Willis, <i>The Hominid Gang</i>	*21.95	17.55

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More New Books!

Trial and Error, the American Controversy over Creation and Evolution

Edward J. Larson

Simply the best legal history of the creation/evolution controversy yet written. This book is a must whether your interest in creationism is academic or activist. Well written, and FASCINATING! Now available in paperback.

Science and Creationism

Ashley Montagu, editor

The classic reader with articles by Gould, Godfrey, Ruse, Marsden, Miller, etc. Available through NCSE at discount for the first time.

The Dictionary of Science and Creationism

Ronald L. Ecker

In dictionary format, Ecker outlines both sides of the creation/evolution controversy in an easy-to-understand manner. Under each entry, pertinent evidence for evolution is succinctly presented, as well as reasons that the creationist arguments are scientifically invalid.

Science Held Hostage

What's Wrong with Creation Science AND Evolutionism

H. J. Van Till, D. A. Young, and C. Menninga

Arguing for a middle ground between a young earth and a universe without God, these Calvin College professors present case studies of the creationist arguments such as the shrinking sun, dust on the moon, and missing rock layers in the Grand Canyon, as well as critiquing P.W. Atkins' *The Creation* and Carl Sagan's "Cosmos" series.

The Thread of Life

Roger Lewin

This beautifully illustrated and highly readable book lays bare the evidence for evolution as the unshakable foundation of modern biological science. Enlivened by many interviews with evolutionary biologists explaining their work. Now available at discount through NCSE.

Visitors from the Red Planet and 76 Other Solve-Them-Yourself Mysteries

Dr. Crypton (a.k.a. Paul Hoffman, editor-in-chief of *Discover*)

Why is it hazardous to drink champagne in a tunnel? ...Why are wintergreen lifesavers good to chew during a power failure? Science and suspense combine in 77 mysteries for the reader to solve. Each turns on a logical error, a wayward fact, or a bemusing riddle. A fun book.

The Darwinian Paradigm

Michael Ruse

A collection of articles by the philosopher of Darwinian science. Includes reflections on geology, punctuated equilibrium as a "paradigm shift," and the relationship of religion to science. As we have come to expect of Ruse, the book is profound and well written.

Did Darwin Get it Right? Essays on Games, Sex, and Evolution

John Maynard Smith

This well-known British scientist has contributed significant insights into evolutionary biology, the evolution of sex, and behavior and evolution. This volume provides a good introduction to his recent thinking on these matters, and like all of Smith's work, is smoothly written.

Don't Forget Your 20% Discounts On The Following Favorites:

Stephen Jay Gould: *Wonderful Life*

The new Best Seller on the Burgess Shales and their significance to evolution -- and to philosophical notions of teleology and ultimate purpose in nature.

Robert Dietz and John C. Holden: *Creation/Evolution Satiricon: Creationism Bashed*

Not for the faint-hearted! A couple of secular humorists take on the creation/evolution controversy. Did the Devil make Darwin do it?

David Quammen: *The Flight of the Iguana; A Sidelong View of Science and Nature*

By the author of *Natural Acts*: More essays reflecting on the intricacies of the natural world, and human attitude towards them. Often humorous and light hearted, but also thought-provoking. In one article: Duane Gish, the Argument from Design, and homosexual rape among bedbugs. Whew!

An Idea Whose Time Has Come!

We were asked to do it, so now we've done it.
The first NCSE Bumperstickers are now available.

Selections currently are: "Evolutionists do it ... with increasing complexity!" and "Honk if you understand punctuated equilibria!" Both carry the NCSE logo — and they're removable. Order now!

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**Tracking
those
incredible
creationists
— and the
people
who
believe
them!**

*In view of ray
darkening by solar
protons,
radiometric dating,
tidal locking, and a
library full of
contradictory
evidence, to argue
that the Apollo data
favors a
6,000-year-old
moon is an
outstanding
example of
self-deception.*

Returning to the Dust

Francis Graham

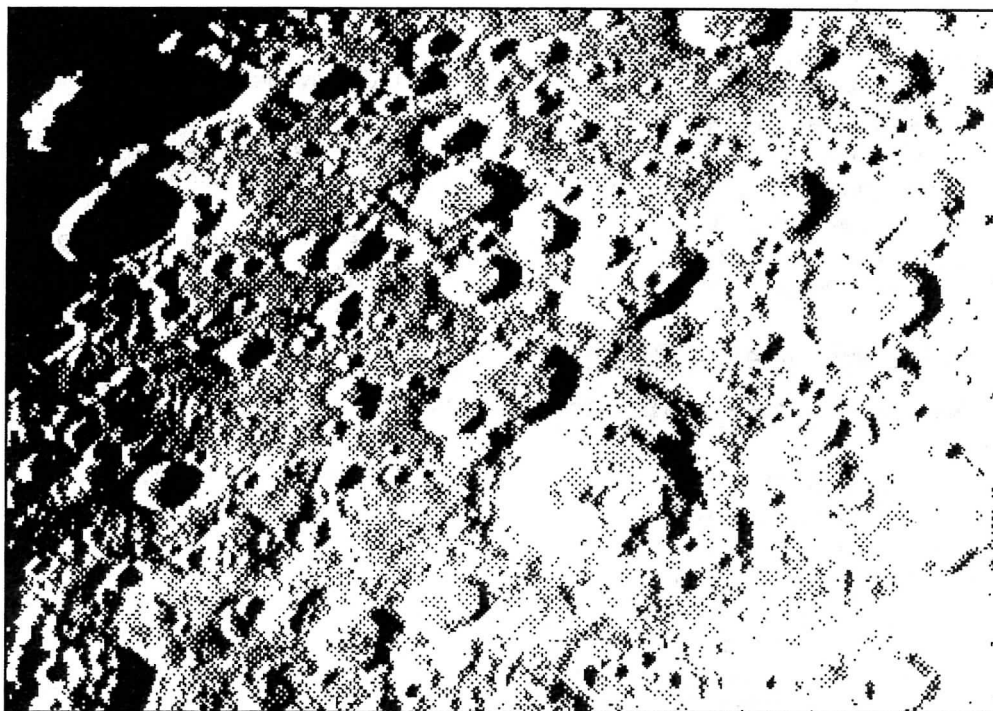
America's ultimate space triumph, the Apollo Project, is a patriotic symbol to most Americans and a great scientific and technological achievement. It revealed much about the moon that refutes young-Earth creationism. Unfortunately, by comparison with the technological details, the public has heard little of the scientific findings. Creationists have worked hard to fill this informational vacuum with their own interpretations that, for reasons of theological necessity, ignore or distort most of the Apollo data.

The Apollo results unequivocally point to a moon in which major geological activity ceased 2 to 3 billion years ago. This is about as old as the older surface rocks on the Earth (although a few are known to be older). Besides radiometric dating and mineralogical considerations, the very sight of the moon through a telescope suggests a battered surface of enormous antiquity. Collapsed lava tubes ("rilles") and layers of flood basalts which constitute the lunar "seas" are prominent geological features, hard to explain by

the Noachian flood catastrophism by which creationists explain most Earth geology. And then there are the craters: billions and billions of them, from gargantuan impact basins hundreds of kilometers across (such as Mare Orientale) to microscopic pits on dust grains. Where the flood basalts have not extruded, the surface is *saturated* with meteor impact craters and overlapping blankets of ejecta. Photographs of lunar cratering effectively challenge creationist nonsense about a 6,000-year-old moon.

In view of ray darkening by solar protons, radiometric dating, tidal locking, and a library full of contradictory evidence, to argue that the Apollo data *favors* a 6,000-year-old moon is an outstanding example of self-deception. A lot of evidence must be discarded and twisted.

