

THE SECOND

COMING

Creationism

All the best from *the Skeptic*

1986 - 1990

Creationism



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Creation Science Summer Institute Report.

Tony Thulborn

**University of New South Wales
January 6-11, 1986**

In December 1985 I attended a scientific conference in New Zealand. There were 45 speakers, each with a time limit of 25 minutes. There were lots of fresh faces, novel facts and new ideas. It was a stimulating and productive experience. Four weeks later I went to the 1986 Creation Science Summer Institute, a creationist symposium staged at the Round-House, University of New South Wales, by the CSF (Creation Science Foundation, Brisbane). There were 10 speakers, each of whom droned on for an average of five and a half hours. All the faces looked depressingly familiar. And all I heard was battered old fallacies about the iniquities of evolution, the second law of thermodynamics, the unreliability of radiometric dating, and so on... ad nauseum.

Looking back through my notes I can find very few points that could justifiably be described as the "highlights" of the meeting. Overall it struck me as a

drab and repetitive affair, with scientific and intellectual bankruptcies paraded in the guise of Christian virtues. In the Melbourne Age for January 4th the organizers claimed to be expecting an attendance of 500 for the day sessions and as many as 1000 for the evening presentations. In fact the audience rarely exceeded 200, and on many occasions it was far smaller. Three quarters of the auditorium had been roped off, so that those who did attend were obliged to pack themselves in at the front - no doubt for the benefit of artful camera-work in forthcoming propaganda.

The meeting began with the unveiling of two glittering stars who had been invited as guest speakers - Duane T. Gish, PhD (Associate Director of the Institute for Creation Research, San Diego), and John D. Morris, PhD (son of Henry, no less). Gish confessed that he was dee-lighted to be here in Aaah-stralia and expressed his hope that the meeting would generate a noo perspective. (He was to be disappointed.) Morris was afflicted

by a sore throat and regretted that he wouldn't be able to "interact" too much. Nevertheless he managed to croak out a blessing for the assembled audience.

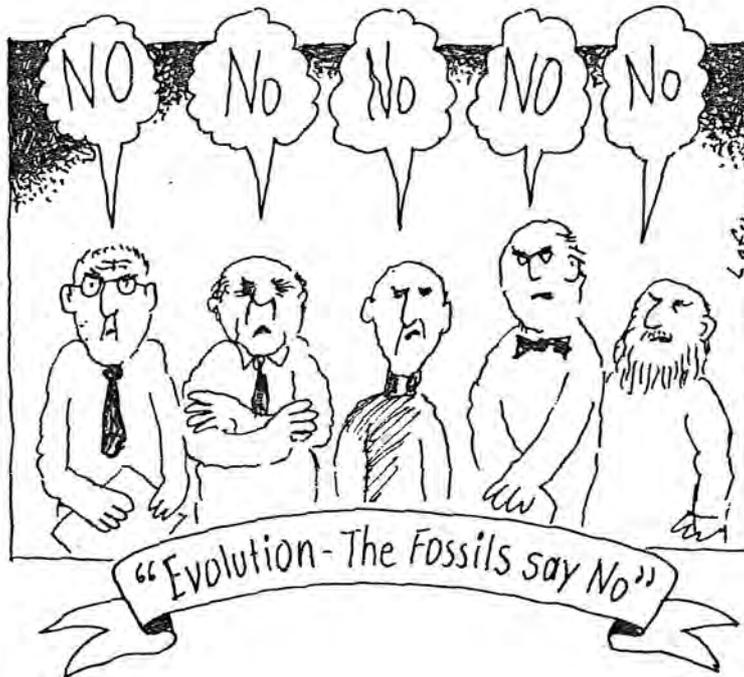
The "keynote address" (sic), titled "Creation/ Evolution, the War Intensifies", was then presented by Mr Ken Ham. Those who have enjoyed (or suffered) the preaching of Mr Ham will be familiar with his machine-gun style of delivery.- Those who aren't familiar with it should obtain one of his frenzied editorials from the Creation Science Prayer News and proceed to read it aloud twelve times without pausing for breath. That will give you a good idea of the style. It will also give you a perfect summary of the content. Seventy-five minutes later, after a gasp for air, Ham wound up with a plea for members of the audience to buy the piles of books that were on sale at the rear of the hall. He suggested that they might like to buy them "super-market style", by the boxful. Similar exhortations to buy the books were issued at the end of most sessions and were even interjected, rather obscenely, into the middle of some lectures. I must

report that this advertising campaign didn't seem to be tremendously successful.

Ham was followed by Mr John Mackay ("Evolution is Not Science"), whose delivery was nothing more than a re-hash of bits and pieces from the pages of *Ex Nihilo*. Mackay also wound up trying to sell books and, as before, there was no opportunity for questions.

The evening presentation by Gish ("Evolution - The Fossils Say No!") was plainly intended to be a spectacular event. The auditorium was in darkness, with a single spotlight trained on the diminutive guru.

Not quite up to the standards of the 1934 Nuremberg Rally, but a passable imitation thereof. Gish looked tired. He also sounded tired, struggling to inject any e n t h u s i a s m whatsoever into what was plainly a hackneyed old lecture. Large sections of his talk seemed to have been lifted verbatim from his book of similar title. And, predictably, he avoided any detailed mention of those fossils that might



conceivably say "Yes" to evolution. Seymouriamorphs (amphibian/reptile intermediates) didn't get a mention while therapsids (mammal-like reptiles) and Archaeopteryx (the famous link between reptiles and birds) were dismissed out of hand. Gish provided practically nothing in the way of hard scientific facts or figures but contented himself with reading aloud a series of generalizations (his "documentation") culled from the secondary literature. Then, without having produced a single shred of positive evidence, he summed up by saying that there was "tremendous" scientific support for creation. This was received with a fair ripple of applause, though by no stretch of the imagination could it be called rapturous acclaim.

Gish volunteered to answer questions, and Mackay dutifully obliged by soliciting some from the audience. There were two trivial questions: one about the availability of a book mentioned by Gish, and the other about "reversals" in the fossil record. By dint of jumping up and down and flapping my arms I was allowed to ask the third question. I asked Gish to substantiate his

claim that the wing of Archaeopteryx was “typically bird-like in structure”. He re-read his “documentation” aloud. I pointed out that this was merely someone else’s conclusion and not the scientific evidence underlying that conclusion. Again I asked Gish to specify the anatomical features supporting his statement, whereupon I would refute them one by one. Gish looked perplexed, as did the audience. Alright, I said, does Archaeopteryx have a carpometacarpus? Gish was even more mystified. So, I explained that modern birds have the wrist and palm bones fused into a rigid framework (carpometacarpus) that prevents the wing-tip from collapsing under the stress of flying. That’s a “typical” feature of the bird wing... Does Archaeopteryx have it? Gish tried to bluff. He read, yet again, his “documentation” and said that, as he understood it, if Archaeopteryx has a typically avian wing it must have a carpometacarpus.

Trying not to laugh I cited three modern scientific studies to the effect that it certainly does not possess such a structure. (Gish, of course, wasn’t aware of this because his “documentation” referred only to the feathers, not to the other structures of the Archaeopteryx wing, such as bones, muscles, tendons, and claws.) Gish started blustering and Mackay cried “Enough...we don’t want to dwell on details!”

By this time I had thrown caution to the winds and had advanced on to the stage, where I planted myself between Gish and Mackay and continued to ask a series of awkward questions about the anatomy of Archaeopteryx. The audience was stunned. I kept on asking specific questions, and kept on pressing Gish to provide specific answers. Meanwhile he was rooting around in a sheaf of papers, searching desperately for some appropriate “documentation”. On hearing one of my questions he looked up in puzzlement and said, “I’ve never heard of that”. When it became clear to everyone that Gish couldn’t provide any answers I gave up in disgust and went back to my seat.

The audience was visibly shaken. So was Gish. So was I. Several people insisted that I should meet him in order to settle our differences of opinion in private. I refused, saying that the facts should be brought out in the open, so that the audience could judge for themselves. Nevertheless, I did come face to face with the quivering Gish as he was leaving the auditorium. He didn’t want to discuss Archaeopteryx. Instead he trumpeted “You can’t demonstrate a step-by-step transformation of single-celled creatures to higher and more complicated organisms!” He then stumbled off into the darkness.

On Tuesday I went to the first presentation by Morris: “Answers to Critics of the Paluxy River

Footprints (Technical)”. The Paluxy River footprints, for those in the dark are alleged to be human footprints preserved alongside the 120 million year-old tracks of dinosaurs. Morris began by showing a slide depicting a piece of rock with a hole in it. He then asked the audience for an opinion. “It’s a footprint” they chorused in kindergarten style. The lecture was dreadfully disappointing. Morris merely read aloud sections of his book on the subject (*Tracking those incredible dinosaurs and the people who knew them*, 1980), showing appropriate illustrations and adding incidental remarks. His “Answers to Critics” didn’t exactly reek of Christian charity. Let me quote two examples:

1. “Milne and Schafersman accused me of being a crook, of being a con—man... they deliberately printed the picture (of an alleged footprint) upside-down and then charged me with fraud”.

2. “All of his (Bridgstock’s) charges have no basis. Either he can’t read or he can’t think.”

Right at the end Morris made a startling confession. He admitted that there was no scientifically acceptable evidence of human footprints in the Paluxy limestone. He also announced that this verdict has been published (*Impact*, No 151, 1986) and that the creationist film *Footprints in Stone* will be withdrawn from circulation, at least temporarily.

What caused Morris to change his mind? Well, it seems that some of the best “man-tracks” in the Paluxy River have now been weathered to such a degree that their true nature is becoming embarrassingly obvious: the vague elliptical markings heralded as human footprints have gradually weathered into the unmistakable outlines of three-toed dinosaur tracks! Morris confessed astonishment that the clarity of fossil footprints could improve, rather than deteriorate, as a consequence of natural weathering. This fact is commonplace to professional palaeontologists but was obviously unknown to Morris, who suspected that crops of fanatical anti-creationists had been deliberately defacing the hallowed evidence of the man-tracks.

In view of his unprecedented retraction it was understandable that Morris should have cancelled his follow-up lecture titled “I’ve seen Dinosaur and Human Footprints Together”. His place on stage was taken by Gish, who launched into time-worn harangues about apemen and dinosaurs. Gish’s lecture material was positively antediluvian: he spewed forth hoary old references to the literature of the 1950s and even resorted to those long-discredited tales about the bombardier beetle.

On Tuesday afternoon the CSF’s amazing geologist, Andrew Snelling, explained “The Biblical Basis of Geology”. This was truly a colour less and lack-lustre

event wherein Snelling tried to re-instate the Flood Geology that was abandoned centuries ago by discriminating geologists. In effect Snelling gave a literal reading of scripture, with various geological phenomena being twisted (or invented) to fit the story, was a thoroughly depressing experience, although Gish sat to attention all the way through and actually seemed to enjoy it.

On the Wednesday morning Ham, Mackay and Snelling joined forces to provide “Answers to the Skeptics’ Criticisms of Creation Science”. Ham started off quite predictably by branding all and any critics as “anti creationists”. Mackay then took over to pour scorn on the “emotionalism”, “prejudices” and “preconceptions” of such infernal creatures.

After this uncharitable invective Mackay turned his attention to those mischievous allegations of errors and misrepresentations in the CSF’s *Quote Book*. He pleaded “guilty to making lots of trivial errors”, but claimed, in extenuation, that “so does everyone else”. He then side-stepped the issue by maintaining that even if only a small fraction of the *Quote Book* were true then “evolution is in a terrible mess”.

After a string of generalizations and disclaimers Mackay handed over to Snelling, who explained that there wasn’t time to answer all the claims of the critics, but that he’d look at four examples. In all four examples he attempted to wriggle out by adding further quotes, in order to plead that the *Quote Book* actually did convey the real intentions of the original authors. Snelling then handed back to Mackay who promptly succumbed to the classic symptoms of the Galileo syndrome: “Some of us are losing our jobs because of our creationist beliefs.”

“We creationists have no right of reply.” “They are attacking our credentials, claiming that we’re not real scientists.” “Skeptics plan to infiltrate believers’ groups.” “All this mud-slinging in the press, attacking our finances, will blow up in their faces.” In response to comments about the unusual editorial practices of *Ex Nihilo*, Mackay stated, “I don’t have a great deal of respect for peer review.” He finished off on a note of martyrdom, affirming that the creationists would go on undaunted, come hell or high water (or skeptics), because they knew they were RIGHT.

Two sessions were given over to “Questions and Answers”. There were plenty of trivial questions, with equally trivial answers. Like other parts of the programme these sessions were of abysmally poor quality - though I must admit that I only attended those presentations that promised (or threatened) to have some scientific content. Rather than try to summarize the rest of the proceedings I’ll leave you with a few

selected remarks.

The Bible has never taught male superiority (K.Ham).

Setterfield’s theory is gaining popularity in astrophysical circles (J.Morris).

Why was Adam created with nipples? Because Eve would need them (J.Mackay).

Continental drift is used purely to substantiate evolutionary theory (K.Ham).

I challenge any evolutionist to document the origin of whales from cows (D.Gish).

These criticisms are based on emotionalism ... Bridgstock, of course, is notorious for this (J.Mackay).

This is an emotional issue. I am so baffled by this ... I lose a lot sleep over it. It’s like sticking a knife into myself (J.Morris)

How sad that we’re being taught what to think ... and not how to think (J.Mackay).

Our thinking, whatever our area is, must start with God’s word (R.Snelling).

Before leaving I cornered Ken Ham, Director of the CSF, and verified that Gish would be visiting Brisbane in the following week. Ham also confirmed that Gish was prepared to debate with anyone on the creation/evolution controversy. So I promptly offered a challenge for Gish to debate with me in Brisbane, the subject being “The scientific evidence of fossils - evolution or creation?” My challenge was declined, on the grounds that Gish would be visiting Brisbane purely for “a holiday”. He probably *needed* it.

Vol 6 No 2 - 1986

Creation Science Foundation (CSF) Update

Mark Plummer and Martin Bridgstock

DISCONTINUANCE OF PSEUDO-SCIENCE BOOK

John Morris’ book *Tracking Those Incredible Dinosaurs* expounds the theory that dinosaurs and men trekked the earth together, and is based on dinosaur tracks and alleged human footprints being found together at the Paluxy River in Texas.

Since scientists and skeptics investigated and debunked the theory the book's author has abandoned the theory. Only a few fundamentalists, including retired psycholinguist Clifford Wilson and the Rev. Coleman, editor of *New Life*, now propound the theory. Even the CSF appears to have abandoned the theory, for they have publicly announced that the book will not be reprinted and are selling it at a discounted price. If you collect pseudo-science books this is a collector's item.

CSF MAILING LIST

If you are not yet on the mailing list for *Creation Science Prayer News*, we suggest you write now to CSF to receive their amazing newsletter FREE.

THE DISAPPEARING MONIES

After we revealed that CSF lost \$92,358 in failed investments, we awaited their explanation with interest. They only gave scant details.

We wrote to CSF for full details but did not receive an official reply. Our letter produced an unexpected result with an "insider" phoning us with the details. The insider stated they felt moved by God to bring the details out into the open.

CSF invested the monies with Goldcom International Pty. Ltd. Goldcom had two directors, Lindsay Keith Bates and Wendy Elwyn Bates, Investors, of 3 Broad Street, Mansfield, who were appointed on 23rd February, 1982.

A liquidator was appointed on 11th September 1984.

The list owing to creditors totals \$1,106,554.00 and includes the Creation Science Foundation \$85,370.24 and Trail Play Ltd \$83,689.90. (Trail Pty. Ltd. was appointed to provide management consulting services for the Foundation in 1984.)

Goldcom International Pty. Ltd. invested \$1,031,959 in the International Commodity Traders' Association of Australia.

The International Commodity Traders' Association of Australia was liquidated in mid-1984.

CSF balance sheets showed a loss of \$92,358 but Goldcom's list of creditors only mention CSF as a creditor of \$85,370.24.

We cannot say what happened to the other \$6977.76 at this stage.

CREATIONISM - AN AUSTRALIAN PERSPECTIVE SALES

Most of the second edition has now been sold and posted.

The disappearing "directions" of Mr Powell

There is a widespread impression that Mr Powell, the Queensland Minister for Education, has "directed" that creationism be taught in Queensland schools. This is not the case.

In 1983, Creationism was removed from the Queensland science syllabus. Mr Powell's action has been to state his "expectation" that when evolution is taught (i) it must be taught as a theory and (ii) "balance" must be observed.

Now the nature of scientific theory is very clearly explained in the Queensland science syllabus, and one would expect any teacher to present it in that light. Skeptics John Knight and Martin Bridgstock wrote to Mr Powell asking him what "balance" meant. It turns out that Mr Powell prefers to leave that to teachers, but explicitly does not mean equal time.

This matter is important. Some teachers seem to think that they have to teach creationism. Clearly they do not have to teach creationism.

Vol 6 No 3 - 1986

My Friend The Creationist

Patrick McBride

Are you tired of having sensible and logical arguments with your friends and colleagues? Are your acquaintances so familiar with the latest philosophical theories that you feel you have been left in an intellectual backwater? If so, try arguing with a creationist.

Prerequisites such as logic and common sense are unnecessary. In fact, the sillier your argument the more likely you are to win. After all, there is a good chance that your opponent's claims will be so outrageous, so unbelievable, that you will be stupefied, plunged into near permanent shock!

Honestly, some of the comments I have heard supporting creationism are the silliest things ever spoken by an adult. Case in point; a representative of the Creation Science Foundation, Queensland, in a newspaper article (*Daily Telegraph*, Feb.12, 1986, p21) asks, quite earnestly, "What makes evolution scientific? Have you ever seen evolution take place?"

The first question suggests that the speaker is not

very familiar with either science or the scientific method. When a hypothesis agrees with the evidence as well as evolution has, it then becomes science.

But what about the second question? Keeping in mind that biological evolution is an immensely subtle process, taking place over countless generations, I would expect a question like that from a nine year old child.

That foremost exponent of the creationist movement, Dr Duane Gish, is himself not above such simplistic observations. In the *Sydney Morning Herald*, Jan.8, 1986, Gish charges the theory of evolution with some pretty heavy accusations.

“Today we have a rampant drug culture, legalised pornography, and abortion ... now, we might ask ourselves why have these changes occurred?”

So, if today’s society doesn’t agree with your moral standards, it’s because people were taught evolution in school. That’s quite an assumption; I would love to see the evidence supporting it.

And yet, judging from creationist propaganda, this childishly simplistic view of the natural world is accepted as a viable alternative to scientific knowledge. Indeed, it is a view which I have encountered firsthand, for a good friend of mine does happen to be a creationist. Now, ordinarily, I couldn’t

care less; if he chooses to believe such a notion, then I am happy for him to do so. If he feels more comfortable ignoring the evidence for evolution and the immense age of the universe, then there is nothing I can do about that. I tend to feel that he is entitled to his beliefs, as I am to mine.

There is one problem however; my friend is a *rabid* creationist. He does not keep his beliefs to himself. He is convinced that everyone *must* share his beliefs. He maintains that those who don’t are evil, or at the very least atheists. As well, he is convinced that scientists support the concept of evolution simply because they want to destroy everyone’s faith in the Bible.

Are you beginning to see my point? His arguments

(to dignify them with such a term) are simply authoritarianism. He is afraid of people having beliefs which are different to his own - as are most creationists.

In his arguments too, we can see an obsession for the sinister active. I am sure it is a common belief amongst many creationists, that scientists go through years of study, spend their lives in a chosen field, just so they can prove the Bible is wrong!

