



the **Skeptic**

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challenging the mythology



Crop Circles
Greenhouse Effect
The End of the World

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From the President

In this edition we address some issues of public concern which may seem to lie outside the bounds of the editorial policy we have traditionally followed. At a time when certain issues related to science have become popular talking points, it is important that Skeptics should feel free to ask whether the conventional wisdom is in fact wisdom at all.

Science is not, nor should it be, an activity that lends itself to dogmatic expression; that is the province of religion and politics. Science will be the loser if it seeks to play in that park and scepticism is the tool that makes science different from these other activities.

We should, nevertheless, remember that the Skeptic is not a refereed scientific journal and our questioning of conventional wisdom should be seen for what it is, a quest for answers, not the establishment of a position of our own.

Also in this edition is a report of a disturbing trend that is becoming all too prevalent in our society, especially among those sections of it who perceive themselves to be the privileged holders of ultimate truths. It should be of particular concern to all of us that people who attended a recent public meeting in Sydney were threatened with physical violence, merely for seeking to ask questions of the speaker.

The right to question is one of the fundamental rights of any democratic society and it is properly the function of *the Skeptic* to assert that right. Any attempt to stifle our right to ask questions smacks of authoritarianism and should be resisted by every legitimate means at our disposal.

Barry Williams

the Skeptic

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Australian Skeptics Eighth Annual Convention

Australian Skeptics eighth annual National Convention will be held in Newcastle on June 20–21, 1992. This will be the first time the convention has been held in a regional centre and the Hunter Region Skeptics have promised a packed and thought provoking programme, with an afternoon session of talks, demonstrations and presentations commencing at 2.00 pm on Saturday June 20, followed by dinner at the Western Suburbs (Newcastle) Leagues Club. Visitors are invited to begin registration at 11.30 am and may take lunch in the club.

Topics to be discussed will include 'Identifying UFOs', 'The Need to Believe', 'Quantum Scepticism', 'Flood Myths', 'Scepticism in the Media' and others. Highlight of the day will be an attempt by sceptics to emulate the feats of Uri Geller by using psychokinesis to cause a compass to move. At this stage, it is uncertain whether participants will be required to strip to their underwear, or to have their "goolies" tested for magnetism.

The winner of the Bent Spoon Award, for the perpetrator of the most preposterous paranormal event, will be announced at the beginning

of the session. In a year that has seen a proliferation in the promotion of paranormal and pseudoscientific piffle, the competition for this least sought after honour, is expected to be brisk.

Sunday's session, commencing at 10 am, will feature a hands on demonstration of the AARNET world computer network, which will be used to search for topics of relevance to all Skeptics.

On Sunday afternoon, visitors have the option to take a bus tour of the famous Hunter Valley vineyards.

A Registration Form is enclosed in this issue, containing details of the sessions and costs involved. Those who plan to attend are urged to return the form without delay, particularly if they wish to attend the dinner, for which pre-registration is essential.

Those Sydney members who have not visited Newcastle recently will find the road journey of under two hours to be very pleasant.

And remember, at the Skeptics Convention, questions are welcomed.

For further details, contact:

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North Lambton NSW 2299

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VICTORIAN SKEPTICS NEWS

The World's Only Skeptical Radio Show!

FACT OR FICTION ??

The Victorian Skeptics

present:

“THE LIARS’ CLUB”

on

3RRR FM (102.7 MHz)

Sundays, 12 noon – 1 pm

Melbourne sceptics have had their own radio show, covering all aspects of and investigations into pseudoscience and the paranormal, since early in January.

Every week brings some new controversy: the Facilitated Communication debate, Professor Ian Plimer speaks against Noah's Ark (and almost gets arrested), firewalking is explained, astrology and other New Age beliefs are subjected to the critical eye of the Skeptics, Transcendental Meditation is investigated, alternative healing is scrutinised – and much much more.

One clairvoyant has already tried to take action ... but we were ready. For Skeptic subscribers who wish to hear these unedited programs in the comfort of their home, or whilst enjoying the morning traffic jam, tapes of the show can be ordered on the enclosed order form which lists the programs so far. They are guaranteed to make you angry, to make you chuckle but above all to make you think. New guests and new topics with each new week (some even from off the planet). Regular ‘tall story’ spots from guru Barry Williams and the now famous ‘Off the Headline News’. You'll find intelligent conversation with a little

rubbish thrown in (we throw a lot at certain people). Experienced broadcaster, producer and Victorian Committee member Adam Joseph leads fellow Skeptics in a weekly voyage into all things sceptical. You may even like to suggest topics you would like to hear covered. You can write to the show at our mail box at 3RRR at the following address:

The Liars' Club

c/- Triple R

PO Box 304

Fitzroy

VIC 3065

* * *

Victorian Skeptics in Great Australian Science Show

The Victorian Branch of Australian Skeptics will be exhibiting their wares and their skills in the Great Australian Science Show, which takes place at the World Congress Centre, Melbourne, from July 15-19, 1992.

The aim of the science show is to present science to the public, especially to young people, in an entertaining format and it represents an ideal opportunity for the Skeptics to attract new subscribers and to promote scepticism as an important element of science.

During the show, the Skeptics team will demonstrate various ‘psychic’ abilities, stage magic

displays, run competitions for prizes and sell books, magazines and subscriptions to *the Skeptic*. We are even hoping to broadcast our radio programme from the show.

All Victorian Skeptics (and interstate visitors) are invited to visit our stand and we welcome suggestions about what they would like to see at the show from our readers.

* * *

Creationism: Scientists Respond

The first book to be published by the Victorian Skeptics looks at ten simplistic pamphlets published by the Creation Science Foundation and asks specialists in science and education to respond to them.

Recently launched, this book is available from the Victorian Skeptics for \$6.00 and will be on sale at the National Convention and at the Great Australian Science Show.

Victorian Skeptics

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3001

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NEWS

No Questions Arksed!

Barry Williams

There were amazing scenes in the Wesley Centre, Sydney on Saturday, May 16 at a public lecture on the finding of a hypothetical Noah's Ark in the mountains of Turkey.

Presented by one Allan Roberts, the meeting began with the warning from the chairman, to an audience of approximately 300, that anyone who had the temerity to interject would be forcibly removed. To enforce this rather unique approach to the interchange of intellectual ideas, a contingent of five security personnel, at least some of whom wore batons, was ranged around the hall. This was followed by a notice that only written questions would be accepted at question time.

