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Big Bang Glue-on in Kentucky

Eugenie C. Scott
NCSE Executive Director

In August, a group of principals from Marshall County, KY elementary schools presented Superintendent Kenneth Shadowen with a problem. How could they send the fifth and sixth grade textbooks home with students when they presented only the Big Bang and not any "alternatives?" The Superintendent, with Solomonic wisdom, solved the problem—recall the books and glue together the offending two pages.

Reaction in Kentucky was strongly polarized. NCSE member and geologist Dan Phelps of Lexington told us, "How embarrassing for Kentucky!" — a sentiment echoed by other scientists and educators. Another scientist stated, "Let me just say that thus far I haven't found a single fellow Kentuckian not appalled at this idiotic censorship." He reminded NCSE that "Kentucky has been sweating blood to upgrade the entire school system (some of our systems and schools have always been ex-

cellent)" and that ... "KERA (the Kentucky Educational Reform Act) is now a national standard for educational reform. But along with the high standards comes greater local autonomy. Freedom (of curriculum) includes the freedom for damned fools to be foolish."

Residents of Marshall County, a small, rural and conservative county in the far southwest of the state, largely praised the decision, calling it "fair" (*Louisville Courier-Journal*, Aug. 23, 1996, p. A1.) Superintendent Shadowen is quoted as saying, "We're not going to

teach one theory and not teach another theory," and that his move "had nothing to do with censorship or anything like that." The offending book, *Discovery Works*, is published by Silver, Burdett and Ginn.

Shadowen's decision is reminiscent of a similar approach to coping with "offensive" information written by librarian Ray Martin in "Reviewing and Correcting Encyclopedias" (*Christian School Builder* 15(9):205-7, April 1983).

The most frequent complaints NCSE receives about evolu-

Kentucky continued p. 9

Here is a sample of the text principals found objectionable.

Where did the solar system come from?... The answer may never be completely discovered or proved to everyone's satisfaction. But based on all the evidence people have uncovered over the centuries, here is what most scientists consider the best explanation so far. All the matter and all the energy that have ever existed or will ever exist in the universe were once concentrated in an incredibly tiny, extremely hot, unbelievably dense ball.... Then all at once, at least 10 billion years ago, this churning ball of matter and energy exploded. The explosion sent a vast cloud of matter swirling out in all directions into space. ... These huge spinning concentrations of matter would eventually become galaxies—the giant clusters of stars.

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“Just when you thought it was safe to go back in the water...” was the opener to the ad campaign for the sequel to the movie “Jaws.” The 1996 political season reminds us once again that our past struggles and successes to keep evolutionary theory as the foundation of biology teaching are never completely over. Despite numerous decisions in federal and state courts and by state and local school boards, the spectre of creationism in the science classroom continues to rear up upon the unsuspecting.

In this issue we see reports of creationism in the campaign platforms of at least six state Republican parties. We see school boards and superintendents still unaware of the legal prohibitions to any attempt to give “equal time” or “fair treatment” for creation science. Our NCSE board president, Kevin Padian, lays out the challenges of responding to calls from the media for “experts” in evolution, and we see a report on a 2-day creationist seminar in Minnesota. A somewhat less gloomy report about the state of scientific literacy in the US comes from Moleen Matsumura.

All this emphasizes a phrase that Executive Director Eugenie Scott utters often, “We are educating a parade.” If we sometimes feel as frustrated as Sisyphus pushing that boulder eternally up a hill, it is because there are always new students and new teachers and new classrooms that need our support. There are always new school board members and school administrators who haven’t heard the message as loudly and clearly as they will from NCSE and our local members that evolution belongs in science education. And there are publishers and distributors of books and curricular material who need to know that we mean business when we say this.

In addition to the news from around the country this issue, look for some special features. First, Brian Alters managed to get away to the Smithsonian for the unveiling of the Mars meteorite. He snapped the picture that accompanies his note and his reflections comparing how scientists and creationists approach such a new discovery.

Second, the long-awaited return trip to the Galapagos is now a reality. Thanks to past-president Jack Friedman, NCSE members will be able to enjoy a first-class 14-day trip to the Galapagos Islands, including a special viewing of the last solar eclipse of the millenium from the best spot on earth for seeing it. And if that were not enough, we have just had confirmation that NCSE Executive Director Eugenie Scott will be aboard for the whole trip.

Don’t miss the second part of Leslie Chan’s 2-part article on locating evolution resources on the World Wide Web. Even as Molleen Matsumura tells readers about our own web pages and plans for the future, Leslie is exploring and evaluating sources for evolutionary biology out there in cyberspace.

Don’t forget to check our Resources department for an extensive bibliography of recent research on evolution-related issues. We are grateful especially to contributing editor, Frank Sonleitner for his ongoing contribution of these references issue after issue. And be sure you don’t miss our centerfold! There are always great books and other materials related to evolution at a very reasonable price. Buying these books through NCSE provides us with important income to do the work that you depend on us to do. When you help NCSE, you help us to help you.

—Anj Petto and Laura McMahon

Life on Mars: The NASA Announcement

Brian J. Alters
Harvard University

When NASA made its highly publicized announcement that scientists studying a meteorite had found "possible evidence of" primitive life on early Mars, the world's scientific community was eager to see the supporting data. The press conference was held prematurely after leaks about the scientists' conclusions. However, once the data were disseminated, the scientific community began to examine and discuss the data to see if they would reach the same conclusion.

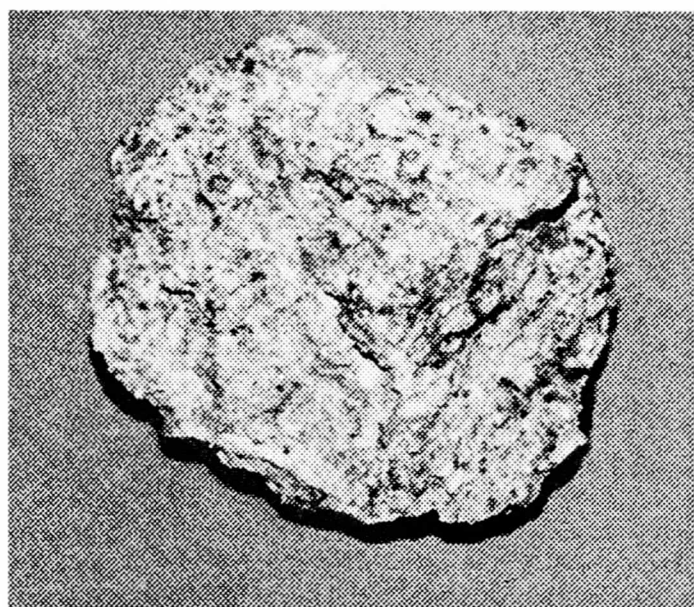
When interviewed by reporters for the *Chronicle of Higher Education* before they had a chance to fully examine the data,