And how did I find out this important piece of intelligence? Simple; I asked a question which has always puzzled me.

“If evolution didn’t occur, and the scientists are hiding the truth, what do they have to gain?”

Obviously my friend hadn’t expected the question, for he too seemed puzzled. He groped about for a minute and then replied, “They (the scientists) are atheists and want to disprove the Bible.”

So there you are! Universities and similar places of learning are really there for that one purpose.

I pointed out to my companion, that scientists, like everyone else, are made up of diverse political, religious and national groups, and that the idea of them all being committed to one narrow mission was ludicrous.

This argument was brushed aside.

“Yes, but how do you know they are *real* Christians?”

To the creationist, it is they who are the real Christians, all others are... well... pseudochristians.

During our discussion my friend gleefully pointed out that cities which had been described in the Bible, had in fact been unearthed in recent times.

“This,” claimed my friend, “is proof that the Bible is true.”

I asked another question. “If scientists are involved in an anti-Biblical crusade, why are they going to such great pains to excavate and publicise the existence of such cities?”

I’m still waiting for the answer.



cartoon by David Hagar

The Other Quote Book

Dr A G Wheeler

In science it is the observations that are important. When interpreting new data and assessing their bearing on current theories earlier observations are often referred to. The opinions of other scientists count for little; they have no bearing on the interpretation of data. The author's interpretations are relevant, but with all the data available every reader can form his own judgement, make his own interpretation. Opinions, speculations, ideas and such like are of importance in science in assigning credit for who thought of the best ideas first, but that is about all. In real science it is the data, the observations, that are important.

In advertising, consumers are greatly influenced by the opinions of others. Advertise the calorie and nutrient content of a candy and viewers will yawn; show an athletic or entertainment star smiling after taking a mouthful, and your product will sell. Most of us are greatly influenced, albeit irrationally, by the recommendations of others.

The Creation Science Foundation followed this strategy to their great advantage with *The Quote Book*. Rather than presenting the evidence for and against evolution and creation science, the CSF presented the opinions of famous and authoritative people. The quotes were carefully (dishonestly) selected and "adjusted" to give the strong impression that scientists have widespread reservations and dissatisfaction with evolution, and give considerable, though suppressed, support to creation science. This approach has been very successful. Parents and teachers have read the CSF's *The Quote Book*. Those who had been taught evolution in school or university courses but have since forgotten the detailed evidence supporting the concept are unsettled. Had they really been misled by biased scientists pushing atheism as the CSF suggests? Is there really growing support for creation science? All those quotes maybe the CSF is correct after all? At the very least, with so much support there must be something in it!

My instinct was to set the record straight. To present the evidence clearly and unambiguously so that readers could see and judge the overwhelming evidence for evolution for themselves. But others have done this already¹; was it worth repeating the exercise? So I tried another approach; I copied the CSF with a compilation of quotes. Real, accurate and honest quotes of famous and authoritative people to show their real opinions on evolution, creation science, religion, the CSF and this threat to impartial science and education.

Books, papers and articles were searched for

succinct expressions. Thousands of quotations were copied, indexed, sorted and re-sorted. A few illustrations, a lot of culling and repeated shuffling, and *The Other Quote Book* was ready².

The Other Quote Book is designed to give support to teachers, parents and others whose confidence in the correctness of evolution is wavering; to those who are being influenced by the CSF's dishonest propaganda. Now it is a question of marketing - making the population aware of the benefit which is to be obtained from buying and reading *The Other Quote Book*. This is where your support and help is essential. You can play your part by advertising *The Other Quote Book*, recommending it to those involved in the debate and buying a copy for yourself.

The response so far has been rewarding. Copies are selling fast, and the feedback has been all positive. *The Other Quote Book* has gained an important place in the skeptic's fight for honesty in science and education.

References;

1. See *Creationism - An Australian Perspective*, edited by Martin Bridgstock and Ken Smith (1986), 2nd ed. published by the Australian Skeptics and *Science and Creationism - a View from the USA National Academy of Sciences*.
2. *The Other Quote Book: in Support of Evolution*, written and compiled by Dr A.G. Wheeler (1986), available for \$5 (inc. post) from Dr A.G. Wheeler, 18 Noreen St., Chapel Hill, Qld. 4069.

Vol 6 No 4 - 1986

Creationism In Queensland - A Personal View

Barend Vlaardingerbroek

I was a teacher of biology and science at a state high school in north Queensland throughout 1983 and 1984. In this article I wish to briefly present the successful creationist campaign there as I saw it, and to point out trends and other factors which were conducive to this success, with comparative references to the New Zealand education system.

A Departmental circular was sent to all state secondary schools in 1983 which directed science teachers to present the "special creation" and

“catastrophism” theories as alternatives to the established biological and geological evolutionary theories. Not a great deal of heat was generated by that directive as many HODs apparently filed it away with little fuss. There were of course eager collaborators, like the HOD Science at one Brisbane college who immediately rewrote the syllabuses involved with creation and “flood geology” at their cores.

Widespread non-compliance led to the Queensland Minister of Education, Mr Lynn Powell, issuing a stronger directive in 1984 following a flurry of fundamentalist activity as witnessed by mailbags full of letters to newspapers and periodicals, including the Queensland Teachers’ Union journal. The message was that he now “insisted” on creationism being incorporated into the syllabus. The protests of academics and university biologists were ineffectual. As Mr Powell said, “Scientists have a theory about origins and that is evolution. Christians have another theory about origins and that is creation. This is a Christian society so we must present both views as equally valid.” (Paraphrased) As I refused to comply or even distribute creationist literature to my seniors, I was taken off Grade 12 biology, a 2-year-trained home economics teacher was brought in to take Grade 11 biology as well, and I resigned from teaching and left Australia at the end of 1984. Since then I have kept in touch with some ex-colleagues, one of them a history teacher who informs me he is being hassled about ancient history where it contradicts fundamentalist interpretation of the Bible, and have found out that the debate is actually heating up. There has been a lot of doubletalk from Powell about “not forcing any teacher to teach creation”, a very sick joke from my

perspective.

With such impressive victories in the USA and, uncomfortably close to home in Australia, rumbles along creationist lines must be anticipated here; and are occurring, as one of the first “New Zealand Times” I read upon coming back to New Zealand in June last year indicated. I would now like to list a number of factors which in my opinion were instrumental in securing creationism’s status in Queensland, and speculate on their possible application to New Zealand.

Political Influence

Many readers will be aware that the National Party government in Queensland is ultra-rightist in Western terms. It is not out of place to point out here that Queensland has Victorian laws on homosexuality, abortion, and mental disease, and is fighting the Bill of Rights and Aboriginal Land Rights tooth and nail. With an overtly “Christian” platform, especially in rural areas like the “Deep North”, it is not surprising that this gestalt is supplemented by fierce fundamentalism with regard to scientific knowledge and the Christian holy book.

To be politically conservative does not equate with being fundamentalist per se. The New Zealand opposition does however have its share of Christian right-wingers, and there is an increasing fundamentalist voting sector for such rightists to woo. In my opinion it is only a matter of time before some rightist decides that the creationist bandwagon will be a vote puller.

Structure of the Teaching Profession

The Queensland Teachers Union is a primary/secondary composite body. Teachers are a heterogeneous lot at the best of times, but the range of opinions in the QTU is all the more spread across the spectrum because of this. Judging by the addresses



given, many hotly anti-evolution letters stemmed from primary teachers.

More important is the qualification structure of the Queensland secondary profession. Until very recently, and still applicable to many areas, the modal secondary teacher was/is 3-year-trained. Graduates are becoming more common now, but in terms of content knowledge one can quite objectively state that these teachers are quite inferior to the modal New Zealand secondary teacher with a university degree in his/her content subject plus a teachers college diploma.

It is therefore hardly surprising that creationist pseudo-science should run into relatively little hard academic opposition in Queensland secondary science teaching circles. With a virtually all-graduate secondary profession not affiliated with the primary sector as we have in New Zealand, I foresee a much tougher nut for the creationists to crack here compared with the soft touch they had in Queensland. At the same time, fundamentalist strategists will regard this as all the more reason for making creationism a quasi-political public issue.

Syllabus and Assessment

Queensland abandoned external assessment at the turn of this decade and started experimenting with school-based internal assessment. The initial Radcliff system drew enough criticism for a revised system to be implemented in a number of schools in 1982, Review of School-Based Assessment (ROSBA) allowing far greater syllabus flexibility, each school virtually designing its own courses, and being wholly criterion-referenced. With zero functional syllabus input from the universities, and no state-wide academic criteria to be met or externally monitored, creationism could be legitimised at individual school level by a few strokes of a pen.

The New Zealand system compares favourably with this *laissez-faire* condition. Although the Universities' Entrance Board has relinquished its tight hold over the six-form syllabus, its continuing control of the seventh form ones ensures quality control by downward filtration to Sixth Form Certificate and over School Certificate courses. There is a strong trend away from external examinations occurring in New Zealand, but with continuing emphasis on standardisation and moderation. Although there are educationally sound reasons for the post-Primary Teachers Association's continuing attempts to remove direct university control from the secondary area, I do harbour fears about fundamentalist drives at syllabus level should the universities lose all say in what is taught in schools, and am in favour of their continuing direct involvement for that reason.

Denigration of Biology as a Science

Probably after lessons learned during the 1932 Arkansas "monkey trials", when the Supreme Court overturned an earlier pro-creationist ruling there, the creationist lobby in Queensland went to great pains to avoid scientific argument about evolution. As the above paraphrased quote from Powell indicates, the official Departmental line had nothing to do with science *per se*; on the contrary, the right to hold a belief was the most heavily emphasised ploy.

In Departmental circulars as well as most pro-creationist letters in the teachers' journal, creation and evolution were portrayed as opposing belief systems. Everyone has a right to his/her own opinion; we must respect the opinions and beliefs of others; creation and evolution are two opposing beliefs; hence both must be treated equally - *quod erat demonstrandum!* The one thing I never heard discussed was in fact the good old scientific method; although brought up by protesting academics, fundamentalists and their Departmental lackeys steered clear of this uncomfortable aspect with notable determination and consistency. As the "flood geology" school showed, however, this "moral" is largely case of "do as I say, not as I do."

I have included this final subheading because I think it convincingly shows what does happen when the previously discussed factors come into play, as an inevitable matter of course: given a poorly-qualified staff, the removal of quality controls over education by the abolition of external examinations and university syllabus input, and the hijacking of a scientific issue by ultra-right politicians. In summary, I hope that I have given readers an insight into much-publicised but often poorly-informed happenings across the Tasman, and have placed the issue in a wider educational scope than is often done, with a view to raising our consciousness of fundamentalist tactics. To close with an old truism, "To be forewarned is to be forearmed."

Vol 7 No 1 - 1987

Three CSF directors resign

Three of the Queensland-based Creation Science Foundation's board of directors resigned last year within a two week period.

Readers of the Australian Skeptics publication, *Creationism: An Australian Perspective*, will be aware that the CSF has had a 'selfperpetuating' board

of directors since its beginning in 1980. According to the book, these same seven directors also represent the entire membership of the CSF.

The loss of three directors within such a short period is therefore a significant blow to the Foundation.

The three directors to resign are: John Andrew Thallon (accountant, resigned July 16, 1986); David John Denner (teacher, July 30, 1986); and Robert Stephen Gustafson (solicitor, July 30, 1986).

This leaves two 'missionaries', Ken Ham and John Mackay, and two medical practitioners, Alfred Osgood and Tyndale Rendle-Short, as directors, as well as David Birt Bardsley, 'administrator', who was appointed secretary on Thallon's resignation.

We will keep you informed of future developments in the CSF.

Vol 7 No 2 - 1987

“Creationism not science” says Aust Academy of Science

From time to time, the Australian Academy of Science publishes statements on matters it considers to be of national interest. The Academy recently prepared such a statement on creationism, the following being the text of that statement:

One of the fiercest moral debates witnessed in Europe in the second half of the 19th Century was raised by the theory of the evolution of species set out by Charles Darwin in his *Origin of Species*. The theory challenged most established views on the place of humans in the cosmos, on three fundamental points:

* It is suggested that *Homo sapiens*, in common with all extant species, arose not by special creation, but by evolutionary development from simpler forms of life.

* It is suggested that evolution was not guided by some divinity or purpose, but by rules which govern the inheritance of physical characteristics. These rules were not seen as having any moral content, and the theory of evolution did not therefore acknowledge a moral component to the pattern of life.

* The theory of evolution therefore questioned whether *Homo sapiens* hold a supreme place in nature.

In western countries, the debate persisted longest in the United States of America where the theory of evolution clashed with widely held fundamentalist religious views, and in many centres within the US the value of the theory has never been acknowledged. The explanatory power of the theory of evolution has been recognised, however, by all biologists, and their work has expanded and developed it. In Australia, as in all western countries, the theory of evolution has for many years been taught as the most powerful theory available of the origins of the diversity of biology.

Over the last 10-20 years, the fundamentalist rejection of the theory has gained momentum in the US and the same thrust has been evident in parts of Australia, in particular in Queensland. The anti-evolution thrust argues two major points:

* That the theory of evolution is flawed; and

* That a sense of balance in the teaching of the scientific basis of life requires that equal consideration be given to the creationist view that sees the origin of the diversity of life in the specific intention of the Deity.

The following points summarise the view of the Australian Academy of Science on this issue:

* All scientific ideas are theories, imperfect and subject to test. That the theory of evolution is imperfect, and still the subject of study and modification, affirms that the theory is part of science. Many attempts to modify and expand the theory have been successful, showing (since Darwin's day) the gene-basis of inheritance, the basis of gene-reproduction in the double helix structure of DNA, the 'genetic drift' basis of the origin of breeds, and so on. Many challenges to the fundamentals of the theory have failed empirical test. The theory has attracted enormous empirical testing and remains one of the most powerful of scientific ideas.

* The creationist account of the origin of life has been and remains an important idea in human culture. However, it is not a scientific idea. That is, it is not open to empirical test. It is an article of religious faith.

* The creationist account of the origin of life is not therefore appropriate to a course in the science of biology, and the claim that it is a viable scientific explanation of the diversity of life does not warrant support.

* The Academy sees no objection to the teaching of creationism in schools as part of a course in dogmatic or comparative religion, or in some other non-scientific context. There are no grounds, however, for requiring that creationism be taught as part of a science course.



Creationism and the *Encyclopaedia Britannica*

Ken Smith

On page 46 of the December 1986 issue of *Creation Ex Nihilo* (Vol 9, No 1) there is a column headed “Old books prove creation was basis of science”. The column records the donation to the library of the Creation Science Foundation of a reproduction of the first edition of the “Encyclopaedia Britannica”. The original was first published in 1771.

The column goes on:

“The entries on science have a strong creation emphasis, as this excerpt from the section on Astronomy will show: ‘Whoever imagines they [so many glorious suns] were created only to give a faint glimmering of light to the inhabitants of this globe, must have a very superficial knowledge of astronomy, and a mean opinion of Divine Wisdom; since, by an infinitely less exertion of creating power, the Deity could have given our earth much more light by one single additional mass.’”

The words in square brackets and the capitals are as given in *Creation Ex Nihilo*.

Now it is only to be expected that an article on astronomy written over two hundred years ago would, at some point, refer to the Deity as responsible for creating various things. But this is not the same as modern creationism. Almost all those who have taken the trouble to check the originals from which creationists claim to have quoted have discovered that the quotation is incorrect, or is so taken out of context that the original meaning has been completely distorted (or, commonly, both). Can they do any better when quoting from their own library? We shall see.

Before discussing the entries in the “Encyclopaedia”, a general description may be helpful for anyone who cannot get access to it in a large library. The information here is taken from the copy in the Main Library at the University of Queensland.

The articles in the “Encyclopaedia” are very uneven in length, and the coverage of letters of the alphabet is also uneven. Of the three volumes, Vol 1 covers A and B, Vol 2 from C to L, and Vol 3 from M to Z. Volume 1 has 697 pages, and the letter A accounts for 511 of these. Most of the articles are very short, and consist of only a few lines. But the article “Anatomy” goes from page 145 to page 310, and so takes up nearly one third of the space allotted to the letter A. The second longest article under A is “Astronomy”, and it covers pages 434-500. The quotation above is taken

from page 434.

My first action, on getting Volume 1 out of the library and finding the article, was to idly turn over the pages, looking at the diagrams. While doing this I noticed a heading on page 456 which read “Chap. IX The Method of finding the Longitude by the Eclipses of Jupiter’s Satellites: The amazing Velocity of Light demonstrated by these Eclipses”. Aha, I thought - some more data for Barry Setterfield to use in his work on the way the speed of light has been decreasing. On page 457, after some discussion of the technique, we read:

“...and consequently the particles of light fly about 164 thousand 494 miles every second, which is above a million times swifter than the motion of a cannon-bullet.”

This speed is 264,727 km/sec, which is rather lower than the current value of 299,792 km/sec. Oh dear! I hope that Mr Setterfield has been provided with this information, so that he can revise his work to show that the speed of light has really been INCREASING since 1771, rather than DECREASING.

The quotation which started me off on this bit of research referred to the stars. The whole paragraph reads:

“It is noways probable that the Almighty, who always acts with infinite wisdom, and does nothing in vain, should create so many glorious suns, fit for so many important purposes, and place them at such distances from one another, without proper objects near enough to be benefited by their influences. Whoever imagines they were created only to give a faint glimmering of light to the inhabitants of this globe, must have a very superficial knowledge of astronomy, and a mean opinion of Divine Wisdom; since, by an infinitely less exertion of creating power, the Deity could have given our earth much more light by one single additional moon.”

Note that in *Creation Ex Nihilo* the last word is given incorrectly, though the quotation, as far as it goes, is otherwise correct. But note also that the first sentence of the paragraph has been omitted. This sentence raises questions: if the Almighty did not create stars just to give light to the earth, what were they created for? Just what are the “proper objects near enough to be benefited ...”? In fact, the article provides us with this information, but it conflicts with what modern-day creationists would have us believe. The paragraph following the one quoted begins:

“Instead then of one sun and one world only in the universe, astronomy discovers to us such an inconceivable number of suns, systems, and worlds, dispersed through boundless space, that if our sun, with all the planets, moons, and comets belonging to it, were annihilated, they would no more be missed, by an eye that could take in the whole creation, than a grain of sand from the sea shore: ...”

Just so - the solar system, with the earth inhabited by mankind, forms an insignificant part of the whole cosmos. The article then goes on to discuss, briefly, the planets and satellites of the solar system, since these are the only ones about which we have direct knowledge. This section of the article concludes with the paragraph:

“Since the fixed stars are prodigious spheres of fire like our sun, and at inconceivable distances from one another as well as from us, it is reasonable to conclude they are made for the same purposes that the sun is; each to bestow light, heat, and vegetation, on a certain number of inhabited planets, kept by gravitation within the sphere of its activity.”

This raises more questions - the stars are made to bestow light, etc, on “a certain number of inhabited planets”? But we thought our creationist friends insisted that the earth was the only inhabited planet. Further investigation is needed. On page 436 of the article, there is a brief discussion of Mercury, which includes the sentences:

“The great heat of this planet is no argument against its being inhabited; since the Almighty could as easily suit the bodies and constitutions of its inhabitants to the heat of their dwelling, as he has done ours to the temperature of our earth. And it is very probable that the people there have such an opinion of us, as we have of the inhabitants of Jupiter and Saturn; namely, that we must be intolerably cold, and have very little light at so great a distance from the sun.”