Roberts, whose facts had been challenged at previous meetings held throughout Australia, so qualified his presentation that it appeared to consist of one long footnote. This technique added nothing to the credibility of his case and reduced his talk to near incomprehensibility, so that the only real danger he faced was interruption from the snores of the attendees.

The evening saw its first sensation when a distinguished earth scientist, who challenged Roberts' rather cavalier dismissal of the reliability of carbon dating, was forced to leave. The fact that this scientist is a recognised authority on radiometric dating only added to the air of unreality that began to pervade the evening.

During question time, Roberts made the entirely unnecessary confession that, as an historian, he

was unqualified to answer any scientific questions. However, when one of the scientists in the audience volunteered to answer them for him, he called on the guards present to remove him. This high-handed and completely unjustified action was prompted by interjections of such mildness that they would scarcely have raised the eyebrows of the presiding officer of any parliamentary chamber in Australia.

As the scientist (one of the nation's leading palaeontologists), whose violent ejection was the object of the exercise was fortuitously seated among a group of fellow seekers after truth, his attempted removal was singularly unsuccessful. Having laid violent hands on the scientist, the guards found that their egress from the row of seats was hindered by the refusal of the other patrons to move their feet and by the steadfast, though non-violent, refusal of the scientist to leave a public meeting, to which he had paid an entry fee.

A polite (and lawyerly sounding) query from a member of the audience as to whether the guards were entirely certain that their actions complied with the law, caused them to hurriedly relinquish their hold on their victim. The questioner, a physicist, certainly has a future at the bar should he contemplate a career change.

At this point, the chairman said that the meeting was closed and that the police had been called. He had threatened this action several times during the evening, for no reason that anyone could discern. As the only

actions likely to cause a breach of the peace were those of his security guards, this seemed to be an extraordinary action on his part.

When the police eventually arrived they were confronted by knots of people calmly discussing various issues and they could be forgiven for regarding the matter as a complete waste of their time on a no doubt busy Saturday night.

This writer, who has attended some quite robust meetings in his time, was astonished by the behaviour of the conveners of this supposedly scientific event. It certainly could not qualify, by any standard, as a rowdy meeting and the interjections, few though they were, merely sought to put the lecturer straight on details and procedures of which he was manifestly ignorant and incapable of explaining.

It was particularly distressing that these events took place under the auspices of a Christian group. The authoritarian manner in which the public meeting was conducted reflected no credit on the Christian virtues they presumably espouse. The organisers seemed to believe that questions from the audience and the interchange of ideas (surely the fundamental factors of success in meetings) were in some way subversive.

This leads me to conclude that their concepts of freedom of inquiry and of speech are as fossilised as they claim the remains of Noah's Ark to be. ■

ALIEN VISIT

Pie in the Sky - and How!

Adam Joseph

**AMERICAN INDIAN
ROBERT MORNING SKY**
**A full-blooded American Indian
Medicine Man.**
**Keeper of ancient Hopi Indian
wisdom and secret knowledge
speaks on:**
**“THE WAY OF POWER AND
FREEDOM”**
**An ages-old code of silence can
now slowly be unveiled!**
Sunday May, 3rd, 1992. 7.00 pm
National Gallery of Victoria
The Great Hall
\$25 (Conc. \$15)

It only took a few handbills and one tiny ad in the Melbourne Age newspaper on Saturday, May 2 to attract several hundred people along to the prestigious Great Hall in the Arts Centre.

There was no mention of the content of the presentation. No special enticements or promises of a wonderful cultural exchange. Certainly no mention that the Hopi were in fact the keepers for many years of a real live alien from outer space they rescued from the clutches of the US government. So what do you get for \$25 ?

This Skeptic rang the promoters and asked for an interview with Mr Sky for the ‘Liar’s Club’ radio show. “No go we’re afraid. Robert doesn’t trust the media. But why don’t you come along to the show with our compliments.”

Recession wracked Melbourne people are definitely looking for a way out somewhere. Anywhere! Any Way! They came in their

hundreds. The very young hippy ‘wannabes’, the left-over greying hippies with that 60s sparkle in their eyes (for those that vaguely remember), the well-dressed and the well-heeled, the unemployed. This is Sunday night and let’s take in something a little different. But who is Robert Morning Sky? Where did he spring from? But a real American Indian ...let’s check him out.

I approached a middle-aged couple with their teen-age son and asked why they had come along: “Different cultures interest us. This gives us an opportunity to really find out how the traditional American Indian feels about the treatment inflicted upon him over the years. And it’s cheaper than three airfares to the US. Should be a great learning for young Craig here.” Then a middle-aged man on his own: “I have always loved the American Indians. Even when I played a cowboy in school games I felt sympathy for them. The fact that they have survived for so long means that they must have secret knowledge to pass on to us.”

The background music was traditional war drums with the occasional Indian war yelp. It at least gave the impression that there was indeed going to be a real American Indian making an appearance. A simple introduction was all that was needed to get the audience clapping with joy. “Without further ado ladies and gentlemen, Mr Robert Morning Sky.” The volume of the sound system was turned up as the drums pulsed around the room. On came

the amazingly unknown Mr Sky. In full Indian ceremonial dress, he pranced around the stage looking at his congregation. The drums went into a convulsion. Mr Sky responded with an energetic frenzy of dancing. Stopping and facing the crowd, he raised his hand. “How”. The crowd went wild in their eagerness to respond with a loud collective “How”.

The man then spoke in a deep resonant American accent, not unlike you would hear on the pre-riot streets of Los Angeles. “How ... is not an Indian word. It is in fact an English word.” (Wow! Ed). He proceeded to tell us that the English language was the most abominable of all spoken tongues – all this in perfect spoken English. He described how he was taken from his reservation at an early age and sent to learn the language of the white man. He condemned the white man’s atrocities against the Indians amidst a mixture of jokes. “Indians never captured women. They came with us and never wanted to return.” The secrets being offered were beginning to take on a sexual nature and the ‘paleface’ audience, mostly female, lapped it up and cheered at every opportunity. And then the real reason for it all began to emerge.

Robert Morning Sky was selected as one of a small group of young warriors to learn the ‘old ways’, without the influence of the ‘white man’s world’. He would soon learn about the prophecies, the coming day of purification, the imminent end of the world and the establishment of a

new one.

With selected pieces from the Bible, which he dared not criticise, but said were ‘errors of judgment’, more jokes, some of the most discredited UFO – mation from the ‘50s, more dancing, story-telling and praising of the female gender – it was a pretty entertaining show.

