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Appeals Court Dismisses Webster Creationism Case

Circuit Court of Appeals Says Teacher Lacks "Right" to Teach Scientific Creationism

Eugenie C. Scott

In 1988, Ray Webster sued the New Lennox School District over his alleged first amendment freedom of speech rights to teach "scientific" creationism. NCSE has followed this case with considerable interest and has provided information to the law firm defending the District (see *NCSE Reports* 9:6). After losing at the Federal District Court level, Webster's case has been on appeal since early 1990. Institute for Creation Research attorney Wendell Bird was among Webster's attorneys. On November 6, the Seventh Circuit Court of Appeals affirmed the lower court's decision.

The District Court decision was a very strong one supporting the protection of science teaching from sectarian, creationist incursions. The District Superintendent, Alex M. Martino, had sent Webster a letter directing him to cease teaching creation "science," as the Supreme Court had defined this activity as religious *advocacy*, rather than religiously-neutral instruction. Teaching *about* religion is not unconstitutional; *advocating* a religious view is. Webster had clearly stepped over the line in his presentation of creation "science." Because the district was well within its rights in prohibiting Webster from advocating a religious view in the classroom, Webster did not have a valid complaint against it; therefore, his suit was dismissed.

In supporting the District Court's view, the Appeals Court reaffirmed the fact, well-known to teachers, that precollege teacher academic freedom is limited.

Citing *Palmer v Board of Education*, the Appeals Court said:

There is a compelling state interest in the choice and adherence to a suitable curriculum for the benefit of our young citizens and society. It cannot be left to individual teachers to teach what they please.

Both the Appeals Court and the District Court relied strongly on the 1987 Supreme Court *Edwards v Aguillard* decision, which defined "scientific" creationism as a nonevolutionary theory of origins that "embodies the religious belief that a supernatural creator was responsible for the creation of humankind." Because the

Webster, continued on p. 7

Illinois Schools Teach Creationism as Science

Ransom R. Traxler

On 2 November 1990, I attended presentations given by Harlan Wentzel at the Illinois Science Teachers' Association (ISTA) annual convention near Chicago. Wentzel, who teaches at a public school (Maryville Elementary) near St. Louis, introduced himself by saying, "I don't have a degree in science, but neither did Darwin. I attended a seminary school, just like Darwin. The only difference between Darwin and me is that I haven't sailed around the world in a little boat."

Illinois, continued on p. 9

Nucleus

From the Editor

Surprise is a recurring element in politics and science. In a surprise move with implications for both, the state of California suddenly decided to reapprove the issuance of masters degrees in science by the Institute for Creation Research Graduate School (see p. 6). The appeals court's decision in the Webster creationism case, however, was not a surprise. Though it represents another defeat for those who want fundamentalist doctrines taught as science in public school classrooms, Eugenie C. Scott points out in our cover article that the decision leaves a possible loophole for creationists to exploit.

In *NCSE Reports* 10(3), I advertised for a cartoonist. Several NCSE members responded, some with computer art, others with traditional hand-drawn cartoons. I found the submissions by Thomas Barefield of Waynesboro, Georgia, best-suited to *NCSE Reports*, as they exhibit irreverence toward both creation and evolution. Two of Barefield's cartoons appear in this issue (pages 5 and 15). Thanks to all the others who submitted examples of their work.

This is my last issue as editor of *NCSE Reports*. Editing this publication has been a rewarding experience, but it has consumed most of my free time since the day I accepted the job. I had thought (naively) that I could edit the newsletter, earn a living, and still have time to work on my book projects. When I realized that the latter had not been touched for a year, I had to face reality, and I resigned. NCSE president John R. Cole is taking over as interim editor. I will continue to contribute.

When I became editor, my goals included enhancing the readability of the publication and maintaining a more regular publication schedule. I hope I succeeded in the former; I know I failed in the latter.

Thanks to all who contributed.

Robert J. Schadewald

Submissions

NCSE Reports needs short reports (600 words or less) on local stories related to evolution education, Committees of Correspondence, or creationist activities. Submissions should be *double-spaced* and typed on one side of the paper with 1" margins all around.

Users of IBM® and compatible computers may submit a 3½" or 5¼" diskette with the text in WordStar® or ASCII format. No submissions will be returned unless accompanied by a stamped, self-addressed envelope.

Send submissions to:

John R. Cole
WRRC
Blaisdell House
University of Massachusetts
Amherst, MA 01003

Ollie North "Takes Over" Committees of Correspondence(!)

Retired Marine Colonel Oliver North's public affairs organization, Freedom Alliance (FA), is instituting community grass-roots political watchdog organizations to "keep careful watch on our nation's elected representatives at the federal, state, and local levels" (*The Free American*, I (II):1, July 30, 1990.) Unfortunately, he is calling them, "Committees of Correspondence," which may cause confusion with NCSE's organizations. Both NCSE and FA Committees of Correspondence are involved in monitoring local officials.

A few years ago, the Greens political movement began calling its local organizations "Committees of Correspondence." NCSE Executive Director Eugenie C. Scott contacted them and explained that we have been using the name since the early 1980s, and the Greens agreed to rename their groups "Greens Committees of Correspondence." NCSE has contacted North's organization requesting they use another name for their groups.

Their lawyer requested more information, which was sent. We are waiting for their response.

Please let NCSE know whether Freedom Alliance "Committees of Correspondence" are forming in your area. □

NCSE Sponsors Scientists at NABT

For the second year, NCSE has sponsored talks on evolutionary biology by university scientists at the annual meeting of the National Association of Biology Teachers (NABT). (See article, p. 20.) The 1990 meeting was attended by several thousand biology teachers, many of whom heard talks by professors from the University of Texas (David Hillis, Bassett Maguire, Steve Bratteng, and Tim Rowe), Rice University (Joan Strassman and Kathleen Beckingham), the University of Houston (Steve Schafersman), and Tulane University (Milton Fingerman). The lecture topics included invertebrate phylogeny, coevolution, molecular phylogeny, human settlement of the Americas, dinosaur evolution, gradualism and punctuation in plankton evolution, and others.

Scott Elected to AUSCS Council

NCSE Executive Director Eugenie C. Scott has been elected to the National Advisory Council of Americans United for Separation of Church and State (AUSCS). AUSCS is a national organization of clergy and others dedicated to the separation of church and state. Members of its National Advisory Council generally have special skills or knowledge and advise AUSCS on its activities. The council also forms the pool from which the trustees of the organization are chosen.

We congratulate Dr. Scott on her honor. □

NCSE in the News

During recent months, NCSE Executive Director Dr. Eugenie C. Scott has been a sought-after commentator on several topics related to the creation/evolution controversy. In late September, she appeared on the Drake Collier Show (Chicago), discussing creation and evolution. Callers wanted to discuss "Mitochondrial Eve," the evolution of races, and the relationship of religion to science, among other topics. Also in late September, she guided a group of over 40 members of the Bay Area Skeptics through the new California Academy of Sciences evolution exhibit. She lectured on the role of evolution in the California Science Framework to over one hundred science teachers from Mendocino County in October, and she was a featured speaker at the National Association of Biology Teachers annual meeting in Houston in early November.

One of the most interesting public events, according to Scott, was sharing a stage with Duane Gish, from the Institute for Creation Research, in New Orleans. At the invitation of the University of New Orleans (UNO), Scott and Gish each lectured on evolution and creationism, respectively, as part of a series of lectures on "Science, Technology, and Ethics." Though not a formal debate, audience questions at the end allowed some give-and-take. The next day, Scott appeared on the Angela Hill television show in New Orleans, opposite UNO creationist professor, Edward Boudreaux.

A surprise call to appear on CNN's "Crossfire" show came on Halloween. Many NCSE members saw Scott appear opposite Forrest Mims, a creationist science writer who was not hired to write a column for *Scientific American*. Scott made it clear that she could not speak for *Scientific American*, but she pointed out that as a creationist Mr. Mims holds a view of science differing markedly from that held by the magazine.

Letters

[T]wo prominent science historians ... show that the system of Tycho Brahe was really developed by Paul Wittich.

The books in Tycho's library that once belonged to Wittich had the Tychonian system in the margins and overleaves as manuscript notations. Because they were in Tycho's library, earlier scholars concluded they were Tycho's first notes on his system.