the statements made by top scientists in the field who had not been involved in the study were circumspect. Douglas K. Duncan at the University of Chicago responded, "If it does turn out to be life, the discovery would be completely earth-shattering;" Steven W. Squyres of Cornell, "It's exciting if correct;" and J. William Schopf of UCLA, "A lot more work needs to be done before we can have firm confidence that this is indeed life on Mars" (*Chronicle of Higher Education*, August 16, 1996). What is evident is the appropriate tentative nature of the scientists' statements. Even some politicians were noncommittal when speaking about the unconfirmed nature of the disclosure. For example, President Clinton prefaced his statements concerning the finding with, "if this discovery is confirmed"

The scientists' reaction highlights creationists' failure to operate within the scientific paradigm. While the scientists wait to see where the evidence leads, the creationists know a priori that the NASA findings cannot be evidence of life. As far back as 1974, Henry Morris, now President Emeritus of the Institute for Creation Research (ICR), stated that a "definite prediction" of the creation model is that "no evidence of past or present life would be found anywhere in the solar system except on earth" (*Scientific Creationism*, p.30). So unlike the scientists quoted above, creationists must immediately decide to rally to discredit the conclusions even before examining any data! John Morris, current President of ICR, recently wrote, "In the scientific realm, one must interpret all scientific observations in light of Scripture" (*Acts & Facts*, March, 1996).

This approach is anathema to scientists but is expected from defenders of the creationism faith. While the scientists mentioned above are waiting to see where the empirical data may lead, the creationists have already been led to a conclusion by their faith alone. Case-in-point, creationism is not science.

[Ed. The Martian meteorite study is published in the August 16, 1996 edition of *Science* and is also available on the World Wide Web at: <http://www.aaas.org/science/mars/full/924.html>.] ■



This Mars meteorite is at the Smithsonian Museum of Natural History in Washington DC. It has a mass of 19 kg and is approximately the size of a potato. Photo courtesy of Brian J. Alters.

WEB WISE

Evolution-Related Resources on the Internet — Part 2

Leslie K. W. Chan
University of Toronto

[Ed. In Part 1 of this article, Leslie Chan discussed the trials and tribulations of locating worthwhile information about evolution on the World Wide Web. In Part 2, we explore with Leslie the contents and concepts of several specific sites.]

Museums With On-Line Access and Exhibitions

The best known and most comprehensive listing of Museums on the Web is maintained by Jonathan Bowen (<http://www.comlab.ox.ac.uk/archive/other/museums.html>). One of most useful sites with links to various biological information servers in the world is the bioinformatic page by David Green at the Australian National University (<http://life.anu.edu.au/>). Look for the links to biodiversity and to biogopher and information on molecular systematics and phylogenetics, and paleontology and natural history.

Those interested in phylogenetic analysis will undoubtedly be happy to see the large quantity of phylogenetic software available through the web, as well as the searchable table of contents and abstracts for the journals *Systematic Biology* (<http://www.utexas.edu/ftp/depts/systbiol/>) and *Cladistics* (<http://www.vims.edu/~mes/hennig/journal.html>) published respectively by the Society for Systematic Biology and the Willi Hennig Society. Of special interest is that these societies have recently unveiled their official Web sites.

Another excellent resource that makes exemplary use of the hypertext medium and takes advantage of the collaborative spirit of the Net is the Tree of Life

cation sites. Users not familiar with the migration that many print journals are making to the Net will be pleasantly surprised to find the tables of contents and abstracts of a large number of journals, including the prestigious *Nature* (<http://www.nature.com>) and *Science* (<http://science-mag.aaas.org/science/>) are available for searching.

Learned Societies and scientific organizations increasingly are developing their own web sites. To search for these sites, visit and search the Scholarly Societies Project maintained by a group of librarians at the University of Waterloo, (<http://www.lib.uwaterloo.ca/society/overview.html>). The URL for the Society for Systematic Biology is <http://www.utexas.edu/ftp/depts/systbiol/> and the URL for the Willi Hennig Society is <http://www.vims.edu/~mes/hennig/>. Here one will find detailed information about the societies and the journals, upcoming meetings, educational resources, as well as links to other resources related to systematic biology. These sites provide excellent examples of the current trend in network communication and the potential of the Web for new forms of scientific knowledge dissemination. They also provide a model for how quality control can be implemented on the Net when the web manager also assumes the role of the editor, and electronic resources linked or submitted to the site undergo peer and editorial review.

One of the most comprehensive listings of evolution-related web resources is the Evolution section of the WWW Virtual Museum page maintained by Adam Fagen, (<http://golgi.harvard.edu/biopages/evolution.html>). Fagen's site also consistently turns up in keyword searches by other search tools, and its utility may be related, in part, to the fact that it is compiled by a human and not a robot. The headings in the "Evolution" list include general resources, meetings, announcements, publications (journals, books and software), university departments and laboratories offering evolutionary biology programs, professional associations or scientific organizations.

The long list of resources compiled by Fagen points not only to the wide variety of information, but also to the variety of information providers as well, from individual scientists' homepages to well-funded laboratories and national organizations. Sites such as that of the National Science Foundation (<http://stis.nsf.gov/>), and Eisenhower National Clearinghouse for Mathematics and Science Education (<http://www.enc.org/>) provide users with a rich variety of educational resources and further links to other science edu-

WEB continued on p. 8

[Between the publication of parts 1 and 2 of this article, Virginia Morrell published a feature article on the "Tree-of-Life" project; Web-crawling up the tree of life, Science (273):568-570 (August 2).]

Evolving Euphemisms

Balanced Treatment Mutates to "Evidence Against Evolution"

Eugenie C. Scott
NCSE Executive Director

[In issue 16.1, NCSE executive director Eugenie Scott described the defeat of the "Evidence Against Evolution" bill introduced in the Ohio legislature. In this article, she explores the genesis and evolution of the euphemisms used in anti-evolutionary laws, regulations, and guidelines.]