The audience took no notice when, at the beginning, Mr Sky told us he was a professional dancer and story-teller. He implored us not to believe a word he said, he wasn’t after any credibility whatsoever. But, at the end of it all, “everything I say is true, if you have it in your heart”.

If you had it in your heart (but not in your head!), you would have believed that in 1948 the Hopi Indians actually rescued an alien being, before the US military authorities could get to him and secrete him in Edwards Air Force Base which, co-incidentally, is near the Hopi reservation. There the Hopi were taught all the secrets of the universe and complete inner happiness, before anyone else. You would have had it in your heart to believe that the “Philadelphia experiment” actually did happen (as in the movie), when the US sent a warship into a time warp and brought them back again. Germany was using flying saucer technology in WWII (so what happened?).

But it was the *Manhattan Project* which really did it. They started exploding those silly atom bombs and attracted the attention of the beings from outer space. All in Hopi territory. Author Timothy Good’s book *Above Top Secret* was quoted in context and out of context, along with the appalling UFO specials shown recently on channels 7 and 9. The full ghastly story of President Eisenhower waiting at a secret

location for **five** spaceships to land (and we thought THAT meeting only involved one ship). The deal mooted was an exchange programme. The Earth (US) was to get time travel and other amazing technology. The aliens would be allowed to experiment on humans and come up with some kind of hybrid offspring for their dying planet (Sex again).

Everything was spoiled when another group of aliens came along and offered spiritual development rather than technology. And who would be the bearers of this spiritual development? The Hopis. And in due course they would spread this message throughout the world. Want to know more? “We don’t have the time here tonight to tell you everything. But tomorrow at our full day session, all will be revealed.”

Then we all had a break for coffee, tea or Caro and gathered around the large souvenir table. A manuscript of secrets for \$20; postcard sized photos of Mr Sky for \$10; genuine Hopi headbands, neckbeads, wristbeads. They all sold like diamonds at heavily reduced prices. One took in the air and smelt not a hint of marijuana.

Part Two began with the male members of the audience being told we could become more attractive to our partners, or in fact any woman there tonight. Was this going to end up as a tribal orgy? Then more hints on how everything will be explained and demonstrated at tomorrow’s session.

Did all the audience believe him? 80% appeared to. They yelled and whooped at everything he said. A look around revealed some who had fallen asleep in their seats, others yawning. A discussion with some later revealed they felt they had been fooled and ripped off. Others always knew there were alien beings

amongst us and tonight simply confirmed it.

Mr Sky’s closing comments? July 26th, 1992! That’s the day selected by him and a good friend of his, Mr Colin Andrews of crop circle fame, when the aliens will reveal themselves on international television for all the world to see and hear. There will be mass contact for the very first time with our spiritual developers.

So what about the session the next day? Only \$95 folks. I popped in to have a look, and saw approximately 100 people whooping it up with more of the same. Will they receive sexual happiness from all this? Will the aliens favour them on July 26? Will the aliens reveal what Mr Sky had been hinting at? That we are already indeed part human-part alien and that now they want to present their final account?

Mr Robert Morning Sky came to Australia as a professional dancer in 1991. He started telling a few stories and was put on a tour with his act in December by a US based organisation who hold lectures and seminars on self-esteem, confidence-building, how to make easy money and the like. This is apparently only the beginning for Mr Sky, a prelude to his launch as a guru in the guru-infested USA. Off Broadway, if you like. Watch out America, this is a warning from base Oz.

We await July 26 (US time – 27th for Oz) with mouths wide open. And it will be smack in the middle of TV ratings time too. ■

Moving?
Please tell us your
New Address.

Bent Spoon

Politics

The lucky winner of the Australian Skeptics Bent Spoon Award for 1992 will be announced at the National Convention to be held in Newcastle on June 20 – 21.

This award, which has been presented annually to the preeminent proponent of paranormal or pseudoscientific piffle has become widely recognised as the least sought after award in the calendar. Contrary to the usual demeanour of Oscar or Logie winners, who invariably thank everyone up to, and including, their Mum, Bent Spoon Laureates have occasionally been heard to mutter undeleted expletives.

For some inexplicable reason, the Bent Spoon has never been claimed by any of its winners, who include 'psychic' Tom Wards, for being consistently wrong (1982), the Melbourne Metropolitan Board of Works, for employing a psychic archaeologist (1983), the Findhorn Foundation, for sponsoring a 'psychic' dentist (1985), Peter Brock, for services to polarised energies unknown to science (1986), 'psychic'

Anne Dankbaar, for failing to find the Colossus of Rhodes (1987) and *Woman's Day* magazine, for publishing more psychic tripe than anyone else (1991). Claimants are invited to remove the award from its time-locked and around-the-clock guarded vault, situated at a secret

location, somewhere in the Milky Way galaxy. They may use energies unknown to science, psychic forces, psychokinesis, divine intervention or any other method which does not entail nuclear explosives.

Our incorruptible Awards



Committee, whose membership must remain secret to preclude the offer of financial inducements, sexual favours or bomb threats, has already received several worthy nominations. However it is not too late, so please nominate your own favourite candidate. ■

The recent British general election was not confined solely to Tories, Socialists and Liberal Democrats. The Natural Law Party, an offshoot of the Transcendental Meditation outfit, ran a list of candidates in some seats included among whom, according to the newspapers, was Australian psychiatrist Dr Byron Rigby from the Australian TM group, who was once described as "Minister for Health in the World Government".

Curious, we contacted Steve Donnelly of Manchester Skeptics to find out how these devotees of 'vedic flying' (it used to be touted as levitation until they tried doing it in public and people could see that they were merely bouncing up and down on their bums) fared with the British voters. It seems that, despite the Natural Law Party having their campaign launched at a George Harrison concert, the voters were not overwhelmingly attracted to the thoughts of the Maharishi. Steve reports that none of the candidates attracted more than 600 votes, while most achieved fewer than 100, fewer in fact than those won by the Monster Raving Loony Party of Screaming Lord Sutch.

If the Natural Law Party plans to contest the next Australian elections, the Skeptics may be forced to enter the fray. ■

OBITUARY

Remembering Asimov

Robyn Williams

On April 8 we were greatly saddened to learn of the death of Isaac Asimov, giant of Science Fiction, prolific writer on, and populariser of, science and confirmed sceptic. Born in Russia in 1920 and taken to the United States at the age of three, Dr Asimov achieved a PhD in biochemistry and was a professor at Boston University School of Medicine before becoming a full time writer. The author of almost 500 books, one of the most prolific writers in history, Asimov tackled with knowledge, wit and enthusiasm such diverse subjects as various scientific disciplines, history, Shakespeare, the Bible, literature and science and mystery fiction. Isaac Asimov was, from its earliest years, a fellow of the Committee for the Scientific Investigation of Claims of the Paranormal. ROBYN WILLIAMS, executive producer and presenter of ABC Radio's *Science Show* and *Ockham's Razor*, gives us his personal reminiscences of a great man.