Tycho a Plagiarist?

In *The Wittich Connection* (*Transactions of the American Philosophical Society* 78, part 7, 1988), Owen Gingerich and Robert Westman, two prominent science historians, show that the system of Tycho Brahe was really developed by Paul Wittich. Tycho claimed the system as his own after Paul Wittich's death, and he got away with it because Wittich did not publish it. Tycho was very concerned that this theft of intellectual property might be discovered, and to the end of his life he had hired agents in Europe seeking to buy every book and manuscript that Wittich had ever owned.

This very much contrasts with Gerardus Bouw's assertion that Tycho became born-again toward the end of his life (*With Every Wind of Doctrine*, p. 132) unless, of course, being born-again allows you to claim someone else's ideas as your own.

The books in Tycho's library that once belonged to Wittich had the Tychonian system in the margins and overleaves as manuscript notations. Because they were in Tycho's library, earlier scholars concluded they were Tycho's first notes on his system. But the handwriting didn't match, so Gingerich and Westman sought to identify the real author of the notations, which predated the publication of the Tychonian system and Tycho's claim to priority. It was a traveling tutor named Paul Wittich.

The Tychonians now have a moral dilemma. Should they change their name to the Wittichian Society, or should they honor a plagiarist? Also in their preamble they say they "accept the model proposed by Tycho Brahe"; they need to change it to "proposed by Paul Wittich."

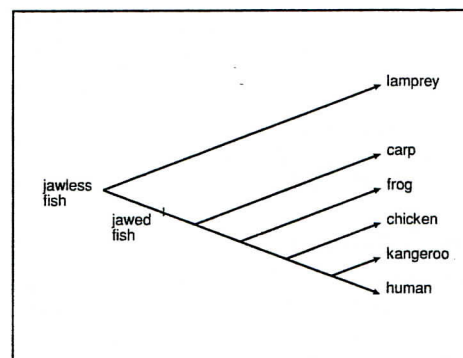
It will be interesting to see how the Tychonians react.

- Francis Graham

Denton's Mistake — Intentional?

NCSE Reports, September/October 1990, has an article on molecular clocks and creationism by William Thwaites. Bill says that Figure 1, taken from Denton's book, "was amazing confirmation" of evolution. But it was not! Denton used a matrix table of cytochrome *c* from Dayhoff's *Atlas of Protein Sequence and Structure* 1972, but he ignored Dayhoff's diagram on page 15 of the *Atlas*. The diagram shows evolution as a branching process with changes coming repeatedly from common ancestors. Denton concocted a diagram with a single ancestor, and he said that a present day bacterial species was the ancestor of horse, pigeon, tuna, silkworm, wheat, and yeast. He then said "it means that no eucaryotic cytochrome is an intermediate" for other species. This is completely wrong.

Alas! Bill Thwaites repeats Denton's mistake in his Figure 2, in which Bill shows five different species radiating from jawed fish as a common ancestor. Figure 2 should be redrawn as follows:



There is ample evidence in the literature for the phylogenetic tree of evolution as a branching process with a series of nodes representing common ancestors. See Dickerson, *J. Molecular Evolution* 1:26-45, 1971 and Dayhoff's *Atlas*, Figure 1-2, page 8.

Thomas H. Jukes

Thwaites Replies to Jukes

Alas! Alas! Alas! The error was *mine*, not Denton's. And I know better. Nevertheless, the data that Denton cites do allow one to establish the nodes as shown in Jukes' letter. Figure 4 in my review of Denton ("Review of *Evolution: A Theory in Crisis*," *NCSE Reports* 9:14) shows the nodes. The figure, nodes and all, was entirely inspired by the data from Denton's *Crisis* book. On the other hand, the more recent Figure 2 that offended Professor Jukes was intended to show only that the early jawed fishes were ancestral to modern jawed fish and to terrestrial vertebrates, not that the early jawed fishes were the most recent common ancestor of all those vertebrates.

I am sorry for any duress that my abbreviated art work may have caused Professor Jukes. I would be even more sorry if I thought for a moment that my diagram had somehow misled creationists into thinking that Denton understands evolution, or thinking that one can get data such as those cited by Denton from any natural process except evolution.

William Thwaites

More on Moon Dust

Graham's article on the moon dust argument was excellent. I would like to add a bit more of data to which Graham hinted.

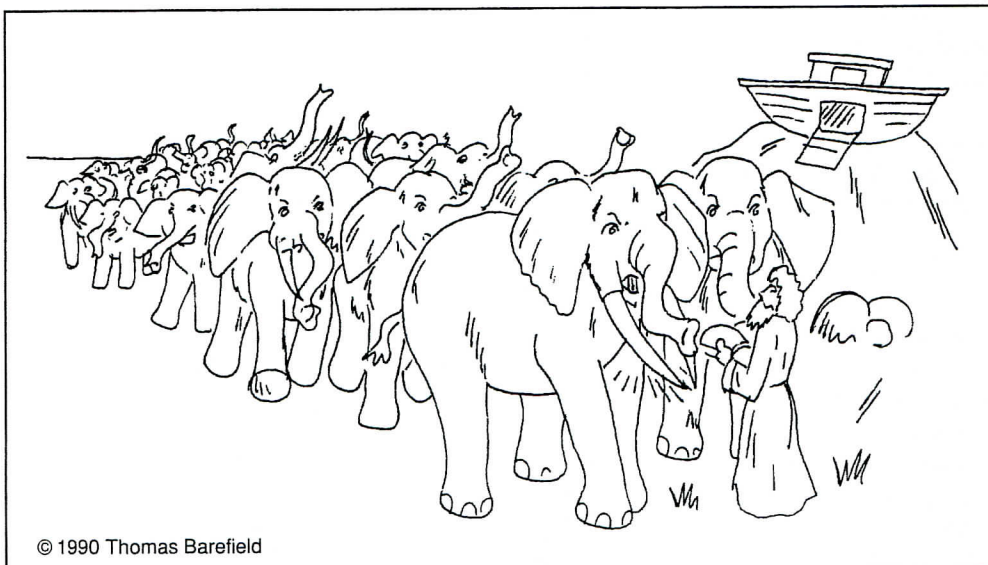
Creationists claim that at NASA they waited with bated breath for Apollo 11 to sink into the soft dust. The question to ask a creationist who uses this is: "Was this the first time man was on the moon?" Get them to admit that the answer is yes. But the answer is actually, No! Besides the Soviet robots that landed on the surface, NASA had the Surveyor series land and take a close look at the surface.

Thus, in May 1966, when Surveyor 1 landed on the moon, 3 years before Apollo 11, NASA officials knew exactly how much dust there was on the surface. There was no surprise at NASA when Neil Armstrong placed his foot into a few centimeters of dust.

Adding to the crater impacts Graham discussed, creationists would have to explain why there are craters in various stages of degeneration (see photograph, and page 127 of N. M. Short 1975, *Planetary Geology*, Prentice-Hall, NJ).

Richard Wakefield

[I]n May 1966, when Surveyor 1 landed on the moon, 3 years before Apollo 11, NASA officials knew exactly how much dust there was on the surface. There was no surprise at NASA when Neil Armstrong placed his foot into a few centimeters of dust.



What do you mean, "only two of each?" We came all the way from southern Africa, and I'm not going to be the one to tell them all they have to go back!!

News

The unpublicized reversal came to light about 11 November in a brief Los Angeles Times article; details were unknown outside the department's legal office as late as 21 November...

ICR is not completely satisfied by the outcome. Soon after the story broke, ICR issued a press release stating its intention to continue with its federal lawsuit against the state of California for allegedly violating its constitutional rights.

ICR Graduate School's License Restored

In a stunning reversal, the counsel of the California State Department of Education on 7 November informed the Institute for Creation Research Graduate School (ICRGS) that its license to grant masters degrees in science would be restored.

State licensing is required of all schools that grant degrees in nonreligious subjects and are not accredited by agencies such as the Western Association of Schools and Colleges. Because nearly all schools that grant science degrees meet the requirements for accreditation, ICRGS is almost unique in requiring such a license. Since 1981, ICRGS has been authorized to award M.S. degrees in biology, geology, physics, and science education for studies in the pseudoscience it teaches. This license was withdrawn earlier this year by Superintendent of Public Instruction Bill Honig, following a lengthy study of ICRGS's academic quality by two expert visiting committees.