During the heyday of creation "science" litigation in the 1980's, the argument was made that schools should "balance" the teaching of evolution with creation "science." Since the 1987 Supreme Court ruling *Edwards v. Aguillard* struck down such "equal time" laws, creationists have had to adjust their strategy. In addition to such euphemisms for creationism as "intelligent design theory" and "initial complexity theory," NCSE is more and more frequently encountering "evidence against evolution" as an antievolution strategy. In 1996, we first saw it in proposed legislation in the state of Georgia, and it is also appearing in a number of local school districts around the country. The idea for the approach arises from Justice Antonin Scalia's dissent to *Edwards v. Aguillard*. In his dissent (which is not legally binding), Scalia asserted that, "The people of Louisiana, including those who are Christian fundamentalists, are quite entitled, as a secular matter, to have whatever scientific evidence there may be against evolution presented in their schools,

just as Mr. Scopes was entitled to present whatever scientific evidence there was for it." Antievolutionists thereafter claimed that the Supreme Court has given them the "right" to teach antievolution.

In reality, "evidence against evolution" is just a euphemism for creation "science." When asked what would actually be taught under this rubric, proponents offer the very same list of antievolution "evidences" found in creation "science" literature — supposed absence of transitional fossils, the claim that the second law of thermodynamics "proves" evolution couldn't have taken place, etc. Because it sounds far less religious than a word or phrase with "creationism" or "creation" in it, proponents hope to fly "below the radar" of the First Amendment's Establishment Clause.

Had the Ohio legislature passed HB 692 (*NCSE Reports* 16[1]:18), it would have been a serious blow to education in that state, and we would have expected Hood's strategy to be adopted by other states. Calls for teaching "all the evidence" seem inherently "fair" to the American public, and the Ohio legislation obviously had considerable public support. We encourage NCSE members to be on the lookout for this approach in both their legislatures and in their local school districts. Such attacks on education can be opposed successfully if we organize early and well.

The Ohio "evidence against evolution" law episode may hold an-

other lesson for NCSE members — the effectiveness of enthusiastic and prolonged individual effort. It appears that the legislation may have been stimulated by an out-of-state, retired school teacher whose personal crusade against evolution carried him to Ohio. Mr. John Hansen, a resident of Williams Bay, WI runs a one-man nonprofit organization called "Operation T.E.A.C.H." — standing for "Teach Evolution Accurately Comprehensively Honestly." During the spring of 1995, Hansen drove to Columbus, OH and leafleted the mailboxes of Ohio state representatives. He spoke personally with three representatives, one of whom he says told him that he was planning to introduce legislation. In his newsletter, Hansen claims the representative had sent him a draft bill that he then critiqued. Hansen proposes teaching that "all legitimate scientific evidence not favoring evolution be taught to our children" (1995 Progress Report, Operation T.E.A.C.H.), and so advised the legislator. Hansen ended his letter to his supporters by saying, "When Ohio passes this bill and it becomes law and is established in their public schools, it will be very easy to do the same thing in the other 49 states."

It is easy to believe that the efforts of one sincere and enthusiastic antievolutionist nearly brought a revolution to the teaching of science in a major industrial state. Fortunately, it was countered by the equally sincere and diligent

EUPHEMISMS continued on p. 18

Making it Easier to Help NCSE

Mollen Matsumura
NCSE Staff

Attacks on evolution education have intensified greatly in recent months. Creationist legislation was introduced in five states—Georgia, Ohio, New Hampshire, West Virginia, and Tennessee—and creationist planks continue to appear in state party platforms (see "Evolution in an election year," p. 18). NCSE does write to members to let them know when they can help in their own

states or communities, but sometimes even the mail isn't fast enough. When we wrote to Colorado members recently to tell them about a meeting on local school policy (see "Evolution challenged in Colorado's largest school district," p. 21), there was less than a week between the time of mailing and the time of the meeting!

When time is short, it would be most efficient for local activists to phone NCSE members. To make this possible, while continuing our

practice of carefully maintaining members' privacy, we will add a new option to membership and renewal forms, and even to donation requests. From now on, NCSE members will be able to check off a box giving permission to share their phone numbers with local activists in urgent situations. Please watch for the new checkbox on your membership renewal—unless you're in a hurry. If you want to give us permission right away, just write, phone, or email Erik Wheaton at NCSE@natcensci.org, and he will update your records. ■

• LETTERS •

■ I was glad to see that you didn't let the article "On Science Teaching" in the Fall *NCSE Reports* go without comment. As you pointed out, when science recognizes no alternative explanation for the observed patterns, then the "theory" becomes accepted until any fact proves it unacceptable. We still speak of "the atomic theory," but does anyone doubt that atoms exist? The whole structure of chemistry and technology is based on their existence. Any honest earth science text describes the fossil evidence, from the most primitive forms in the oldest rocks in which forms can be observed through the increasingly complicated forms found in layer upon layer of younger rocks. It is a case of "no alternative explanation for the observed pattern."

For one who believes that the orderly process of deposition of layer upon layer of sediment containing evidence of the life living at the time of deposition could have been accomplished in one fell swoop by divine intervention. I have no answer except to say that it is as though someone said to me

that the two World Trade Centers were erected overnight by a giant whale who came into New York Harbor. To call the attention of the students to the gradual development of life forms throughout the geologic time sequence is hardly a "statement of a dogmatic nature." The nature of science teaching is to encourage observation of the evidence and to encourage thinking of a rational explanation of the observations. By "rational" I mean consistent with our experience with the behavior of matter.

Elizabeth A. Wood
Freehold, NJ

■ Thank you for the very useful information available over the Web concerning evolution. Your organization is not, I know, funded to provide citizens of the United Kingdom with this kind of service and, consequently, I appreciate it all the more. You see, I had always regarded evolution as thoroughly

accepted over here and had been amazed by all the furor that the topic kicked up in the US. Then, recently, I started discussing the topic over here and have been amazed by the number of respectable, educated people who reject the concept of evolution out of hand. In some cases this is clearly due to misinformation: they simply do not know what evolution is really about. In others it is due to a blinkered outlook where the belief of the church cannot be contradicted and even reading about evolution is seen as threatening to faith. I have partial answers to the points that these people raise and, indeed, am trying to put together some kind of pamphlet myself in the hope (however futile) of opening some eyes. Your organization, however, has filled in many of the gaps and will no doubt make my argument more structured and comprehensive. Once again, thank you, and do keep up the good work.