I had very little to do with Isaac Asimov as a Science Fiction writer – beyond introducing some radio programmes about the way SF is useful to try out new scientific ideas. My contact with the great man was through his straight science books and that was more than enough to keep one busy.

My first attempt to get near him was a polite failure. I wrote in advance of attending the huge meeting of the American Association for the Advancement of Science in New York. He said “Yes” he’d see me after his lecture (I think it was on some aspect of Chaos, not yet fashionable in the popular press).

I waited. The ballroom of the New York Hilton was jammed with press, delegates and anyone else who could squeeze past the overwrought security people. When Asimov finished he was immediately engulfed by a piranha pack of reporters waving mikes and TV cameras. I retired to the press room in disgust. Oddly enough, when I got there I failed to recognise the bald bespectacled chap with his back to me, alone in the room. Only when those lovely West Country tones asked “and how’s the Great Barrier Reef then?” did I realise it was Arthur C Clarke. “Fancy an interview for Australian

wireless?” I enquired.

Next time in America I was more seasoned and applied rat cunning. I stalked Asimov as he sat in the audience before his speaking at the AAAS meeting. When I passed him my card with my hotel room number on it he shrugged and indicated “maybe” and gave his attention back to the platform. Not long after there was a knock on the door and there was Asimov, shortish, bespectacled and with those great spreading sideburns, all mine for an hour.

He was sparing with his time and with his travelling. Like Woody Allen, Asimov saw no pressing reason to leave Manhattan. He was also jealous of moments stolen from his writing. How else would you complete nigh on 500 books? But he enjoyed company and was continuously torn between a very lively involvement in American affairs and his solitary, almost compulsive need to be at his typewriter.

His apartment on the Lower West Side of Central Park was exquisitely set up for writing. Books everywhere, of course, but also lots of those light airy spaces that productive novelists enjoy. He could see the Park and feel part of its buzz whilst being hidden away far above it. He was protected zealously by the security men downstairs, yet, typically, his phone number was openly listed in the Manhattan directory.

We usually talked about three things in our various meetings after that first AAAS encounter: scepticism, new ideas in technology and science in peril. Asimov was an arch sceptic, appropriately so for someone whose main trade was fantasy. He told me about his adaptation of Ockham’s Razor, that fundamental plank of the scientific method. I called it Asimov’s Elephant.

If you are out walking and come across a tree split down the middle and wish to derive an explanation for its injury, you could say “Well, an elephant was flying past, whistling a happy tune, when suddenly it felt like a rest and alighted in a top branch of a tree. As the tree was unused to supporting a four tonne elephant, it split asunder, sending the elephant to the ground, where it shook itself and flapped away.”

“Now,” said Asimov “that does offer some explanation as to what happened to the tree.

Unfortunately, in the process, it **unexplains** everything you previously knew about elephants. So, in seeking an explanation for some phenomenon you should be careful that, in doing so, you don't **unexplain** everything else." He cited Velikovsky with his *Worlds in Collision* "explanations" of ancient history, UFO sightings and sundry New Age mysticisms as guilty in unexplaining to excess.

Asimov was also full of ideas about new technology, most of it with some useful social application. He'd trained as a biochemist but increasingly became omnivorous in his consumption and regurgitation of scientific information. One of the last innovations I talked to him about was a giant vacuum cleaner in the sky, to remove the vast quantities of space junk, accumulated there since Sputnik first went up in 1957. He was annoyed that so much old machinery and even fast moving flecks of paint (moving "at five miles per second, just like a small ballistic missile") would prove a deadly hazard for astronauts and equally damaging for space vehicles. The giant vacuum cleaner was a serious proposition put, typically, with some jokiness because "I am incapable of being serious for any length of time."

But serious he was about world affairs. If you read his first volume of autobiography (*In Memory Yet Green*, 1979) you may be bewildered to find much of the first part to be dedicated to a description of the wanderings and fortunes of European Jews as they eventually settled in what became the Soviet Union. Asimov's own family was allowed to emigrate to the US in a brief "window of opportunity" that occurred in 1920. Thereafter the window was closed and, as Asimov tells the story, his entire shtetl or village in Eastern Russia was subsequently wiped off the map. He could so easily have been an unknown young victim of the holocaust, instead of world renowned writer.

He never forgot his escape. He was also proudly American, but downcast about his nation's anti-intellectual preference, which he saw as flowing from its leaders' example. He was especially contemptuous of Ronald Reagan. "It's now fashionable to be dumb!" he told me, bemoaning America's plummeting reputation in the sciences.

And yet he did so very much to make those sciences accessible. Could there be anything so readable as an Asimov guide to the cosmos, or inventions, or scientific biography? He tells stories, paints portraits, relishes anecdotes, and rearranges what you need to know in new lists or pot-pourris so you can attack them from

new angles. *One such was A Choice of Catastrophes*, in which various ways in which the world might end were helpfully assembled in a neat volume.

Our world is diminished without him. But I, like millions more, will hardly let a week go by without picking up and using one of his 500 books, his legacy to us. ■

Asimov: A Personal Debt

Barry Williams

Unlike Robyn Williams, I never had the privilege of meeting Isaac Asimov, yet I feel that I owe him a debt that I can never repay.

For the first half of my life, I had only a nodding acquaintance with science, compounded of a sketchy education in the subject, an attraction to Science Fiction and a passing interest in astronomy and archaeology. I was probably a prime candidate for the seductive appeal of pseudoscience but then I came across a collection of science essays by Isaac Asimov. I cannot remember which one it was, possibly "View from a Height" or "Only a Trillion", but whichever one it was, I was hooked.

I had already read most of Asimov's Science Fiction and I now began to haunt bookshops, seeking out his factual works. I did not want to become a scientist, but I did want to know **about** science. It joined cricket and opera as my passions and it has now surpassed them both in my affections. It is the reason why I became a Skeptic and why I feel pity for those whose imaginations are so limited that they become prey to the narrow visions of the promoters of fundamentalist religion and New Age mindlessness. They cannot even comprehend just how wonderful the world, as revealed by scientific endeavour, really is.