A favorite creationist argument invokes the moon dust. Walter Brown (*In the Beginning*, self-published, 1989) states that, because astronauts were not swallowed in the moon's dust, it is only a few centimeters thick and cannot be the product of millions of years of meteoric bombardment. The dust, he says, should have



Crater saturation in the lunar highlands near Tycho

accumulated to great depths. Creationists such as Ron Calais ("Cleaning Up the Dust on the Moon," *Bible-Science Newsletter*, October 1987) cite published pre-Apollo fears that the spacecraft would vanish in a dust bin as it landed. In *The Moon: Its Creation, Form, and Significance* (Winona Lake: BMH, 1978) John C. Whitcomb and Donald B. DeYoung cite Thomas Gold's 1955 paper (*Monthly Notices of the Royal Astronomical Society*, 115, 585) and Eugene Shoemaker's 1965 paper in *Ranger 7 Part II Experimenters Analyses and Interpretations* (Jet Propulsion Laboratory Technical Report 32-700, 75) that predicted mobile dust would be "tens of meters deep." I could not locate the latter (and would be grateful for a copy), but it is unlikely Shoemaker thought spacecraft would sink into the "dust"; Ranger 7 photography had already shown small boulders sitting on the lunar surface.

What is wrong with these arguments? Simply this: The consolidation of dust sufficient to support a load has nothing to do with its thickness. After all, one can stand atop a sand pile without sinking into it. The lunar regolith — the meteorite-pulverized portion of the upper lunar crust — is much deeper than a few inches, according to Apollo core examples and seismic data. The finely pulverized regolith extends to depths of 10 to 25 m in the highlands and more ancient maria, somewhat less in the younger western maria. This accords well with expectations based on their relative ages. Only on the rims of young craters and rilles (such as Apollo 15's Hadley Rille), where steep gradients would cause landsliding and infilling of crater and rille bottoms, is the regolith only inches thick.

(I recommend Peter Cadogan's *The Moon: Our Sister Planet* (Cambridge University Press, 1981) as an excellent post-Apollo review. If I were in control, I'd send one to every 1969 American taxpayer.)

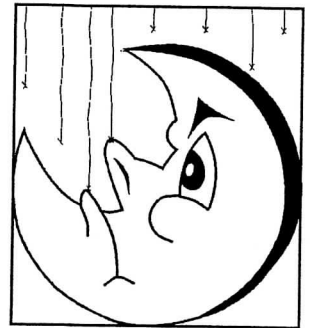
The regolith gets coarser with depth and becomes broken rock. Seismic data reveals that the lunar surface is

brecciated (broken) to a depth of about a kilometer from billions of years of bombardment. So far, creationists have ignored this in their moon dust arguments. It will be interesting to see what kind of *ad hoc* scenario they devise to explain it.

One more sophistry is used in the moon dust argument. In his *BSN* article, Calais notes the amount of fine micrometeoritic dust hitting the Earth and quotes F. Branley's *Apollo and the Moon* (New York: Hayden Planetarium, 1964): "Even though the Moon's surface is smaller than the Earth, it is large enough so that several hundred tons of meteoric material could 'fall' onto its surface daily." Calais then goes on to argue that, if the flux is this high, why isn't the moon dust much thicker (he imagines it is 1 or 2 in. thick) and why doesn't it contain almost exclusively meteoric material (the actual amount is about 1/60 meteoric matter)? Calais then concludes the moon is very young — about 6,000 years old.

Franklyn M. Branley, a prolific writer of juvenile and popular science books, wrote the work Calais cites five years before the first Apollo moon landing. The influx estimate Branley gave, though current three decades ago, is some two orders of magnitude too high. In any case, it is irrelevant, for meteorites do not just settle on the moon as Calais imagines.

Micrometeoritic dust impacts the atmosphereless moon at speeds up to 50 km/s. This is faster than the speed of sound in rock. The energy has nowhere to go mechanically, so it just changes into heat and vaporizes the micrometeor. The molecular velocity of the hot gases is greater than the moon's escape velocity, so most of the micrometeoritic vapor escapes. The exploding vapor also melts some of the lunar surface locally, and that is why there are tiny spherules in the dust layer, which is also pulverized ultra-fine from the smallest micrometeoritic impacts. Some meteoric material, however, does not escape, and small amounts are found



The influx estimate Branley gave, though current three decades ago, is some two orders of magnitude too high. In any case, it is irrelevant, for meteorites do not just settle on the moon as Calais imagines.

*In The
Remarkable Birth
of Planet Earth ...
Henry Morris
attributes lunar
cratering to scars
from the holy wars
between Satan's
host and Michael's
battalions (p. 66).*

*If we ... consider
particles ranging
from giant
asteroids weighing
 10^{23} gm down to
dust particles
weighing 10^{-13} gm,
we get
 $20.96 \text{ gm/km}^2\text{-yr.}$
In 4.6 billion years,
this amounts to
about 7.4 gm/cm^2 ,
a layer about
2.5 cm deep!*

(for example, small pieces of congealed iron).

In spite of such finds, some creationists argue that the process of lunar cratering is not meteoric. In *The Remarkable Birth of Planet Earth* (San Diego: ICR, 1972), Henry Morris attributes lunar cratering to scars from the holy wars between Satan's host and Michael's battalions (p. 66). Perhaps such supernatural explanations help creationists deny that lunar cratering (as shown on the first page of this article) records the kind of bombardment to which Earth, too, was once subjected. Then they need not answer whether this bombardment occurred on day 4 of

creation, when Genesis says God made the moon, or thereafter.

I only wonder why creationists don't tire of this mind-game of data dishonesty. But they don't, and so we can expect more creationist disinformation regarding the planets, as we have seen with Earth geology. One way of countering such disinformation would be to make sure scientific results from space activities — and not just technological results — are in the hands of science teachers and interested public as soon and as widely as possible. This did not happen with Apollo.

Walter Brown and the Moon Dust

Robert J. Schadewald

Creationists have long argued that the amount of dust on the moon is inconsistent with an age of 4.6 billion years. As astronomer Francis Graham shows elsewhere in this issue ("Returning to the Dust," p. 14), these arguments are misinformed and irrelevant at best.

One creationist enamored with the moon dust is Walter T. Brown. In older editions of his *In the Beginning* booklet, Brown cited Hans Pettersson's "Cosmic Spherules and Meteoritic Dust" (*Scientific American*, February 1960), which vastly overestimated the infall of dust onto Earth. More recently, he abandons Pettersson and claims (5th edition, 1989) to have calculated that in 4.6 billion years more than 2,000 ft of dust should have accumulated on the moon.

Brown says his figure is based on data from two sources, Stuart R. Taylor's *Lunar Science: A Post-Apollo View* (New York: Pergamon Press, 1975, p. 92) and David W. Hughes's "The Changing Micrometeoroid Flux" (*Nature* 251(379-380), 4 October 1974). Hughes gives no basis for any

calculation. According to Taylor, seismographs placed on the moon by Apollo astronauts detected 70 to 150 impacts per year of bodies in the range of 100 g to 1,000 kg. Their distribution is described by the following equation:

$$\log N = -1.62 - 1.16 \log m$$

The N variable is the number of bodies with mass greater than m impacting a square kilometer of moon per year.

Transforming this equation and integrating numerically for bodies in the observed range yields $0.064 \text{ gm/km}^2\text{-yr.}$ In 4.6 billion years, this would amount to roughly 300 Mg/km^2 . Assuming a specific gravity of 3, that would make a layer about 0.1 mm thick! If we extend the mass range more than a dozen orders of magnitude beyond the observed range and consider particles ranging from giant asteroids weighing 10^{23} gm down to dust particles weighing 10^{-13} gm (a questionable procedure, as direct measurements of micrometeorite flux are available), we get $20.96 \text{ gm/km}^2\text{-yr.}$ In 4.6 billion years, this amounts to about 7.4 gm/cm^2 , a layer about 2.5 cm deep!