Jeff Wooliscroft
London, England

Movers, Shakers, and Squeaky Wheels: NCSE Members and Friends Make a Difference

Molleen Matsumura
NCSE Staff

NCSE members—especially those who have joined recently—often ask, “What can I do to help?” There seem to be almost as many answers as there are members and friends of NCSE! If you want ideas—or more ideas—for how to support evolution education, read on for a small sample of what other members have been doing:

“Movers and shakers”

Paul Heinrich of Louisiana alerted NCSE to a possible case of textbook censorship. A constant source of scientific information, Paul has compiled quite a bit of data refuting the pseudoscientific claims made in the television special “Mysterious Origins of Man-kind.” Internet buffs can find this information at the Website maintained by Jim Foley of Colorado at <http://rumba.ics.uci.edu:8080/faqs/mom.html>.

Barbara Forrest of Louisiana gave an address to her local chapter of the Association of Women In Science, explaining why members should be concerned about “scientific creationism” and what they can do about it. Karl Fezer of West Virginia addressed a conference of college biology teachers and supplied them with materials provided by NCSE. Scientists often find it difficult to believe that so many citizens and educators think of creationism as a viable “theory;” fellow profession-

als are likely to be the most convincing source of information.

Brad Lepper and Steve Edinger of Ohio provided NCSE and their fellow members in the state with continually updated information about the status of proposed creationist legislation (see *NCSE Reports* 16[1]:18). Steve Edinger and Frank Zindler provided first-person accounts of legislative hearings. We are grateful to Frank Fire, Andrew Lutes, Tom McIver, Richard Bradley, Tim Berra, David Ball, George Kambic, Ronald Tabak, Kennard Bork, and Ernest Lippart for sending us progress reports, local news, and copies of their letters to legislators and the press (and we apologize to anyone whose name we omitted—the response was truly wonderful).

Bret Corum of Texas arranged for a public service announcement about NCSE to be broadcast on a local cable channel (*NCSE Reports* 15[4]:17). He simply called them up, asked about the appropriate procedures and invited NCSE to help polish his first draft. Wesley Elsberry has kept us informed of the progress of textbook adoptions in Texas, where he is NCSE’s state liaison. Elsberry provided information on where to find textbooks for review, and how to submit comments which were both displayed at a website he set up and mailed to Texas members of NCSE.

Sheldon Gottlieb and colleagues at the University of South Alabama presented a scientific symposium on research into the origin of life, open to the press and public. Olle Pellmyr of Tennessee

was actively involved in passage of a resolution by the faculty senate of Vanderbilt University in response to proposed creationist legislation. Jim Moore of Tennessee provided first-hand accounts of the actions of the state legislature. Cynthia Gresham was among those who sent clippings and copies of their letters to legislators.

...and “Squeaky wheels”

As important as the new creationist initiatives that are constantly popping up are old creationist habits that are unknown or taken for granted. We reported in a past issue that NCSE members Dale Morejon and Jack Penkethman convinced a teacher in Morgan Hill, California to cancel an invitation to a minister who would have presented “creation science” to biology students (see *NCSE Reports* 15[4]:16-17). The most important aspect of that story is that it was a repeat invitation! Many members of the community, including school administrators, saw the creationist lectures as a fine idea — a way to defuse controversy. They were unaware that the practice was flatly illegal, until the facts were pointed out to them. Similarly, two Ohio physics teachers had been able to continue teaching creationism for the past five years because until now, nobody complained publicly (see *NCSE Reports* 16[1]:6).

“Squeaky wheels” who make some noise and point out that the way things have been done isn’t necessarily the way they should be done, do more than “get the

SQUEAKY WHEELS *continued on p. 8*

SQUEAKY WHEELS WEB continued from p. 4

continued from p. 7

grease" — they set the educational cart back on track. There are many ways to find out what's going on: read your child's homework assignments; tell friends and neighbors about your connection with NCSE, so that they'll let you know about problems they encounter; and get involved in community discussions of curriculum and textbooks.

Once again — all this is just a sample of the creativity and energy displayed by NCSE's members, and we plan to share more examples in future issues. Close cooperation between NCSE staff and members enhances our effectiveness incalculably. Thank you and keep up the good work! ■

[Ed. Volunteers are needed to help transform articles from our textfiles into HTML for inclusion in the web site. Write, call, or email your editors.]

Project (<http://phylogeny.arizona.edu/tree/phylogeny.html>) initiated by David and Wayne Maddison. The project is described as "a distributed internet project containing information about phylogeny and biodiversity." It consists of a collection of Web pages, each containing information about a group of organisms, including a reconstructed phylogeny, introduction and characteristics of the group, discussion of phylogenetic relationships and references.

The pages are distributed over the Web, so that different "branches" of the "Tree" reside on different computers. The eventual goal envisioned by the Maddisons is to have as many pages as groups of organisms linked together to form a "phylogenetic tree of all living organisms." Although the project is still in its early stage, there are already over 120 contributors. As of the end of January, there were close to a thousand pages linked to the Tree, and it is certain that the number of pages and the completeness of each page will grow through time. There is also a searchable index of taxon names for quick access to specific organisms, a brief introduction to phylogenetic biology written by the Maddisons, and pointers to related resources. Most important, contributions to the project are subject to editorial and peer reviews to ensure that the material is of high academic and scientific quality. It should, however, be noted that those who do not share the Maddisons' phylogenetic world view may find many points of disagreement with the hypothesized phylogenies being presented.

The issue of citation is also problematic, as yet there is no standard method for citing internet resources, which are often transient and constantly changing. The internet is a new medium for communications and learning, and like any new medium, it needs fresh new ideas and approaches to be used to its fullest. The "Tree of Life Project" is one of many innovative uses of the medium that is still evolving. As more scientists, teachers, and administrators take seriously network publishing and communication as an important tool for knowledge dissemination, high quality resources are sure to emerge and quality control standards will be established. ■

[Ed. Leslie Chan can be reached at chan@macpost.scar.utoronto.ca.]

EARTH & SKY'S THIRD ANNUAL YOUNG PRODUCERS' CONTEST

Kids from kindergarten through twelfth grade will once again flex their creative and scientific muscles during the third annual Earth & Sky Young Producers' Contest. Contestants will work in teams to create a 90-second science radio program modeled after the award winning Earth & Sky radio series. The winning teams will receive savings bonds totaling \$2000 and will hear their shows played as part of our international broadcast in May of 1997.