In my reference library, containing almost 1,000 books, more than 300 are about science and more than 60 of them are by Isaac Asimov, by far the best represented author. Always a pleasure to read, Asimov's books reveal a man with a healthy self-esteem but no trace of self-importance. He made science seem to be such a human experience - such fun.

I never met Isaac Asimov, but I feel that I would have liked him. I know that I will miss him. ■

ON THE MEDIA

All You Need to Know About Crop Circles

Martin Hempstead

This is an edited version of a talk given by the author at the fund-raising dinner of the Third Euroskeptics Congress, held in Amsterdam, 4 – 5 October 1991.

It was first published in the British Skeptics' journal *The Skeptic*, (November/ December 1991 edition) and is reprinted here by permission of the author and the editors of *The Skeptic*.

I am a member of the Wessex Skeptics, named for an ancient kingdom in the south of England and at one time ruled over by a famous sceptic, King Canute, who, like sceptics today, is frequently misunderstood and maligned. In vainly ordering the waves of the sea back, and getting rather wet in the process, he was not demonstrating his vanity and lack of touch with reality, but trying to get it through the heads of his sycophantic courtiers that there were limits to even his power.

Wiltshire is a county in the Wessex region, and one that has become very familiar to us over the past couple of summers, as we have investigated the crop circles which have become all the rage there. It is a pretty, rural county of rolling hills and country roads, shared between the farmers and the British Army, and—despite the army—rather peaceful and bucolic. The prettiness and remoteness of Wiltshire and the presence of numerous features in the landscape attesting to neolithic activity—including Stonehenge—seem to have made it attractive to a breed of person favourable to woolly paranormal musings about history and earth energies. It is in the heart of this deceptively quiet countryside that paranormal theoretical entities multiply wantonly, quite without decent necessity, and the bold sceptic venturing here leaves Occam's razor behind, preferring to borrow his chainsaw.

Here, and in neighbouring Hampshire, where I live, crop circles—although the complexity of patterns makes the term entirely inadequate—have been popping up for more than a decade, allegedly confounding strenuous efforts by experts and 'scientists' to explain them. Crop circles are characterised by crisp edges, complex layering of the fallen crop—which may be wheat, oats,

barley, rape or even beans—and minimal damage to the plants. The patterns frequently appear overnight, and there are said to be no traces to indicate the passage of anyone—or anything—to or from the circles.

Enormous interest has been generated by these things, and the national newspapers have filled many column-inches with stories about them. The interest was initiated by a few frantic experts, and attracted further 'researchers', so that the area around Marlborough in Wiltshire was, during the summer, crawling with activity from sunset to sunrise. It was getting so that an honest hoaxer could hardly go about his or her trade without disturbance from some 'circle-spotter'.

These experts fall mostly into one of three groups: CERES (Circles Effect Research), run by Dr Terence Meaden, which subscribes to the theory that some circles are formed by 'plasma vortices', spinning masses of ionised air^[1], and the rest are hoaxes. (I will, I am afraid, consistently lapse from correct usage, whereby I should say 'artifact' instead of 'hoax', since the latter prescribes the motivation behind the product—our particular interest is primarily in whether crop circles are or are not artifacts, and we know little about possible motivations.) The second of the groups is CPR (Circles Phenomenon Research), run jointly by Colin Andrews and Pat Delgado, who seem to believe in no theory, but are firmly convinced that it is a mystery and no explanation is adequate; finally we have the CCCS (Centre for Crop Circle Studies), to which almost everybody else seems to belong.

Although this motley bunch have little in common, they do share one motto, which is repeated so often we recognise it as the territorial call of the crop circle enthusiast: 'no human being could do this'. I am reminded of a scene from *Ghostbusters* (a marvellous movie, incidentally, and one that I recommend to all without hesitation), when the three heroes, following up an account of an apparition, happen upon a column of books stacked almost to the height of a man amongst the shelves of the New York Public Library. The more scholarly of the trio, a serious parapsychologist played

by Dan Ackroyd, observes ‘vertical book stacking, just as in the XYZ case...’ (or something like that), to which his cynical partner, played by Bill Murray, replies ‘yes, no human being would stack books like that!’

Crop circle investigators actually take this kind of argument seriously. They have all declared the crop patterns impossible to fake. In one case, Meaden declared an eye-witness account impossible to invent, even though it contained no corroborating evidence and no details that did not already exist as speculation in the public domain ^[2]. These people, who constantly demand open-mindedness from the rest of the world, spend half their lives circumscribing the abilities of the entire human race. We sceptics are often accused of arrogance—this is probably true in some cases, since we are, after all, only human—but the attitude that allows people to make sweeping statements about what other people cannot possibly do smacks of great *hubris*.

Remember, these statements are not based on violations of some law of nature, these are based on the appearance of fallen corn and the field in which it is found. Remember von Daniken: he didn’t say, ‘Wow, these ancients were smart—I can’t figure out how they got such a smooth facade on these temples’; instead he said, ‘I can’t figure out how they did it, therefore they couldn’t have done it, so they must have had extraterrestrial help.’ In most cases the crop circle experts cannot say that they have tried hard, or even at all in some cases, to simulate the circles. So they are actually saying: ‘I can’t imagine how it is done, because I don’t think any of the methods I can think of could work, so it must be impossible’.

Of course, the general public watching on the 6 o’clock news doesn’t get the full, shaky reasoning—they are treated to the *ex cathedra* statement from TV-accredited experts that these things cannot be artificial.

Mr Andrews and his pal Pat Delgado have been unrestrained in the techniques they bring to bear on the problem. They have used dowsing ^[3], like many others in the field; they have invoked mystery upon seeing peculiar marks on photographs of crop circles and hearing unexplained noises. In one example, a ‘mysterious’ white mark in the centre of a circle photo in their first book becomes upon enlargement an even more mysterious white disk ^[4]. In fact, this feature looks suspiciously like a sheet of paper lying in the centre of the circle. The pair have even used spagyric analysis, a dubious technique involving crystallisation of the residue of organic material after a harsh processing—it was invented three centuries ago, and popularised by Sir Kenelm Digby, the same man who condensed sunlight and invented the sword salve, a curative

material applied to the weapon that had inflicted the wound, not the wound itself. With the results of this last method, they claimed to have detected an alteration in the molecular structure of the laid corn, creating alarm that the grain was dangerous and should be excluded from the food chain.