Where did Brown get 2,000 ft? Perhaps he had moon dust in his eyes when he made the calculation.

Current Bibliography

Where indicated, single copies are available from NCSE. Write to NCSE, Resource Center, P.O. Box 9477, Berkeley, CA 94709. A self-addressed, stamped envelope (SASE) may be required.

Bahcall, John N., "The Solar Neutrino Problem." *Scientific American* 262(5):54-61 (May 1990). A good status report on a well-known mystery.

Cowen, R. 1990. "Frozen Relics of the Early Solar System: Astronomers Search for Distant Comets." *Science News* 137(16):248-250 (21 April). The latest efforts to investigate the proposed Oort cloud and Kuiper belt sources of comets.

"Discovery of the Oldest Known Anthropoid Skull from the Paleogene of Egypt." *Science*, 247:1567 (30 March 1990). A fossil primate that shows transitional traits between prosimian (primitive) primates and anthropoids (monkeys, apes, and humans) has been discovered in Egypt. Available from NCSE for an SASE with \$0.25 postage.

Faust, Scott, "Evolution in Texas Textbooks: New Requirements Spark Controversy." This 20-page manuscript describing the history of the textbook controversies in Texas is highly recommended. Available at cost from NCSE for \$2.50.

Fischman, Joshua, 1990. "Geo Watch: Flipping the Field." *Discover* 11(5):28-29 (May). Could reversals of the earth's magnetic field be set off by meteorite impacts?

Kerr, R. A., 1990. "When a Radical Experiment Goes Bust." *Science* 247:1177-1179 (9 March). A Swedish gas well drilled to test the hypothesis that oil and gas are derived from methane from the Earth's center has come up dry. Some creationists (G. R. Morton, for example) have favored this hypothesis because not enough organisms could have perished in the Flood to explain known reserves.

Merrill, R. T. and P. L. McFadden, 1990. "Paleomagnetism and the Nature of the Geodynamo." *Science* 248(4953):345-350. Up-to-date summary of the contribution of paleomagnetism to the understanding of the Earth's magnetic field. "Reversals of the geomagnetic field ... are now well-established results."

Pseudoscience of Animals and Plants: A Teachers Guide to Nonscientific Beliefs is a recently published, free booklet from the Kansas School Naturalist, Division of Biology, Box 50, Emporia State University, Emporia, KS 66801. It discusses water witching, the "100th monkey phenomenon," "sensitive" plants, and the nature of science. Available from NCSE while supplies last. Send SASE with \$0.45 postage.

Science As a Way of Knowing is a series of books on topics in biology produced by the American Society of Zoologists, under the direction of NCSE Supporter John A. Moore. The most recent book, *Cell and Molecular Biology* is now available. Write to Mary Adams-Wiley, ASZ, 104 Sirius Circle, Thousand Oaks, CA 91360. Single copies are \$3.00.

"Spontaneous Order, Evolution, and Life." *Science* 247:1543ff (30 March 1990). "Evolution is a combination of natural selection and spontaneous order" according to physicists, computer scientists, and biologists at a conference on artificial life. The second law of thermodynamics is fully compatible with order in the universe, the origin of life and evolution (so much for the "second Law forbids evolution" argument of the creationists.) Available from NCSE for an SASE with \$0.25 postage.

Wellnhofer Peter, "Archaeopteryx." *Scientific American* 265(5):70-77 (May 1990). *Archaeopteryx* is a "textbook example of a transitional form between reptiles and modern birds" with a mosaic of reptilian and avian skeletal structures. Available from NCSE for an SASE with \$0.45 postage.

Resources

A fossil primate that shows transitional traits between prosimian (primitive) primates and anthropoids (monkeys, apes, and humans) has been discovered in Egypt.

Archaeopteryx is a "textbook example of a transitional form between reptiles and modern birds" ...

Keeping tabs

The "science" in the Bible-Science Newsletter is as dreadful as ever. And don't expect it to change.

Further Evolution at the Bible-Science Association

Robert J. Schadewald

Last spring (*NCSE Reports* 9(3):18), I reported on a major shake-up at the Bible-Science Association (BSA), creationism's largest membership organization. In February 1989, newly elected BSA President Keith Hedges, with the approval of the board of directors, fired almost the entire staff. Hedges announced several goals, primary among them being putting BSA on a sound financial footing, instituting sound management practices, and improving the quality of the *Bible-Science Newsletter* (BSN).

Now, the April 1990 issue of *BSN* reports that Hedges was replaced as president at the recent board meeting. Carl Tetzloff, a Twin Cities engineer not known to me as a creationist activist, is the new president. Hedges is listed as a member of the board. The entire 13-member board is from Minnesota. Three board members (Russell Arndts, Tom Ruhoff, and Duane Sheppard) are from St. Cloud, as is BSA Executive Director Greg Hull.

It appears that Tetzloff is a stalking horse for Arndts, chemistry professor at St. Cloud State University, long-time BSA president, and the real power on the BSA board. Arndts has gotten some heat from superiors at St. Cloud State for his creationist activities. Perhaps that is why he resigned as president last year and (reportedly) arranged for Hedges to succeed him. Hedges told me he could have continued as president if he wanted the job, but he is extremely busy and tired of board politics.

What did Hedges accomplish in one year as BSA president? When he took over, BSA was deeply in debt and in financial chaos. In another year, it will be out of debt, and sound management should keep it that way. Hedges had no success, however, at his other major

goal. The "science" in the *Bible-Science Newsletter* is as dreadful as ever. And don't expect it to change.

Russell Arndts has never shown any concern about the quality of *BSN*. (As BSA president, he did not respond to letters pointing out glaring falsehoods published in *BSN*.) Probably the second most influential member of BSA is Arndts's friend and political ally, Reverend Paul Bartz. Bartz has been editor of the *Bible-Science Newsletter* since 1981, and he presumably likes it just as it is.

Falwell Bond Issue Approved, Opponents Appeal

Last issue, we reported on evangelist Jerry Falwell's quest for a \$60 million tax-free public bond issue to support his college, Liberty University (*NCSE Reports* 10(2):11). According to a Religious News Service report dated April 17, 1990, Circuit Judge Mosby Perrow approved the bond issue on March 23. Falwell's opponents, Nathaniel Habel and Haynie Kabler, plan to appeal the decision to the Virginia Supreme Court. Americans United for Separation of Church and State is helping to fight the case.

At issue is whether Liberty University is "pervasively religious." In January, Falwell testified that Liberty University is "unashamedly and unabashedly Christian," but he said university rules on short hair, alcohol, rock music, and so on are "just our preference" and "totally and entirely" a matter of taste, rather than being based on the Bible.

Judge Perrow agreed that Liberty University's primary purpose is providing a liberal arts education rather than religious indoctrination. Is this the same school that requires faculty members to sign a statement of faith, requires (or used to require) all students to take a course in creationism, and houses the Center for Creation Studies and "the world's largest creationist museum?"

ICR Sues, *continued from p. 1*

For those unfamiliar with the story, the ICR Graduate School (ICRGS) was founded in 1981, when ICR was formally spun off by Christian Heritage College. The September 1981 *Acts & Facts* says ICRGS was approved to grant science degrees "on June 22-23, 1981 by a six-man visiting team of university scholars and state officials" representing the California Office of Private Post-Secondary Education, but it is not clear what kind of scrutiny ICRGS received. No official report of this site visit survives. The school was then embryonic, and the committee reportedly visited only one class (perhaps the only one that existed).

In 1984, the California legislature revised the law governing unaccredited private schools, making the requirements for approval more stringent and requiring periodic reapproval. The new law included a grandfather clause providing reapproval upon application for institutions already approved. ICRGS submitted the necessary paperwork and was reapproved in due course.