The unpublicized reversal came to light about 11 November in a brief Los Angeles Times article; details were unknown outside the department's legal office as late as 21 November, even to nonlegal department executives directly concerned with the matter.

This much is clear. Upon denial of its application for license renewal, ICR filed suit alleging that the Department of Education violated the state's Administrative Procedures Code (APC) in carrying out the steps leading to the denial. The department holds that its actions in this matter are not governed by the APC but by other statutes, and it was prepared to defend its actions on that basis. For technical reasons, however, the department must be represented in this case by the Attorney General's office.

In reviewing this case, the Attorney General's office decided that the APC

may well govern, and consequently, declined to pursue the matter. This refusal to act leaves the denial of allegations moot.

Acts and Facts, ICR's monthly publication, will no doubt attribute the sudden and unforeseen reversal to divine intervention. A source closely connected to educational politics in California suggests a more mundane reason. The Attorney General's office, facing severe budget cutbacks in common with all state agencies, is winnowing its caseload. The office has already announced that it will no longer represent the California State University system in legal matters. According to the source, it may well be that the Attorney General's office simply does not see awarding science degrees for religious instruction as a priority matter. Perhaps, ironically, ICRGS owes the survival of its degree program to the vigor of drug lords!

What comes next? Since the present review of ICRGS began, a new law severed private postsecondary education from the Department of Education and created a new, independent state supervisory agency called the Private Postsecondary Education Council (PPEC). The PPEC, whose members have been appointed by Governor Deukmejian, will meet for the first time in January 1991. The council is concerned mainly with vocational schools such as beauty colleges and truck driving academies, and no action with respect to relicensing ICRGS can be expected for at least a year — more probably two to four years. When the PPEC does get around to ICRGS, the entire procedure will start from scratch (for the third time). Meanwhile, California is stuck with a fraud that casts doubt on the integrity of science education in the Golden State.

ICR is not completely satisfied by the outcome. Soon after the story broke, ICR issued a press release stating its intention to continue with its federal lawsuit against the state of California for allegedly violating its constitutional rights. □

Webster, *continued from p. 1*

issue in the Louisiana *Edwards* case (see *Creation/Evolution Newsletter* 7(4)), was the right of a state to pass a law requiring the teaching of creationism whenever evolution was taught, many in the evolutionist camp have worried that a narrow interpretation of the decision would permit individual teachers to teach creationism, even if a state were prohibited from requiring it. (Creationists, of course, have interpreted the *Edwards* decision in this fashion.)

In this first direct application of the *Edwards v Aguillard* Supreme Court decision, creationists will find little encouragement. A appeals court declared that *Edwards* applies to individuals as well as states:

The district court then framed the issue as whether Webster had the right to teach creation science. Relying on *Edwards v Aguillard*, 482 U.S. 578 (1989), the district court determined that teaching creation science would constitute religious advocacy in violation of the first amendment and that the school board correctly prohibited Webster from teaching such material.

What will the creationists do now? I suggest they will seek a loophole in the following passage from the District Court decision, cited approvingly in the Appeals Court decision:

Webster has not been prohibited from teaching any nonevolutionary theories or from teaching anything regarding the historical relationship between church and state. Martino's letter of October 13, 1987 makes it clear that the religious advocacy of Webster's teaching is prohibited and nothing else.

The teaching of scientific creationism has been declared unconstitutional, but it is all right to teach "nonevolutionary theories." But what are

"nonevolutionary theories?" There aren't any, at least not scientific ones. What this means is that creationists will have yet another impetus to re-fashion their Biblical-literalist science into euphemisms that avoid the term "creation" in any fashion, such as "abrupt appearance theory," "intelligent design theory," and of course, "arguments against evolution."

It is imperative that NCSE members and other supporters of good science carefully monitor local situations. That which we call "scientific creationism," by any other name would smell as bad. (See related story, p. 18) □

Ohio Teacher's Lawsuit Settled Out of Court

An Ohio middle school teacher (who wishes to remain anonymous) sued his district in Federal District Court over his free speech and academic freedom to teach evolution and other subjects without censorship. Because of complaints from fundamentalist parents, the teacher had been instructed to clear "controversial issues" (undefined) through the administration and not to "promote" evolution. He was also required to have an outside speaker address his class. This speaker "told the class about his Christian beliefs and referred to God numerous times in his presentation."

The teacher writes, "most teachers to whom I have related any of this are incredulous that such a battle should need to be fought in this day and age. This was also the reaction of [the] federal judge during the pre-trial conferences wherein he lectured the school district on such tactics."

The suit was settled out of court on terms very favorable to the teacher. Settlement provisions called for payment by the school board of \$17,000 in legal fees and a cash settlement to the teacher. □

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Maryland Creationists Press for "Uniform Origins Policy"

A group calling itself "Citizens for Better Science in Education" has petitioned the Maryland General Assembly, the Montgomery County (Maryland) Public Schools, and local school boards to institute a "Uniform Origins Policy" requiring presentation of "both the strengths and weaknesses of concepts on origins presented by the public school teacher or textbook." This policy will allegedly make instruction "more objective" and "protect academic freedom for public school teachers who may otherwise be deterred from teaching a variety of concepts and scientific data on origins." "Origins" includes "any description or explanation of the coming into being and development of the universe, of life, or of the categories of living things."

The wording echoes the 1988 Supreme Court decision *Edwards v Aguillard* which mentioned a teacher's right to teach "a variety of scientific theories

about the origins of humankind...." Because "scientific creationism" was declared to be a religious concept, proponents often avoid the term, preferring euphemisms such as "intelligent design" or "evidence against evolution."

Citizens for Better Science in Education is asking each state legislator and senator to introduce the bill in the General Assembly, and it is trying to mobilize grass-roots support. The policy would permit a teacher to teach outside the current curriculum, which includes evolution.

As discussed in *NCSE Reports*, (9(2):14-15), "evidence against evolution" is a ruse to get "scientific" creationism into the classroom. We will keep readers informed.

Note to Maryland NCSE members: Ask your local school board chairperson whether he or she has received this petition, and let school board members know that you can offer advice to help them evaluate it! NCSE will be happy to provide assistance. □

Ankerberg to Tackle Evolution Again

Televangelist John Ankerberg is preparing a new series of eight or nine antievolution programs to be aired nationwide on the John Ankerberg Show in early 1991. The programs feature such well known creationists as Steven Austin, Walter Bradley, Donald DeYoung, Duane Gish, David Menton, Charles Thaxton, and Kurt Wise. Wise, who teaches at Bryan College in Dayton, Tennessee, is assisting Ankerberg with the editing.

Many readers will recall Ankerberg's 1987 series, which featured Reverend D. James Kennedy bashing science (which he called evolution). Several NCSE members (including Kevin Henke, Frank Lovell, and Tom Wheeler) complained to Ankerberg and Kennedy about Kennedy's misrepresentations. (Wheeler wrote an 85-page analysis of Kennedy's

nonsense!) Kennedy stonewalled, and he still repeats some of the same falsehoods. Ankerberg was more responsive, but he did nothing to enlighten his viewers about Kennedy's errors.

It is rumored that Ankerberg was more troubled by the Kennedy incident than outsiders could guess. In any case, most of the creationists he recruited for this series are of a different stripe than Kennedy. The first few programs deal with the origins of the universe, life, and the major groups of living things; they do not confront the question of time. In the last few programs, Austin and Wise argue for a young Earth.

The series sounds like *Of Pandas and People* with a young-Earth ending. Though far from conventional in its interpretations, with Wise in the cutting room, we can expect the series to be forthright in dealing with facts. For this alone, it should be a breath of fresh air compared to the usual stuff from ICR and BSA. □

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Illinois, continued from p. 1

Wentzel teaches only third-grade general science, for which a science degree is not required. One of his ISTA presentations was on the astronomical evidence for Noah's Flood. The other was a rambling talk on design and the young Earth. At the latter, he distributed religious antievolution literature from the Bible-Science Association and passed around a sign-up sheet for free copies of the *Bible-Science Newsletter*.