But this is not all. The following pages discuss some of the properties of the then known planets and their satellites. This section of the article concludes with a long paragraph (on page 444) which says not only that God could have made intelligent beings for the other planets, but that he must have. The paragraph is too long to quote in full, but the first sentence is:

“Every person who looks upon, and compares the systems of moons together, which belong to Jupiter and Saturn, must be amazed at the vast magnitude of these two planets, and the noble attendance they have in respect of our little earth; and can never bring himself to think, that an infinitely wise Creator should dispose of all his animals and vegetables here, leaving the other planets bare and destitute of rational creatures.”

“Rational creatures” indeed? If this is “a strong creation emphasis”, then the right hand of the creationist movement does not know what the left hand is doing. In many other creationist writings the idea that there might be intelligent beings elsewhere in the universe is condemned as Evolutionism! One of the widely circulated creationist books is *Handy Dandy Evolution Refuter* by Robert E. Kofahl. On page 132 of this, one paragraph reads:

“It is important to remember, however, that no scientific evidence whatsoever suggests that any other planet similar to our earth exists anywhere in the universe. The whole idea of life on other planets is pure speculation without a shred of scientific evidence. But the notion is popular with both scientists and lay people who want to believe in evolution in spite of the evidence that it is impossible. God may, indeed, have created life on other planets, but He has given us no evidence of it, either through science or in the Bible.”

Henry M. Morris has written the same sort of thing in various places. In his “The Remarkable Birth of Planet Earth” he devotes a whole chapter to “The Puzzling Role of the Stars Above”. This has more peculiar ideas, which would need several articles to criticise in detail. Do creationists believe that there is life on other planets or not? It seems that here, as in other places, they are trying to hedge their bets. If, at some time in the future, life is found elsewhere in the universe, no doubt Kofahl’s words “God may, indeed, have created life on other planets, ...” will be dusted off and produced as evidence that creationists predicted it many years ago.

There is one point concerning which the editors of the *Encyclopaedia Britannica* might be described as adhering more closely to Christian teachings than Kofahl.

On pages 132-135 of his book, Kofahl goes into all the standard arguments that the earth was designed specifically for human life (temperature, atmosphere, gravity, inclination of axis, etc), and reaches the same conclusion other creationists do. But one of the major

tenets of Christianity is that God is omnipotent, and not bound by any physical properties incidental to the earth. The editors of the “Encyclopaedia” specifically said this! Who is more Christian - the ones who say God can make inhabitants for any planet, or the one who says that only earth will do?

Enough has been written to show that there are serious doubts about the claim that the article ‘Astronomy’ in the first edition of the “Encyclopaedia Britannica” has “a strong creation emphasis”, in the sense in which ‘creation’ is used by modern day creationists. Some of the other articles will be examined (in a later article) to see whether or not they could legitimately be similarly described.

What is the moral of this brief investigation of yet another creationist quotation? Exactly the same as that reached by nearly everyone who has checked on other claimed quotations from standard scientific works. In many cases the quotations are not correct (though this one is more accurate than most). But, almost invariably, the words, correct or not, have been so taken out of context that they convey a misleading impression to the unwary.

Our creationist friends claim that they are motivated by religious reasons. The ninth commandment reads “Thou shalt not bear false witness against thy neighbour”. Do they regard this as telling lies about people, or does incomplete citation, which gives a misleading impression, also count as “false witness” against the original writer (or writers)? Perhaps they could meditate on the matter.

Ken Smith is co-editor of the Skeptics’ publication, *Creationism: An Australian Perspective*.

Vol 7 No 4 - 1987

Catholic Education Office calls creationism “utter nonsense”

Tim Mendham

The Catholic Education Office has published a booklet titled “The Bumbling, Stumbling, Crumbling Theory of Creation Science” in which it says the Biblical account of the world’s origins is not meant to be taken at face value.

Creation ‘science’, which claims that the account

found in Genesis is literally correct, is described in the CEO booklet as “pseudo-science and utter nonsense”, using fraud and deceit to achieve its end.

Creationists “have yet to learn that minds, like parachutes, only work when they are open”, the book says.

The booklet will be distributed to children in Catholic schools, encouraging them to question how such feats as Noah’s ark and the slowing of the speed of light, as claimed by some creationists, could happen. On the latter claim, the booklet says that light must have travelled 200,000 million times faster at the time of creation than today, leading to some serious problems: “The energy from lighting a match would be 40,000,000,000,000,000,000,000 times greater, since the energy depends on the speed of light squared.” Fires lit by the first human beings 6,000 years ago would thus have triggered the equivalent of small nuclear detonations.



Creation “science” barely alive and not very well in the UK

Martin Bridgstock, from Australian Skeptics’ Queensland committee and in the UK on a sabbatical at Manchester University, reports that the UK creation “scientists” are far less active than are their counterparts in Australia or the US.

Martin attended a one day seminar put on by the largest UK group, the Creation Science Movement, and to quote his letter “About 50 sadlooking fundamentalists sat in a dingy little hall at the back of a fundamentalist chapel. Three of the six speakers were unable to come, and the whole thing was rather pathetic.”

We would be interested to hear opinions from our subscribers as to why the British are less susceptible to this kind of irrationality than are Americans or Australians.

Vol 8 No 2 - 1988

Gish/Plimer Debate

Steve Roberts & Tim Mendham

The visit to Australia of Dr Duane T. Gish, doyen of creationists and director of the US Institute of Creation Research, featured a number of lectures to churches in capital cities.

Of these debates, one in particular stands out, not just because it was briefly featured on a recent edition of the ABC-TV program “Quantum”, but because Dr Gish has described it as one of the most disgusting events in which he has ever been involved, and is the subject of a possible legal action.

At the behest of a religious group called the Evangelical Apologetic Society, Australian Skeptics put forward a speaker to debate with Dr Gish on the subject “Creationism or Evolution - which is the pseudoscience?”. Dr Ian Plimer, professor of geology at the University of Newcastle came accompanied by a university camera crew, creating, with the Quantum crew and that of the creationists, an electric atmosphere for what proved to be a very lively evening.

A coin was tossed and Dr Gish spoke first; the two speakers were to put their case for 50 minutes, followed by a break and a further 15 minutes each, followed by a five minute summary. Questions were then to be allowed from the audience. The whole evening was to last about three hours.

The case for creation

Dr Gish opened by saying he would not discuss the age of the Earth or any Biblical interpretations, much to the disappointment of the decidedly outnumbered sceptical members of the audience. He concentrated his argument largely on the second law of thermodynamics, which states that closed systems always move in the direction of increasing disorder, or entropy. He said evolution would suggest that the universe was becoming more orderly, whereas the creationist model was consistent with the second law by being first created and thereafter sliding towards disorder.

If there is no God, then the universe must inexorably slide towards a completely dead, cold state, as stars burn out. Then, going back in time, how was it created in the first place? The chances of formation of proteins such as RNA (124 amino acids) and haemoglobin (287 amino acids) at random are astronomically small (in fact, far smaller even than the figures he gave, but the

chance of formation at random is the chance of creation occurring, not of the formation of small parts of these molecules which then evolve to the complete final structures by a series of less astronomical chances). The fossil record, according to creationists, should show all “kinds” of animals right from the start, but according to evolutionists should show a gradation of transitional forms which have not been observed.

The fossil record must have been formed by a catastrophic event. It contains jellyfish, sponges, trilobites, ammonites, etc from an early age and these were said to be “highly complex” forms of life, which were created complete and whole from nothing. There were no transitional forms between the invertebrates and the vertebrates such as fish.

The famous skeletal remains named Lucy, which according to evolutionists were of an ape which walked upright, were not ancestors to humans and may have never walked upright anyway. Piltdown Man, once widely believed to be a genuine find of an early transitional form, turned out to be a crude forgery. Nebraska Man, thought to be another early hominid (he showed an artists’ impression), was built up entirely from the evidence of a single tooth, later found to be that of a pig. Neanderthal Man was very like us today - it showed another picture of a nice looking Neanderthal Man and said if he was given a shave and bath, he would look very like Homo Sapiens.

Evolutionists were in turmoil, he suggested, and there appeared to be no clear idea of the mechanism for evolution; Darwinism was coming under increasing attack. He quoted from *Evolution in Crisis* by Dr Michael Denton - who was not, Christian or a creationist - which criticised Darwinism on scientific grounds.

Concluding, Dr Gish challenged Dr Plimer to explain how the humble caterpillar could evolve to a beautiful butterfly. It must have been programmed to do this from the egg-stage. He invited the audience to consider the evidence and to decide the issue for themselves.

His style throughout was quiet and friendly.

The evolutionist’s response

Dr Plimer started off in thunderous style by stating that “creation science” was a contradiction in terms, and accused its proponent of cheating, lying, falsification of data, in order to advance their theories and line their own pockets. For a start, the Dr Denton who wrote the book referred to by Dr Gish had later admitted that he had been wrong, having been unaware of what was in the fossil record, and had refuted what had been published in the book.

Examining the catastrophic event required by

creationists to support their theory, he invited the audience to consider the very recent date required by creationists for the origin of the Earth. If the Earth had really been formed a few thousand years ago, then there would have been very little time for events known to have occurred since formation to have taken place. For example, continental drift at the rate of four kilometres per year, a catastrophic earthquake every six minutes, and catastrophic volcanic eruptions every 12 minutes during the whole time since the creation. The cooling of rock expelled from volcanoes would keep all the oceans on Earth at boiling point.

Considering Noah's Ark and the Great Flood, also essential to creationist thinking but ignored by Dr Gish in his opening speech, Dr Plimer wondered where the water could have come from to cause the flood - if it were formed from rain, the atmosphere must have been 840 times the current atmospheric pressure and consisted of 99.9% water vapour and 0.02% oxygen. Noah would have had to travel the entire world to collect endemic species, such as the koala found only in Australia in both fossil and living forms. Then when Noah had two or more of each of the two million known species, how did he find enough space for them all on the Ark? What happened when the two brontosauri on the Ark felt the urge to copulate? The eight humans on the Ark must also have carried in their bodies every disease known to affect only Man: smallpox, polio, tapeworm, three sorts of lice, syphilis, gonorrhoea, etc. Then after a whole year on the Ark, when it landed, what did the animals eat? The carnivores would have had to eat the herbivores, so where do today's herbivores come from? The flightless birds endemic to Australia, New Zealand, Mauritius, and South America would have had to get to those places from Mount Ararat in Turkey (in all cases exactly the place where their fossil remains were deposited during the Flood) and the poor blind marsupial mole would have had to get to Australia, blind, overland, and ahead of the Malaysian tiger, who in turn stopped in Malaysia.

Mentioning creationist rumours of finds of iron bolts and worked gold chains in coal, Dr Plimer said he had offered \$20,000 for any example of such artefacts genuinely embedded in coal; he had made this offer in the coalfields, so there must be tens of thousands of miners on the lookout for such easy money. So far he hadn't given the money away.

Commenting on Setterfield's theory that the speed of light had slowed down, caused by man's sin, and had stopped slowing down in 1960, Dr Plimer wondered if this meant that there has been no sin since 1960.

Clarifying points raised by his opponent, he said that a chicken egg was a closed system, but nevertheless

produces a chicken, despite the misapplication of the second law of thermodynamics. Dr Gish was wrong in assuming that the universe was in equilibrium, in which case the second law would not apply to it as a whole. Nebraskan Man was certainly a stupid mistake, but the single original article describing the find was in the tabloid "Illustrated London News" and not in the scientific press.

Dr Plimer then moved on to consider the quality and style of publications by creationists. Creationists never recognise corrections published by scientists - they take a figure that suits them and stick to it, even when it is later corrected or retracted (which would spoil creationist ideas built upon it). Describing a little comic-style booklet written by Dr Gish, he said that on page 8 there was a barefaced lie about pre-Cambrian fossils. Another statement on the same page that the Earth's crust was void of fossils was another lie. A statement that the fossils were all of complex forms of life was a third lie. Turning over to page 9, there were two more lies - a total of five lies in the space of 55 words!

Dr Plimer then described an incident at a school in California, producing some of the actual documents involved. This school was given money to be spent on six gifted children in its care; instead, the teacher had ordered books from the Institute of Creation Research, mostly written by Dr Gish, for the whole class of 30 twelve year old children. These books were used in class and taught that if you accepted the theory of evolution, you had to deny God; then the children were set an examination which forced them to choose between creationism and atheism. The six gifted children, who had been Christians from good Christian families, all decided upon atheism in these circumstances, and were punished by being sent to the library to rewrite their exam answers. (Cries of "shame" from numerous parts of the audience.) Four of the six children recanted under this stress, but the remaining two were converted to atheism, directly as a direct result of the writings of Dr Gish.

Recalling a debate between Dr Gish and a Dr Russell Doolittle on television in July 1982, when asked whether the chimpanzee and Man had a common ancestor, Dr Gish had said that bullfrogs were closer to Man than the chimpanzee was. Upon being challenged to produce data supporting this view at the time, Dr Gish had refused and said that he had no responsibility to do so. Quoting the Bible; Revelations 16:13 - Dr Plimer (who is a Christian) pointed at Dr Gish and fulminated "And I saw, issuing from ... the mouth of the false prophet, three foul spirits like frogs".

Concluding by mentioning the activities of the

Creation Science Foundation in Queensland, and its loss of over \$90,000 as revealed by the Skeptics, Dr Plimer declaimed in apocalyptic style that creationists were guilty of creation of facts *ex nihilo*, of lying, of fabrication of data (even publicly on TV), of acquiring money in the name of God but using it in the worship of Mammon, of falsifying the truth in order to serve Mammon, and concluded by comparing Dr Gish to Satan himself. The audience, mostly adherents of Dr Gish and his views, were so stunned that chaos broke out and the meeting was with difficulty restored to order before a 15 minute break.

Gish's response

Dr Gish replied, following the break, by saying that Dr Plimer had offered no evidence in favour of evolution. He had never been so insulted before in over 200 debates of this nature. (Wild cheers broke out, and the audience was felt to polarise between two absolutely irreconcilable sets of beliefs.) Dr Denton did not deny what he had written in his book; indeed Dr Gish had spoken with him earlier in the week who had said that the book was too subjective, and that if he were to rewrite it he would take a different approach altogether, and that evolution was possibly now a provable reality given recent advances in technology (a strange admission for Dr Gish to have made).

Dr Gish admitted that his own little comic-style book (titled *Are You Being Brainwashed?*) was published 17 years ago, at which time it was not known that pre-Cambrian fossils existed. (Cries of "Absolute nonsense!" from some members of the audience.)

Dr Gish also admitted that "nobody really believed all that stuff about Noah and the Flood" and wondered why Dr Plimer had brought it into the debate. He said that a chicken egg was not a closed system, owing to the possible influx of light, and that it must have been fully programmed (by God) to turn into a chicken. ("Like the caterpillar" cried a member of the audience.)

Dr Gish regretted the incident in the California school and said that the teacher should not have used that particular book as it was intended for teaching at a different type of school; he should have used another similar creationist book whose use would have been admissible in the school described. He did not express any regret for the actions of the teacher or the fate of the children or any concern over the legality of the whole incident.

It was admitted that the Queensland CSF had lost over \$90,000 through an investment as reserve funds which had been embezzled (not by a member of the CSF). Dr Gish's own organisation had invested in

reserve funds in the past, and would continue to do so in the future when it felt like so doing.

It is known that the albumin of humans is like that of frogs, this arising from research at UCD years ago, where Dr Gish had heard about it. The Isozyme enzyme from chickens is also like that of humans.

Noah would certainly have had trouble going to fetch all the world's animals to the Ark; however, the Bible records that God had brought the animals to the Ark for him.

Dr Gish concluded by saying that he wanted to present and hear reasoned, serious, scientific views, and that Dr Plimer's scientific case was weak.

Plimer's response

Dr Plimer responded by brandishing Dr Gish's comic-style booklet and said that even if it was 17 years old and Dr Gish now refuted it, it was still being sold outside the lecture hall. It contained 88 statements, 87 of which were wrong and one (that the Earth rotated) which was right. (The audience became increasingly rowdy.)

Reviewing the credentials and performance of prominent creation "scientists", Dr Plimer mentioned the publications of a Dr Andrew Snelling, a creationist who was publishing papers in the scientific literature that protozoic rocks in the Northern Territory were 600 million years old, at the same time as he was publishing papers in creationist literature saying the same rocks were only thousands of years old. During a 4-year period, 68 leading journals received 135,000 papers on scientific work, including 18 by creationists, none of which were accepted for publication.

It may be that evolution was "only a theory", but then so were gravitation and electricity, and Dr Plimer invited Dr Gish to hold a live electric wire to see how real these "theories" were in practice. Dr Plimer brandished what he said was a live wire before Dr Gish, who refused to hold it, whereupon Dr Plimer accused him of selecting which theories he wanted to believe in.

By saying that God brought the animals to the Ark, Dr Gish was falling back on religion where his creation "science" did not hold up. Even quoting the Bible was not a way out, as there were Biblical references to God creating the evolutionary process, to the Earth being flat, and to pi (π) being equal to 3.

The six children in the California school were Christians and had been driven to atheism as a direct result of books which Dr Gish had written.

Summaries

Dr Gish summed up his case by regretting the

decline of the tone of the meeting. He said we did not know the mechanism of electricity or of gravitation, nor of evolution which, unlike the first two, we cannot even observe; nobody has ever seen an ape evolve into a man. He worked hard for his beliefs, but the money he made went straight into the Institute for Creation Research.

Dr Plimer summed up by mentioning the declaration by 72 Nobel laureates that creationism was labelling religion as science. Creationism was an attack on science, our culture, and our whole society. Creation “science” was not science at all - for example, the names of creation scientists do not appear in normal scientific literature. It was true that religion and science both give us a fuller picture of ourselves, and he quoted Proverbs 3:13 “Happy is the man who finds wisdom, and the man who gets understanding”. Darwin himself was a clergyman. Science does not demand that we abandon our faith; but creationism does demand that we abandon science.

Questions followed, including one to Dr Gish about the distance of stars and therefore the implications for the age of the universe - Dr Gish replied that though we were not debating the age of the universe, creationists now hold various positions and that he was happy to accept an “old Earth” if that was the established case.

Other questions revolved on the evolution of the eye, transitional forms (whether they existed or not), the differing theories of creation, and the general attitude of religion to science. The questions became more and more esoteric, and the audience generally more restless.

The adjudicator summed up by saying that, rather than a debate, the evening was more like a presentation by Dr Gish and a series of derogatory replies by Dr Plimer. He would award poor marks to both speakers, neither of whom had properly expounded his point of view as a science. Science was meant to be for the bettering of mankind; however, creation science was not a progressive form of science.

Conclusions

The evening was very entertaining, even if debates like this tend to preach to the converted on each side. Dr Gish came over as remarkably mild and reasonable but he studiously avoided any facts which would weaken his theories, even when he was aware that he was not telling the whole truth. Dr Plimer on the other hand, spoke throughout in a style which would have done credit to any religious fundamentalist. He did not recite from the vast amount of evidence which establishes evolution as a scientific theory, but

concentrated on criticism of the creationists’ case. His accusations were so forceful that even the sceptics in the audience must have squirmed.

Certain topics in the debate were raised for no readily apparent reason, but study of the creationist publications will show why this is so. Thus Dr Plimer’s discussion of Noah’s Ark and the Flood and of the age of the Earth - all uncompromisingly described in creationist literature but avoided during this debate by Dr Gish, who was smoothly evasive in avoiding discussion of embarrassing points.

Dr Gish did make some truly remarkable admissions with respect to the body of beliefs held by creationists including himself, such as that the universe is not necessarily very young, that belief in the Biblical story of Noah and the Flood was suddenly optional and uncommon, that the fossil record really is genuine and does not contain monkeys or human remains at an early era, that data written and published by him was false and known by him to be false but had not been corrected, that creation research institutes can do whatever they like with money acquired by them, that there was a choice of various theories of creation including non-Christian ones. None of these revised policies were volunteered; they all came out under questioning.