ICRGS came up for reapproval in 1987 and was revisited in 1988. The story has been ably and pungently told by William J. Bennetta in a series of articles in the *Bay Area Skeptics Information Sheet (BASIS)*. Briefly, a five-man committee made a whirlwind tour of ICR, conducted by a state official, who then demanded that they complete their report that very night. Two committee members strongly opposed granting approval; two strongly favored approval. The swing vote went in favor of ICRGS, and a brief report was hammered out.

The two dissenters then separately wrote strongly worded minority reports. On receiving the three reports, Honig consulted with committee members. The swing vote shifted, and the committee now stood 3-2 against approval. The two members still favoring approval were staunch creationists and long-time friends of

Henry Morris — G. Edwin Miller (former president of Christian Heritage College) and George Howe (board member of the Creation Research Society almost from its founding).

Faced with loss of its approval, ICRGS negotiated a revisit. The second visiting committee included four prominent California scientists and an out-of-state member nominated by ICRGS. Based on the committee's lengthy and damning report (excerpted in *NCSE Reports* 10(1):15), Honig rejected ICRGS's application for reapproval. Thus, the lawsuit against Honig and others in the California Department of Education.

The ICRGS complaint (a copy was kindly provided to *NCSE Reports* by ICR counsel Wendell Bird) opens as follows:

This is a First Amendment case involving the abridgment of the academic freedom and other First and Fourteenth Amendment rights of a small private graduate school of science. Plaintiff simply wishes to exercise its First and Fourteenth Amendment rights to be able to teach science courses in peace and without government interference, with all the content taught in other graduate schools' similar courses, but informed by perspectives that the defendants seek to censor and ban but that the majority of leading scientists once held and that many respected scientists hold.

It alleges five specific causes of action:

- Violation of academic freedom and free speech
- Violation of freedom of religion
- Violation of due process
- Discrimination violating due process and equal protection
- Violation of California law

Most readers (and presumably a jury) will find the claims about academic

The two members still favoring approval were staunch creationists and long-time friends of Henry Morris — G. Edwin Miller (former president of Christian Heritage College) and George Howe (board member of the Creation Research Society almost from its founding).

Nucleus

From the Editor

This issue includes the first article of a new series collectively entitled "Tracking Those Incredible Creationists — and the People Who Believe Them." "Tracking..." articles will be brief (about two pages), and each will debunk a popular creationist argument.

One common (and absurd) creationist argument invokes the dust on the moon. If the moon were billions of years old, creationists argue, its surface should have a deeper dust layer than the Apollo astronauts found. Despite a decade of unanswerable refutations, this chestnut remains a staple of the *Bible-Science Newsletter*, and those of us who regularly interact with rank-and-file creationists hear it repeatedly. Astronomer Francis Graham examines this claim in "Returning to the Dust" (p. 14).

Beginning next issue, Karl Fezer, who edited this publication (under its former name, *Creation/Evolution Newsletter*) for so many years, will edit the "Tracking..." feature. Karl envisions a slightly different format than the moon dust article I solicited from Graham. He will explain it in an introductory essay next issue.

The "Tracking..." series is intended to prepare readers to counter creationists who spout standard ICR/BSA nonsense before school boards, textbook commissions, and so forth. Later, Karl will edit the collected articles for publication as a book.

Regular readers will notice some differences in the typography and layout of this issue, the fifth *NCSE Reports* I have edited. Previously, I sent diskettes containing edited copy to NCSE headquarters in Berkeley. Genie Scott and her staff formatted the text with Ventura Publisher® and returned proofs. The copy editor (my wife Wendy) and I marked up the proofs and sent them back to Berkeley for correction and layout. This process resulted in delays, frustrations, and exorbitant phone bills.

In early April, I bought a PostScript™-compatible printer. I already owned Ventura. For better or worse, I laid out and produced the masters for this issue myself. I will say only that the experience has heightened my appreciation of the labors formerly performed in Berkeley!

Robert J. Schadewald

John Cole to Edit *Creation/Evolution* Journal

NCSE President John Cole will edit several forthcoming issues of *Creation/Evolution*. Submissions may be sent to the following address:

John R. Cole
Water Resources Research Center
University of Massachusetts
Amherst, MA 01003

Cole has been associate editor of *Creation/Evolution* for several years, and he will retain that title. Fred Edwards, executive director of the American Humanist Association, will continue as editor-in-chief. As many readers know, *CE* has fallen behind of late. It is hoped that Cole's more active editing role will help it maintain a regular schedule.

Creation/Evolution is owned and controlled by the American Humanist Association. NCSE's only formal connection with *C/E* is the sale of subscriptions.

Idaho CC Liaison

In composing last issue's list of CC liaisons, we inadvertently omitted our Idaho liaison:

Garvin Chastain
Department of Psychology
Boise State University
Boise, ID 83725

Our apologies to Dr. Chastain and our Idaho readers.

"The Department conspired with the Committees of Correspondence, a dogmatic evolutionist and anti-creationist lobby affiliated with the American Humanist Association that vocally opposes approval of the Graduate School, to revoke the School's approval."

freedom and freedom of religion ludicrous if not Orwellian. (ICRGS explicitly *denies* both rights to its teachers.) Some of the due process claims seem to hinge on technicalities. The central theme of the complaint, however, is perfectly straightforward. ICRGS claims that Honig and Joseph Barankin, with the connivance of various individuals and organizations, conspired to censor views they reject.

A grand conspiracy theory it is. For example, "The Department conspired with the Committees of Correspondence, a dogmatic evolutionist and anti-creationist lobby affiliated with the American Humanist Association that vocally opposes approval of the Graduate School, to revoke the School's approval." Unnamed CC members are alleged to have performed various acts at unspecified times. Honig and Barankin are presumed able to order (or at least persuade) senior California scientists to do their will.

And what of the 1989 visiting committee's detailed and devastating report describing the pathetic academic standard of ICRGS? The complaint dismisses it without attempting a refutation. It alleges that the committee was sent "to find and exaggerate grounds to deny approval to the Graduate School without overtly referring to its creationist and religious perspectives." In short, "The 1989 verification committee visit was simply a sham."

In its Prayer for Relief, ICRGS asks the court to rule that denying ICRGS approval to grant science degrees is unconstitutional and that the 1988 visitation committee's original 3-2 vote favoring approval was final. (What the latter would accomplish is not clear; the visitation committee's role is only advisory.) ICRGS demands a jury trial.

Though the complaint explicitly denies it, the scientific validity of creationism is a central question in the suit. ICRGS alleges that Honig is biased and discriminates. But it is Honig's duty to

discriminate between those unaccredited private schools that meet California's standards and those that do not. He is also obligated to be biased against misrepresentation. ICRGS cannot declare *ex cathedra* that its ideas are science; it must convince the scientific community that said ideas have scientific merit. This it has not done and makes little attempt to do.

Meanwhile, it is business as usual at the ICRGS. In response to a recent query, the dean told a prospective student that ICRGS would continue to accept students and grant degrees while the suit is in progress. Indeed, he noted that students entering this summer should have time to get their sheepskins before ICRGS's approval to grant them can be finally revoked!

Sky Writing

What follows is extracted from The Ark Today, March-April 1990, edited by Reverend Walter Lang, founder of the Bible-Science Newsletter.

On a clear day, in the city of Tamov (population 100,000), southeast of Moscow, a white hand appeared [in the sky], writing with a brush the following words:

Overcome evil with good. It is winter among my people. This is the day of repentance. Not one righteous soul will stay among the unrighteous. Not one unrighteous soul will stay among the righteous. Take heed of My salvation. Bring righteous fruits of repentance. Those that fear God will be saved. Be strong like men for the time is near. Behold I come soon and My reward with Me. Amen.