I had spoken with Wentzel by telephone before the convention. "Of course I'm a creationist," he told me. "I teach my students creationism every chance I get. I don't give them the religious stuff, but I tell them things like the data shows that things were created and did not occur by accident, and that the discoverer of the DNA code said that it had to be designed and could not occur by blind chance."

On 16 November, I spoke with Dr. Shari Marshall, principal of Maryville Elementary. I told her I was writing a report on Mr. Wentzel, and our conversation went something like this:

Traxler: Are you aware of Mr. Wentzel's teaching creationism?

Marshall: Oh, yes, we let him present creationism as an alternative to evolution in our school.

Traxler: Does he teach religion to the students?

Marshall: Oh, no, he doesn't teach religion. He teaches creationism.

Traxler: But creationism is religion.

Marshall: Creationism is not science, it's religion?

Traxler: Yes.

Marshall: Then goodbye! (CLICK)

About an hour later, I received a telephone call from Dr. Fred Bloss,

curriculum director for Collinsville School District #10. Bloss said he had received an upset phone call from Dr. Marshall, and he wanted to know which side I'm on. I identified myself and told him I am also a science teacher. I asked Bloss his position, and he said that he believes creationism is a scientific theory just like evolution. He said, "Whenever origins are discussed, we present all scientific theories, including creationism and evolution." That is school district policy for all schools, grades K–12, and the curriculum and textbooks reflect that policy.

I asked Bloss whether he knew that the Illinois State Academy of Science and the Illinois Science Teachers' Association recently passed resolutions declaring that creationism was not science but religion. He replied, "Well, that's their belief."

I also discussed this issue with a member of the Illinois State Board of Education. He said he believed that creationism belonged in the church and home and that evolution belonged in the classroom, but the issue did not bother him personally. According to him, the state cannot tell the individual school districts what they can and cannot teach.

This seems to be the official response. Last year, J. Robert Sampson, manager of curriculum improvement for Illinois, replied to my letter about creationists proselytizing in our public schools with these words:

In Illinois, we have over 900 school districts, each autonomous and free to choose their curriculum materials If a district chooses to have [a creationist] speak to their students, it is their right, just as it would their right to invite [a scientist] to speak.

It appears that Illinois school officials have little interest in enforcing the constitution, which prohibits religious proselytizing in public schools. □

"I teach my students creationism every chance I get. I don't give them the religious stuff, but I tell them things like the data shows that things were created and did not occur by accident, and that the discoverer of the DNA code said that it had to be designed and could not occur by blind chance."

As a group, the books submitted by the publishers were generally strong on evolution, and thus to the liking of petitioners and evaluators such as People for the American Way, NCSE, the Texas Council for Science Education ... and Broader Perspectives.

Thanks to a strongly worded proclamation, an improved method of selection, and (most of all) a commendable response by the publishers, Texas can at last look forward to quality biology texts in its classrooms.

Good News from Texas About Biology Textbooks

Ronnie J. Hastings

I was privileged to serve on the 1990 Texas Secondary Science Textbook Selection Committee, a committee composed of 15 people, one from each educational district. The situation this year was unprecedented in the history of textbook selection in Texas; Proclamation 66 explicitly required evolution as a major theme for biology texts. A last-minute revision, inserted to placate Mel and Norma Gabler and the creationist lobby, specified the inclusion of "scientific evidence of evolution and other reliable scientific theories, if any." How publishers responded to the "if any" clause would determine the quality of the books' coverage of evolution.

We committee members were required to work as individuals. We were not allowed to communicate even our preliminary views to other members for fear that a few members with stronger egos or extraordinary powers of persuasion might sway the committee away from a rational point of view. Personally, I would have preferred more intra-committee communication.

Our swearing in as state officials imposed on us a no-contact period during which we could not have unofficial communication concerning the biology texts with publishers or petitioners. Our official communication consisted of two days with public petitioners in July at the capitol in Austin. Though a couple of our selection committee members had creationist sympathies, our committee consisted mainly of dedicated science educators. A majority were classroom teachers cognizant of what a usable, informative, state-of-the-art text should contain. Most members were familiar with creationist rhetoric, and all appreciated the importance of our selections. As Texas goes, so do many

other states, when textbooks are concerned.

As a group, the books submitted by the publishers were generally strong on evolution, and thus to the liking of petitioners and evaluators such as People for the American Way, NCSE, the Texas Council for Science Education (a.k.a. the Texas Committee of Correspondence, headed by Steve Schaefersman), and Broader Perspectives. Nine biology I books were offered, including the Biological Sciences Curriculum Study (BSCS) blue and green versions. (BSCS books had not been considered in Texas for well over a decade.) How strongly did the books treat evolution? Well, the strict creationist petitioners (the Gablers and their ilk) called for rejection of *all* of them! Therefore, our job as a selection committee was reduced to selecting the strongest texts from a strong field.

A book needed a two-thirds majority (10 votes) of the committee to earn a place on our list. By secret ballot, we selected eight of the nine biology I books (including the two BSCS versions) and three of the four biology II books. (In my view, we eliminated the weakest book in each field.) Our recommended list in each subject is passed on to the state board, which can delete from our list but not add to it.

Thanks to a strongly worded proclamation, an improved method of selection, and (most of all) a commendable response by the publishers, Texas can at last look forward to quality biology texts in its classrooms. Eight quality biology I books and three quality biology II books go to the state board for final approval. We anticipate that few, if any, of the books will be deleted from our lists, for we are the "experts" nominated by the board itself. It must be remembered, however, that petitioners (including creationists) get another audience with the board before the final decision. □

Review of *Genesis and the Big Bang*

By G. L. Schroeder. Subtitle: *The Discovery of Harmony Between Modern Science and the Bible*. (Bantam Books, 1990). ISBN 0-553-07085-5. \$19.95.

Frank J. Sonleitner

G. L. Schroeder (an applied physicist and theologian with a doctorate from MIT) accepts all the scientific evidence (astronomical, geological, and paleontological) for origins, but he claims that the Bible is in agreement. The difference between 6 days and 15 billion years is simply a time frame difference (*a la* special theory of relativity) between God and men.

With help from the 12th and 13th century commentators Maimonides and Nahmanides, he argues that:

- Genesis describes the Big Bang, the inflationary universe, the condensation of matter from energy, and generations of star-making.
- Life appeared miraculously on Earth soon after the planet formed.
- Punctuated equilibrium (which is really Divine punctuation) should replace Darwinian evolution.
- The K-T meteor impact was divine intervention to clear the stage for mammals and eventually mankind. (Pre-Adamite humans existed, but Adam, from whom all modern mankind descended, was given a soul.)

Schroeder says little about the Flood except to say that sediments from so brief a period would probably not be extensive and may never be found.

One may not be convinced of any of this, but it certainly is a strong and scholarly antidote to the creationist dogma that the Bible must be read literally and that one must choose

between science and the Bible. Schroeder gives two quotes from Maimonides that are very relevant to the creationist/evolution controversy:

The account of the beginning [Genesis I] is natural science but so profound that it is cloaked in parables.

Conflicts between science and religion result from misinterpretations of the Bible.

A book with a similar theme, though a lot less scholarly, is J. L. Wiester's *The Genesis Connection* (Thomas Nelson Publishers, 1983). □

Florida Poll Supports Biblical Creationism in Schools

A poll conducted this fall by the Boca Raton area newspaper, *The News*, showed Floridans supporting by 56% to 29% "the teaching of the Biblical story of creationism in addition to the theory of evolution." NCSE member William P. Holcombe followed up the report of the poll with a stinging letter to the editor, saying in part:

That reinforces my view that too many people in Florida are poorly educated in the sciences — indeed, they are scientifically illiterate. The scientifically illiterate have good company — from Gov. Bob Martinez to the man in the White House. The team of Childes/MacKay, who have supported state-of-the-art science in Florida classrooms, have been attacked on Christian radio stations as being un-Christian — certainly an important and pernicious accusation in the Bible-belt. For those who want "scientific" creationism expunged from the classrooms, you have one more reason to vote for a required change in Tallahassee.

We are happy to report that the pro-creationist candidates were not elected. □

The difference between 6 days and 15 billion years is simply a time frame difference (a la special theory of relativity) between God and men.