Disallowing the religious adherence of most of the audience for the views of the speakers (and this excludes hardened sceptics as well as committed creationists) what would a neutral observer have learned from the debate? That creationists have only religious evidence to support their theories, and that all facts which appear to favour creationism are halftruths or plain lies; whereas evolutionists do have a theory backed up by real facts, although few of these were mentioned. That creationists believe that they are allowed to dismiss or to falsify embarrassing data, but evolutionists will scrupulously consider and investigate all data and proceed only on the basis of certainty. The people who were sitting in front of the main author of this review (SR) were creationists of a mild-mannered nature, but said that the data presented during the evening would lead them to reconsider their beliefs. Nothing was offered to persuade an open-minded person to move towards creationism.

Finally, Dr Plimer’s style of speaking excited comments and polarised the passions of quite a few people. Many Skeptics have said they were disappointed in his manner of presentation and his handling of the topic, preferring that he present purely the scientific evidence supporting evolution in a sombre and more respectable manner. Dr Plimer’s response is that is precisely what scientists have been doing for

years, with little to show for their efforts. SR spoke with Dr Plimer's wife during the debate, and she said that Dr Plimer himself is a mild-mannered Christian who felt a righteous indignation at the deeds of the creationists, such as the incident at the school in California, and thus felt it his duty to accuse rather than to promote his own theory. He had received a death threat from creationists, and he and his family had been pestered by telephone callers who threatened to come to the lecture and throw eggs and fruit. Since the debate, Dr Plimer has revealed that both he and the University of Newcastle have been threatened with the possibility of legal action from Dr Gish's institute.

Dr Gish is a veteran and generally a winner of many previous debates. He is director of his own self-financing institute and has two decades' experience in propounding his theories, and he was beloved of the great majority of the audience. It was certainly courageous of Dr Plimer, a professional academic with demanding duties in a field of only peripheral relevance to the issue, to venture into public debate with him; but like Daniel, he walked out alive from the lions' den.

Vol 8 No 4 - 1988

Creation Week in Canberra

*Colin Groves, Julie McCarron Benson,
Drew Meek and Borek Puza*

The second week of November was Creation Week in Canberra. On Thursday, November 10, John Mackay was in town, appearing at the Canberra College of Advanced Education at 12.30 and at the Woden Valley Alliance Church at 7.30. Then, on Saturday, there was an all-day Creation Seminar in the Belconnen Churches Centre. Canberra Skeptics decided to look into it.

John Mackay, described as "Director of the Creation Research Centre" (no mention of the Creation Science Foundation, of which he has always been listed as a member up to now), lectured for an hour at the CCAE, but the organiser, Dr Graham French, had booked a seminar room for a further half-hour of discussion afterward. The audience totalled 36, about half of whom were known to us: zoologists and geologists from both the CCAE and ANU, as well as members of Canberra Skeptics.

First, John Mackay talked about how Christianity has always been the religion to ask scientific questions, and get the answers, both because of the inherently scientific nature of their beliefs and, apparently, because of the power of prayer (Darwin was probably correct about the Galapagos finches changing, but they're still 'tfinches') and fossils (gaps in the record are facts, not inferences; and "how much evidence is the bones, anyway?").

Anyway, he declared, evolution is impossible because such living fossils as lingula, coelacanths and horsetails are evidence of the extraordinary stability of DNA.

He was glib and superficial, and eventually we could stand it no longer, and started interrupting. By the time the lecture hall had to be vacated, we knew how the discussion session in the seminar room - to which about half the lecture room audience went - was going to turn out.

The glibness was no substitute for science, and (as we later found out) at least one of the creationists there thought John Mackay had ended up looking a bit of a fool. Example: he put a photo of three australopithecine skulls on the overhead projector, saying "I can tell ape skulls when I see them, and" - putting up an overhead of three *Homo sapiens* skulls (Petralon, a Neanderthaler and one other) - "I can distinguish them from human skulls." "Where would you put the intermediates: the habilines and early erectus-phase?" asked Colin Groves. "Oh, they're all just fragments ...". "Nonsense, there are many good skulls", "and even a complete skeleton" added Ian McDougall.

Poor John Mackay's jaw dropped: "Where from?", and he listened flabbergasted as the world's leading expert on potassium/argon dating told him all about the West Turkana Boy, and exactly how it and the whole Turkana Basin sequence had been dated. How did he view all this evidence of the age of the earth, and how and when life originated, he was asked by Julie McCarron-Benson:

"It's a matter of personal belief", he replied!

John did not know his science; how well did he know his Bible? Drew Meek pointed out that in the book of Job the sky is described as hard, the earth is fixed and stable; to which John replied that Job is Hebrew poetry, and so poetic licence must be allowed for (a rather extraordinary statement for someone who had just been maintaining that the entire Bible is the literal Word of God).

Colin Groves asked him to explain the well-known inconsistency between Genesis 1 (where the first man is created last of all) and Genesis 2 (where Adam is

created first, followed by the animals). John denied any such thing: the animals were merely brought before Adam”, he claimed. Several of us knew this to be untrue, but as no Bible was available we let it be.

Evening session

The evening session was in a church, which of course inhibits, even rules out, debate; in any case, Skeptics have long argued that this is where creationism belongs. But we wanted to see what he would say, so again several of us rolled up.

The audience, or perhaps congregation, numbered about 100. The glibness was this time compounded: had the audience ever considered the number three, the sacred number of the Trinity? Look, there are three dimensions of space; three normal states of matter (solid, liquid, gas); three notes in a chord; triplets in the genetic code. Gee whiz! Anyone can play this game: four Gospel writers, four actual states of matter (don't forget plasma), four bases in the genetic code, four corners of the earth ... a new parlour game?

The talk (lecture? sermon?) went on with slides, and got more and more banal: baby dinosaurs were very small and could easily have fitted on Noah's Ark, in fact much more of a problem would have been what to do with all the droppings after mealtimes; Aborigines in northern New South Wales say they come from over the seas, and they too believe in the flood, but their ancestors “sold them to the evil spirits”; there are footprints in the Trilobite layers in the Grand Canyon (they looked like simple oval depressions to us); known rates of stalactite formation and the recession of Niagara Falls point to a young earth. There were even bad jokes: crocodiles feeding on American tourists, children pulling the legs off cockroaches. (There were plenty of children in the audience, by the way.)

The talk was interrupted at intervals by commercial breaks, advertising books, magazines, children's readers, ideas for Christmas presents. Throughout, he insisted on talking of “creation” as if it meant “special creation”, “Christianity” as if it inevitably meant just his brand of creationism.

Afterwards, Colin Groves approached John as he stood behind the trestle table which groaned with books. How about his statement this morning about the second book of Genesis? Here, the New English Bible plainly says, “Then God formed out of the ground all the wild animals and birds, and brought them before Adam”. John couldn't care less; he was much too busy selling books to pay much attention.

“I never said anything else,” he claimed; and later, “They were a different set of animals from those

created in Genesis 1”, and when the world “all” was pointed out, simply “There's no inconsistency”. He would not be budged from this illogical position, nor would he admit that he had lied about the Bible.

Colin, mildest of men, nearly lost his cool, but decided instead to leave John toiling in the fields of mammon, and talk to some of the members of the congregation, who in fact were eager to enter into discussion, and not invariably closed-minded nor universally in praise of John Mackay.

But his way of thinking had, insidiously, affected even the most open-minded; at least one listener had been snowed into assuming that “creationism = Christianity”, and put to Colin the spurious “Why do so many scientists believe in creationism” question. Colin said “Which scientists are these? I know of none.” “Then meet one” said the creationist, propelling forward a newly graduated theoretical physicist in his mid-twenties. “Do you believe in a young earth?” asked Colin. “Oh no,” said the young man.

It turned out, he was a Christian (sensu the Pope, the Archbishop of Canterbury, the Patriarch of Constantinople, et al, et al). John Mackay had won one mind at least: one person had been snowed into assuming that creationism = Christianity.

Seminar

The Saturday all-day Creation Seminar was advertised as “especially for the layman ... but also for pastors, scientists, teachers, etc.” There were to be five sessions, three films and lectures by Carl Wieland of the Creation Science Foundation, with questions/discussion periods, from 9am until about 9pm, with breaks for tea and meals. Four of us went to the first four sessions; only two to the last one.

The audience started off at 53, but fell during the day; at the start of the fourth session (4pm), only 32 remained; for the final session (beginning 7.30pm), there were 27.

Carl Wieland was a vastly different experience from John Mackay - not glib, not a phoney, but a thoughtful and erudite man whose position is nonetheless that the Bible must be literally true, so that it is justified to look for observations which are consistent with it and use them as evidence to bolster belief.

Why must the Bible be literally true? Because it records the workingout of a theme: Adam and Eve's sin brought death into the world, and Christ's sacrifice conquered death. If there were long ages before Adam and Eve (during which countless organisms lived and, of course, died) or if the story was only a parable to start with, then Christ's sacrifice was meaningless.

A member of the audience asked, why did the days

have to be just 24 hours? The reply - that Adam had lived through the seventh day, which could not therefore have been all that long; furthermore, if just one statement in the Bible is recognised to be not literally true, doubts about the rest naturally follow and inevitably lead to “interpretations” and the acceptance only of selfish doctrines, not a complete shattering of faith.

We leave to theologians the problems of the meaning of the Christian message, but we cannot avoid the implications for science. Science does not start with any prior assumptions, except for the reality of the experience of the senses. It builds hypotheses, and tests them. Creationism, on the other hand, starts with an assumption: namely, the literal truth of the Bible.

It does not treat this as a hypothesis to be tested and, if found wanting, rejected or modified; it looks only for observations consistent with it, and if any are encountered which are not consistent then it is the observations which are rejected (“It is isotope ratios which are the facts, not the ages calculated from them”) or, worse, modified until they play ball (“Mutations are only genetic losses or other defects”).

This makes creationism a pseudoscience, like astrology, reincarnation, New Age beliefs and so on. It takes as its starting point a paranormal belief (“forces unknown to science” - nonscientific, so untestable) and seeks support for it. Normal science does not do this; its hypotheses, including its major theories however robust (such as the Theory of Evolution), are all testable and so open to falsification ².

Of course, creationists strongly object to this conception of normal science, claiming that it has at least an unconsciously implicit form of atheism as its central unfalsifiable doctrine. They thus see the Theory of Evolution as a mental tool which the scientist can use to rationalise his/her rejection of God, because it contradicts the Bible.

Perhaps the most significant feature of this counter-conception is its ability to meet the need of creationists to rationalise their own intellectual bias, dishonesty and, often, inadequacy, which must become sources of deep guilt and embarrassment whenever their mistakes are exposed.

Carl Wieland was unusual among creationists in several respects. Like others, he took the literal truth of the whole Bible as a given; unlike others, he did not deny or run away from apparently contrary facts.

Colin put it to him that in Leviticus the hare and the hyrax (“coney”) are said to chew the cud, whereas they do not; the camel is denied its cloven hoof; and the bat is listed as a bird. Carl said yes, there are many problems to be sorted out; not an especially satisfying

answer in one way, but the contrast with John Mackay was noticeable.

More unusual was his admission that, really, his message was for the faithful; he realised that polystrate trees and the downcutting of river valleys, while convincing if you believed in a worldwide flood, would cut no ice with non-creationists, for normal science has other explanations for them (local catastrophes). He admitted that there was no definition of what was, and was not, a “created kind”, and he and Colin had a discussion about horses, asses and zebras - Carl being clearly unaware that Colin wrote a book on just those beasts in 1974 (now, alas, out of print, not to mention somewhat out-of-date!).

Finally, he would not accept spurious “evidence”: a member of the audience complained “You haven’t yet mentioned my favourite argument for creation, the insufficiency of helium in the atmosphere”, and Carl made it clear that this argument is highly problematic - accordingly he would not use it ³.

Above all, he did not attempt to hijack the term “creation” to mean only what he meant by it; and, just to take the wind out of our sails completely, he agreed, in public (in the last session of the day) that he would not be in favour of it being taught in science classes! Having said all that, he did suggest that certain things were “problems for evolutionists”⁴, just as hyraxes and bats and the like are problems for creationists. Chief among these were the Second Law of Thermodynamics and the Speed of Light ⁵.

On the first of these, Borek Puza took him to task for his assertion that, to go from a less to a more ordered state in an open system, you need some inbuilt program for order, mentioning the formation of crystals; Carl distinguished between a “significant” degree of order as opposed to a simple one, and put up an overhead in which it was claimed that saltwater to crystals involves going towards a more probable state whereas from chemicals to life involves going towards a less probable state. Borek’s remonstrations remained unanswered on the grounds that it was time to break for lunch: bad one, Carl, a bit of a fall from grace there.

The films that accompanied Carl Wieland’s talks were uniformly abysmal. In “The Genesis Solution”, we had Ken Ham lecturing to an American audience, claiming the moral high ground for his brand of Christianity, and that all kinds of dreadful things flow from “evolutionism”, including, of all things, racism (the massacre of the Tasmanian Aborigines because, he claimed, they were regarded as evolutionarily inferior; Wilberforce’s campaign to end slavery ⁶). This is an outrageous statement from someone who in the same

breath claimed that Australian Aborigines and American Indians were “anti-God” when discovered! Most notable throughout the film was Ham’s obsession with the idea that the Creation vs Evolution debate is a matter of life and death for Christianity. One particularly quaint portrayal was the picture of two warring castles name “Secular Humanism” (built on a foundation titled Evolution) and “Christianity” (on a foundation called Creation). “Homosexuality”, “Divorce” and the like fluttered from the Humanist castle, occasionally being knocked down (but only temporarily) by cannon-fire from the Christian castle. The Humanist cannon, however, was more shrewdly aimed at Creation, ie the foundations of Christianity, wreaking havoc on its whole structure. No prizes for guessing the moral of the story.

The second film was “The Origin of Life”, in which Professor Wilder Smith on a Swiss hillside explains the genetic code, and how the chance against arriving at a code for a functional protein is 10^{87} , which is more seconds than there have been in 4.5 billion years. (See, for a demolition of this way of reasoning, articles in the Skeptics’ *Creationism: An Australian Perspective*.)

Afterwards, in conversation, Colin put it to Carl that this was the only one of the six films in the “Origins” series that was still in a sense viable, as it had not been subsequently upstaged or shown to have made incorrect statements (although the discovery of “junk” DNA may alter some of Wilder-Smith’s arguments; and some of his explanations of cytogenetics, such as that ribosomes sit on DNA, are less than accurate!). Carl did not agree - despite his own later rubbishing of the helium argument, which features in one of the other films.

The third film, “The World that Perished”, was about Noah’s Ark. It was banal, but as it makes no claims to relevance outside a creationist, religious context, we will not comment further on it.⁷

The fifth and last session was a day by day account of the creation story (or stories) as related in Genesis 1, with a smattering of Genesis 2. The “apparent” contradictions were not discussed beyond a complacent assertion that they had all been dealt with before, many times and long ago. For example, the objection that plants, allegedly created on the third day (Gen 1:9-13) could not have survived without the sun, created on the fourth day (Gen 1:14-19) was no cause for alarm because perhaps the plants were created at the very end of the third day and the sun at the very beginning of the fourth.

With the standard of the presentation sinking to this level (even Carl Wieland couldn’t suppress a smile as

he voiced the above), it seemed somewhat painful to keep raising objections and much more appropriate and rewarding to just sit back and accept it for what it was - the exposition of a myth, one of much significance for the human condition perhaps, but, (the myth of Oedipus or the myth of Faust, for example) a myth nonetheless.

Final confrontation

The meeting was over; only Colin and Borek had turned up for the final session. At the end, we were asked to help stack the chairs at the back of the hall. As Colin did so, he was accosted by a small, furious man in a grey suit: “I’m a science teacher. Where’s your evidence for evolution? Where’s your evidence?”.

“Alright, I’ll tell you about human evolution, my own speciality ...”

“Pah! What about the origin of all the animals, eh? Where’s the evidence?”

“There’s an excellent transition series from reptiles to mammals. If you want a convenient source, a book by Kemp...”

“Ten to the eighty-seventh! Do you know how much that is? Ten with eighty-seven noughts!” And he stormed off.

A couple of minutes later he approached Colin again, and shook his hand. “I’m sorry I led off like that. But what’s your evidence? What about Michael Denison, eh?”

“You mean Denton? ‘Evolution, a Theory in Crisis’? A very superficial book. Take the way he treats Archaeopteryx...”.

“Yes ... that’s a fake isn’t it!” The fury had gradually built up again.

“Certainly not. Charig and other British Museum scientists investigated it and disproved that claim”.

“Pah! There’s only one specimen anyway, isn’t there.”

“No, there are six ...”

A bit more about mammal evolution followed, interrupted several times by irrelevant expostulations, ending, as jaw-bones became ear-bones, with “Pah! I’ve seen a bone grow from nothing!” - followed by an incoherent story of his aunt’s mid-life recovery from a teenage accident.

If anyone is still not convinced that creationism, as soon as it emerges from the church setting, is ripe for investigation by Skeptics and deserves opposition from scientists, here’s one very good reason: the cause suffers from bigots; and, somehow, we have managed to let them loose on our children.

Notes

1. His choice of the Petralona skull was interesting. It is one of those specimens whose best classification is disputed: is it better put in *Homo erectus* or *Homo sapiens*? (This of course is the sort of argument that happens time and again, because some fossils are going to be transitional in an evolutionary sense!). Creationist writers like Duane Gish and Malcolm Bowden have argued that *Homo erectus* consists of a melange of giant monkey and giant gibbon fossils; obviously, John Mackay disagrees.

2. One can think of numerous tests of the Theory of Evolution which could result in its falsification. A single mammal or bird in the Cambrian, for example; in fact, any mammal of modern aspect or any bird in any Palaeozoic deposit whatever. On the other hand, survival of a taxon thought to be extinct would not; discovery of a plesiosaur in Loch Ness or a sauropod in the Congo Republic would be the find of the century, but would not threaten the Theory of Evolution.

3. One type of radioactive decay results in the emission of alpha-particles, which are helium nuclei; a formerly widely-used creationist argument for a young earth was, therefore, that “there is insufficient helium in the atmosphere for 4.5 billion years of radioactive decay.. The answer is, of course, that helium, the second lightest of the elements, escapes into space.

4. The term “evolutionist”. is sometimes found in the biological literature, when it means someone interested in, or contributing to, evolutionary theory. It does not mean ‘a believer in evolution’, which is how creationists tend to use the word. Contrary to some creationist propaganda (“scientists are turning away from evolution in droves”), the Theory of Evolution is the dominant explanatory paradigm in the biological sciences, and almost all biologists accept it. It seems to be the only major scientific theory singled out in this way by creationists; thus, one does not come across a believer in the Theory of Gravitation being dubbed a “gravitationist”.

5. Arguments against Setterfield’s theory that the speed of light has been decreasing, and that at the time of creation (6000 years ago) it was equal to infinity, are well set out in the Skeptics’ “Creationism” book mentioned above. But let us assume that Setterfield’s selection of which speed-of-light determinations he will use, and which he will reject, is justified; and that all is well with his maths and his physics. Would his results still justify his conclusions that (1) the speed of light changes and that (2) it was infinite 6000 years ago? (1) There are, among the determinations which he used, a few which were made very much longer ago than the rest (most of which come from the last hundred years). These determinations would act as what statisticians call ‘influential points’: they have an overwhelming effect on the final result, by themselves determining the slope of the line and reducing the correlation coefficient. The importance of influential points has been slow in dawning on statistics users. Only if the points that form essentially a continuous scatter yeild a line that is significantly different from horizontal can we start to claim that the speed of light has varied in the past. Then we can see, too, if the position of the far-removed influential points is consistent with extrapolating the line backward. (2) Beyond its termini, in any case, extrapolation of a trend-line can only be a working hypothesis. Even if the result of the manipulation suggested

above does yield a non-horizontal slope, it would still say nothing about how far back the same trend extends, and never can.