The hand wrote for half an hour and the writing remained in the sky for three hours. Everyone in the city read it. Fear overcame everyone and traffic came to a halt.

(Too bad that not one of the 100,000 residents of Tamov had a camera — Editor)

Current Creation Science

Bible-Science Newsletter, v. 28, n. 4 (April 1990). In the lead article, "Mammoth Remains: What Do They Indicate?" Robert Helfinstine argues that 40 million mammoths lived and died after the Flood. — In "Exposé of a Persistent Evolutionary Fallacy," Trevor Major flogs a favorite dead horse, Haeckel's biogenetic law, which he seems unable to distinguish from modern ideas of ontogeny. (Major should read Stephen Jay Gould's *Ontogeny and Phylogeny*.)

Bible-Science Newsletter, v. 28, n. 5 (May 1990). The lead article, "The Great Evolution Lottery Game" by Edward W. Farrar, asserts that bats could not have evolved. — Also on the cover, Robin D. Fish attacks the Gap Theory. — In "Bible-Believers are Being Had!" editor Paul Bartz writes, "When your viewpoint can't stand too much testing in the marketplace of ideas, there is one more strategy which usually works — play politics." Further, "*when your position is tenuous, impugn the motives of those who are likely to point out your weak position* (italics original)." (No, Reverend Bartz is not coming clean; he attributes these strategies to us!) — In "World View," Nancy Pearcey attacks sex education. — In the *Contrast* insert, Jerry Bergman accuses Stanford of censoring Richard H. Bube.

Creation Research Society Quarterly, v. 26, n. 4 (March 1990). The issue features a "Minisymposium on Variable Constants," three papers discussing the stability of the speed of light and such. — In "The Role of Meteorites in a Creationist Cosmology," William S. Parks proposes (again) that asteroids are the debris of an exploded planet. (He also cites, via Henry Morris, Pettersson's 1960 overestimate of meteoritic dust falling on Earth, proving once again that no error favorable to creationism ever dies.) — Robert V. Gentry makes one of the most explicitly bizarre appeals to *Omphalos* since Philip

Gosse, insisting that granites are primordial and created, chilled margins, xenoliths, and all. (But if Earth was created a monumental lie, surely its creator must be the Father of All Lies.)

Origins Research, v. 12, n. 2 (Fall-Winter 1989). Actually published this spring, the issue is dominated by Michael Thomas's article "Stasis Considered." A Ph.D. student in molecular biology, Thomas argues that a theory of stasis (and design) is superior to (and more testable than) macroevolution. — In "The Status of Evolution as a Scientific Theory," Robert C. Newman and three coauthors conclude that macroevolution is a historical theory without an adequate mechanism; in any case, it would not disprove the existence of a Creator. (The authors explicitly reject young-Earth creationism and flood geology.)

Creationist Walter Brown on Arizona Curriculum Panel

Eugenie C. Scott

Creationist engineer Walter Brown, best known for his "In the Beginning..." seminars, has been appointed to the Arizona curriculum committee in charge of developing the "Essential Skills in Science."

According to an NCSE member in Arizona, the only section of the document remotely related to evolution is this convoluted statement: "(The student) traces discoveries that have led and continue to lead to the conclusion that life is more complex than was previously believed."

Huh?

This sounds fuzzy enough to have been written by a creationist. Our suspicions are aroused further by statements such as "(The student shall) recognize that science does not have all the answers" and a definition of theory as a "guess."

"Robert V. Gentry makes one of the most explicitly bizarre appeals to Omphalos since Philip Gosse, insisting that granites are primordial and created, chilled margins, xenoliths, and all."

"[W]hen your position is tenuous, impugn the motives of those who are likely to point out your weak position."

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creation
conference.*

The 1990 International Conference on Creationism

The 1990 International Conference on Creationism (ICC) will be held on the campus of Duquesne University in Pittsburgh 29 July through 4 August. It is being sponsored by the Pittsburgh Creation Science Fellowship, the same group that put on the 1986 ICC. As before, the conference theme is the age of the Earth. To judge from the published program, this ICC will again be a cut above the National Creation Conferences the Bible-Science Association holds in odd-numbered years.

The conference offers three tracks, technical, general creationism, and evening programs. Preregistration is \$180 for the technical track and \$90 for the general track. The evening programs (of which, more later) are free and open to the public.

Those presenting technical papers are an unusual lot, considering the theme. Of the 32 authors profiled in the conference program, 16 have their major training in engineering or physical sciences (physics, geophysics, and meteorology). Only three have Ph.D.s in geology. Of these, Kurt Wise is primarily a paleontologist. Gregg Wilkerson, a California geologist long affiliated with Students for Origins Research, is an old-Earth creationist whose geology is presumably conventional.

Many technical papers will depart from the conference theme. For example, John Baumgartner, an expert in numerical fluid dynamics, will present "3-D Simulation of the Global Tectonic Changes during Noah's Flood." Canadian metallurgist Ian Taylor will present "The Ultimate Hoax: *Archaeopteryx* Lithographica." Ohio chemist Hugh Miller will present "The Paluxy Footprints Revisited."

Of special interest is a joint paper by Gregg Wilkerson and J. Richard Wakefield criticizing Robert V.

Gentry's interpretation of the polonium halos found in granites and other rocks. Gentry claims the halos are found in created rocks and represent the signature of the creator. Wilkerson and Wakefield will show that many of the rocks in which the halos are found are obviously intrusive. Wakefield's appearance will be a first; never before has a noncreationist given a paper at a creation conference.

One evening program will be a debate on the age of the earth. Steven Austin of ICR will defend the young-Earth position. Greg Wilkerson will defend the conventional view of an ancient Earth. Interesting!

Three of the other four evening speakers are evangelists experienced in preaching the Gospel of Creation to the public — Henry Morris, Duane Gish, and D. James Kennedy.

New Fundamentalist Coalition Forms

The *Christian Coalition* is a new "issue-oriented group forming to mobilize and train Christians for effective political action." Targeted at "Evangelicals, conservative Catholics and their allies," the group plans to organize locally and nationally to promote "Christian values" and "monitor legislative initiatives of concern to our membership." Beverly LaHaye, Rev. Pat Robertson, and Rev. D. James Kennedy, religious right leaders with strong antievolution views, are prime movers in this new organization.

Because one of their projects is a "Christian Legal Defense Fund" to "fund legal challenges by Christians protesting violations of their historic freedoms," we suspect that they may oppose evolution or try to promote creationism. Their address is Box 1990, Chesapeake, VA 23320, (804) 424-2630.

Please inform NCSE of any news of this organization in your area.

"The Evolution Conspiracy"

David Persuitte

On the evening of January 3, I noticed that the *TV Guide* listed a program titled "The Evolution Conspiracy" on the local (Maryland) Public TV outlet. It was to follow a *Nova* presentation on astronomy and be followed by the 90-minute "Origins," hosted by Christopher Reeve.

I could not recollect having ever heard of "The Evolution Conspiracy" before, so I decided to check it out. It proved to be a creationist program that unsurprisingly resorted to the typical bad science, misrepresentations, and audience manipulation. For example, to put viewers in the proper frame of mind, the program began by blaming evolution for the rise of the New Age movement, atheism, humanism, and communism.

The arguments presented were mostly the same faulty and misleading ones typically found in creationist literature. For example, it is mathematically impossible that the complexity of the human body could arise through accident; no transitional forms are found in the fossil record; nobody has observed one life form evolving into another, and therefore, evolution is outside the realm of science; and the geologic time tables are fabrications backed up by biased dating processes.

The program had brief interviews with several evolutionists and creationists. For example, John Morris stated, "There are hundreds of different clocks by which we can estimate the age of a rock or the age of the earth, and almost all of them seem to give young ages for all these things. There are about five or six, however, that seem to give old ages. It's interesting that my evolutionary colleagues will always choose the old ones." Morris did not specifically describe any of the "hundreds" of clocks supporting a young Earth.