A poll conducted this fall by the Boca Raton area newspaper, The News, showed Floridans supporting by 56% to 29% "the teaching of the Biblical story of creationism in addition to the theory of evolution."

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

*To creationists
[vestigial]
structures are the
way they are
because God
created them that
way. Furthermore,
because God does
nothing in vain,
God must have
created them to
serve some
purpose.*

Creationism *versus* Vestigial Structures

Karl D. Fezer

In biology, according to my dictionary, a “vestige” is “a degenerate, atrophied, or rudimentary organ or part more fully developed or functional in an earlier stage of development of the individual species.” Charles Darwin, in a section on “Rudimentary, atrophied, or aborted organs” in *The Origin of Species*, cited numerous examples in both plants and animals: “For instance, ... in very many snakes one lobe of the lungs is rudimentary; in other snakes there are rudiments of the pelvis and hind limbs.” Biologists ever since considered vestigial structures to be relics of ancestral structures and to constitute one important kind of evidence for evolution.

To creationists such structures are the way they are because God created them that way. Furthermore, because God does nothing in vain, God must have created them to serve some purpose. Therefore, creationists gleefully list structures that scientists once considered to be functionless, but that have since been shown to have some function. For example, we now know that the human appendix does contain some lymphatic tissue that presumably serves as part of the immune system. Similarly, say creationists, every other structure claimed to be “vestigial” must have some function, whether or not we have discovered it yet.

This position has a modicum of merit; functions are more likely to be discovered if they are assumed to exist and therefore looked for. On the other hand, if a structure really has no function, people could waste much time looking for one. Investigators always face decisions as to where to invest their research effort. But they should keep their minds open to the possibility that an apparently functionless structure does have a function after all.

But even if a function is found, other features of the structure may still suggest that it is in some respects vestigial. Based on its placement and configuration — a dead-end side street off the highway of the small and large intestine — the caecum-with-appendix in humans looks like a rudimentary version of the much larger and highly functional caecum in some herbivorous mammals. So why is the human appendix shaped the way it is? If God designed it, couldn't he have shaped it in a way that would lead to appendicitis and death less frequently? Couldn't those lymphatic tissues do their job elsewhere? Indeed, lymphatic tissues are also found elsewhere in the digestive tract, and it seems we can get along well when our appendix has been removed.

There are many other vestigial structures for which it takes a great stretch of the imagination to claim serious functions. My favorites (familiarity being an important criterion) include (1) our own ear muscles, better developed homologues of which allow some other mammals to move their ears, (2) the “thumb” digit way up the front legs of dogs, and (3) the fibula (rear bone) of a chicken drumstick, which, I argue, cannot serve the main function of better-developed fibulae (allowing twist), and which could serve for muscle attachment just as well if it were part of the tibia (front bone).

Whales provide a magnificent array of vestigial structures. (They also have highly-functional structures of a design curious for marine animals, but they are readily understandable as the legacy of terrestrial tetrapod ancestors). Tooth buds in the upper jaws of baleen whale fetuses, never used, disappear and are replaced, in a somewhat different position, by the baleen (whalebone). Creationists say these tooth buds must constitute an essential stage in development of the adult. If so, isn't it a weird way to design a beast? And can't the same be said about fetal hair and about hind limb buds in whale embryos, both of

which are soon lost in further development?

Though both baleen whales and toothed whales (which include dolphins) lack hind limbs, they do have rudimentary pelvic (hip) bones. In males, penis muscles may attach to these, so it is possible that they do have some function. (The powerful tail muscles of whales attach further up the body.) But in many whale species, an occasional specimen has structures characteristic of hind limbs that are internal but also protrude slightly externally. Such "limbs" protruded 4 feet in one humpback whale. (See papers cited by Conrad.) Omura found that, in 50 male minke whales, 13 of them had rudimentary femurs but the remainder did not. Can those femurs have a significant function when most members of the species lack them? Absence of a structure in some members of a species is considered the best evidence that it is vestigial. (See paper by Conrad.)

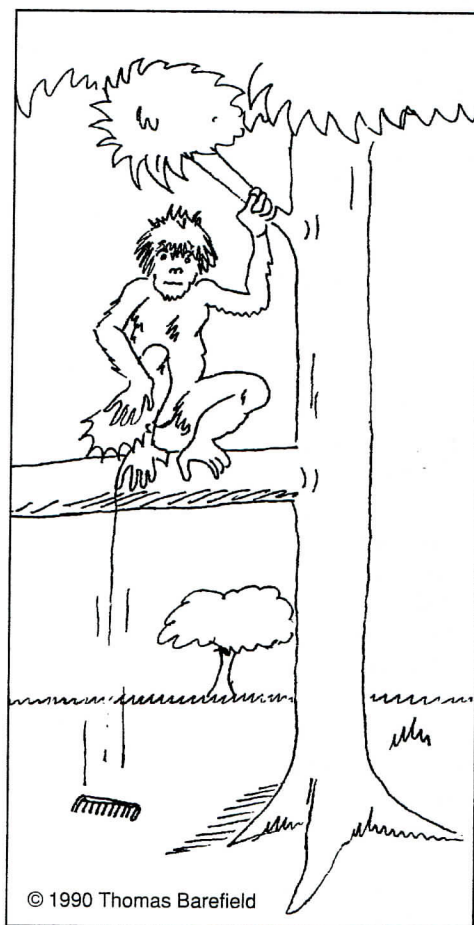
(To round out this story, Gingerich and colleagues recently described hind limbs in *Basilosaurus*, an Eocene species of fossil whales that was off the main line of whale evolution. Though compact and reduced, these limbs exhibited all the major kinds of tetrapod limb bones, and they were judged to have functioned as copulatory guides.)

That nonfunctional vestigial structures are derived from functional ancestral structures is supported further by our knowledge of how this can happen, and by examples of where it clearly did happen. In various groups of animals, blind cave dwellers are known that resemble seeing forms outside the caves. In caves without light, there is no natural selection against mutations that reduce eyes and destroy their ability to function, so some of these mutations can become established in cave populations.

References

- Conrad, Ernest C. 1982. "True Vestigial Structures in Whales and Dolphins." *Creation/Evolution X*: 8-13.
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- Gingerich, P. D., B. H. Smith, and E. L. Simons. 1990. "Hind Limbs of Eocene *Basilosaurus*: Evidence of Feet in Whales." *Science* 249: 154-157.
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- Omura, Hideo. 1978. "Preliminary Report on Morphological Study of Pelvic Bones of the Minke Whale from the Antarctic." *Sci. Rep. Whales Research Inst. Tokyo*. No. 30: 271-280.

Omura found that, in 50 male minke whales, 13 of them had rudimentary femurs but the remainder did not. Can those femurs have a significant function when most members of the species lack them?



For those who wonder why the first hominid ventured from the trees...

Resources

New specimens from the upper Devonian of Greenland indicate that early tetrapod limbs were flipper-like or paddle-like with 8 digits (fore limb of Acanthostega) and 7 digits (hind limb of Ichthyostega), complementing the other known Devonian limb (the Russian Tulepeton with 6 digits).

Hundreds of Mesozoic dinosaur trackway sites (over 400 in the New World alone) are scattered over all five continents, plus many egg/nest sites on all continents except Australia.

Books and Such

The following books, articles, and other materials are of interest to readers of *NCSE Reports*. Where noted, copies are available from the NCSE Resource Center, P.O. Box 9477, Berkeley, CA 94709.

Clack, J. A. 1989. "Discovery of the Earliest-known Tetrapod Stapes". *Nature* 342: 425-427. Fossil evidence indicates that the stapes of the Devonian *Acanthostega* (an amphibian even more fish-like than *Ichthyostega*) was not involved in hearing, but they controlled palatal and spiracular ventilation movements as they do in some living fish.

Coates, M. I. and J. A. Clack. 1990. "Polydactyly in the Earliest-known Tetrapod Limbs". *Nature* 347: 66-68. New specimens from the upper Devonian of Greenland indicate that early tetrapod limbs were flipper-like or paddle-like with 8 digits (fore limb of *Acanthostega*) and 7 digits (hind limb of *Ichthyostega*), complementing the other known Devonian limb (the Russian *Tulepeton* with 6 digits). (See also *Science News*: September 22, 1990, p. 191.)