Terence Meaden, on the other hand, is a man who scorns talk of the paranormal, although he does seem to have used dowsing as a diagnostic indicator of a genuine circle, whatever that is. His claims that ‘plasma vortices’ are a reality rest on little published evidence, and what he has published is mostly in his own journal, *The Journal of Meteorology* or in self-published books. Occasionally Meaden permits himself the luxury of an *ad hominem* attack on his critics. In the first paragraph of one of his scientific papers Meaden stated ^[5]:

“This has helped to confirm that aside from a low number of obviously faked circles, the evidence is overwhelming in favour of a natural atmospheric origin for the circles effect, and it is certainly the case that all truly open-minded, unbiased people who have properly studied the facts accept that this is so.”

Little detailed and comprehensive information about crop circles has been made public, so anyone who lacks the time and resources—and the disciples—to examine them closely and collect measurements is unable to assess the judgements these experts broadcast so frequently. We do not know if the dimensions cluster around certain values, or the dates of appearance around certain days of the week. CERES has publicized an analysis claiming that crop circles cluster around hills ^[6]—which would be qualitatively consistent with generation of plasma vortices by trailing vortices—but I find this analysis unconvincing.

The Wessex Skeptics first got involved in the whole confusing business last summer. We visited a few crop circles, but not, unfortunately, fresh ones, and quickly realised that we would make little progress in this manner. Although aware that serious criticisms against all theories of non-human origin had been made ^[7], we were initially and naively least dubious about Meaden’s theory. However, we quickly lost confidence in it when we got to Wiltshire. Meaden has a problem not shared by the other experts. His theory, being physical, has to meet natural constraints—or so you would think—while the others, having no theories, are not put out by any amount of contrary evidence. As long as some part of their mystery is unassailed, they are happy.

We got to Wiltshire, and were stunned by the Alton Barnes pictogram, which was one of the first of the truly complicated shapes to appear—it was many tens of

metres long, a string of circles and corridors. Our astonishment at its appearance was only exceeded by our surprise at Meaden's declaration that it was genuine^[8]. But he had no choice, for he could find no difference in structure between it and the simple circles. We were highly dubious, because we noted that the axis of the pattern was aligned along its length not just to the tram lines—lines made by farm machinery as it runs through the field—but to the seed lines themselves, which are often a mere 10 cm apart! This was a characteristic shared by too many other patterns to be a random occurrence, and we could see no strong reason why a powerful plasma vortex supposedly acting over a second or less should delicately orient itself in this fashion.

Fortunately for Dr Meaden, he found a way out of such difficulties. He invented hypotheses, which were posed qualitatively and thus difficult to test. Initially he denied that many patterns were aligned but later claimed that the earth in the tramline was compacted, and had a different conductivity, thus—somehow or other—aligning the vortex, which is, after all, electrically charged.

It seemed to us that the plasma vortex theory required that the patterns should have occurred before the public interest in them. Meaden agrees with us, because he has assiduously sought accounts of crop-circle-like phenomena from historical records. One of his more well-known examples is the mowing devil^[9]. Presumably because it is inconsistent with his theory, he ignores the fact that the accompanying picture shows the corn to have been cut.

In our opinion, an obvious place to look for old crop circles would be in aerial archaeological photos—after all, they are collected over a range of seasons in the search for features of similar size, in the same regions of the country. We contacted some aerial archaeologists—the half dozen who replied were unanimous that they could not possibly have missed crop circles, and that they have only been seeing them recently.

We wanted to carry out an exhaustive—and exhausting—look at the thousands of photos that have been taken since the 1930s, but time constraints have thus far limited us to several hundred taken in the right season over a couple of spots which have proven attractive to crop circles over the past ten years. We could not see the recent photos, but found no circles at all—only one circular feature in fact, which turned out to be a barrow. Even this limited survey might crudely suggest that an average season pre-1980 had less than one crop circle per 100 square miles, even ignoring the fact that

these sites were recently crop circle rich. Our preliminary conclusion—which really should be reinforced by a thorough search—is that crop circles, at least in their present profusion, are not old. Ironically, a search such as the one we contemplate is the only approach likely to give Meaden's theory real support, if crop circles could be shown to have existed before any whisper of media interest had arisen. In 1990, Meaden was scathing of suggestions that the frequency or complexity of circles might be increasing^[10].

Some commentators query the increasing complexity of these formations. But are they becoming more complicated? Are plain circles being embellished by pranksters? Such facile questions belie the intricate matter which is the circles effect. He has now accepted this feature, and recognises the need to account for it. Once again, hypotheses—including the solar cycle, the ozone hole, long hot summers and changing agricultural patterns—have been entertained by him and his followers to explain the changing frequency. I am surprised they don't mention the decade-long reigns of powerful conservative rulers in Britain and the US—but then, perhaps a period of *laissez faire* favours the hoax hypothesis!

Lacking a quantitative basis, the theory cannot be tested on these grounds, but we can see that plasma vortices are strange beasts. They can be turned on or off by slight large-scale climatic change, even though they are apparently short-lived micrometeorological phenomena. They are sensitive to crop strains and farming methods. On the other hand, they can strike oats, barley, rape, beans, wheat, at many stages of their life cycles and from May to September, and can even appear in grass, snow and sand!

Impatient with our lack of progress, we finally decided this summer on a high risk strategy. This was to hoax our own circles and see if the experts could tell the difference. This was high risk, because failure might prove nothing more than our own incompetence, yet discredit the sceptical viewpoint.

First we had to practise the techniques. With the assistance of *National Geographic*, in England to make a film about crop circles, we rented a field from a friendly farmer (a rare commodity in Wiltshire these days) and made a pictogram. In broad daylight, on a sunny Saturday afternoon. We were buzzed by planes, helicopters and microlites. Even this level of observation did not stop certain members of CCCS declaring it genuine—in fact one gentleman did so when overflying it a couple of days later. Other members, while aware the main pattern was artificial, became convinced that a ring had appeared mysteriously some time later outside our main circle.

Furthermore, this ring was said, darkly, to be ‘too narrow to be made by trampling.’ In fact, it was made just that way, and only minutes after the main circle. I am still not sure that we have convinced them all that we made it!

What were our techniques? ^[11] Mostly simple and obvious ones, really. A bit of string held by a central person while another described a circle. Trampling, sticks and rollers to lay the corn. Sighting on a distant object to make the straight corridors. We found that it was not especially difficult to get through the corn without leaving a trail, particularly if you walk along the seed lines and turn around every metre or so to re-entangle the plants by brushing them gently with a stick. We concluded that a garden roller was the best tool, since if used with care it would lay the corn without unnecessary damage. We determined to try again, this time for real.