6. The Tasmanian Aborigines were massacred in a shameful manner after European colonisation of the island: a blot on human history. The “Black War” of the 1820s, the incarceration of most of the survivors on Flinders Island, these events long preceded the ~evolution era. ushered in by Charles Darwin. Much of what happened was consciously done in the name of Christianity. Black slavery, which Wilberforce strove against, had been instituted and maintained by white Christian society from the days of Drake and Hawkins. Christians who thought about it justified it in one of following ways: either Negroes were not human, in which case they could be treated any way without regard to morality; or else they were human, and so with immortal souls, which were in desperate need of being saved (for example, by being dragged in chains to a Christian country). The aspirations of some creationists to rewrite human history, as well as its prehistory, must be shown up for the shabby pretence they are.

7. Well, perhaps we will after all - if only because Noah’s Flood is such a major plank of creationist belief, and one that is easily dismissed/ridiculed. One howler from the film was the claim that corals would not have to be taken on the Ark, but just how a complex reef ecosystem survived in turbulent, silt-laden water was not addressed.

8. Denton’s peculiar decision to put on public record his lack of comprehension of palaeontology, embryology, taxonomy (biology in general, in effect) has been enthusiastically taken up by creationists, as might have been expected. Denton, in his book, denies he is a creationist (“the agnostic Denton”, Carl Wieland called him). On p.166 of his book *Evolution: a Theory in Crisis*, he calls Archaeopteryx ‘definitely a bird’, and compares its skeleton not with those of closely similar theropod dinosaurs like Compsognathus , but with more generalised archosaurs such as thecodonts - apparently based on a cursory reading of the 3rd edition (published in 1966!) of Romer’s ‘Vertebrate Paleontology’, which is cited throughout, to the near-exclusion of more recent texts and to the total exclusion of the primary literature.

9. The half-baked claim by Hoyle and Wickramasinghe to have demonstrated that [the British Museum specimen of] Archaeopteryx, the “earliest bird”, is a fake, has been enthusiastically endorsed by some creationists. The claim is that impressions of feathers have been carved onto a matrix block in which the skeleton of a small theropod dinosaur is embedded, making it appear that the said dinosaur had feathers. Now, in his influential *Evolution: the Fossils say No!*, Duane Gish argued essentially that the reptilian characteristics of the skeleton of Archaeopteryx were illusory, or in other ways didn’t count. If Hoyle and Wickramasinghe are right, therefore, Gish is made to look like an incompetent fool who mistakes a reptile skeleton for a bird one. To save Gish’s reputation, all creationists had better hope that Archaeopteryx is not a fake!

Vol 8 No 4 - 1988

A Survey of Beliefs on Creation and Evolution

Or: Did Julius Caesar Really Exist?

Martin Lyons, Andrya Kovarch & Colin Groves

We identify a certain set of beliefs, fairly widespread in our community, as Creationism; but what do these people really believe; on what is their belief based; and what is the social and educational background to their beliefs? How do they differ, in these respects, from other members of the community?

To try to answer these questions, Martin Lyons and Andrya Kovarch designed a questionnaire; Colin Groves entered the project at the analytic stage. We did not intend primarily to find out how prevalent creationist beliefs are in Canberra, but more to get some idea of what makes these people tick. To get some idea of what sort of questions would be suitable, and how best to ask them, we interviewed three people.

First, a member of the “Assemblies of God” (Pentecostalist) church. He gave a literal interpretation of both Old and New Testaments, including complete acceptance of the Genesis account of creation and the prophetic destiny of the world. According to his belief, human beings and all land animals (including dinosaurs) were created on the sixth day of creation. His interpretation of the earth’s chronology is: Adam - 2,000 years Noah 2,000 years - Christ - 2,000 years Second Coming - 1,000 years - end of the world. It would seem that, by structuring questions with this in mind, the “creationist belief mode” could be identified.

Secondly, a geophysicist with creationist beliefs. His belief is that an “old” age for the earth is acceptable, but there are problems with methods of dating so that it would be a mistake to use such data to support theories such as evolution. He is convinced that the anomalies which he believes exist in evolutionary theories are because of the presence of a Designing Power. He urged us to include questions whereby a creationist could still express some scientific knowledge.

Finally, we consulted an eminent geologist who, while a practising Christian, regards creationism as abhorrent and is an outspoken opponent of teaching it in school curricula. He helped us to design questions which would identify individuals who have religious belief but reject creationism.

We had the help of David Happold in the design stage, and his encouragement throughout. The project was done in connection with a course, “Human Biology”, at the Australian National University.

Method

As this was a pilot project, we produced only 100 questionnaires. Thirty-three of them were placed in the foyer of the students’ union building at the Australian National University during the lunch period; people were asked to take a questionnaire away and bring it back, completed, a short time later. These respondents were, of course, self-selected.

Thirty-three forms were taken to the community hall of the “Assemblies of God” and distributed.

Finally, people were approached in their homes to fill in the rest of the forms.

In all, 83 responses were recovered. In this phase of the project, we had the help of Mandy Woodman.

Results

Of the respondents, 36 were evident creationists (hereinafter called the C-group); 31 being from the Pentecostalist group, only five “picked up” from the community at large. 43 were clearly not creationists, though not all could confidently be described as 99 “evolutionist”; some of them had circled both “creationist” and “evolutionist”, but it was clear from their overall responses that they probably thought that creationism means merely a belief in God, and they were not genuinely creationists. (For convenience, we call this second category the E-group.)

Four questionnaires were scrutinised again and again to try to allocate them to one or other category, without success; we call these simply “doubtfuls”. Finally, there were two responses which could only be described as “mystical”.

There were so few creationists outside the Pentecostalist group that we decided to lump them all in together. Casual scrutiny of their responses did not disclose any potential discrepancies. So we are aware that our creationist sample may be biased because of who they are, but we have no evidence for it and we are inclined to think that it is not.

The results are given in the Table; they are in percentages, with probabilities as given by chi-squared tests. Not everybody answered each question; we have simply ignored the blanks.

The modal age of both C and E-groups was in 20-24 range; the C-group were from 13 to 64 years old, the E-group from 17 to 54. The confused “doubtfuls” were aged 18, 19, 43 and 50; the mystics, 30 and 61. Nor was there any difference in sex composition; nearly

equal numbers of male and female throughout.

The C-group had 21 people in identifiably white-collar occupations, 3 in blue-collar; the Egroup, 39 and 7. (The numbers are more than 43 because a few people, part-time students [= white-collar] with blue-collar jobs, were put into both categories.) So, no difference there.

Nor was there any significant difference in class background, whether parents had had blue or white-collar occupations.

There was a significant difference, though, in country of birth. 65% of E were Australian born, compared to

only 35% of C; a chi-squared test found this to be highly significant ($p < .01$). Creationists not born in Australia were from East and Southeast Asia (9), the UK (4) and elsewhere in Europe (4); non-creationists not Australian born came from the UK, North America and Africa (2 each) and one from New Zealand.

Fewer of (adult) C had finished high school, compared to E. This inevitably implies that they will have had less exposure to educated opinions on natural science; probably, even, less exposure to the actual facts. If they had, at some stage, been subjected to the strong scientific evidence then those who later

TABLE OF RESULTS

Figures are in percentages

	Groups		<i>p</i>				
	C	E					
Occupation: White collar	53	57		Which is historical: Adam	92	10	<.001
Blue collar	32	29	n.s.	Jonah	89	12	<.001
Percent Australian born	35	65	<.01	Jesus	97	64	<.001
Private schooling	22	50	<.05	Julius Caesar	94	98	n.s.
Finished secondary school	58	98	<.01	Earth is 4.5 billion years old	15	100	<.001
K tertiary qualifications: percent technical/economics/commerce	75	20	= .01	Science test: correct	0	20	
Class background: White collar	88	85		nearly	11	20	<.01
Blue collar	12	15	n.s.	incorrect	87	61	
Did parents influence views much?	34	55	n.s.	Organisms due to: natural processes	3	75	
Strength of religious belief: none	0	36		designing power	94	13	<.001
moderate	8	50	<.001	combination	3	13	
strong	92	14		Unknown power rather than Biblical God	3	47	<.001
Practise religion	71	29	<.05	Evolution is disputable	89	67	<.05
Literal belief in Old Testament	86	17	<.001	Creationism should be taught in school	97	52	<.001
Attended Sunday School	67	60	n.s.	Evolution should be taught in school	93	100	n.s.
Believe in Supernatural	94	74	<.05	In school, should creationism have:			
Believe in Astrology	6	20	n.s.	equal time	82	20	
Believe in Divine Being	97	53	<.001	less time	3	59	<.001
Has had mystical/spiritual experience	87	36	<.001	no time	6	22	
Science & religion can be combined	80	66	n.s.	more time	9	0	
				- compared to evolution			
				Creationists believe species can have common ancestors	36	32	n.s.
				Humans and dinosaurs coexisted	80	17	<.001
				How long will life continue? < 100 years	52	0	
				1000 years	28	21	<.001
				indefinite	20	79	
				Origin of life: micro-organisms	3	79	
				as in Genesis	91	0	<.001
				other ways	6	21	
				Correct definition: Natural selection	75	93	n.s.
				Mutation	14	65	<.001

became creationists might not have been such easy prey for evangelists - it might even be that those who had been born into a creationist household might not have been so willing to stick with their illogical beliefs, although this may be asking too much of the power of the human mind to resist family pressures.

Fully half of E had gone through private schooling rather than the public system, but under a quarter of C; highly significant differences. Of these private schools, many were religious: 9 E-group and 4 C-group had attended Catholic schools, and 6 E and 1 C had attended Anglican/Protestant schools.

A question was asked about tertiary qualifications. Most, in both groups, lacked them (but remember that many of the E-group were ANU students). Of those who had them, the qualifications were more likely to be in economics/commerce or technical fields in C, but in academic fields in E.

Had people's parents influenced their religious views? More E than C said they had, but the chi-squared test does not reach significance. How strong were the respondents' religious beliefs? Very strong, said most of C, but only 14% of E, though 50% of the latter said their beliefs were "moderately strong" - a highly significant difference.

Do they practise their religion, those that have one? Yes, said 71 % of C, but only 29% of E - a fairly significant difference. Apart from the Pentecostals, among creationists there were two Presbyterians, and one each of Catholic, Uniting and Seventh-Day Adventist; in the E-group were 7 Anglicans, 6 Catholics, 3 Uniting Church, one Orthodox and one Presbyterian, also three who were just "Christian". Two of the "doubtfuls" were Anglican, the other two seemed not to know even that much; one mystic was an undifferentiated Christian, the other had no religion.

Unexpectedly, something over a quarter of the C-group did not think they practised their religion, but nearly three-quarters of the Es. Again unexpectedly, some of the Cs did claim that they took the Old Testament in a symbolic rather than fully literal sense; even more curiously, some Es claimed to take it literally!

The question, "Do you believe in Supernatural Phenomena?" seems to be open to some misinterpretation unsuspected by us, as two creationists said they did not! There was even one creationist who claimed not to believe in a Divine Being; is there some hidden agenda in this question?

Most Cs and a surprising proportion of Es had had a Mystical or Spiritual Experience; and so, unsurprisingly, had both our two "mystics". (Unfortunately, we did not ask specifically whether anyone had been "born again", but this could well be

what the mystical experience related to in some cases.)

And Astrology - only two CS believed in it, one of them (a Pentecostalist, unlike the other) adding quite firmly, "But it is demonic". Eight Es believed in it, an encouragingly low number, but remember that a fair number of the Es are at ANU, among the Intellectual elite" of the country if not the world, etc etc.

Fair-minded to the last, the Cs overwhelmingly believe that science and religion can be combined; rather fewer Es do (but the difference is not significant). The superficially fair-minded view, that both Creationism and Evolution should be taught in the classroom, was advocated by most Cs; a little over half the Es thought creationism should be taught, too - indicating how insidious this appeal to "balance" can be. When it came to whether the two should be given equal time, however, most Es thought not; Cs overwhelmingly said, yes, equal time, though three said creationism should be given less (or even no) time, and three even thought it should have *more* time.

Now comes a really testing item on the questionnaire: "Which of the following is to be taken in an historical sense? (Circle as many as you like.) Adam; Jonah; Jesus; Julius Caesar". Cs mostly believed that all four were historical; only two Es did.. The response we would have thought most plausible, ie Jesus and Julius Caesar only, was given by 21 Es; 14 Es thought only Julius Caesar was historical. Then there were the bizarrely unpredictable ones. One creationist thought only Jesus to be historical; one opted for Caesar only; one for Jesus and Caesar only; one for Jesus and Adam only. An E said Caesar and Adam only; another, Jesus and Adam only. Have we been getting it wrong all this time? Was Julius Caesar just an idea in the mind of Suetonius or Shakespeare? Or indeed, was the author of "De Bello Gallico" simply a product of his own imagination?

Four Cs said that the Earth is 4,500 million years old, but most said it was young (6,000 to 20,000 years, or occasionally one million). How did life begin? With micro-organisms said most Es (or some corrected this to mention DNA) but only one C; nearly all Cs thought it happened as described in Genesis, but no Es did. There were a few other explanations, too, such as "with distinct species of ancient creatures", but this was not a highly subscribed view.

And how long will life continue? All Es think at least 1,000 years, perhaps indefinitely; many Cs think less than 100 years (a few adding that it is in God's hands), which may be surprising considering that the Bible says the Second Coming will be followed by a thousand years of the Kingdom of God on Earth.

A maverick creationist said the world was due only

to natural processes, but most admitted the hand of a Designing Power. Most did not, however, agree that there might be an “unknown power”, rather than a Biblical God, playing a part in the design and destiny of the world; but nearly half the Es did, and of course both of the “mystics”.

“Evolution is disputable”, most Cs said, and two-thirds of the Es as well; do non-creationists really mean that, or is there some philosophical depth that we haven’t appreciated in that question? And did four creationists really mean that it is not disputable? - did they mean “there’s no dispute, it’s untrue”?

Next, two tests of scientific knowledge. One simply asks people to rank, in descending order, the obligatory ranks of zoological taxonomy: Kingdom, Phylum, Class, Order, Family, Genus, Species and Subspecies. Not something that your everyday Jack or Jill would know, but most people with at least a basic understanding of the natural world would have a vague inkling. Not a single C got it right, but 4 got it nearly right (with just a single reversed pair); 8 Es got it right, and 8 nearly so. The difference was significant.

The second test was not so value-free: did humans and dinosaurs inhabit the earth together? It used to be an article of faith among creationists that they did, though it has recently taken a battering. Most Cs, however, still believe it; most Es do not - another highly significant difference.

As a final test of biological understanding, we thought we would ask people if they could state what they thought were meant by the terms “Natural Selection” and “Mutation”. Most people got the first one right: some variant of “Survival of the Fittest” seemed to be well known to most respondents. Not so with Mutation, however: only four Cs got it correct, that it is simply a change in the genetic material, but nearly two-thirds of Es did. The most frequent response of Cs was that it was some kind of defect; but when we tested the significance of this response between the two groups, restricting the test to those who did not get the answer right, it did not reach significance. Our hearts went out to a 14-year-old C-group girl who wrote lamely alongside Mutation: “Don’t understand”. What chance have such children got?

The question of what creationists actually do believe seems not widely understood - even by creationists. “Do creationists believe that two different kinds of animals could have a common ancestor?” was the question; over a third of Cs thought that, yes, they did so believe, more than the number of Es. Is authority slipping in creationist circles?

Throughout the survey, we met with a wonderful

array of offbeat opinions. When will the world end? “Tomorrow”, said one; “It already has, only we don’t know it”, said another (neither of them creationists!) And the last word was on the question of whether creationists believe different species can have common ancestors, which we headed: “What do Creationists believe?”. One (non-creationist) respondent, for whom we have much sympathy, scrawled in large letters, “God knows!”.

To round it all off, we addressed three questions to Cs alone:

- “As a creationist, do you want to know more about the development of life on earth than is revealed in the Bible?”. 28 did, but 5, rather chillingly, did not. They were satisfied in their own little cocoons, not for them the real world.

- “Could God have used evolution in creating the world?”. 15 admitted he could have done (“but he did not” said a few, and “only in a small way” said two), but 17 said he could not.

- “Could God have created the earth with the appearance of ‘age’?”. 21 said yes, 9 said no. Evidently Gosse’s “Omphalos” model is ready and waiting in the wings, just in case the evidence that the earth is indeed very old becomes irresistible even to creation “science”.

Discussion

The most useful function of a survey like this may well be to identify and categorise the typical creationist; or more importantly the potential creationist.

The survey shows that the standard creationist comes from the public education system, may well be foreign-born, comes into the circle (ie was not much influenced by his/her parents), lacks tertiary qualifications (or, at least, academic ones), often did not even finish secondary schooling, rejects astrology, has had some kind of mystical/spiritual experience, and of course believes in the literal truth of the whole of the Bible.

With less academic experience, no great intellectual confidence, no advantages in life, perhaps even starting out as a stranger in a strange land, what defences has such a person against creationist evangelism?

He or she is convinced that creationism is open-minded and fair: science and religion can be combined readily, evolution is open to dispute, creationism and evolution should be given equal time in school classrooms.

But he or she is notably ignorant about what science really shows: the earth is young, dinosaurs lived alongside people, the niceties of zoological taxonomy are a closed book, and what biologists really mean by

Mutation is misunderstood. They are even a little bit confused about what they are supposed to believe about the natural world.

The “fair-mindedness” is, therefore, held from a position of ignorance; that they are advocating equal time for nonsense is lost on the average follower of creationism.

That is not to say that all is well with the logical capacities and thought-processes of what we think of as “normal” people (noncreationists, that is). There is widespread misunderstanding of natural science. The creationist threat is poorly understood: look how many back up the creationist aspiration for “equal time”! Some don’t know what creationism actually is, and may even be under the impression that they are themselves creationists, when they are in fact religious believers without any prejudices about science.

We think there is a long way to go before we can be content that society has adequately helped its disadvantaged members, and before the general public stumbles upon the real nature of creationism.

Vol 9 No 1 - 1989

BOOK REVIEW

Science and Earth History: The Evolution/Creation Controversy

by Arthur N. Strahler (Prometheus Books, 552pp)
Alex Ritchie Australian Museum

Arthur Strahler, a former Columbia University geology professor, has written what he admits is “a very strange book”, one that would have been unnecessary over 10 years ago. He wrote it after becoming aware of the increasing threat to science education in the United States posed by “scientific creationists”.

Strahler sets out to examine, in detail, creationists’ claims of scientific evidence for the 6-day Divine Creation, of the universe followed by Noah’s Flood as outlined in Genesis. Strahler draws on the latest findings of mainstream science in physics, cosmology, geology, palaeontology and evolutionary biology.