Gillette, D. D. and M. G. Lockley (editors). 1989. *Dinosaur Tracks and Traces*. Cambridge University Press. This volume contains 49 papers on fossil tracks, nests, and eggs of dinosaurs, including two papers by Glen Kuban on the Paluxy River footprints. Hundreds of Mesozoic dinosaur trackway sites (over 400 in the New World alone) are scattered over all five continents, plus many egg/nest sites on all continents except Australia. Numerous areas on the Earth must have been dry land during the "global" Flood.

Goldsmith, T. H. 1990. "Optimization, Constraints, and History in the Evolution of Eyes." *Quarterly Review of Biology*. 65(3): 281-322. Deals with evolution of the optics, physiology, and biochemistry of eyes and vision.

Kukal, Zdenek. 1990. "Rates of Geological Processes". *Earth Science Reviews* 28:1-273. Information on sedimentation, erosion, water movement, Earth's magnetic field, and many other topics frequently raised (and misunderstood) by young-Earth or old-Earth creationists.

Kunzig, R. 1990. "The Man Who Weighs Dinosaurs." *Discover* 11(10): 76-83.

Paul, G. S. 1988. *Predatory Dinosaurs of the World*. Simon and Schuster. Part 1 deals with the general biology, and part 2 gives a catalog of these forms. Because many of them are bird-like (the order Avetheropoda includes the suborder Protoavia, in which the author puts *Archaeopteryx*), there is a detailed discussion of the origin of flight and various Mesozoic birds, including *Archaeopteryx*, Chatterjee's Triassic "Proavis," and Jensen's Jurassic "modern bird." Creationists often cite the latter two to dispute the transitional status of *Archaeopteryx*.

Rayssiguier, C., D. S. Thaler, and M. Radman. 1989. "The Barrier to Recombination Between *Escherichia Coli* and *Salmonella Typhimurium* is Disrupted in Mismatch-repair Mutants". *Nature* 343: 396-401. The DNA repair mechanism may produce sterility in diverging populations, making them into separate species (see also *Scientific American*, February 1990, p. 22).

Raven, W. 1990. "In the Beginning". *Discover* 11(10): 98-102. Article on J. W. Schopf, who discovered the world's oldest fossils (from the Precambrian).

Stolzenburg, W. 1990. "When Life Got Hard." *Science News* 138(8): 120-123. The evolution of hard shells and external skeletons in the early Cambrian faunas. New finds suggest they evolved in response to predation.

Tattersall, I., E. Delson, and J. Van Couvering (Editors). 1988. *Encyclopedia of Human Evolution and Prehistory*. Garland Publishing. New

York. ISBN 0-8240-9375-5. This 603-page work is a very convenient and up-to-date source on the evolutionary biology, morphology, fossils, and archaeology of humans and primates.

Waters, T. 1990. "Dinosaur Watch: Cretaceous Splashdown". *Discover* 11(9): 32-33. Searching for the site of the impact crater.

Weishampel, D. B., P. Dodson, and H. Osmolska (editors). 1990. *The Dinosauria*. University of California Press. Berkeley. ISBN 0-520-06726-6. This large-format 733-page book is a comprehensive work on dinosaurs, with chapters on the origin and interrelationships, paleobiology, and distribution of dinosaurs. It includes a treatment of the taxonomy of all known forms (no mention of birds). Exhaustively lists and maps geological formations and locations where dinosaur fossils (including tracks, eggs, and nests) have been found. The numbers differ from those reported by Gillette and Lockley in *Dinosaur Tracks and Traces* (discussed previously), presumably because of the less detailed reporting of different sites in the same general locality.

Two articles in October 1990 *Scientific American* (263(4)) debate the cause of

the mass extinction of the KT boundary: Alvarez, W. and F. Asaro. "An Extraterrestrial Impact," pp. 78-84 and Courtillot, V. E. "A Volcanic Eruption," pp. 85-92.

Marine Mammals (workbook). Written by Anne Monk for Marine World Foundation, this workbook has age-appropriate exercises suitable for children from kindergarten through grade 12. Strong evolutionary orientation. Write: Marine Mammal Teaching Guide, Education Department, Marine World USA, Marine World Parkway, Vallejo, CA 95489.

Ray Webster v New Lenox School District No. 122 et al Appeals Court decision for the U.S. Court of Appeals, Seventh Circuit, No. 89-2317. Webster sued his district and superintendent for his alleged first amendment, free speech "right" to teach creationism. He lost at the district level, and now he has lost at the Appeals court level. Resting heavily on the Supreme Court *Edwards v Aguillard* decision, this important decision states that individual teachers do not have the right to teach scientific creationism, because doing so constitutes "religious advocacy." (See this issue's cover article.) Available from NCSE for SASE with \$.45 cents postage. □

Current Creation Science

Bible-Science Newsletter, October 1990. The lead article is "What Did Peleg See? A Creationist Look at Plate Tectonics" (according to Genesis 10:25, "the name of one [son of Eber] was Peleg, for in his days the earth was divided..."). — Also on the cover, Don B. DeYoung reviews (and warns readers against) *The Fingerprint of God* by old-Earth creationist Hugh Ross. — Nancy Pearcey's "World View" section examines the Anthropic Principle. — In a report on the 1990 International Conference on Creationism, the editor falsely accuses SOR cofounder Gregg Wilkerson of defending theistic evolution.

Creation Research Society Quarterly, v. 27, n. 2 (September 1990). In "Some Simulations of the Possible Role of Cavitation in Catastrophic Floods," Edmond W. Holroyd, III continues to develop the thesis that cavitation ground up rock during the Flood. — In "Panorama of Science," Bill Crofut and Raymond M. Seaman repeatedly demonstrate their genius for quoting out of context. — The Minisymposium on Variable Constants continues with articles by Glenn R. Morton, John Byl, and Cam de Pierre. Morton defends his long-held position that the permittivity of free space changed at the Flood, causing the Earth to expand and changing radioactive decay rates, among other things. □

Webster sued his district and superintendent for his alleged first amendment, free speech "right" to teach creationism. He lost at the District level, and now he has lost at the Appeals court level. Resting heavily on the Supreme Court Edwards v Aguillard decision, this important decision states that individual teachers do not have the right to teach scientific creationism...

Keeping tabs

It is the opinion of this Office that a public school teacher can teach any scientific theory of the origin of life, such as evolution. However, no theory of the origin of life which is religiously based can be taught in the public schools as part of the science curriculum, because its teaching would violate the establishment clause of the First Amendment of the United States Constitution.

Creationism Not Lawful in Tennessee Science Classes

(In the summer of 1988, Tennessee Attorney General, W. J. Michael Cody was asked by State Representative Charles "Pete" Drew for an opinion on the legality of teaching "creation science" in public school science classes. After researching the question, Cody replied with Opinion No. 88-149, dated August 18, 1988. The complete text follows.)

QUESTION:

Whether a teacher in a public school in Tennessee can teach all theories of the origin of life for the purpose of enhancing the effectiveness of science instruction?

OPINION:

It is the opinion of this Office that a public school teacher can teach any scientific theory of the origin of life, such as evolution. However, no theory of the origin of life which is religiously based can be taught in the public schools as part of the science curriculum, because its teaching would violate the establishment clause of the First Amendment of the United States Constitution.

ANALYSIS:

The establishment clause of the First Amendment of the United States Constitution provides that "Congress shall make no law respecting an establishment of religion" Through the Fourteenth Amendment, the United States Supreme Court has applied the establishment clause to the states. *See Cantwell v. Connecticut*, 310 U. S. 296 (1940). In determining whether there is a violation of the establishment clause in a particular situation, the Supreme Court, in the case of *Lemon v. Kurtzman*, 403 U. S. 602, 612-13 (1971) announced the following three-prong test:

First, the legislature must have adopted the law with a secular purpose. Second, the statute's principal or primary effect must be one that neither advances nor inhibits religion. Third, the statute must not result in an excessive entanglement of government with religion.