For additional information please send e-mail to "info@earthsky.com" or visit: <http://www.earthsky.com/yp/>

STILL SPINNING THE WEB(SITE)

Molleen Matsumura
NCSE Staff

NCSE's website at <http://www.natcenscied.org> continues to grow, and we want to thank our members for their help and encouragement, whether linking their websites to ours, suggesting links, or simply sending an email telling us, "Well done!" The best news is that people who haven't heard of NCSE before are discovering us while searching the World Wide Web for the kind of information we offer.

It seems that almost everybody's favorite question is, "Will you make past issues of *Creation/*

Evolution and *NCSE Reports* available at the site?" Answer: Some; not everything, but a selection of the articles people request most often. We'll begin by uploading Tables of Contents, and the index for issues 1-25, of *Creation/Evolution*; at press time, volunteers have begun scanning these materials. Next, as staff time permits, we will gradually scan and upload selected articles. As these articles become available at the site, references within the Index and Tables of Contents will be converted into links.

Another planned addition to the site will be texts of Federal and Supreme Court decisions setting precedents protecting evolution

education. There is already a summary of six major decisions at the site. When the full decisions are available, users will be able to link from each summary to the original text. We'll also add a catalog of books you can order from NCSE and continue expanding existing sections, such as the bibliographies of books about evolution.

We have already added listings of Executive Director Eugenie Scott's speaking engagements and media appearances, as well as news of current "hot spots". Be sure to visit soon, and let us know what you most enjoyed about the site, and what you'd like to see at <http://www.natcenscied.org>.

BIG BANG IN KENTUCKY continued from front page

tion usually focus on biological topics. Recently, we have been encountering a growing number of protests against evolutionary topics in the physical sciences, as well. We reported in the last issue (*NCSE Reports* 16[1]:6) on Cobb County, GA, where after parental complaints about discussions of the Big Bang and the age of the earth, Macmillan publishing company agreed to remove a chapter from a fourth-grade earth science booklet. Parents in Sultan, WA, also complained about the same booklet, but did not succeed in getting administrators to withdraw the text (*NCSE Reports* 16[1]:17). Perhaps the saddest part of the Kentucky story is that administrators—who should be leading the way to sound science education—voluntarily censored the books apparently in fear of possible public protest, which might never have even occurred. ■

Encyclopedias are a vital part of many school libraries[They] represent the philosophies of present day humanists. This is obvious by the bold display of pictures that are used to illustrate paintings, art, and sculpture This makes it important that the materials we place before our children are free from...that which would inflame passion.

[In encyclopedias] we are not battling a plot that captivates minds but are looking for erroneous information, sensual pictures, and unchaste details One of the areas that needs correction is immodesty due to nakedness and posture. This can be corrected by drawing clothes on the figures or blotting out entire pictures with a magic marker. This needs to be done with care or the magic marker can be erased from the glossy paper used in printing encyclopedias. You can overcome this by taking a razor blade and lightly scraping the surface until it loses its glaze. After this is done the magic marker will not erase.

[As for evolution]...cutting out the sections (on the subject) is practical if the portions removed are not thick enough to cause damage to the spine of the book as it is opened and closed in normal use. When the sections needing correction are too thick, paste the pages together being careful not to smear portions of the book not intended for correction. ■

• R E S O U R C E S •

Listing items here or offering to distribute them does not imply NCSE endorsement; annotations are by the editor or various contributors. These listings often include items available from NCSE, but the list changes with each issue. Consult back issues for other resources they are still in our files and available for distribution even if we can't keep listing them!

Adler, T. 1996. Crows rely on tools to get their work done. *Science News* 149(3):37 (January 20). Crows in New Caledonia make tools out of sticks and leaves.

Ahlberg, P. E., J. A. Clack, and E. Luksevics. 1996. Rapid braincase evolution between Panderichthys and the earliest tetrapods. *Nature* 381:61-63 (2 May). See also: Carroll, R. L. 1996. Revealing the patterns of macroevolution. *Nature* 381:19-20 (2 May). Details the changes in skull, braincase and limbs as revealed by fossils in the fish-amphibian transition.

Angel, J. R. P. and N. J. Woolf. 1996. Searching for life on other planets. *Scientific American* 274(4):60-66 (April).

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NEW BOOKS

Full House
Stephen Jay Gould

Full House is Gould's first single-subject book since *Wonderful Life*. In this book Gould demonstrates that, contrary to popular opinion, variety not increasing complexity is characteristic of the evolution of life on earth. *Full House* teaches us how to read trends as changes in variation within full systems rather than as "things moving somewhere."

Raptors, Fossils, Fins, and Fangs
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Raptors, Fossils, Fins, and Fangs is a book with engaging illustrations of prehistoric creatures suitable for reading with children. Long ago, a fish made its way out of the ocean and onto dry land. This book is the story of the creatures that came before and after that fish.

See pp. 12-13 for information on ordering these books and other resources from NCSE.

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	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
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1982 AAAS Pacific Division Symposium "Evolutionists Confront Creationists" with papers by Patterson, Dalrymple, Craycraft, Sarich, and Thwaites	6 tapes	30.00
1988 AAAS Pacific Division Symposium "Communicating Evolution to the Public" with presentations by Scott, Moore, Skoog, Dalrymple, Beard, and Petit.	3 tapes	15.00

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THE PILTDOWN HOAXER

A recently found trunk belonging to Martin A. C. Hinton, curator of zoology at the British Museum in the 1900's, contained artificially stained bones and teeth convincing Brian Gardiner, professor of paleontology at King's College, London that Hinton was the Piltdown hoaxer and Charles Dawson an unwitting dupe (Gee, 1996). Others think that Dawson was a knowing accomplice of Hinton (Hall, Lutes, 1996).

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[Compiled with the help of contributing editors John Cole and Frank Sonleitner.]

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• RESOURCES •

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MORE NEWS FROM SCIENCE LITERACY SURVEY

Molleen Matsumura
NCSE Staff

In the last issue of *NCSE Reports*, we reported on recent survey findings that the American public shows little understanding of the nature of scientific inquiry and that there has been little improvement in knowledge of evolution since earlier surveys had been made. For example, only 48% of those surveyed denied that, "The earliest humans lived at the same time as the dinosaurs." (*NCSE Reports* 16[1]:19, "Running in place").

Since then we have learned that there's more good news in the survey than can be seen at first glance. Published tables of questions used in the survey reported answers only as "correct" or "incorrect." It is not encouraging that only one of four questions related to controversies about evolution and "origins" was answered correctly by the majority of participants. However, when the "incorrect" answers are divided into two groups — those whose answers were in fact incorrect and those who said they don't know the answer—a somewhat brighter picture emerge, as the following table illustrates.