He prepares the ground by reviewing the philosophy and methodology of empirical science which he contrasts with that of religion and pseudoscience. The criteria distinguishing science from pseudoscience are defined. After a detailed review of the history and

recent revival of “creation science”, the main part of the book presents the great discoveries, principles and theories of modern earth science and the unequivocal evidence for an earth over four billion years old

Because the same creationist elements are also at work in Australia, trying to infiltrate their religious beliefs into the school curriculum under the guise of “Flood Geology”, Strahler’s book has immediate relevance here also. Unlike many American science books where Australia never gets a mention, Strahler discusses recent Australian creationist articles in *Ex Nihilo* by Mackay, Setterfield, Snelling, Weiland, etc. He analyses them in detail and convincingly refutes them. His “very strange book” is thus invaluable to everyone interested in the practice and teaching of science (not just earth science) in Australia.

The 54 chapters, arranged in nine sections, cover virtually every significant aspect of earth sciences and related evolutionary topics: Science and Pseudoscience; Creationism, its roots and tenets; Cosmology and Astronomy; Geology and Crustal History; Origin of Landscapes; Stratigraphy and the Fossil Record; Integrity of the Evolutionary Record Under Attack by Creationists; The Rise of Man and the Emergence of the Human Mind; The Origin of Life on Earth - Naturalistic or Creationistic?

In each section, Strahler compares and contrasts the scientific evidence with equivalent creationist explanations. He draws on a wealth of information from many sources not readily available to most readers. He combines an encyclopaedic knowledge with an enviable ability to organise and present an enormous amount of information in an accessible and very readable form. Strahler is firm but fair with creationists and scientists alike. He doesn’t hesitate to take both to task for carelessness and arrogance in presenting their case.

This is a “fun” read, packed with fascinating facts. I found myself hooked, delving into it at random, and surfacing considerably later. In the process of discovering why creation “scientists” are up the creek without a paddle the reader will painlessly and enjoyably absorb a great deal about earth history. The text is fully illustrated with figures, tables, relevant quotations, and extensive literature citations. Extensive cross-referencing in the text and separate indexes for individuals and subjects make it easy to locate items.

This volume is a “must” for everyone seriously concerned by the creationist threat to science education in this country. It should certainly be in every university, public and high school library. If you have the opportunity, please recommend it. School librarians should not be deterred by the price! This may be the

best investment a school library will make this year, especially if it prevents just one promising student from being turned away from science by creationism by exposing it as a pseudoscience resting on religious premises.

On the assumption that many creationists monitor the columns of *the Skeptic*, I strongly recommend Strahler's book also to bible colleges and to all who sincerely believe that creationism has a place in science classes of public schools. It may not change your views but you will appreciate more clearly why scientists vehemently and almost unanimously reject young-earth creationism as a valid scientific interpretation of earth history and evolution.

Vol 9 No 2 - 1989

Creationist Credibility Crisis Part I

An Experiment with Creationist "Science"

Ian Plimer

Creation "science" claims that the Earth is thousands of years old (in contrast to the measured age of 4600 million years), that fossils and sedimentary rocks were formed in a Great Flood (thereby negating all life sciences, all earth sciences and all physical sciences) and that catastrophes (eg. Great Flood, volcanic eruptions) demonstrate that geological processes are far faster than calculated by scientists.

Creationists claim that there are two world views on the origin of life, that the balance of scientific evidence weighs in favour of a special creation, that eminent scientists support their thesis, that the Bible and the science therein is a literal view of creation, and that their dogma should be taught on an equal time basis with evolution to every school science child.

Even more surprisingly, creationist leaders (who represent the political arm of fundamentalism) actually claim to be Christians.

Skeptics, scientists, the US Courts and educators have demonstrated that creationism is fundamentalist dogma dressed up as science and is an attempt by fundamentalist sects to have guaranteed access to every school child. The experiment described herein is a very simple test of the credibility, the scientific strengths and honesty of the creation "scientists" who

are directors of the Creation Science Foundation.

Hypothesis

Creation "scientists" distort, misquote and lie about the existing body of scientific fact, communicate by half truths and innuendo, fabricate data, create 'scientific facts' ex nihilo, undertake no new research, fit their 'facts' to preordained dogma and do not critically examine their own ideas.

Experiment

Provide Australian creation "scientists" with a common rock specimen and wait for the published 'science' to appear. The specimen provided was a piece of diamond drill core of tuff from the Permian Newcastle Coal Measures. My specimen was sent to Carl Wieland of the Creation Science Foundation on July 23, 1988, by John Holland, geologist and close personal friend, currently a school science master. John Holland provided the perfect front as he teaches in a church school and was once an unwilling recipient of a gift subscription to *Creation Ex Nihilo*.

My specimen showed a papery aggregate of a fibrous clay mineral (palygorskite) within the tuff. I have the other half of the specimen, I wrote the covering letter and I took photographs sent under separate cover to the CSF.

Tuff is solidified volcanic ash and paper is a relatively modern invention. The Permian tuff in the Newcastle Coal Measures has been dated by various radiometric dating techniques at 250 million years old, a figure in accord with the ages of the marine and terrestrial fossils from the host sequence. If tuff actually contained genuine fossilised paper, it could be argued that the age of the host volcanic ash was wrong (ie. all earth and physical sciences are wrong) and that great catastrophes have accelerated geological processes.

The fibrous clay mineral palygorskite could be identified using a magnifying glass, a hand lens or a microscope. All this state-of-the-art sophisticated scientific hardware surely must be available to the "scientists" pushing back the frontiers of knowledge in the Creation Science Foundation, especially as the CSF claims (in their Memorandum and Articles of Association) to be a research and educational organisation. Alternatively, the CSF could use a simple, cheap, rapid, standard identification procedure (X-ray diffraction) on 20 milligrams of the specimen to provide a positive identification.

Results

A two page letter dated August 19, 1988, was received by John Holland from Andrew Snelling who replied on behalf of Wieland and described himself as

‘the geologist on staff’. Andrew writes ad nauseam about fossilised paper, a very significant discovery, and “... what appears to certainly be a piece of thick paper or cardboard imbedded in this rock.” Page 3 in *Creation Science Prayer News* of October/November 1988 (which has a larger readership than *the Skeptic*) in a segment entitled Research News, under the subheading ‘Getting it Right’, states:

“Ongoing creationist research is vital, but is even more vital for the cause of Christ to ensure that it is as accurate and complete as possible.”

A later section in Research News under the subheading ‘Paper in Rock’ uses one of my photographs of the specimen and refers to paper sandwiched between rock layers and states:

“This wouldn’t matter much, except the rock is supposed to be more than 200 million years old. Consequently the evolutionary geologists can’t allow it to be paper because man supposedly wasn’t around then. They conveniently ignore it as an oddity.”

The Research News concludes:

“Please remember to pray for, and support, our research efforts. Pray that Dr Andrew Snelling and others will have enough time in their busy schedules to do the research and writing so vital to CSF’s ongoing ministry, and for the wisdom and insights needed to ‘get it right’.”

Discussion

The ‘science’ performed by the ‘eminent esteemed’ creationist Snelling did not consider that:

- a) Paper would burn in hot volcanic ash.
- b) Either the pre-1788 indigenous Australian population had paper and kept this fact cleverly disguised until the great Andrew Snelling undertook his ‘rigorous research’ and ‘got it right’, or the post-1788 population of eastern Australia didn’t notice or record that they were inundated by 10 metres of hot volcanic ash.
- c) Previous publications in the CSF’s literature report ‘fossilised iron bolts’ in the Newcastle Coal Measures which were used to demonstrate ‘proof’ of the Great Flood. As iron was brought to eastern Australia post-1788 and solid fossiliferous rocks were first recorded from the Newcastle Coal Measures in 1791, the Great Flood must have occurred between 1788 and 1791. It appears that the residents of eastern Australia did not notice that they were covered by 5

km of sediment sometime between 1788 and 1791.

d) Inundation simultaneously by an extensive mass of hot ash and 5 km of sediment are mutually exclusive.

e) Skeptics should check the CSF’s ‘scientific’ fabrications in the same way they check psychic predictions, numerologists, astrologers and other charlatans of similar ilk.

f) My prayers were answered and not those of the readers of *Creation Science Prayer News*.

Conclusions

My case rests. Creation “scientists” distort, misquote and lie about the existing body of scientific fact, communicate by half truths and innuendo, fabricate data, create ‘scientific facts’ ex nihilo, undertake no new research, fit their ‘facts’ to preordained dogma and do not critically examine their own ideas.

It is suggested that the coffers of the Australian Skeptics be plundered and a magnifying glass be purchased for presentation (with due pomp and ceremony) to Andrew Snelling.

Vol 9 No 3 - 1989

Creationist Credibility Crisis Part II

The double blind test

Ian Plimer

Readers will recall Vol. 9 No. 2 of *the Skeptic* wherein I set about to prove the hypothesis that Creation “scientists” distort, misquote and lie about the existing body of scientific fact, fabricate data, create “scientific facts” ex nihilo, undertake no new research, fit their “facts” to preordained dogma and do not critically examine their own ideas.

The Creation Science Foundation were provided with a common rock specimen on July 23, 1988 comprising a fibrous clay mineral which looked like paper. Without testing, examining, undertaking research or soliciting a mineralogist’s opinion, Andrew Snelling (director, CSF) published an article about this specimen under a subheading “Paper in Rock” in the October 1988 issue of *Creation Science Prayer News*.

I quote from this article: “This wouldn’t matter much, except the rock is supposed to be more than

200 million years old. Consequently the evolutionary geologists can't allow it to be paper because man supposedly wasn't around then. They conveniently ignore it as an oddity."

This was the test of creationist credibility which Andrew Snelling failed miserably. Most simple scientific tests have a double checking procedure, generally in the form of a double blind test. The credibility of the Australian creationist movement was also exposed to this double checking test and the results are described below.

Chronology

July 23, 1988 - Specimen of "paper in rock" sent to Creation Science Foundation from a safe source (see Vol. 9 No. 2 of *the Skeptic*).

July - October 1988 - "State-of-the-art" research by the Creation Science Foundation.

October 1988 - Publication of their results undertaken by Andrew Snelling. This "research", from one very doubtful rock specimen received unsolicited in the mail, showed that all science and history are incorrect. Results of their "discovery" of "paper in rock" were communicated to the CSF's lay audience in their own broadsheet *Creation Science Prayer News* under a section titled "Getting it right".

December 1988 - Plimer writes the article on "paper in rock" entitled "Creationist Credibility Crisis" and submits it to *the Skeptic*.

March 25, 1989 - Plimer addresses the Annual Convention of the Australian Skeptics on "Creationist Credibility Crisis" but only describes Part I of the experiment on creationist credibility.

April 19, 1989 - Andrew Snelling presents his normal creation "science" case at the Bendigo CAE. Plimer arranges for Patrick Lyons (Western Mining Corporation geologist) to challenge Snelling at question time about the "paper in rock". A vigorous exchange results. Plimer anticipates this exchange and arranges for Lyons to inform Snelling that the "paper in rock" is the mineral palygorskite. Knowing full well that the mineral was not palygorskite, Plimer sits back and waits for Snelling's retraction.

May 1989 - Under the heading "Research News" in *Creation Science Prayer News* is an article about "'Paper' in rock". There is no admission that the data was made up, no retraction and no apology to the Christian lay audience who were misled by the leaders of the creationist sect. Instead we read: "Because the sample contained what definitely looked like thick paper or cardboard, there was always the temptation to rush into print and sensationalise the discovery." Elsewhere we read: "However, information now to

hand suggests that it is highly likely the 'paper' may be the mineral palygorskite ...".

May 1989 - Publication of the article in the Winter 89 issue of *the Skeptic* on "Creationist Credibility Crisis" which demonstrated Snelling's use of fabricated data. The article only contained Part I of the credibility test.

Double check of creationist credibility

The specimen in question contains neither "paper in rock" nor the clay mineral palygorskite. It contains attapulgite, a clay mineral very similar to palygorskite. Attapulgite is used as "cat litter" and it would be tempting to write that the creationists are up to their neck in it.

Simple hand specimen examination can clearly demonstrate that the material is a clay mineral and in the attapulgite-palygorskite group. The technique for differentiating the two is a simple, cheap, well-known technique (X-ray diffraction) which would cost the CSF only \$20 if they were genuinely concerned about "getting it right". Andrew Snelling has a PhD in geology from the University of Sydney and has presumably been taught the X-ray diffraction technique and has used X-ray diffraction. It would have taken two minutes of Snelling's time and \$20 of CSF money to get it right, however the CSF apparently chose to fit "facts" to their preordained dogma.

Discussion

The sequence of events described in this article shows that the CSF published the discovery of "paper" in rock after receiving an unsolicited sample from an unknown location. After considerable time and after receiving further hearsay evidence, the CSF, in an apparent endeavour to save some vestige of credibility, then published the statement that the "paper" "may have been" palygorskite. As it happens, the material is attapulgite.

It is quite clear that at no stage was any research carried out into the nature of the substance contained in the rock sample. A very simple test would have revealed that the substance was not paper. A slightly more complex test would have shown that it was not palygorskite.

If we consider that the discovery of paper in a rock sample would have provided strong evidential support for the fundamental hypothesis of creation "science", ie that the Earth is young, then it is incredible that no research into this phenomenon was conducted. Failure to do this research gives a great deal of support to Plimer's contention that the CSF is not interested in science, research or in facts, but is merely concerned

with the publication of “facts” that fit a preconceived dogmatic position.

Conclusions

The CSF has been fooled not once but twice by the same sample. It has proved that it is unable to distinguish between cat litter and paper, which might suggest to the more perceptive of its supporters an alternative use for the CSF’s many publications. It will be interesting to see just what explanation, if any, the CSF can offer to its adherents for its lamentable failure to verify its conclusions and to learn by its mistakes.

Of itself, it is unimportant that the CSF is so ignorant of scientific procedures that it can be fooled so easily (scientific illiteracy is not a crime - it is just a shame). It is not even of much importance if the CSF should choose to promulgate specious “facts” to its subscribers, who always have the option of not renewing their subscriptions.

What is of concern to the rest of us is that the Creation Science Foundation should publicly proclaim itself to be a body involved in scientific research and that it should seek, using political tactics, to have its peculiar brand of pseudoscience included in the science curricula of our nation’s schools.

It has not been a good year for creationists. It is easy to understand why the mainstream churches feel that the creationist sect is extremely damaging to Christianity, especially as the creationist leaders actually claim to be Christians.

The perverse haste of creationists to publish their “science” (October 1988) and their feeble, face-saving retraction (May 1989) again demonstrated their lack of respect for truth. Other examples are numerous. For example, the March 8, 1989 issue of *The Australian Baptist* (Vol 77, No 5, p.6) contains a letter by Carl Wieland (managing director, Creation Science Foundation) wherein he informs many of his sect’s supporters that the CSF knowingly promoted their booklet of quotes by scientists (“The Quote Book”) despite an unacceptable number of errors and the fact that this booklet has been described by scientists as “a pack of lies”!

Such experiments on credibility Skeptics have undertaken with water diviners, numerologists, faith healers, creationists and other charlatans of similar ilk. Such experiments are easy - the dishonesty of creationist leaders is infinite and their amoral behaviour is so predictable.

Skeptics who ask “what is next?” will just have to wait.

Vol 9 No 4 - 1989

Anti-creationists: the untold story

Barry Williams

The latest issue of *Creation Ex Nihilo*, the Creation Science Foundation’s answer to *Pravda*, contains a renewal form, headed “You won’t want to miss future EXCITING ISSUES of CREATION magazine. Look at what you’ll see in future issues”.

Apart from telling us how “an Australian creationist has discovered the secret of ‘growing ‘opals’, future issues promise us “The anticreationist lobby: the untold story” which goes on to state “The main attacks on creation science in Australia come from a well-organised group. Those involved portray themselves as concerned individuals dedicated to protecting ‘true science’. But there is an eye-opening other side to the story.”

I can’t speak for the other “well organized” members of this group, which include the Anglican, Catholic and Uniting churches, various science teacher’s associations, the Humanist Society, the overwhelming majority of scientists and theologians, and most other people, but I can say that the only things that are hidden in Australian Skeptics’ agenda are directly attributable to the Hon Sec Harry Edwards’ handwriting.

I, along I suspect, with assorted archbishops, can hardly wait for the startling revelations.



Random Musings of a Creationist Watcher

Sir Jim R. Wallaby

I

Have you ever stopped to think about the evolution/creation debate from the perspective of a person with both scientific training and an emotional commitment to “scientific” Creationism? As a scientifically trained person, he could not fail to be aware that the evidence in support of Creationism is tenuous to the point of non-existence. He must also be aware that, even if the bulk of currently accepted biological, physical,

chemical, geological, archaeological, anthropological, etc, theories could be proved to be grossly in error, the case for Creationism would not be advanced one iota. If the scientific paradigm is destroyed, far from being left with Creationism as the only alternative, we are in truth left with Creationism competing with a multitude of other mystical, mythical and magical world views, none of which is testable.

Surely the sufferer from this dichotomy must be in a constant state of mental turmoil, with his intellect telling him one thing and his emotions telling him something totally contradictory. Perhaps, like the character in “Alice”, he trains himself to “believe three impossible things before breakfast”.

II

The other day, while trying to earn an honest dollar by the sweat of my brain, I chanced to overhear a conversation between a colleague and a visitor. The topic was astrology and the consensus seemed to be that “There must be something in it”.

Before I was invited to contribute to the discourse and because of the diplomatic skills for which I am justly famous, I resisted the impulse to give the pair into the hands of a passing constable, for their own protection. “Astrology,” I informed them, “Is a spurious load of rubbish, indulged in by the feeble minded to preclude them from having to take responsibility for their own actions. There is no evidence for its veracity and considerable evidence to the contrary,” quoting liberally from the works of Carlson, Ianna, Dean and others.

Not at all disconcerted by my kindly interruption, my colleague then enquired as to my disposition towards numerology. Retaining, with some effort, my normally dignified composure I explained that, while there might possibly be some superficial justification for a belief in astrology, no-one with sufficient nous to be able to tie his own shoe laces could possibly ascribe any possible relevance to a mystical power of numbers.

At this point, the visitor interjected “But there is a great deal of accurate numerology in the Bible.”

Temporarily nonplussed by this assertion, I countered with the observation that the Bible was no more a numerological treatise than it was an accurate history of its times. That to believe in Biblical numerology was equivalent to believing in an Earth that had been made, in six days, a few millennia ago. Such belief in Biblical literalism flew in the face of scientific evidence.

“Aha!”, he riposted (the first time I have ever heard anyone actually say “Aha”), “But scientists are fallible

human beings. God wrote the Bible so every word is literally true.” With visions dancing in my head of a supreme deity seated at the keyboard of a celestial IBM PC, I realised that I was in the presence of a creationist who also believed in astrology. Realising the futility of continuing the conversation with someone so divorced from reality, I sought to withdraw. His parting shot left me stunned.

“If you don’t believe in the literal word of Almighty God,” he thundered, “then you must be a communist.” The perfect non sequitur! Because I rejected one irrational dogma, he could only assume that I must adhere to another untenable ideology. He could not encompass the thought that some people were capable of independent thought.

That set me to cogitating on the phenomenon in which I had just participated. Here we have an individual who espoused two irrational beliefs that I had hitherto regarded as mutually exclusive. Was it not true that fundamentalists hated occultists and vice versa? It certainly is my experience that members from each of these camps applaud the Skeptics for their exposure of the other camp.

The answer to the conundrum is, of course, blindingly obvious. Far from one belief excluding the other, the sort of mind that would find astrology attractive is precisely the sort of mind that would find creationism appealing. The only difference is in the conditioning. You believe one, or the other, but usually not both, because when you fall under the spell of one belief, you are abjured never to believe the other.

The promoters of all these irrationalities know that there is only a limited market of gullible souls out there, so they fight, like two soft drink companies, to establish the larger market share of this limited, deluded market. What a strange old world we inhabit.