Fortunately, we were successful, though not at first. Our first attempt was thrilling, and performed without the farmer’s permission (we did send the farmer compensation anonymously a week or two later). We wanted to see if hoaxing was possible under the pressure of fear of being caught; we also wanted to avoid asking a farmer to lie, as he or she would need to do if the test were to be effectively blind to the experts. We picked a field on top of a hill near Marlborough. It was a beautiful, crisp night and the sky was clear with a full moon. Every sound frightened us. Many cars passed, causing us to spend much of our time crouching down in fear of detection. We got hot, tired and frustrated—our chosen field was muddy and had very deep tramlines. We changed our plans, dropping our elaborate pattern and doing just a huge circle with a ring and a small circle some way off. And we were rumbled—a car stopped! Some people got out, but they soon left, and we thought we had got away with it. Only later did we discover we had been spotted. As we squatted in the damp at the edge of the field, waiting for our getaway car we were filled with undeserved euphoria at our imagined success. It truly was a beautiful night, and we were rewarded for our endeavours by the sound of a female fox screaming its chilling, almost human, cry.

Even though we were discovered by circle watchers, and word got around very fast, we were not stopped or apprehended, which was interesting in itself. Some members of CCCS did not get the news in time, and declared the circle genuine. Many members of the public were impressed, and a few unwitting dowsers found their rods stirring.

Why crop circles should dowse is unclear—something to do with earth energies or ill-defined electromagnetic

anomalies, apparently. I have witnessed the replication problems of the dowsing technique at first hand. At Alton Barnes last year, I watched with some amusement as a couple of dowsers compared notes in one of the circles. The woman had found a distinct vortex, and her rods were whirling to back her up, whereas the man had found the same spot to be devoid of activity, and his pendulum hung limply. That dowsing is so heavily implicated in circles ‘research’ is just a symptom of the subjective nature of these investigations.

But I digress. Chastened with failure, not because our circle had failed to meet the experts’ criteria but rather because they were not forced to work blind, we were a bit lacking in eagerness to try again. But the despondency soon passed, and we started plotting again. We were to be filmed for the TV program *Equinox*, and we decided to get the permission of a farmer this time. We were lucky enough to find just the man we needed—someone who would be willing to dissemble to all and sundry and be convincing with it!

Once again, things started off badly and moved further and further from our well-laid plans. We had scouted the terrain beforehand, checked the tramlines and prepared an appropriate plan. But when we got there, we found that much of the field had, ironically, been laid low by wind damage, and we had to redesign fast. Our problems were doubled when the TV crew did not maintain an appropriate demeanour for the situation; they barged through the corn, interviewing us as we worked and flooding the field in light. Since Wiltshire was infested with circle spotters, we were sure we would be found out. As if to make sure that even if the TV crew failed to give the game away, word would still get out, we accidentally left some string in the field. Fortunately, the farmer removed this the next morning.

We were again despondent; one of us had laid the corn the wrong way, pointing towards the centre of the circle, and the TV crew had trampled through the corn. We were sure that we had made a crude hoax, and that nobody would be fooled by it. Boy, were we wrong! We were still guilty of overestimating the objectivity of the experts. It took a while for the experts to find it, because it wasn’t visible from the road, but within two weeks we had proven that it was possible to mislead the experts, including some who had so far remained immune from the taint of error.

Busty Taylor of CCCS found it genuine, and emphasised the departure of the large central pattern from true circularity as the mark of authenticity. Terence Meaden, who had publicly resisted the possibility that he could be mistaken in his judgement of circles, not only found our fabrication credible, but that it ‘fit

perfectly the scientific theory I have been putting forward for the last ten years,' and was '100% genuine.'^[12] He stressed how many hoaxes he had seen, and marvelled at the classic layering patterns (another mark of authenticity, according to the experts). He was interviewed in the circle, and brought reporters to see it. A medium flown in from Paris by a producer from Paramount found the energies overwhelming — she developed a headache and had to leave. Dowrsers' tools went wild in the circle. (Of course, we can't deny that a lot of psychic energy may well have been trapped in the circle—there was quite a lot of cursing and swearing the night we made it!)

This was not the first time the experts had been misled—Delgado and Andrews have several times in the past been wrong in their claims that circles are genuine^[13] —but it was the first that we knew of for Terence Meaden, and proved that the features alleged to be impossible to simulate were in fact quite easy to reproduce. We are now of the firm opinion that there is no substance to the experts' claims that they can distinguish a category of circles for which hoaxing is impossible.

Admittedly, we have never entered a 'fresh' circle, one that has had no sightseers. We have been told by Meaden of a complete absence of collateral damage in these cases. If this is true, we could probably not reproduce them with our present techniques. We always found a small number of damaged plants, in which the stalk was bent in more than one place. On the other hand, damaged plants do not prove hoaxing—in one field, for example, we observed that even in stands of fresh corn some of the plants were damaged. Moreover, it is always possible to remove them, if one is sufficiently patient.

So this was the situation at the end of August—we knew that the experts could be fooled, and had as far as we could tell no method for reliably distinguishing 'true' circles. We had preliminary evidence that crop circles had not existed for very long. We also knew that our organisational skills needed a little polishing!

Then, on 9 September, the *Today* newspaper dropped a bombshell on the tightly knit little world of the crop circle experts.^[14] It published a story in which two men, Doug Bower and Dave Chorley, claimed not only to have been hoaxing circles for years but actually to have started the entire craze, basing their idea on some UFO hoaxes in Australia in the 1960s. They backed up their claims by making a pattern into which Pat Delgado was lured by the newspaper. He not only fell for it, he raved about it^[14]:

"In no way could this be a hoax. This is without doubt the most wonderful moment of my career.

What we are dealing with here nobody in the world understands. We are left with the fact that these crops are laid down in these sensational patterns by an energy that remains unexplained and is laid down by a high level of intelligence."

When informed of the hoax, he reacted with characteristic humility: "They are to be admired in the way they have conducted their nocturnal escapades which made it look as though there was a real intelligence that we don't understand. From this simple prank developed one of the world's most sensational unifying situations since biblical days ... this is a lesson to us all that we should look and listen to the beautiful and small things in life." Thus was exposed by far the most public of Delgado's errors, and it has cost the credibility of crop circles dearly. This is somewhat paradoxical, of course, since Bower and Chorley's confession is not necessarily inconsistent with Delgado and Andrew's postulates of superior intelligence and unknown forces!