It should also be noted that the establishment clause applies not only to statutes, but to all actions by public employees and officials which would result in a prohibited promotion of religion. *See Breen v. Runkel*, 614 F.Supp. 355 (W.D. Mich. 1985) (when acting in capacity as classroom instructors, teachers are "state actors" for purpose of determining whether their praying in classrooms, reading from the Bible, and telling stories that have a biblical basis violates the establishment clause); *Nartowicz v. Clayton County School District*, 736 F.2d 646 (11th Cir. 1984) (a school district's practice of permitting student religious groups to meet on school property under faculty supervision was violative of the establishment clause); *Collins v. Chandler Unified School District*, 644 F.2d 759, *cert. denied*, 454 U. S. 863 (1980) (where a high school principal, with the concurrence of their superintendent, granted permission for a student council to recite prayers and Bible verses of their choosing during school hours, there was a violation of the establishment clause).

With regard to your question, a recent decision by the United States Supreme Court held a Louisiana statute that required the teaching of "creation science" in public schools if evolution was taught to be violative of the establishment clause. *Edwards v. Aguillard*, 107 S.Ct. 2573 (1987). In concluding that the statute was unconstitutional, Justice William Brennan, writing for the majority, stated the following with regard to "creation science" as a scientific theory of the origin of life:

The preeminent purpose of the Louisiana legislature was clearly

to advance the religious viewpoint that a supernatural being created human kind. The term "creation science" was defined as embracing this particular religious doctrine by those responsible for the passage of the Creationism Act. Senator Keith's leading expert on creation science, Edward Boudreaux, testified at the legislative hearings that the theory of creation science included belief in the existence of a supernatural creator ... The legislative history therefore reveals that the term "creation science" as contemplated by the legislature that adopted this act, embodies the religious beliefs that a supernatural creator was responsible for the creation of human kind.

Id. at 2581-82. Thus, according to Justice Brennan, "creation science", as understood to include the concept of a supernatural creator, is religiously based and cannot be taught in the public schools as part of the science curriculum without violating the establishment clause.

Justice Brennan's opinion was based upon the record of the legislative

debates of the Louisiana statute. No such record exists in this situation. However, the fact that a statute has not been passed in Tennessee requiring the teaching of "creation science" or prohibiting the teaching of evolution unless "creation science" is taught, would not render the actions of a teacher who taught "creation science" as part of the science curriculum to be constitutional. Rather, the teaching of "creation science", if it is intended to include the belief that a supernatural creator was responsible for the creation of life, is an attempt to advance a particular religious view and is violative of the establishment clause of the First Amendment of the United States Constitution.

On the other hand, there would appear to be no constitutional problem with presenting Biblical account of creation as part of a comparative religion course. *See Abington School District v. Schempp*, 374 U. S. 203, 225 (1963) (Bible may constitutionally be used in an appropriate study of history, civilization, ethics, or comparative religion); *Stone v. Graham*, 449 U. S. 39 (1980) (Ten Commandments cannot be posted on classroom walls but could be discussed in course on ethics). □

TCCSA Plans 1992 Creation Conference

The Twin Cities Creation-Science Association (TCCSA) has announced that it will sponsor a creation conference in August 1992. The conference will be held on the campus of Northwestern College in Roseville, Minnesota. TCCSA was the local sponsor of the Bible-Science Association's 1983 National Creation Conference (NCC), also held at Northwestern College, and many of the same people are involved in the planning.

According to conference coordinator Bill Overn, the group's goal is a conference with the scientific rigor of the quadrennial International Conferences on Creationism sponsored

by the Pittsburgh Creation-Science Fellowship, but with more explicit recognition of the religious aspects of creationism. They hope to attract speakers of the same caliber as the Pittsburgh conferences.

Factors motivating TCCSA include disillusionment with the Bible-Science Association (BSA) and doubts about its willingness and ability to continue holding biannual creation conferences. (After the 1989 NCC at Bryan College in Dayton, Tennessee, it was announced that the 1991 NCC would also be held there. Later, however, Bryan asked BSA to cover its losses on the 1989 NCC, as previously agreed, and BSA welshed. If there is a 1991 NCC, it will *not* be at Bryan College.) The 1992 conference will ensure some continuity in creationism. □

[T]he teaching of "creation science," if it is intended to include the belief that a supernatural creator was responsible for the creation of life, is an attempt to advance a particular religious view and is violative of the establishment clause of the First Amendment of the United States Constitution.

The Twin Cities Creation-Science Association (TCCSA) has announced that it will sponsor a creation conference in August 1992 ... on the campus of Northwestern College in Roseville, Minnesota.

Evolution, Pseudogenes, and Cheating on Tests

Stephen B. Rodecker

How can cheating on tests help convince high school students about the validity of evolutionary concepts? Although students in my classes generally can comprehend the concepts, many of them remain unconvinced that evolution provides better explanations for the origin and changing of species than creationism. They dutifully learn the evidence from embryology, paleontology, genetics, comparative anatomy, and biochemistry — and then remain skeptical about evolution. Through the years, I sought more and more evidence to convince doubting students. Unfortunately, much of my evidence came from esoteric journal articles that were difficult to make comprehensible to my students. The high-level vocabulary and difficult concepts only increased my students' skepticism about evolution.

Then, in October 1989, at the National Association of Biology Teachers Conference in San Diego, I attended NSCE evolution workshops conducted by Dr. Eugenie Scott of NCSE and Dr. William Thwaites of San Diego State University. Among the many ideas discussed, Dr. Thwaites mentioned pseudogenes — genes that result from mutations known as duplications. (For further information, Thwaites recommends "Plagiarized Errors and Molecular Genetics: Another Argument in the Evolution-Creation Controversy" by Edward E. Max, *Creation/Evolution* XIX:34-46.)

Pseudogenes are completely without function, and they are highly-specific types of errors. One analogy he used to explain how pseudogenes could provide evidence of evolution was *simple, understandable, and powerful*. Suppose a teacher suspects two students of cheating on a test. She checks the tests afterwards and

discovers that each had a perfect paper. Could she accuse either of cheating? Not really, because both had perfect scores. But what if she checked the tests and discovered that out of 50 questions, each had missed ten? Moreover, they were the *same* ten questions with the *same wrong answers*. Now she would have a powerful case that copying had occurred. Similarly, pseudogenes are "mistakes" that human beings share with several other primates. When the same pseudogenes are found in several primates, it may be assumed that copying (plagiarism) occurred from an original ancestor that possessed these pseudogenes. The transmission of genetic information — whether beneficial, detrimental, or neutral — forms one of the fundamental underpinnings of evolution. In contrast to creationism, evolution provides logical answers to explain how a copying mistake in DNA could take place.

This simple, powerful analogy to which any student could relate and understand has proved to be the clincher. Most of my students now come out of the unit on evolution more convinced about evolution than creationism. Finally, when I discuss evolution as an underlying and unifying theme for all of biology in the following chapters, I am no longer greeted with skepticism, but with understanding. □

Scientific Creationism in Peoria Schools

In *NCSE Reports* 10(3):1,9-10, Ranse Traxler reported how Institute for Creation Research (ICR) evangelists have been invited to speak to Peoria, Illinois, public school science classes for 12 years. He subsequently discovered that, since 1976, the Peoria public school district has approved *Scientific Creationism*, edited by ICR founder Henry Morris, as a supplementary textbook for both its basic and enriched biology programs. No books critical of "creation science" are on the approved list. □

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The ICC 1990 General Sessions

Tom McIver

The 1990 International Conference on Creationism, in addition to the technical sessions, featured general sessions on 1 through 4 August. This lecture series was intended for the general public, whereas the technical symposium was intended for scientists. With three sessions in parallel on four days, there were about as many general presentations as technical sessions. This report covers some of the general sessions I attended. (For a report on the technical sessions, see *NCSE Reports* 10(5):1.)

Bergman on Atavism and Selection

Jerry Bergman spoke on "The Biological Theory of Atavism and its Influence on Social Policy." "Atavism" is the theory once advocated by criminologists that "born criminals" are evolutionary throwbacks who can be recognized by their "primitive" traits. Bergman gave a fair presentation of this notorious chapter in the misapplication of evolutionary theory, but he also made several extravagant and careless claims. "Evolution and racism are the *same thing*," said Bergman. In his view, because the human species can be divided into races, evolutionists must claim that natural selection necessarily operates between *races* and that some races are superior to others.