The program gave a very restricted view of the fossil evidence for evolution. According to creationists, *Archaeopteryx* is a true bird, and evolutionists have misdated and misidentified it (the skeletal differences between *Archaeopteryx* and modern birds were not described). A list of human ancestor fossil "finds" consisted of Ramapithecus, Java man, Johanson's Lucy, Piltown man, Neanderthal man, and that creationist standby, Nebraska man. Each was scratched off the list because it was "refuted" — Lucy was just an ape and probably did not walk erect; Java man was just a piece of a gibbon skull; and Neanderthal man was *Homo sapiens* like us, though a few specimens had rickets, and thus the "stooped" appearance. No mention was made of evidence refuting this nonsense.

Near the end of the program, several citizens were asked whether creationism should be taught in schools. We all know what the answers were. The creationist position was summed up with the statement that "evolutionists are running scared because every new development is converging to destroy evolution."

The next day, I called the station's program director and pointed out some of the program's faults to her. She said I was not the only one who called; some 20 others also called, and most of them expressed similar concerns.

Although the *Nova* program preceding "The Evolution Conspiracy" (the excellent "Children of Eve," presenting fossil and biochemical findings about human ancestry) and the "Origins" program that followed it contained refutations of some of the misleading information, I doubt that most viewers could make all the necessary connections, even if they watched all three programs. With programs like "The Evolution Conspiracy," only a point-by-point refutation can make viewers aware of its dishonest and misleading nature. One hopes that a video presenting such a refutation will be available in the near future.

[T]o put viewers in the proper frame of mind, the program began by blaming evolution for the rise of the New Age movement, atheism, humanism, and communism.

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Robert J. Schadowald
NCSE Reports
13204 Parkwood Drive
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NCSE in the News

NCSE Executive Director Eugenie C. Scott was quoted in the 8 February 1990 issue of the British science journal *Nature* in a story on ICR's thus far unsuccessful quest for reapproval to grant master's degrees in science (see *NCSE Reports* 10(1):1).

The decision has been praised as a victory for science over creationism. "The committee made the right decision for the right reason," said Eugenie Scott, executive director of the Berkeley-based National Center for Science Education, who asserted that coursework at the institution was far below today's scientific standards. "The ICR was rejected because they do a terrible job of training students. Any institution in California with as poor a program as the ICR would also be rejected."

Scott also appeared on radio station KVEN (Ventura, CA) discussing "scientific" creationism and evolution in February. In March, she discussed the state of science education in the U.S. on KQED radio (San Francisco) and was filmed by a Texas public television station for a program on textbook reform yet to be aired.

Cast of PEARL Increases

NCSE has joined the National Coalition for Public Education and Religious Liberty (PEARL), a group of organizations opposing sectarian challenges to education. We are pleased to join the ACLU, the National Education Association, the American Federation of Teachers, the National PTA, Americans for Religious Liberty, American Humanist Association, Unitarian Universalists Association, the Board of Church and Society of the United Methodist Church, the American Jewish Congress, and many other distinguished organizations in promoting the separation of education and sectarian religious views.

Submissions

NCSE Reports needs articles and reports. We especially need short reports on local stories involving evolution education, Committees of Correspondence, or creationist activities. Articles should be submitted *double-spaced* and typed on one side of the paper with 1" margins all around.

Computer users, please use a *nonproportional* 10- or 12-pitch font such as Courier. If possible, include a diskette containing the text. Users of IBM® and compatible computers may submit any format 3½" or 5¼" diskette with the text in WordPerfect®, Microsoft® Word, old-fashioned WordStar®, WordStar Professional, DCA, or ASCII. Macintosh® users may submit text in WordPerfect, Microsoft Word, or ASCII.

No submissions will be returned unless accompanied by a stamped, self-addressed envelope.

Send submissions to:

Robert Schadewald
Editor
NCSE Reports
13204 Parkwood Drive
Burnsville, MN 55337

Wanted: Evolutionary Cartoonist

NCSE Reports needs a cartoonist. This is a chance for a budding Gary Larson to get national exposure for his/her work. (That's the good news; the bad news is that our cartoonist will receive the same pay as our writers — nothing!)

If you are (or know) a cartoonist who needs exposure more than money, please send samples to the editor. The samples will be reviewed and returned.

Letters

I cannot imagine a more useless concept (except maybe solipsism) than an unconscious, incoherent nonPersonage supernatural "agent" from which some (if not all) things flow.

Theism and Naturalism

Kenneth Nahigian (letter, *NCSE Reports*, January-February 1990) takes issue with a statement I made in passing in "Reflections of an Evolutionist" (*NCSE Reports*, September-October 1989) to the effect that "theism vs. naturalism is a true dichotomy," on the basis that it overlooks the possibility of "nontheistic miracles" wrought by a supernatural "agent," which (evidently) is *not* a conscious, coherent Personage and, therefore, it would not qualify as a god or deity; thus, it would not be a proper object of "theism."

I cannot imagine a more useless concept (except maybe solipsism) than an unconscious, incoherent nonPersonage supernatural "agent" from which some (if not all) things flow. Nevertheless, Kenneth is right; like solipsism, such an "agent" cannot be altogether ruled out (which is not, of course, any reason to embrace either as real). Therefore, theism and supernaturalism are not altogether interchangeable, and theism vs. naturalism is not the true dichotomy I said it was; supernaturalism vs. naturalism is! I wish I had said it correctly the first time, and I appreciate Kenneth's keen judgment in bringing this subtle but accurate distinction to our attention.

Frank Lovell

The Pandas Foot(not)es

In her *Of Pandas and People* review that appeared in the January-February 1990 issue of *NCSE Reports*, Eugenie Scott commented on the superscripts to nonexistent footnotes. I recently got my copy of *Pandas*, along with a Teacher's Guide (probably because I wrote to the publisher on University of Oklahoma stationery). The footnotes are in the Teacher's Guide. Have you

ever heard of such an unusual arrangement! The authors obviously have reasons to keep the student readers from checking up on their sources. On page 100, after dismissing the mammal-like reptiles in a couple of sentences, they remark as follows:

After summarizing a scientific conference on the matter, one authority wrote: "The transition to the first mammal, which happened in just one or, at most, two lineages, is still an enigma."⁹

Who is this authority? According to the semisecret footnote, it is Roger Lewin, then a science reporter for *Science*, apparently creating a snappy sentence to close his one-page report in 1981. This is the same year that the second of two papers by Kermack, Mussett, and Rigney was published on *Morganucodon*, the animal exactly straddling the fence between reptiles and mammals.

Frank J. Sonleitner
Department of Zoology
University of Oklahoma

More on Confused Terminology

Regarding the letter from Ralph Lewis (*NCSE Reports* 10(2):5-6) about "theory, hypothesis," etc.: Back in 1976 I was collecting signatures for "A Statement Affirming Evolution as a Principle of Science" from leading evolutionary scientists, educators, and church spokespersons. Our committee, which drafted the statement, based on an earlier text by Dr. Hermann J. Muller, was composed of Drs. Isaac Asimov, George Gaylord Simpson, Linus Pauling, Chauncey Leake, and myself. We had "discussions" by mail concerning use of the word *theory* in the title. We settled on *principle* because of widespread public misunderstanding of the meaning of *theory* in science.

Dr. George Gaylord Simpson, agreeing to the use of *principle*, wrote me at that time as follows:

I do not object to calling evolution "only a theory" if it is understood what a theory means in science. The statement "the sun will rise tomorrow" is also only a theory, and one depending on *less* evidence than (there is for) evolution." [Emphasis, parenthesis, mine]

We mailed copies of the statement with upwards of 300 signatures to 16,000 public school districts in the U.S. as an education project of the American Humanist Association. In it, we took care to note that the nonsense from creationists claiming that

evolution was the whole property of "secular Humanism" was foolish, and that evolutionary science was in no way dependent on, or related to, any religious or nonreligious philosophy outside of science itself. Nor did any Humanists or Humanist organization invoke it as a "tenet or creed."