III

Talk of scientists and communists reminded me of an event a long time go, when I first became tangled up with these Skeptics chappies. I received a letter which posited an extraordinary hypothesis.

My correspondent referred to the case of one Lysenko, a favourite of the late and unlamented Stalin, who had been appointed as head of the Soviet agricultural science program. Lysenko had a sort of Lamarckian view of biology, presumably because this was more in accord with the sacred teachings of Marx than was the case with Darwin. As a result of this, politically sound genetics was taught in the USSR, to the great detriment of Soviet agriculture. Lysenko survived Stalin by a few years, but eventually, because

scientific results depend more on scientific soundness than on any political ideas, he was found out and sacked.

What, my correspondent wanted to know, had happened to all those Soviet scientists who had been trained during the years of Lysenko's ascendancy? Here he proposed his extraordinary theory.

Because they were scientifically incompetent, he suggested, they had been recruited by the KGB and sent to the US as undercover agents. Their purpose was to seek to undermine the scientific credibility of the West. As no-one in the West was likely to fall for Lysenkoism, the logical thing to do was to tap the undercurrent of religious fundamentalism that flows, not too deeply, beneath the surface of the American psyche and to propose an equally preposterous but politically acceptable pseudo-scientific alternative to evolutionary biology. That, he averred, was how creationism had received its renewed impetus in the USA.

Naturally, I then regarded this idea as a particularly weird example of the conspiracy theory and I think I still do. Still, the timing is about right, the use of political clout to get untenable scientific ideas accepted is rather familiar, western science will surely suffer if the creationists win and there are a lot of parallels between Lysenkoism and Creationism.

But no, I must be getting a little paranoid in my declining years. Mustn't I?

Sir Jim R. Wallaby is renowned for the randomness of his musings, which owe more to Thalia than to Calliope.

Vol 10 No 1 - 1990

The CSF Summer School

Alex Ritchie

Dr Alex Ritchie, curator of fossils at the Australian Museum, reports on the Creation Science Foundation's Summer School, which featured a "big gun", a palaeontologist who studied under leading evolutionist, Stephen Jay Gould.

I was first alerted to the CSF's 1990 Summer School by a reporter from *The Australian* seeking my opinion on Dr Andrew Snelling's claim that Ayers Rock

formed in the one year of Noah's Flood!

The Summer School was held at Wesley College, Sydney University, from January 8-13, 1990. The Summer School lead speaker, brought out as usual at great expense from the US, was Dr Kurt Wise of Dayton, Ohio. I first met Dr Wise in the studios of ABC Radio 2BL on Tuesday, January 9 for a half hour debate on science and creationism compered very fairly by Andrew ("The Money Or The Gun") Denton.

Kurt Wise was accompanied by Dr Carl Wieland, founder and current director of the CSF. I was intrigued that it required two creationists to confront one evolutionist but decided to regard that as a compliment. As the debate progressed, it also proved to be a bonus because Carl Wieland (acting as fundamentalist commissar) dumped Kurt Wise right into it several times with leading questions, to the latter's obvious discomfiture.

Wieland's main problem was that Dr Wise is that rare beast, an intellectually honest and straightforward creationist with good scientific credentials. Wise doesn't hesitate to give a straight answer to a straight question, even when it may reflect poorly on the creationist case.

After the debate, I had an opportunity to talk to Dr Wise, whom I found to be pleasant, courteous and scientifically knowledgeable in palaeontology. He is a Chicago and Harvard graduate and a student of Stephen Jay Gould, a fact milked for all it is worth by the CSF, but Wise was clearly uncomfortable with this emphasis. Knowing he was scheduled to give a talk entitled "Am I a Monkey's Nephew - Fossils and Human Evolution" on the Thursday evening session, I invited him to visit the Museum and see our fine new human evolution gallery, "Tracks Through Time", but he doubted if he would have the opportunity.

In the next two days, I was interviewed on several radio programs countering creationist claims. Dr Tim Flannery, Australian Museum mammalogist, also had two radio interviews. In one of these he followed and effectively demolished Andrew Snelling, who was foolhardy enough to claim that the Bible was not only literally true but also internally consistent, a claim that Tim was happy to refute with examples, chapter and verse.

Summer School sessions

The Summer School program featured the usual mixture of topics in a heavy six day program. Although the program boldly stated "It's for everyone - layman or scientist", few scientists of my acquaintance even knew it was on. Unlike ANZAAS (the annual conference of the Australian New Zealand Association

for the Advancement of Science), it was not advertised in scientific circles. As usual, I got the clear impression that real scientists were the last people that the creationists want to attract to their meetings.

Each conference day began with devotions (8.30 am), followed by five lecture and/or film sessions running from 9.15 am to 9.30 pm (with tea/meal breaks), ending with a panel/discussion session at 9.30 pm! One has to admire creationist stamina, if nothing else.

I decided to attend two talks in the Thursday program having neither the time nor, frankly, the stomach to attend more. From previous experience of CSF meetings, I suspected (correctly as it proved) that there would be little or no opportunity for questions or debate during or immediately after each session. The only time allocated for questions was the 9.30 pm panel/discussion session. Creationist devotion to ‘free speech’, so loudly proclaimed in their media releases, is seldom extended to others, especially scientists who seek to question them publicly.

As a geologist/palaeontologist of 35 years experience, I went to hear Dr Snelling (BSc [Hons] Geology, University of NSW, PhD Geology, University of Sydney) talk on “How Old is Everything?”, a fairly important subject to all geologists. I was intrigued to hear a qualified geologist defend the idea that the earth was formed in six days, 6000 years ago, then destroyed and rebuilt in a one year worldwide Flood around 2345 BC (during which year, according to Snelling, Ayers Rock was formed).

At my suggestion, Dr David Hendry, supervisor of Dr Snelling’s doctoral research, also attended the talk. In fairness to Dr Hendry, it should be noted that his former student’s conversion to young-earth creationism and evangelism only became apparent after Snelling left Sydney University. David Hendry, a geologist and geochemist, is conversant with dating methods used by scientists of all denominations worldwide.

Snelling’s talk, first in the morning program, was presented to an audience of about 120 people and was a travesty of geology. Snelling used all the time allocated, quoting from increasingly fatuous examples, and deliberately leaving no time for questions.

The chairman, Dr Wieland, quickly tried to close the session for morning tea. As one of three qualified geologists in the audience, I objected loudly. When I requested the right of reply to some of Snelling’s more ludicrous ‘geological’ statements, I was informed that I could only do so during question time at 9.30 pm, 11 hours later! I stood my ground and appealed to the audience for a fair hearing and received sufficient

support that I was permitted to speak. Using Snelling’s own block diagram of Grand Canyon geology on an overhead projector, I asked him to explain how such a complex geological structure could be formed in a one-year Flood. The answer, from a ‘qualified’ geologist, was pathetic.

Dr Hendry followed me, introduced himself and his relationship (as supervisor) with the speaker. He sought permission to comment on some of the incredible dating methods cited by his former student, all of which gave ‘ages’ under 6000 years for the earth, not to mention the sun, moon and stars. Not only was he refused, he was shouted down, surrounded and even physically threatened by a member of the audience.

It was a very unpleasant experience. To Snelling’s everlasting shame, he meekly stood by and made no effort to intervene to defend his supervisor and former friend. For David Hendry, attending his first creation ‘science’ meeting, it was also a very enlightening one, especially concerning creationist’s interpretation of ‘free speech’, especially on university premises.

I was intrigued to read the subsequent creationist version of the event in the CSF’s *Creation Prayer News* report on the Summer School:

Disruption

An unfortunate but short-lived disruption towards the end of one of the day-time lectures caused many attendees to tell us afterwards that it had increased their resolve to pray for us and heightened their awareness of the crucial spiritual nature of this battle.

And to think that David Hendry and I believed we were asking a ‘qualified geologist’ to answer simple, straightforward questions on geology! Now I begin to understand why Andrew Snelling has been running ever since I publicly challenged him to a debate on Flood geology.

Kurt Wise’s talk

Undeterred by the morning unpleasantness, I decided to attend the evening session to hear the visiting American spokesman, Dr Wise, speak on fossils and ‘human’ evolution. Since I was heavily involved in preparing the “Tracks Through Time” gallery, I was interested to hear a creationist interpretation of the subject. Dr Wise, who had been present at Snelling’s talk, and who was clearly upset by the unpleasant affair involving Dr Hendry, assured me that I would be able to ask questions after *his* talk.

I am delighted to report that it was a most enjoyable experience, and everything that the morning session was not. Unlike his Australian colleague, Dr Snelling,

Kurt Wise had thoroughly researched his topic and presented it absolutely fairly, from both the creationist and scientific points of view.

He introduced his talk by stating bluntly that he had good news and bad news for his (largely creationist) audience of about 500 people. The good news was that he felt the human fossil record could be accommodated within the Creation model; the bad news was that the fossil record could not be ignored, and should not be misrepresented, by creationists. He frankly admitted that much more work remained to be done by creationists, especially on the age aspect.

Wise considered most Mesozoic and Cainozoic rocks to be 'Flood' deposits. He stated categorically that most supposed human remains or artefacts claimed to have been found in such sediments should be considered as unproven. He approached the topic systematically and, within the constraints of his creationist beliefs, with considerable intellectual honesty. I try to present his argument fairly, having taken comprehensive notes of his talk.

1) Why are there are no human remains in Flood sediments?

Since one of the stated purposes of the Biblical Flood was to destroy humans, and the same Flood also killed enormous numbers of animals (whose remains are preserved as fossils), absence of fossil human remains in such deposits must be explained. There were various possible reasons:

- a) Probability - some creationists estimate there were up to four billion people on earth before the Flood, so why no trace of their remains? If they were drowned and distributed evenly through the top two kilometres of sediments statistically one might expect only three or four skeletons at the surface at any point in time, assuming all those drowned were preserved as fossils.
- b) Differential mobility - lower sediments in crust contain mainly marine organisms, in fact the vast bulk of fossils are of marine organisms anyway, for obvious reasons. Humans didn't wait around, tried to escape the rising waters, and may have selectively survived until the deposition of later sediments. Anyway, most human skeletons would break up and disintegrate before burial.
- c) Differential suspension - land animals tend to sink and float several times before finally sinking, and are thus often destroyed instead of being buried and fossilised.
- d) Lay claims - most claims of supposed pre-Cainozoic human 'fossils' or artefacts were made by lay people, not palaeoanthropologists. Usually the original matrix has been removed and the specimens thoroughly

cleaned, removing all evidence of original context and rendering them worthless as evidence. (Kurt Wise reminded his audience that fossils out of context are also worthless, as he experienced when working as a student in the Field Museum of Natural History Chicago.)

e) Preferential Divine destruction - since the purpose of the Flood was to destroy utterly most of humanity, the Creator might also have wanted to selectively destroy all subsequent fossil evidence of them because such relics might later have been used for worship - so the destruction had to be complete!

Wise concluded, from the above, that the discovery of human finds in Flood sediments was improbable. He then turned to the acknowledged hominid fossil record (presumably post-Flood).

2) No definite hominid fossils before the Pliocene.

Wise said he had studied Miocene primate fossils under David Pilbeam, Harvard University, and agreed that some Miocene primates had many shared characteristics with humans. He interpreted these as "mixed" or "mosaic" animals (or "chimeras") and the gap in pre-Pliocene fossil record leaves roots of humans in an uncertain position.

3) Hominid fossils contain many uncertainties.

Wise said this wasn't a critique of evolutionary theory; he would try to understand and explain hominid fossils in terms of Creation theory. But for purposes of discussion, he would also assume and refer to the scientific ages of such specimens in millions of years (and in the subsequent discussion he did just that, absolutely fairly).

- a) There was great uncertainty in the ages assigned to many important fossil hominid specimens, eg cave finds.
- b) Many, perhaps most, fossils were very fragmentary.
- c) Such finds were extremely rare; the total would fill only a few boxes.
- d) Many fossil finds displayed the same "mosaic" or "chimera" effects as in Miocene primates - also commonly seen in invertebrate fossils. (Wise claimed this could easily be explained under the Creation model, but wasn't easy to understand in the evolutionary explanation, but didn't elaborate on his reasons for this statement.)

4) Reinterpretation of hominid fossil record.

Wise stunned his creationist audience by stating bluntly that all hominid fossils were post-Flood, and therefore they support evolution and diversification in hominids! This means that:

a) Reinterpretation of fossil humans needs to be done by creationists.

b) Radiometric dating also needs re-evaluation; Wise frankly admitted that there is a consistent pattern in the evolution model, but not in the Creation version.

c) Neandertals were not in man's direct lineage; in Middle East sites Neandertals were contemporaries of, not forerunners to, *Homo sapiens sapiens*. Neandertals were thus a human offshoot, cousins but not ancestors.

d) Australopithecines were also not in the human lineage. Australopithecines had a small brain, not significantly different from modern apes, but they were also upright in stature (as shown by their skeleton) and walked upright (as shown by their footprints, eg from Laetoli). The Lucy skeleton and structure shows clear evidence for bipedality.

Wise reviewed Charles Oxnard's work on morphometric analysis of fossil hominids which, he claimed, supported the mosaic or chimera nature of Australopithecines. The presence of curved bones in the hands or feet indicated the ability to climb and swing.

When analysed for locomotory methods (knuckle walking, nonhuman bipedal walking or human bipedal walking) Australopithecines fell out in a separate group from modern humans:

Sexual dimorphism - evidence from Australopithecines isn't clear but suggests a 2:1 sex ratio (as in gorillas, chimps and orangs) but unlike modern humans where it is 1:1.

On other criteria, the African and Asian apes plotted out in separate groups, the clear implication being that our relationships were with the African group.

Wise concluded that Australopithecines did not lie in the lineage of modern man (pointing out correctly that this had also long been the view of the Leakey family) but that they represented other non-human hominids who lived *after* the Flood.

5) *Homo erectus* does appear to be in man's lineage, therefore the Creation model has to accept *H. erectus* as humans. The recent discovery of the almost complete skeleton of West Turkana boy shows *erectus* reached nearly six feet tall. *Erectus* brains were smaller, skulls and skeleton more rugged but there is no doubt that they were *human*.

6) *Homo habilis* may not be in the human lineage - there are relatively few specimens, mostly fragmentary; recent discoveries suggest that there may be more than one species included in *habilis*, eg *africanus*. Other recent '*habilis*' finds (by Johansen

in Olduvai) indicate the arms may have been even longer than Lucy's. The time range of *habilis* overlaps or even coincides with early *Homo erectus*.

In summing up, Kurt Wise admitted it was difficult to explain why so many Australopithecine, and not human, fossils have been found in 'post-Flood' deposits. He suggested perhaps humans hadn't spread far from the Tower of Babel. But he also frankly admitted the difficulty in dating remains. Creationists clearly had to seek ways of reducing scientists' time scale of five million years to the 5000 year post-Flood creationist model but, he said, they were still working to resolve this aspect!

In presenting scientific evidence from hominid fossils, Wise was scrupulously fair but, in his attempts to reconcile his young-earth creationist beliefs with the scientific evidence, he had to resort to some tortuous arguments. It was an intriguing mixture of creationist reasoning and scientific fact.

His audience was clearly stunned by the implication that not only *Homo erectus* people but other bipedal hominids such as the Australopithecines were all post-Flood hominids (and thus lived long after Adam and Eve), and that they somehow had to be accommodated in the human family, even if not in the direct line.

Question time

At question time, there was none of the morning's unpleasantness - I suspect Kurt Wise may have had a word with the CSF organisers. I identified myself, my position in the Museum and my role in creating "Tracks Through Time". I explained that I had come not to scoff but as a sceptic. I said that I had been pleasantly surprised and congratulated Kurt Wise on an absolutely fair presentation of the scientific evidence, despite the obvious problems it caused for the creationist case. Since these revolve mainly around the question of dating, the problem is mainly in the creationist court.

In his courteous, honest responses, Kurt Wise frankly admitted that this was the main problem in reconciling the scientific and creationist viewpoints.

He went on to say that, following our first meeting, he had managed to visit the Museum to see "Tracks Through Time", which he praised highly for its comprehensive coverage and recommended to his creationist audience. By this stage, an increasingly agitated Carl Wieland tried to intervene to get the discussion back on pure creationist lines.

Afterwards, Wise and I retired to a quiet corner of Wesley College for a long discussion on science and creationism over a cup of coffee. We parted good friends, agreeing to differ over certain fundamental

issues (mainly the evidence for the age of the earth and the fossil record) but with mutual respect for each other's opinion.

The subsequent report in *Creation Prayer News* was especially interesting for those able to read between the lines:

“On the Thursday night Dr Wise's uncompromising rigorous academic approach to the evidence even earned him public acclaim from the man responsible for the construction of the 'human evolution' exhibit at the Australian Museum. Though some would have naturally preferred more positive statements highlighting the creationist position on that night, his uncompromising approach to the data only added to the strength of his later presentation on the geological evidence for global catastrophe ...”

Footnote

In *The Sydney Morning Herald* (Jan 16, 1990), their religious correspondent, Alan Gill, reported on an interview with leaders of the CSF Summer School. Mr Gill regretted that the Wesley College telephonist had been abused and the university had been attacked for allowing its facilities to be used for such purposes.

“Whatever happened to free speech?” Alan Gill asked, with some justification. I agree wholeheartedly and I vigorously defend creationists' right to free speech. However, there is another side to the story, one familiar to all who have attended CSF meetings on public educational premises and who have tried to speak freely on the topics being addressed, as illustrated above.

Alan Gill informed me that he did not attend the actual conference but merely interviewed Drs Wieland and Snelling during a break in the conference. Although his article included a quotation from Dr Wise, I discovered, to my surprise, that Gill had not been allowed to interview Kurt even though he was the leading visiting speaker at the conference.

I am sorry that Alan Gill wasn't allowed to interview Kurt Wise. I am sure it would have resulted in a much more constructive, stimulating and thought-provoking article. Instead, we were served up the same old reheated hash from our Queensland-based creationists whose main tactic (I suggest deliberately) is to confuse, not clarify, the differences between religion and science, to the detriment of both disciplines.

On the question of 'free speech', I defend the right of organisations such as the CSF to use university premises. I suggest, however, that their protestations would carry more weight if they extended the same rights to others when they hold public meetings on

public educational premises.

Postscript

Over two years ago, in *The Sydney Morning Herald*, I challenged Andrew Snelling to a public debate on “Flood Geology”. Snelling and the CSF responded to my challenge by agreeing to do it if it were held on national television, not the easiest thing to arrange. Then, in mid-February this year, I was contacted by the ABC's Couchman program who were seeking to arrange a “Science v Creationism” debate on national TV.

Despite reservations about the value of such confrontations, I was willing, as were other scientific colleagues. Unfortunately, after some deliberation, Drs Snelling and Wieland and the Creation Science Foundation declined the invitation, pleading lack of time to prepare properly.

I find this rather puzzling. They have had at least 6000 years, by their reckoning, to prepare their case and no new information has come to light recently from their side to change the picture.

Addendum

In the previous issue of *the Skeptic*, Barry Williams responded to a letter from Dr Wieland regarding “*The Quote Book*”, in which Mr Williams criticised the CSF for, firstly, publishing a book with so many errors in it, and secondly, for not withdrawing it from sale when the errors were pointed out. We now understand that a new edition of “*The Quote Book*” has been published, correcting the supposedly “few errors” the CSF had discovered. However, rather than pulp the previous erroneous edition, we have been informed that it is still for sale. An attendee at the CSF Summer School purchased a “job lot” of CSF publications (three copies of magazines etc randomly selected, apparently, by the CSF and packed in plastic bags). The purchaser of these job lots is not entirely sure which issues he will receive. In the set purchased was a copy of *Creation Ex Nihilo* which contained, surprisingly, the first edition of “*The Quote Book*”. It is a shame that the CSF has not made greater efforts to remove the incorrect publication from sale entirely, as any reputable scientific publisher would do once informed it was so badly in error.