Bergman's second presentation, "The Fall of Natural Selection Theory," was replete with distortions and elementary misunderstandings of natural selection and evolution. For example, he argued that natural selection can favor only traits that increase the chance of survival. Many existing traits have no survival value; therefore, natural selection cannot produce new and better forms. Bergman seemed unaware that some detrimental traits are not themselves selected for, but instead are linked to other traits that *do*

have survival value. In view of his level of understanding, I was surprised to see in the conference *Proceedings* a reference to a 1990 book "in press" by Bergman entitled *Natural Selection*!

Chris Barnes on Indoctrination

Chris Barnes, an Illinois pastor and former teacher, spoke on "Training Children in Creationism." His message was simple: "Christians need to recognize that their children are being indoctrinated in evolution." *All* education is now based on evolution, he asserted, and creationists should counter evolutionist indoctrination by indoctrinating children in creationism. He advocated starting at the earliest possible age and repeatedly hammering home basic, easy-to-remember creationist concepts until they become indelibly ingrained in children's minds. Only by constant repetition can these lessons be firmly and safely enough established to resist the pervasive evolutionist influence.

In his presentation, Barnes brought up the moon dust argument as evidence of evolution's scientific bankruptcy, and he suggested that evolutionists "doctored up" the Paluxy human footprint evidence. Referring to the Austin/Wilkerson debate, he said Wilkerson was wrong in trying to make creationism more consistent with the findings of modern science. Creationists shouldn't be concerned about this, he urged; they should simply preach creationism as it is presented in the Bible.

Eidsmoe on Evolutionist Law

Attorney John Eidsmoe, formerly a law professor at Oral Roberts University, presented a paper on "The Evolutionary Worldview and American Law." Speaking in a deep mellifluous voice, with every word and phrase carefully and resonantly intoned, Eidsmoe argued for the "strict constructionist" view of law. This view seeks to adhere to the "original intent" of the framers of the Constitution. Eidsmoe equated legal positivism (which views the law as

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[Hartwig] criticized the new California Science Framework for including much scientific language. Though I maintain that evolution is a necessary unifying principle in science, I otherwise agreed with Hartwig's concerns about scientism.

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changing with the times) with an evolutionist worldview. A lawyer in the audience commented that the "evolutionist" aspect of the law was not due to Darwinism and biological evolution, but rather to the English case law system.

Melnick on Aguillard

Attorney Robert Melnick presented his "Analysis and Effect of the Edwards v. Aguillard Decision on the Constitutional Bases to Teach Creation-Science and Current Legal Developments." Melnick is president of the Ohio chapter of the Rutherford Institute, which deals with religious rights cases. Like Eidsmoe, he emphasized the deep contrast between the positivistic view that the law evolves and the view that law is based on a higher authority (the word of God). For most of his paper, Melnick closely followed the arguments of Wendell Bird (whom he assisted in the Supreme Court case) regarding the "balanced treatment" of creation-science and evolution in schools. The Louisiana act *was* primarily secular in purpose, he insisted. The act called for the teaching of *science*, not religion, and the fact that this "science" has religious implications is merely "incidental."

Hartwig on Trends in Science Education

Mark Hartwig, who used to work for BSCS, the NSF-funded science textbook group, is now executive director of Students for Origins Research (SOR). Hartwig spoke on "Science Education in America: Recent Trends." He described major trends in science education such as striving for scientific literacy among all students, teaching science that is relevant to students' needs and interests, and teaching science as a body of knowledge unified by general principles such as evolution rather than as a collection of assorted facts. Hartwig generally agrees with these trends, but with reservations. He said the unifying themes used to integrate science (such as evolution) tend to be

metaphysical worldviews rather than pure science.

Uncritical acceptance of such metaphysical unifying principles in science can lead to scientism, the claim that nothing outside of science can have any truth. Although science is indeed a powerful way of knowing and learning, Hartwig argued, it is a *subset* of reasoning well — not the *whole* of reasoning well. He criticized the new California Science Framework for including much scientific language. Though I maintain that evolution is a necessary unifying principle in science, I otherwise agreed with Hartwig's concerns about scientism. Even evolution should not be recklessly or uncritically applied beyond its proper scientific domain.

Mondy on Creationism in Public Schools

Terrence Mondy, an Illinois high school science teacher, spoke on "Thoughts on Teaching Origins in a Public High School Science Class." Mondy, who has a very easygoing and affable speaking style, discovered creation-science in an ICR book. He began presenting it to his classes, only to discover that this was highly controversial. He found himself attacked by the ACLU and profiled by *60 Minutes*, *Time*, and other major news organizations.

Mondy, who openly admitted presenting creation-science to his public school science classes, said a favorite ACLU tactic is to take such an admission and then to redefine creation-science as *religion*. But, said Mondy, many *science* teachers teach creationism in their classes and, from his own experience, he knows that most students already favor creationism.

Mondy also discussed his *Great Debate* video, in which he acts all three parts ("Professor Evolution," "Dr. Creation," and the moderator). The video presents what he (very naively!) believes is a fair and unbiased summary of the scientific arguments for both sides. It has gotten

reduced advertising rates from the National Science Teachers Association, been advertised by the AAAS, and been endorsed by the Illinois Science Teachers Association. Mondy called the video a “ministry.”

Northrup on the Flood

Bernard Northrup gave two papers on “Identifying the Noachic Flood in Historical Geology.” Northrup, a pastor and expert on biblical languages, has also studied geology. He severely criticized regular Flood Geology, pointing out its many scientific absurdities. He proposed instead that five major catastrophes produced the geologic strata. The first occurred on the first day of creation, when God placed the seas on the Earth (Archeozoic). The second was on the third day, when the land masses were elevated (Proterozoic). The Noachic Flood was the third (Paleozoic), and its retreating waters laid down the late Paleozoic and Mesozoic strata. The fourth catastrophe was the division of the continents in the days of Peleg. The Ice Age, which occurred in Job’s time, was the fifth.

David Mainse’s Evening Sermon

Canadian televangelist David Mainse spoke at the Friday evening session. Mainse is the founder and host of *100 Huntley Street*, a Toronto-based Christian TV series. His scientific arguments were exceedingly naive. As powerful evidence for creationism, he offered the moon dust argument and the population increase argument (if the world’s population is projected back, using present rates of increase, there must have been only a single family at the time of Noah). But Mainse’s lecture was mostly unabashed preaching. Satan, he declared, is the source of evolution, atheism, and the New Age movement. All are based on Satan’s lie that “we are all gods.” The removal of God from education and philosophy, which was deliberately plotted, is a moral issue, and has “nothing to do with

science.” After much Bible reading, Mainse concluded with a powerful plea for repentance. Though the audience was deeply moved, there was no applause whatsoever — quite appropriate for a sermon.

Asimov’s Armies of the Night

One highlight of the conference was the last general session paper, “Creationism and the Armies of the Night: A Reply to Dr. Isaac Asimov,” by John Mark Reynolds. The title suggested Asimov-bashing, but Reynolds, a University of Rochester graduate student in the philosophy of religion, had something else in mind.

Dispassionately analyzing Asimov’s famous anticreationist polemic, Reynolds illustrated various logical fallacies by quoting from it. After the first such example, he gently suggested that the audience *might* have heard someone at ICC use the same form of invalid argument to support creation. You could have heard a pin drop. Next example; similar coda. On he went, and it soon became clear that he was using Asimov to make a larger point. Reynolds wielded his double-edged sword like the jawbone of an ass, but most of the Philistines were elsewhere.

General Impressions

The audiences at the general sessions and evening public lectures usually were quite uncritical. If they criticized speakers at all, it was usually on minor points. “Questions” following the talks were often statements (sometimes wordily illustrated with scriptures) supporting the speakers’ messages. Though Northrup’s Flood model sharply conflicts with the prevailing young-Earth creationist interpretation, most general session speakers faithfully followed the ICR line. Hartwig, who spoke eloquently and reasonably against arrogance in science, and John Mark Reynolds, who effectively skewered the logical fallacies and polemical arguments of both creationists and evolutionists, were major exceptions. □

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Editor

Robert J. Schadewald
NCSE Reports
13204 Parkwood Drive
Burnsville, MN 55337

Copy Editor

Wendy S. Schadewald

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