Statement	True	FALSE	DON'T KNOW
The universe began with a huge explosion. (T)	35%	33%	32%
The continents on which we live have been moving their locations for millions of years and will continue to move in the future. (T)	78%	7%	15%
Human beings, as we know them today, developed from earlier species of animals. (T)	44%	40%	16%
The earliest humans lived at the same time as the dinosaurs. (F)	32%	48%	20%

[TABLE FOOTNOTE: The answer that is scored as "correct" is indicated in parentheses at the end of each question; (T) for true; (F) for false.]

The best news here is that a great majority of Americans *do* understand that certain geological changes have been taking place for millions of years and by extension that the earth is very old. While they may be willing to listen to claims that it's "fair to teach both sides [of the evolution controversy]," they will find that the specific claims of young earth creationism contradict what they *already* know.

To every other question, only a minority — admittedly a sizable minority — answered incorrectly. The 15%-32% of people who were unsure represent a "swing vote." How many are people whose own education was affected by laws against evolution education, teacher intimidation, and inadequate textbooks? Given accurate information and the understanding that today's children need a better science education than previous generations received, they could become part of a majority opposing the introduction of creationism in local schools.

[NCSE thanks Dr. Mark Boslough for raising the question of whether some incorrect answers were "don't knows," and Dr. Jon Miller for providing this information.] ■

Evolution in an Election Year: Catchwords and Creaky Planks

Molleen Matsumura
NCSE Staff

Especially in a presidential election year, there are so many issues and candidates to decide upon that worries about creationism may get lost in the confusion — but 1996 should be different. Since support for creationism is an increasingly popular political stance, and creationist strategies continue to evolve, it is important for NCSE members to be able to identify all the implications of proposed legislation, as well as candidates' positions.

Washington-based People for the American Way (PFAW) found creationist planks in the platforms of five states (a sixth was added after the August 2 release of their report). Those planks were from Republican party platforms in Alaska, Iowa, Kansas, Missouri, Oklahoma, and Texas. The Texas plank is especially significant, since Texas is currently in the process of adopting textbooks and revising science curriculum standards. Changes in Texas affect the quality of textbooks everywhere, because Texas is one of the nation's largest purchasers of textbooks..

The PFAW report does not reveal the full extent of creationist influence, since it was based on a study of only 22 party platforms, and didn't cover several states that have recently experienced creationist pressure at the state level (for example, Alabama, Florida, Georgia, Ohio, Tennessee). Some support of creationism is quite explicit, like the Iowa Republican

party platform's statements, "We believe the theory of Creation Science should be taught in public schools along with other theories ... [and] support the stocking of *creationist* produced resources in all tax-funded public and school libraries" (emphasis in original).

It is not always so obvious. In New Mexico, Board of Education members who said they were not supporting creationism still voted to change curriculum standards to include the study of multiple "theories of biological origin" (see *Evolving Euphemisms*, p. 5). Many people—legislators and school board members, too — think that if Genesis or God isn't mentioned, creationism hasn't been advocated. They need to be informed that "alternative theories of origins," "intelligent design theory," "criticisms of evolution," and many more euphemisms are just "scientific creationism" by another name.

If you want to know whether a candidate for your school board would support creationism, it may not be enough to simply ask, "What do you think about scientific creationism?" Broader questions may be more revealing. For example, a candidate who's been asked what should be done to improve science education might reply that students need to hear "both sides of the origins controversy" so they can improve "critical thinking skills." Or, probing candidates' advocacy of greater local control of schools will show whether they're seeking flexible use of local resources such as partnerships with nearby universities or trying to avoid state or national barriers to teaching creationism.

Ballot proposals concerning educational reforms also need careful analysis. Changes that open exciting educational possibilities may also have unintended consequences. A federal court recently ruled that a Wisconsin plan for funding some private schools would have led to unconstitutional funding of religious schools. In Michigan and California, there have been proposals to open public "charter schools" that would have taught creationism (*NCSE Reports*, 14[2]:3). In Michigan, the charter law was found unconstitutional (*NCSE Reports* 14[4]:7); in California, review procedures built into the law prevented the authorization of the school. If such proposals are made in your state, you can promote good science education by studying them carefully and sharing what you learn with NCSE. ■

EUPHEMISMS continued from page 5

response of our NCSE members, especially Steve Edinger, Brad Lepper, Frank Fire, and Frank Zindler, and our allies at the Ohio Federation of Teachers and the American Civil Liberties Union who wrote letters and made telephone calls to representatives, wrote letters to the editors of Ohio newspapers and generally made it clear that they disapproved of the bill. ■

• NEWS BRIEFS •

CHENEY, WASHINGTON:

On June 5 and 6, Cheney Middle School teacher Aaron Mason assigned eighth-grade science students to watch a creationist videotape and attend a presentation by a creationist speaker, Jim Marisch of Spokane-based Creation Outreach. The next day students answered test questions favoring creationist arguments. When parent Steve McGrew objected, Mason said that he had invited the same guest speaker in 1995 without objection from the school district. This year, however, he was suspended for two days without pay on grounds that he had not followed district procedures for inviting controversial speakers. According to the *Spokane Spokesman Review* (June 19, 1996, page 7), a letter to Mason from District Superintendent Phil Snowden said that Mason had ignored previous warnings not to teach religion, but neither Mason nor Snowden would comment on this aspect of the incident. The same article quoted positive comments from teachers at other public schools where there had been presentations by speakers from Creation Outreach. On August 15, the Washington ACLU wrote to Superintendent Snowden calling for further action from the school district. The ACLU argued that, since Mason had been warned before to stop teaching religion, his classes should be monitored and the district should consider assigning him to other teaching duties. At this writing, the district has not responded to the ACLU's letter. ■

CLAYTON COUNTY, GEORGIA:

In late May, Clayton County's school board adopted a textbook disclaimer very similar to the one adopted in Alabama in November, 1995. The disclaimer reads in part, "This textbook may discuss evolution, a controversial theory some scientists present as a scientific explanation for the origin of living things, such as plants, animals and humans.... No human was present when life first appeared on earth. Therefore, any statement about life's origins should be considered as theory, not fact...." District science teachers were told to paste the disclaimers in textbooks, but they worried both about the violation of their professional integrity and about executing a regulation that might be illegal. On August 12, the law firm of Paul, Weiss, Rifkind, Wharton, & Garrison, acting on behalf of The National Committee for Public Education and Religious Liberty, wrote to Clayton County School District Officials explaining in detail the legal objections to the disclaimer. On August 21, NCSE issued a press release protesting the policy, explaining, "Antievolution disclaimers are bad science, bad education, and bad law.... [They] undermine the ability of teachers to do their jobs and, by requiring them to teach nonsense, make it difficult for teachers to maintain their professional standards." ■