Tim Mendham



Skeptics & the “untold story”

Barry Williams

Barry Williams looks at another piece of amazing research by creationists.

As noted in our last issue, the Creation Science Foundation (CSF) has blown the whistle on Australian Skeptics. At least, that is what I think they thought they were doing. In a rambling, largely irrelevant, but if the introduction is to be believed, extensively researched, article in *Creation Ex Nihilo* (Vol.12, No 1) entitled “The anti-creationist lobby ... the untold story”, the author leaves the story substantially where he found it - untold.

This article displays all of the intellectual rigour and scrupulous regard for the truth, for which the publications of the CSF are justly renowned. It seeks to portray the CSF and like minded outfits as the last bastions of Western Civilisation As We Know It. If that is true, and I am fairly certain it is not, then Western Civilisation As We Know It is in for a rough old time.

The author, John Heininger, is described as state co-ordinator and member of national executive, National Alliance for Christian Leadership; chairman, Evangelical Apologetics Society of Australia. If this article is anything to go by, I have no doubt that Mr Heininger gets plenty of practice in apologising. He is a graduate of Moody Bible Institute and has studied law and theology at Simon Greenleaf School of Law in California. My extensive research (I read the indexes) of 12 directories of educational institutions in the USA revealed no mention of the Simon Greenleaf School of Law. The Moody Bible Institute is interesting in that, among a series of religiously based majors, there rests a rather incongruous reference to aviation technology. For Sky Pilots, perhaps?

I could be unkind and suggest that Mr Heininger’s literary style owes more to Mills & Boon, with an overlay of the apocalyptic, than it does to the Authorised Version, however, being a kindly soul, I won’t. Suffice to quote a couple of passages from the first paragraphs, which should give readers the flavour: “As a young Christian struggling with evolution” and “Darwin [who] at the time ... was being embraced by others with increasing vigour”.

Further on we strike the statement “The significant impact of the creation scientists has meant that most informed Christians no longer feel threatened by evolutionary thinking.” This less than accurate statement seems to ignore a couple of relevant facts: *informed* Christians have *never* felt threatened by evolutionary thinking and creation ‘scientists’ have

always felt threatened by thinking.

Finally, we come to the following Churchillian declaration: “We are witnessing a profound intellectual and ideological struggle with far reaching social and political consequences.” I would agree that this is a reasonably accurate depiction of the state of the world at the moment, but for the life of me I can’t see how the creationists are involved. The only sentence in which I can imagine the terms ‘creation scientists’ and ‘profound intellectual’ being used together is in an ironic context.

Shock Horror!

But, enough of this frivolity; what about the “eye-opening” expose of Australian Skeptics?

The following statement is the crux of the revelations: “The Australian Skeptics are directly affiliated with their American parent, the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). The chairman of CSICOP is no less than noted American Humanist Paul Kurtz, past editor of *The Humanist* and responsible for drafting the Humanist Manifesto II. The current president is Mark Plummer, who was past president of both the Australian Skeptics and the Australian Humanist movement.”

Hardly the stuff of controversy, I would have thought, even if it were true. The problem is, in that brief but “extensively researched” statement of fact, there are two untruths. Not important untruths, quite trivial ones in fact, but untruths nonetheless. Australian Skeptics is not affiliated with CSICOP and has not been for several years. CSICOP and about 50 other groups around the world have a similar aim - the exposure of pseudoscience, but none of these organisations is in any way affiliated with Australian Skeptics. Mark Plummer was never president of CSICOP, he was executive director, a significantly different position.

As I say, these matters are fairly trivial, and would not concern anyone too much even if true. It merely points out that any “extensive research” conducted by members of the CSF should be treated with truckloads of salt. If they can get simple, publicly available ‘facts’ wrong, what are we to make of the serious pronouncements they make? This error is compounded by the fact that Mr Heininger phoned me some months ago to ask various questions about Australian Skeptics and I gave him factual answers, both about the organisation generally and specifically on the two items he got wrong. Why wouldn’t I? Australian Skeptics has nothing to hide and has nothing to fear from the truth.

Why, you might be asking yourselves, would a

creationist make such seemingly trivial and obvious mistakes? It is important to the creationists' self image that there is not just a general and widespread antipathy and contempt for their infantile beliefs. It must be part of a sinister, worldwide plot, manipulated by forces that are identified in their own little demonology; humanists, communists, atheists and others of like ilk (as if these terms were synonymous, which, of course, they are not). It is critical to this conspiracy theory that all opponents be linked, preferably in a clandestine way.

The remainder of the article supports this argument, consisting of wide ranging attacks on various American organisations which are perceived as being dedicated to the destruction of Judeo-Christian influences in western civilisation. Such organisations may well exist, but Australian Skeptics is not one of them. Our purpose is to expose pseudoscience, and this is the only argument we have with the CSF. They promote a pseudoscientific view that is not materially different from that promoted by other New Age philosophies. Other organisations may well oppose creationism for similar, or for entirely different reasons. That is not evidence of a plot, it is evidence that creation 'science' is regarded sceptically by a wide range of people, all of whom may or may not approve of Australian Skeptics.

Australian Skeptics does not promote "easy divorce, abortion on demand, legalised sodomy, the right to suicide" as the article implies, nor any other of the catalogue of 'evils' listed. Neither do we condemn them, they being outside our frames of reference. Legalised sodomy with the denizens of UFOs or easy divorces from discarnate channelled entities may be of interest to Australian Skeptics, but for reasons other than moral ones.

Curiously enough, in Mr Heininger's broad brush attack on American organisations opposed to creation 'science', no mention was made of that hot-bed of radical discontent, the United States Supreme Court, which, in an unusually one-sided verdict (seven votes to two), decided in 1987 that creation 'science' was a religious belief and it was thus a violation of the US Constitutional separation of church and state to teach it in public schools. As a matter of historical interest, the United States Constitution was adopted 23 years before the birth of Charles Darwin. One further group that missed out on Mr Heininger's ire was the substantial body of citizens who can count up to eleven without removing a shoe.

Links with other societies

Because it is so important to creationists that we

are part of the plot, they seek to make an issue of the fact that some prominent Skeptics are also Humanists. As far as I am aware, only one member of the national committee of Australian Skeptics is also a member of the Humanist Society, a fact which I also conveyed to Mr Heininger. We number among the committee members, three members of the Manly Warringah Rugby League Club, two members of the International Brotherhood of Magicians, two members of Mensa, a member of the Australian Scientific Industry Association, one member of the Royal Australian College of General Practitioners and, no doubt, members of assorted other professional, scientific, social, service and learned societies.

I know for certain that Tim Mendham was foundation secretary of the Sydney University Tolkein Society and, as I will confess here for the first time, I am president of an organisation known as the International Confederation of Knotted String Consultants.

To the best of my knowledge, none of these bodies (including the Humanists) poses any serious threat to Western Civilisation As We Know It, and none of them are affiliated with Australian Skeptics. There is no doubt, however, that when this information becomes known to the CSF, all of them are certain to become subsumed within the Great (Imaginary) Conspiracy.

In seeking to tar Australian Skeptics with innuendo, Mr Heininger makes much of the fact that an unnamed patron of our organisation was once a member of the Australian Communist Party. It is quite clear that he is referring to Phillip Adams, and there are two ways in which this 'secret' information could have been discovered. One is by having a contact in the security services, and the other is by reading Phillip's column in the *Weekend Australian*, which frequently catalogues Phillip's former associations and also his disillusionment with them.

It is instructive to note that no mention was made of our two other patrons, former Australian of the Year, Dick Smith, famous for his promotion of free enterprise (among many other things), and Dr Paul Wild, former head of CSIRO and one of Australia's best known scientists. Nor did Mr Heininger, despite the fact that he knew it, choose to mention that the current president of Australian Skeptics personally regards communism as a very similar type of belief to creationism - an ideological dogma, totally devoid of intellectual content and entirely unsupported by empirical evidence. Why not mention these facts? Because they do not fit within the conspiracy theory.

Methods

None of the foregoing explanation will mean a thing to any creationist. They quite clearly will not believe anything that does not accord with their pre-ordained dogma. This is very evident in their so-called science. If a fact is inconvenient, or if it does not fit the conclusion with which you begin, then ignore it or rationalise it until it does fit. More importantly, use innuendo, misquotation, distortion, guilt by association, *ad hominem* arguments, anything at all. What are a few lies when your goal is the preservation of western civilisation?

Western civilisation may have many faults, but it does strive to be liberal, democratic, tolerant and encouraging of free and individual expression. That it does not always achieve these ideals is regrettable but it certainly is unlikely to be improved by the adoption of intolerant religiously based pseudoscience. The real problem with the CSF is not that it wants to preserve Western Civilisation As We Know It, but rather that its goal appears to be Western Civilisation As It Never Was.

To conclude, I will quote what seems to be an appropriate heading from the article in question: “Why unethical tactics - Why not just scientific logic?” Australian Skeptics is perfectly happy for the creation ‘scientists’ to seek to promote their ideas in the correct forum for scientific ideas, scientific journals and the like. Then their ideas can be tested against prevailing models and, if successful, they will no doubt be accepted.

Creationist ‘science’ is not published within these forums, not because of any plot, but because they are rarely submitted (and accepted less often). In contrast, creationists seek to have their ideas promulgated by using political pressure tactics and by invoking entirely inappropriate ideas of ‘fairness’, ‘equal time’ or ‘democracy’. These are undoubtedly the “unethical tactics” referred to above. Science is a tool that rational beings use to explain the natural world by natural means. By invoking a supernatural element, as a *sine qua non* of its beliefs, creation ‘science’ is not science by definition.

As for the remainder of the rhetorical question asked by Mr Heininger, “Why not just scientific logic?”, my only rejoinder is “Why not indeed?”



DIY CREATIONIST COMPETITION

Write a short story, or article, in 400 words or less, which includes the phrases, "as a young Christian struggling with evolution" and "Darwin was being embraced by others with increasing vigour". The theme of the story should concern Western Civilisation As We Know It, or some different but equally profound topic. Winning entries will be printed in *The Skeptic* and the author may well be added to the CSF hate list. Winner(s) will receive a copy of either "Creationism - An Australian Perspective" or "Skeptical" (please specify with the entry). Entries to Australian Skeptics, PO Box 268, Roseville NSW 2069 asap.

Vol 10 No 2 - 1990

BOOK REVIEW *Creationism exposed (again)*

Barry Williams

The Creation Science Controversy

Barry Price

Millennium Books, Sydney \$14.95

The list of publications which expose to critical analysis the infantile pretensions of the politico/religious cult that is creation ‘science’ is a distinguished one. There are many excellent books which address the scientific and philosophical failures of this pseudoscience, included among which is Australian Skeptics’ own publication, *Creationism - an Australian Perspective*.

The book under review, *The Creation Science Controversy*, is a welcome addition to this list, not least because of the somewhat different approach it takes to the matter. Barry Price is a science teacher, who numbers among his qualifications a Diploma of Religious Education. He was formerly the Science Curriculum Officer with the Catholic Education Office in Sydney.

From this rather uncommon perspective, Mr Price articulates his concern about the threat posed by anti-intellectualism, as exemplified by the rise of literalist cults, not only to science but also to mainstream religion. Indeed, he claims, with some justification, that the use of political pressure to have creation ‘science’ legitimised as a scientific subject poses a threat to our

democratic institutions. It may well be acceptable for the state to legislate what should be taught in schools but it is totally unacceptable for the state to decree what is or is not science. Mr Price is particularly critical of the mainstream religions for their failure to seriously address the threat that creationism and literalism poses to their education systems. Many of these organisations, he says, pay only lip service to evolution, while seeking to sit on the fence in the public debate. This, Mr Price indicates, can only be detrimental to those religions.

The book exposes the pretensions of the Biblical literalists, who insist that the Bible gives a true, scientific account of how such events as ‘creation’ and the ‘Noahchian flood’ led to the world as we see it today. It shows that such an interpretation is neither scientifically nor historically supportable and that it is just as absurd in theological terms. The author catalogues some of the more nonsensical utterances of the gurus of creationism (Henry Morris, high-priest of the cult, has written that the craters on the moon and Mars are the scars of a battle between the forces of good and evil), and is particularly good in describing the fancy footwork used by American creationists in changing their ground as scientific and legal battles go against them. He also instances occasions of books in university libraries in Australia which have references to evolution excised from pages, or of pages being glued together to prevent evolutionary references being read. This abhorrent practice can only be deplored by all who value free expression.

While most of the other exposures of creation ‘science’ are addressed to an audience that is scientifically literate, an all too rare commodity as Skeptics will be aware, Mr Price seeks a different audience, which makes his book all the more welcome. This is a book which will be readily understandable to lay people with no particular leanings towards science. He shows that the only way in which to counter the simplistic and superficially attractive arguments of the creationists is to force them to defend their own ground. Far too many scientists allow themselves to be placed in the position of defending evolution. While this is easy enough to accomplish in an intellectual environment, it is much more difficult to carry out in the context of a public debate or on a television program within the constraints of time and the limits of the knowledge of a lay audience. The understanding of evolution, or indeed of any other scientific theory, cannot be explained in terms that a seven year old can understand. The creationists’ propositions can be and are. If forced to defend these propositions, creationists will soon lose any audience which is capable of any

rational thought. Mr Price pays glowing tribute to our own Professor Ian Plimer, who is one of the few scientists to have bested creationism’s star debater, Duane Gish, in a public debate. Ian did this by refusing to play by Gish’s rules and by treating the exercise as the political confrontation that it really was.

If I can find fault with this book, it is only in its tendency to be episodic which could have benefited from the services of a good editor. That aside, *The Creation Science Controversy* is an eminently readable book which is thoroughly recommended to all who are concerned at the proliferation of dogmatic ignorance in our society, and in particular to students in our schools and to their parents.

Vol 10 No 3 - 1990

Literalism - the Curse of the Skeptics

Sir Jim R Wallaby

From time to time we are approached, not to say reproached, by indignant correspondents who begin their letters with a dictionary definition of the word “sceptic”, and who then seek to berate us because of our presumed failure to live up to their perception of just what an Australian Skeptic should be. They seem to be unable to comprehend the fact that the published aims of our organisation define our areas of activity, not a literal definition of one part of our title. This is perhaps fortunate because one dictionary definition of Skeptic is, “*a member of one of the Ancient Greek schools of philosophy who believed that real knowledge of things is impossible.*”

I don’t think that that would describe the attitude of most Australian Skeptics, or even, if we take the literalist approach to its logical extreme, that all Australian Skeptics need necessarily be either ancient or Greek. Some of us are pretty long in the tooth (Harry Edwards is no spring chicken for a start) and some of us are of Hellenic extraction, but neither status is compulsory. Another definition is: “*a person who mistrusts people, ideas, etc, in general*”. That may well fit some of our more misanthropic members, but again, it is not a mandatory requirement.

I suspect that the sort of people who demand that we concern ourselves exclusively with their own particular *idee fixe* are the sort of people who would

have taken out writs against Monty Python's Flying Circus because they were not dedicated to herpetology, aeronautics or the training of wild animals.

I wonder whether we the only targets of this outrage, or whether other organisations perhaps suffer from similarly indignant literalism? Does BHP have to explain why its sole role is not the proprietorship of Broken Hill? And, if so, would Kabwe, Zambia be included in this proprietorship because it used to be called Broken Hill? Does General Electric need to excuse itself if it sells a toaster to a corporal? Can CSR only refine sugar grown in Hong Kong, Gibraltar and Tristan de Cunha? Is the High Court of Australia lambasted because it refuses to move from the shores of Lake Burley Griffin to the peak of Kosciusko? Should the Pyramid Building Society have confined itself to building tombs for Egyptian Pharaohs? (Come to think of it, that probably wouldn't have been a bad idea.)

Why leave it there; why not apply it to people also? Among the Skeptics committee we could imagine Tim Mendham dedicating himself to carrying out running repairs on legs of cured pig meat; Steve Walker being forbidden to either drive, ride or run; Mark Plummer installing drains for those with German currency; Harry Edwards going around harassing people called Ted? This family magazine certainly will not canvass the activities that literalists might assume Dick Champion to indulge in.

If this sort of thing is to continue, I am going to lobby my friends on the national committee to change the name of the organisation to The Australian Society for the Total Extermination of Dictionary Readers.

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Recently, while perambulating along York Street, Sydney, it came to my notice that the Aquarian Bookshop, that purveyor of all things New Age and esoteric, had moved from the ground floor of its building into the basement next door. Does this mean that we have driven the opposition underground?

* * * *

Recently, a correspondent sent me a page from *Pravda* (sorry) *Creation Ex Nihilo*, learned journal of the Creation Science? Foundation. It contained what seemed to be stories taken from newspapers, which the CEA editors presumably believed support their perverse view of the world and its history. They quote from a story in *The Australian* of April 14, 1990, which reported a Chinese scientist's opinion that the sun had shrunk by 410 km between the years 1715 and 1987, at an average rate of 1.5 km per year.

I will quote verbatim, the comment from the *CEN* columnist:

"If (my emphasis) this shrinkage has always been 13 kilometres a year, it means the solar system cannot be billions of years old as evolutionists claim. At this rate, only one million years ago the sun would have been twice its current diameter. Ten million years ago it would have been too large for life to exist on earth. And 210 million years ago the sun would have been touching the surface of the earth. This is more in keeping with the creationist belief that the solar system is **only thousands**, (CEN's emphasis) not millions or billions, of years old."

Well, you cannot fault their mathematics much, although I make it only 196 million years ago that the sun must have been touching the Earth at perihelion and 203 million years ago at aphelion (what are a few million years between friends?) but everything

else in the comment is open to some question. The sun currently has a diameter of around 1.4 million km. I doubt that we have instruments today that could measure a change in its diameter of only 1.5 km and I am very dubious that anyone in 1715 had an instrument that could measure the diameter of the sun with anything like the precision required to give any meaning to the claim in the comment. I am aware that there are various hypotheses around that suggest that the sun inflates and deflates at various cyclical periods and perhaps one of our astrophysicists might care to give us the latest understanding of this evidence.

Of course, my real objection to this rubbish is the way the whole comment is based on an unsubstantiated assumption (If this shrinkage has always been 1.5 km a year, then the solar system cannot be millions of



years old). Using this sort of argument, I can say “If the sun is made entirely of rice pudding then life on earth cannot exist”. Which advances the sum of human knowledge by not an iota.

I had to think for a while before I could remember just where I had run into this sort of thing before. Who else builds a substantial case on the foundation of wholly unsupported assumptions? Then it struck me and I will reveal it here for the very first time. A scoop for the Skeptic! **ERICH VON DÄNIKEN IS SCIENCE ADVISOR TO THE CREATION SCIENCE? FOUNDATION!!!! !!** I could, of course, be wrong.

* * * *

The same page of the journal referred to above also claims that the government of California has ordered the closure of the graduate school of the Institute of Creation Research (ICRGS). This is not true. The California Department of Education, after an assessment by a panel of scientists, refused to reapprove the ICRGS as a source of master’s degrees in science and in science education. This decision was taken for the reason that the ICRGS was not teaching science. Which seems to me to be a reasonable basis on which to deny it the right to issue degrees in the subject.

Sir Jim R Wallaby, who takes his literalism literally, is about to open an atheletic training establishment for marsupials.