Also, when I write about evolution, I carefully avoid using the term *creation* altogether. In our Indo-European system of language, some words imply an *actor-referent*. *Creation* implies a *creator*. I think Darwin sensed this and stuck with origins. Or we can say *beginnings* when speaking of the emergence of life-forms on this planet.

Bette Chambers

I do not object to calling evolution "only a theory" if it is understood what a theory means in science.

Bliss Attacks Committees of Correspondence

Robert J. Schadewald

A December 1989 *Acts & Facts* article, "Manitoba Committees of Correspondence Representative Attacks ICR at Workshop," describes an October 18, 1989, confrontation between Manitoba CC member Robert P. J. Day and Richard Bliss of the Institute for Creation Research. Bliss was in Winnipeg presenting a "Good Science" workshop to a group of Manitoba Christian teachers. Day attended. At the first break, he confronted Bliss alleging inflated claims in his promotional literature. An angry confrontation ensued, and Day was asked to leave. The *Acts & Facts* report on the confrontation included the following:

[I]t appeared his only problem was that as a representative of the Committees of Correspondence, he was compelled to try to disrupt a legitimate and productive meeting. Upon further investigation, it was found that among the materials that the representative had carried with him were documents containing misrepresentations, innuendos, exaggerations, and blatant lies. Bliss told the attendees that this

was a typical approach for the Committees of Correspondence to take with ICR and other creationists.

NCSE does not advocate confronting creationists at their meetings. Such confrontations rarely have a positive influence, and they give creationists opportunities to accuse us of persecuting them. The *Acts & Facts* article obviously was written by Bliss himself, and the passage quoted contains a serious allegation in each sentence. I wrote to Bliss and asked him to justify his charges against Day and the CCs, offering to publish said justification. Bliss ignored the original letter and a reminder copy.

Meanwhile, I discovered that Bliss was speaking at the Twin Cities Creation-Science Association (TCCSA) on Tuesday, 17 April. Through friends in TCCSA, I contacted Bliss and arranged to meet him at his hotel before the lecture.

We had not met since the 1986 International Conference on Creationism in Pittsburgh. After some pleasantries, I read the *Acts & Facts* passage quoted above. I challenged the allegations that "as a representative of

CC update

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Bliss is unwilling or unable to document his claim that Day "carried with him documents containing misrepresentations, innuendos, exaggerations, and blatant lies."

the Committees of Correspondence, he [Day] was compelled to try to disrupt a legitimate and productive meeting" and "this was a typical approach for the Committees of Correspondence to take with ICR and other creationists." I told Bliss that I have been involved with the CCs for nearly a decade and have attended dozens of creationist meetings. I have never done anything disruptive or witnessed a disruption by any other CC member.

Bliss became very agitated, and he bitterly denounced Rob Day. Bliss's account of the Manitoba confrontation differs from Day's in numerous substantive respects. (Significantly, Bliss is unwilling or unable to document his claim that Day "carried with him documents containing misrepresentations, innuendos, exaggerations, and blatant lies.") I told Bliss that whatever passed between him and Day, his false charges smear the CCs and me personally.

"Sure," he said. But he categorically refused to retract the charges.

I asked Bliss how, given such behavior, he expected anyone to take him seriously. He replied with a diatribe to the effect that, from the beginning, "you guys" (presumably anticreationists) have spoken unkindly of ICR. Nevertheless, he said he would be happy to buy me a cup of coffee should I ever visit ICR again. At that point, Bill Overn (formerly with the Bible-Science Association) arrived to take Bliss to dinner.

This incident provides insight into the ICR mentality. Though Bliss feels intensely that he has been wronged, he exhibits neither compunction nor remorse about wronging his opponents. When his own behavior is challenged, he responds with *ad hominem*s and counter-accusations. In one diatribe against anticreationists, Bliss repeatedly called Australian scientist Ian Plimer (who trounced Gish in a debate Down Under) a liar. It struck me that a man who publishes falsehoods and refuses to retract them might well use that word with caution.

Iowa Symposium on Public Understanding of Science

The Iowa Committee of Correspondence held an all-day symposium, "Understanding Science and its Human Impact," on Saturday, 5 May 1990, at the Des Moines Area Community College in Ankeny. The symposium was for the general public and science teachers. About 100 attended, including CC liaisons and members from Iowa and several other states.

The program included prominent Iowans (Ruth Swenson, president, Iowa Academy of Science; George McGrane, educational consultant; Stan Weinberg, cofounder of the CCs) and several speakers from out-of-state (Francisco Ayala, Michael Ruse, Davis Young, and Michael Zimmerman).

After a brief welcome by Ruth Swenson, Michael Zimmerman, associate dean and professor of biology at Oberlin College, spoke on "The Ethics of Good Science." Zimmerman argued forcefully that American science faces a crisis of ignorance and a crisis of nonparticipation. Regarding the former, he surveyed Ohio politicians, school teachers, and school board presidents for their views on humans and dinosaurs coexisting, aliens from outer space building ancient monuments, and so on. Their answers reveal appalling ignorance of well-established science and widespread acceptance of pseudoscience. Meanwhile, minorities seem to be opting out of science. Ignorance and nonparticipation have ethical consequences. For example, a strong correlation exists between race and the location of toxic waste dumps. Zimmerman suggested that, because there are so few scientists among them, minorities lack the expertise at the local level to protect their turf as whites do. Knowledge empowers, he said; we should empower as many as possible.

Davis Young is a geologist at Calvin College, author of *Christianity and the Flood* and *Christianity and the Age of the Earth*, and an archdemon in the Institute for Creation Research's private Pandaemonium. Young spoke on "Christianity and Science: Is There a Conflict?" He argued that the once popular "warfare" metaphor has been largely discredited. Although "some aspects of Christianity may conflict with the natural sciences," conflict is not inevitable. Young said that all of the conflicts ICR holds dear can be resolved without abandoning either Christianity or geology.

Francisco Ayala, a geneticist at University of California (Irvine), spoke on "Evolution and Creationism in Historical Perspective." Ayala said the Fathers of the Church did not interpret Genesis literally. Augustine wrote that not all animals were created by God, and he held that deciding questions about the natural world by religious authority is blasphemous. Catholics (and others) hold that the Bible is inerrant only in religious views. He compared evolution to the sphericity of the Earth, saying neither is an active question in science.

Michael Ruse, professor of philosophy at Guelph University (Ontario) and a witness at the 1981 Arkansas creationism trial, spoke on "Science: Its Nature and Social Responsibilities." Ruse has changed his views somewhat since the Arkansas trial, and he now recognizes that science is not value free. Moreover, "good science is *always* underdetermined," meaning that it always pushes out beyond the data. Values influence the direction of the push, and he argued that Lyell's geology was influenced by his strong Deist views. Science works because the diversity of values among scientists provides checks and balances.

George Magrane, an Iowa educational consultant, spoke on "Teaching Responsible Science in Small-Town Iowa." Magrane has been active in the fight for good science education since creationism erupted in Iowa more than a decade ago. Unfortunately, the writer

missed too much of his presentation to epitomize it accurately.

In his wrap-up, Stan Weinberg noted that evolution still frightens some people. In seeking funding for the symposium, he approached numerous funders in Iowa, but only the Iowa Academy of Science responded favorably. New York foundations — the Carnegie Corporation, the Richard Lounsbery Foundation, and the Esther A. and Joseph Klingenstein Fund — provided most of the funding. Indeed, a considerable sum remained, and the funding agencies agreed that the Iowa CC should use it to help other CCs present similar programs.