COBB COUNTY, GEORGIA:

When press coverage of a decision to remove a chapter on the earth's origin from a fourth grade textbook brought the Cobb County schools into the spotlight (*NCSE Reports* 16[1]:6), an even worse problem was revealed. Cobb County's "Theories of Origin" regulation, first adopted in 1979 and revised in 1995, virtually eliminates evolution from the curriculum. According to the regulation, "In respect for the family teachings of a significant number of Cobb County Citizens... the origin of human species shall be excluded... for the elementary and middle schools ... no [such] course... shall be required for high school graduation.... [C]ourses offered on an elective basis which include studies of the origin of human species theories shall be so noted...." According to the *Atlanta Journal-Constitution*, NCSE Executive Director Eugenie Scott's letter pointing out the legal, scientific, and educational objections to their policy, "has prompted Cobb school officials to revisit those regulations" (July 9, 1996, page D2). At this writing, school district staff have responded to local inquiries by saying only that the Board will discuss the policy after school starts. ■

ORANGE UNIFIED SCHOOLS, CALIFORNIA:

In early July, conservative school district trustees proposed adopting a district policy that would have singled out evolution as a subject to be taught as "theory." The District's Superintendent and a spokeswoman for the teachers' union responded that evolution is already taught as a theory, and local activists rallied to support evolution education. In an article reprinting an excerpt from the state science curriculum explaining the nature of scientific theory, the *Orange County Register* quoted trustee Bill Lewis as commenting, "In retrospect, the word we should have used is 'hypothesis'...." and trustee Max Reismuller as saying, "I place [the theory of evolution] on the same level that if an apple falls on your head it means the sky is falling" (July 11, 1996). On July 12, the trustees voted not to adopt language singling out evolution. Lewis said, "...[T]here is no point spending taxpayer money to fight the Supreme Court," and another trustee who had opposed the proposal commented, "I think it's a back-door way to get creationism into the classroom. Their agenda is unfolding now." (*Los Angeles Times*, July 12, 1996). ■

· NEWS BRIEFS ·

ANDERSON COUNTY, SOUTH CAROLINA: Leaving the Fold:

Testimonies of Former Fundamentalists (Prometheus Books, 1995) was recently removed from the shelves of the Anderson County Public Library in South Carolina due to complaints from patrons. The library received about ten phone calls and some written complaints concerning the book's "objectionable subject matter." It contains nearly three dozen firsthand testimonies by former fundamentalists who became liberal Christians, agnostics, and atheists. The complaints apparently followed a Christian talk-radio program in Anderson county that featured discussion of

It contains nearly three dozen firsthand testimonies by former fundamentalists who became liberal Christians, agnostics, and atheists.

the book. The Anderson County Library said that they take such complaints seriously and are currently reviewing the book's contents. This minor fracas was also reported in the *Greenville News*, on the local TV news station, and on a Columbia radio station, all of whom contacted author Ed Babinski for a statement. He said, "It's stupid. There must be a thousand other books they'd like off the library shelves too." And, "I've tried to get the local newspaper to interview me since writing my book, but they never had the time. Sales have been slow. Now, miracle of miracles, the book is being mentioned in newspapers, television and radio. God bless those Christians!" ■

MILWAUKEE, WISCONSIN:

Considering it was a Friday afternoon in August, a sizable crowd turned out to hear Dr. Don Jacobson, assistant professor at the Medical College of Wisconsin (MCW), defend his creationist views. Billed originally as a debate concerning evolution vs. creationism in the public school,

His view was that one must choose either a cosmology based on the supernatural or one based on materialism—there is no other choice.

Jacobson spent most of his allotted time talking about choosing a "cosmology" by which to live. His view was that one must choose either a cosmology based on the supernatural or one based on materialism — there is no other choice. He expressed the view that it was only fair to teach creationism in public schools since evolution is taught. Various audience and Wisconsin NCSE members tried to convince Jacobson that it is possible to be religious and also support the concept of evolution. It is even possible to be a Christian and support the concept of evolution (of the 40 position papers supporting the concept of evolution in NCSE's *Voices for Evolution*, 14 are written by religious organizations). However, Jacobson refused to accept that one could keep a religious sentiment and also support evolution. [Ed. Report contributed by Chris Roth and Alice Kehoe in Milwaukee.] ■

Intercollegiate Studies Institute Takes on Darwin

John Cole
Contributing Editor

Darwinism and "materialism" are the targets of the entire Spring 1986 issue of *The Intercollegiate Review* (Volume 31[2]). The special issue is entitled, "The Death of Materialism and the Renewal of Culture—A Symposium." In the title essay/editorial, John G. West, Jr. introduces the basic idea. The papers that follow include George Gilder's "The Materialist Superstition," John Angus Campbell's "John Stuart Mill, Charles Darwin, and the Culture Wars: Resolving a Crisis in Education," and Stephen C. Meyer's "The Origin of Life and the Death of Materialism." (Meyer, a philosophy professor and champion of the views of lawyer Phillip E. Johnson, wrote the anti-evolution "half" of a pair of articles last year in the magazine *Insight*. The case for evolution was made by NCSE Executive Director Eugenie Scott, a physical anthropologist.)

The *Intercollegiate Review* is published by the Intercollegiate Studies Institute and circulated free of charge to students, teachers and professors. Their address is 3901 Centerville Road, P.O. Box 4431, Wilmington DE 19807-0431. ■

EVOLUTION CHALLENGED IN COLORADO'S LARGEST SCHOOL DISTRICT

Molleen Matsumura
NCSE Staff

This June an ad-hoc committee of the Jefferson County, Colorado schools, a Denver area school district, responded to Wheat Ridge High School sophomore Danny Phillips's complaints about evolution education by recommending that teachers stop using a videotape, "The Miracle of Life," and have it removed from the district resource center. Phillips had complained about more than the videotape, a film about human reproduction which opens by discussing the common ancestry of all life. He protested the school district's use of the Kendall-Hunt textbook *Biological Science*, an *Ecological Approach* (from the well known Biological Science Curriculum Studies "Green" series, and any teaching about evolution that is not "balanced" with creationism. He also asked that the district use the "intelligent design" textbook *Of Pandas and People*.

Like many an adult creationist, Phillips makes conciliatory remarks like, "I didn't want somebody learning the six-day creation of the earth," (*Denver Post*, August 3, 1996, p. B1), but makes other statements that are unequivocally religious, like, "Why should the Bible, which the centuries have been unable to shake, be discarded in our schools for scientific works that have to be revised and corrected every few years?" (*Rocky Mountain News*, August 2, 1996, p. A1) The committee did not recommend discontinuing the textbook nor changing

district policy on teaching evolution.

Superintendent Wayne Carle accepted the committee's recommendation, writing to Phillips on June 21 that, "Committee members agree that the introductory comments in the video are poorly stated and scientifically refutable. The statements assume a factual rather than theoretical basis" (*Rocky Mountain News*, August 2, 1996). The committee had asked the video tape's producers to cut out the challenged material but, in contrast to McGraw Hill's response to a request to remove some pages from an earth science textbook (see *NCSE Reports* 16[1]:6), the producer refused.

While the committee's decision may have been perceived as a compromise, it didn't make anybody happy. Danny Phillips said he would appeal the decision. District science teachers said they wanted to continue using the film, originally produced for *Nova*, which some say is the best of its kind; many parents protested that they don't want their children denied an opportunity to see the film just because one student complained. The president of the Colorado Biology Teachers Association criticized the decision in a statement explaining that any scientific theory is "substantiated by an immense body of empirical evidence," (*Denver Post*, August 2, 1996) and the Colorado ACLU sent the school board a letter explaining the legal objections to the decision.

NCSE's Colorado members are actively opposing any weakening of evolution education and, in cooperation with other organizations, asked the school board to reinstate the video. NCSE member Thomas Henry points out the district already has a policy that would have allowed Phillips to be excused from watching the video tape. Both Henry and a group of Jefferson County teachers, acting independently, suggested that teachers presenting the film can accompany it with appropriate instruction about the opening section, and the teachers presented Superintendent Carle with a draft teaching guide. Henry reports that public comment at the Board's meeting was impassioned, with strong presentations by creationists, church-separationists, and speakers concerned about science education. Public interest continues to be strong. Since Jefferson County is the state's largest school district, many observers think events there may predict what will happen elsewhere. It is certainly a test of the increasingly popular creationist strategy of insisting that evolution be taught as "only a theory."

[This article was prepared with the assistance of NCSE members Thomas Henry, Marc Williams, and Mark Boslough.] ■

- LETTERS -

■ Since the initial article "It's time to bury Darwin and get on with real science," printed in the Spring, 1995 issue of *21st Century Science and Technology* magazine, *21st Century* has continued the debate in the Winter 1995-1996 issue with a double article called "The Darwin debate." This double article includes a lengthy commentary "In defense of Darwin" by Karol Sabath, now writing his doctoral dissertation at the Institute of Paleobiology of the Polish Academy of Sciences in Warsaw; and a lengthy reply, "Bury Darwin—It's overdue," by myself, the author of the origi-

nal article. Readers might find it quite interesting that there is a non-creationist alternative to Darwin within the scientific realm.

Back issues of *21st Century* are available at PO Box 16285, WASHINGTON DC 20041

Carol Hugunin
21st Century

[Ed. Rasoul Sorkabi critiqued Hugunin's original article and another related piece in "Darwin under attack" which appeared in NCSE Reports 15(3):8.]

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■ I loved the questions posed by the editor at the end of the 'In The Classroom' section of Fall '95 *Reports*. They remind me of the 'Gish gallop' approach to finding answers. I wanted to respond by saying "whoa hold on a minute!"

The best way to teach evolution is to start by very carefully defining the scientific terms to be used. My eighth-grade earth science students spend quite a bit of time learning about what is really meant by words like "truth" and "theory." Refer back to your definitions whenever necessary. Then clearly state that no such group of people named "the scientists" exists. Explain that scientists work in competition in a free market place of ideas. Show them a scientific journal. Give examples of recent "heretical" ideas that were laughed at at first but took hold when enough convincing evidence accumulated.

Avoid teleological phrases. No evidence supports the idea that organisms evolve "to do" anything. Quit using the word "believe" when you are discussing scientific theories. Some science teachers lecture as if they are in a tent revival. No wonder creationists often describe evolution as a religion! Either you accept the evidence for an idea or you reject it.

Always reward students for questioning what you are teaching. This demolishes the lie that science teachers are forcing kids to "believe in" evolution. Stress that no one needs to accept any idea for which sufficient evidence is lacking. Then bring on the mass of overwhelming evidence that supports evolution and be very quiet while the facts speak for themselves.

It is also important to remember that there are, in fact, really three kinds of truth. There is the "truth" truth, the "whole truth" truth and the "nothing but the truth" truth. The "nothing but the truth" truth is that evolution, as defined by changes to species over time, happens. The "whole truth" truth is that we don't know, and will never be able to know, all the details of how every species evolved. We also don't know everything there is to know about all the processes involved in evolution. The truth is that physics teachers are not getting creationist flak for saying that the Theory of Relativity is really true.

John Koonz
Austin, TX



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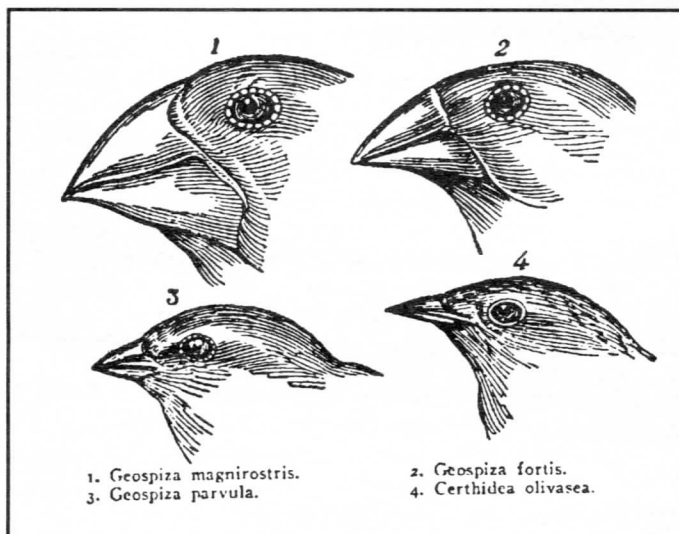
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