Creationist Course in Colorado

NCSE member Martin Tobias writes that the Longmont (Colorado) Community Education "Adult Enrichment Classes" for spring 1990 contained some unusual offerings. One class, entitled "Scientific Evidence for a Young Earth," was described as follows:

Is the universe 5 billion years old? To read modern textbooks you would think this to be a proven fact. In this course you will study strong scientific evidence for a young earth, learn the assumptions scientists made in dating rocks, examine radioactive dating methods, and study other clocks used to determine the age of the earth. Evidence for a young earth will be examined in the fields of geology and astronomy. In slides, you will visit Mount St. Helens, a modern geologic lab, and see a 1/40 replica of the Grand Canyon that was made in one day. You do not have to have a science background to appreciate this course.

Tobias "persuaded the school district to read out a statement at the start of the first class that says that I think that the course description is misleading and that the course has religious overtones."

Young ... argued that the once popular "warfare" metaphor has been largely discredited. Although "some aspects of Christianity may conflict with the natural sciences," conflict is not inevitable.

News

Do Observations Have Meaning?

More than four decades ago, cosmologists Ralph A. Alpher and Robert Herman made a remarkable prediction. If the Big Bang really occurred, it must have left an indelible signature on the fabric of the cosmos. At a certain point in its expansion, the primordial fireball would have become transparent to electromagnetic radiation. The intense radiation that then existed should still permeate the universe, though greatly diluted and radically red-shifted. It would come from all directions and have the spectrum of an ideal radiator (a "black body" to a physicist).

This prediction was confirmed in 1965 when two Bell Laboratories scientists, Arno A. Penzias and Robert W. Wilson, discovered that the universe is permeated with black body radiation at about three degrees above absolute zero (3 K). Since then, the original measurements have been greatly refined. On 18 November 1989, the Cosmic Background Explorer (COBE) satellite was launched to measure the background radiation with unprecedented accuracy. When COBE project scientist John Mather flashed an overhead of the results on the

screen last January at the American Astronomical Society, the assembled astronomers broke into applause.

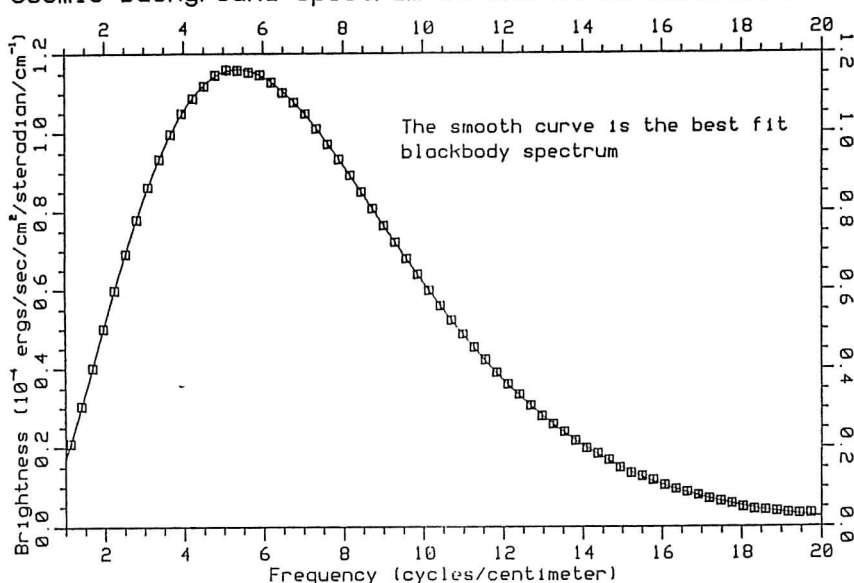
The COBE data plot shown below (kindly provided by Dr. Mather) speaks for itself. The measured data points fit a calculated black body spectrum so well that the scale would have to be greatly increased to show any variance. The worst data point is within 1% of the predicted value, and the background temperature turns out to be 2.735 ± 0.06 K.

Science postulates that observations like these have meaning. If creationism (including its reincarnations as Abrupt Appearance and Intelligent Design) is to be taken seriously, if it wishes to deny that something like the Big Bang really occurred, it must provide an alternative explanation of the observations. The know-nothing approach — dismissing the data as meaningless — will not do. (We can deny that Earth is globular if we dismiss as flawed or meaningless all observations supporting its sphericity; that is precisely what flat Earthers do.)

Young Earth creationists cannot deal rationally with these or other observations. And that is why rational people do not take them seriously.

Science postulates that observations ... have meaning. If creationism (including its reincarnations as Abrupt Appearance and Intelligent Design) is to be taken seriously ... it must provide an alternative explanation of the observations. The know-nothing approach — dismissing the data as meaningless — will not do.

Cosmic Background Spectrum at the North Galactic Pole



Peoria, *continued from p. 1*

advantage of this opportunity (when a member of ICR is invited to the Peoria area). We feel that this practice is consistent with our Board of Education policy that encourages the discussion of all sides of controversial issues ... For the last 12 years we have allowed Creation Science representatives to visit science classes in our four high schools."

What about opposition? "To date I have had only one negative comment. This came from a Bradley University biology professor who felt that we should not provide any forum for those who espouse the Theory of Creation Science [sic]."

In discussing this matter with the Illinois Science Teachers Association (ISTA) and the National Association of Biology Teachers (NABT), we all wondered why, with ISTA and NABT members in the Peoria area, no one else had complained, especially from Bradley University. I soon found out why.

When I called the biology department at Bradley University, only the secretary would speak to me. She said the Bradley faculty is senior, without children in the local schools, and that they do not keep abreast of what is taught in those schools.

After several calls, someone in the Bradley biology department told me I had to send the chairman a copy of the letter before anyone would respond to my questions. I did so. After a month without a response, I called again. The chairman would not speak to me, but he had the secretary tell me, "We have your letter in the department. If anyone wishes to answer you, they will."

I sent at least a dozen letters to schools in that area, but only Peoria and Sparland (with a scribbled one-line note) replied. I eventually found a science teacher familiar with the science programs in the county. He said that giving equal time to creationism in the science classes was

"county-wide." He said that there is "a big push for both sides at institutions." I asked what institutions, expecting him to name local churches, but he said, "ISTA advocates it."

An ISTA representative told me they do *not* advocate equal time for creationism, but rather they acknowledge that some students may religiously believe in it. In my conversation with her, I discovered what may be one of the problems: if an organization does not clearly state its view, it is subject to misinterpretation. When ISTA said teachers should be considerate of students' religious views, some teachers misunderstand it to mean that they should give equal consideration to a religious view in their science classes.

Peoria is a religiously conservative area, and the school district already has problems with the state because of discrimination. The Peoria churches are strong. SLATE member Martin Nickels (Illinois State University) told me he debated D. James Kennedy (the Florida televangelist) there. The churches have plenty of money and volunteers, so they can sponsor traveling road shows such as those put on by ICR. They obviously have much power in the schools boards as well.

The state superintendent's office will not help, because they consider the issue too political. They will not develop a policy, set education guidelines, or help educate the teachers and administrators. The members of the Illinois State Academy of Science (ISAS) were shocked to learn of what is happening in Peoria. Dr. Donald Myer, ISAS president, responded to my request for help.

The ISAS is developing a policy statement on the importance of evolution to science education and the inappropriateness of teaching creationism to be distributed to all Illinois schools. Currently, we are developing a discussion-type presentation about this for the annual meeting of the ISTA in November.

For the last 12 years we have allowed Creation Science representatives to visit science classes in our four high schools.

An ISTA representative told me they do not advocate equal time for creationism, but rather they acknowledge that some students may religiously believe in it.