The story told by the two putative hoaxers rang true, and the reporter claimed they had a lot of corroborative—although circumstantial—evidence. Several national newspapers and the broadcast media picked up the story, although the TV networks carried it without reference to the article. Consequently Delgado and Andrews were able to walk into a circle they knew the two men had made and declare it, on camera, an 'obvious hoax' without Delgado being challenged on his previous statements. Well, yes.

Nevertheless, the wagons were circled to fend off this assault. Delgado retracted the statement of complete capitulation attributed to him by the press, prompting *Today*^[15] to respond 'come on, Pat, admit you were had'. Andrews continued to assert there were unfathomable mysteries—for example, the alleged impossibility of making a mature rape circle, since the stalks break however you try to bend them. Not so, if you do it right, it takes a little time, but then there aren't that many crop circles in rape.

CCCS claimed they had filmed a circle in formation, although this is yet to be shown to the world. And George Wingfield, member of CCCS, launched charges of a government cover-up^[16], aimed at discrediting crop circles in the eyes of the public. There was damning evidence for this. The copyright of the first *Today* story was assigned to MBF services, which people like Wingfield know is a cover for the government secret service (maybe they should have just signed it MI5—that would doubtless have proved it wasn't the secret service). Finally, in what sounded like a case of sour grapes, CCCS began to hint that the police should deal

with the hoaxers. The CCCS response prepared for the press is clear about their views concerning hoaxing. They put the following arguments against claims that all circles were artificial ^[17]:

“The crop circle phenomenon has been under systematic study for 12 years, beginning in 1980. Over this period, something like 2000 events have been recorded... Many events have been very complex and very large. Some circular events have been larger than 300 feet in diameter. Some linear events have been as long as 250 feet from end to end. If this is the work of hoaxers, their dedication and energy is little short of marvellous. Simple events would have been enough to satisfy the ordinary malice of hoaxers; the exuberance of what we have seen needs much further explanation.”

The first two points are obviously irrelevant to the argument, while the third is more interesting. It is—essentially—claiming an understanding of human nature sufficient to rule out hoaxing, which later is described as ‘far more implausible than any other hypothesis.’ We can observe in response that human beings are always surprising, but perhaps we can go a little further. Bear with me while I indulge in a little Voodoo statistics.

Suppose that a fraction f of the population is sufficiently motivated and skilful to fake crop circles (we have seen that the skill need not be rare). Suppose further that, on average, every individual inclined to hoax knows another n people sufficiently well to discern, perhaps after casual conversation about crop circles, a kindred spirit. If we demand two hoaxers to make a team, then a population of N will have approximately Nnf^2 teams, if N is much larger than n . Bower and Chorley claim about 200 patterns, or 10% of the total. Let us assume that a population of 1 000 000 is available to fake circles, which seems an underestimate. Let us compensate, and say that all teams are as productive as Bower and Chorley, so we need 10 teams. Then we need:

$$nf^2 = 10/1\ 000\ 000 = 1/100\ 000$$

If n is 10 (not, I think, unreasonable) then f is 1/1000, and only one in one hundred people will know a potential hoaxer well ($nf = 1/100$), and even then may not spot that potential.

To rule out hoaxing, therefore, you must claim to understand human nature rather well at the 1 in 1000 level—in other words, you need to have intimate acquaintance with many hundreds of people. Arguments against hoaxing that rely on assertions about its ‘incredible’ scale are thus unlikely to be based on knowledge.

I have spoken briefly with Doug Bower, who seemed a pleasant enough chap, and very amused at the discomfiture of the experts. Bower and Chorley’s comments about the reactions to their circles are illuminating ^[14]:

“We heard this bloke Delgado had reported them...He started saying they had been done by a ‘superior intelligence’—we liked the sound of that. We laughed so much that time we had to stop the car and pull into a lay-by because Doug was in stitches so much he couldn’t drive. Even if we were clumsy and caused a mess, they were still so keen on dismissing that humans had done it that they explained it away by saying, ‘Oh, the first onlooker must have done that.’”

On the whole, the hoaxers’ story seems credible, although there are details that would bear checking. Nevertheless, if what this duo say is true, then they are responsible for starting what may rank as the biggest amateur hoax in peacetime history. Any offers for candidates who can rival their achievement?

So what is our conclusion about all this? We think there is no firm evidence, and certainly none that has been made publicly available, which is inconsistent with 100% hoaxing. The apparent confession of the initial hoaxers has the potential to clear up much of the mystery, although some may remain—for example, who made the other 90% of crop circles (assuming the reported total of 2000 is accurate), and how did Doug Bower find a wife who would let him stay out until the early hours of the morning every Friday night for five summers, and never once ask him what he was doing! (The answer, actually, is not uncommonly heard from English housewives—for many of them, ‘Friday night is boys’ night out’.)

Much of the remaining mystery resides in that class of paranormal phenomenon which will be so familiar to you all—malfunctioning cameras, strange noises, unexplained illnesses ^[18]. None of this evidence is really available for inspection, and most of it is unlikely ever to be explained. We tend to discount it. CERES has collected 20–30 eye-witness accounts; some are not explicit observations of the formation of a circle, others are unambiguous. Unfortunately, there is no way to determine the truth of such claims, and the prior expectation of fabricated stories seems quite high. After all, the media made the subject sensational in 1990, and even offered monetary rewards for explanations of crop circles. They were thus effectively trawling the entire adult population of Britain for accounts of observations, offering fame and fortune to respondents. With tens of millions of people in southern England and ample

precedent for hoaxed stories, for example in the field of UFOs, fabricated accounts of crop circle formation seem inevitable.

The burden of proof that crop circles are anything but hoaxes is now well and truly on the shoulders of the experts, but don't hold your breath. Can we draw any lessons from what appears to have been a decade-long fiasco? Well, we can use it as an illustration of poor investigation. The episode has been a classic display of this, with a long list of errors and weaknesses, amongst which are:

- Appeals to authority
 - Unchallengable statements
 - Use of subjective techniques to gather evidence
 - Publication through the mass media, avoidance of the usual scientific channels
 - Untested assumptions of competence
 - Ad hoc bandages for defective theories
 - Allegations of cover-up
 - Ad hominem attacks on critics
- and so on and so on.

Mostly the crop circle experience has just been a bit silly. However, there are worrying aspects, not the least of which has been the role of the media. The broadcast and print media have carried frequent items about crop circles. Delgado and Andrews and Meaden have appeared on TV and radio, usually on different programs, and almost invariably they are up against no one more qualified than an ill-informed interviewer who seems to know nothing about science and allows them to present themselves as thoughtful, knowledgeable and careful investigators. Rarely have critical scientists been brought on, and when they have it is often to criticize Meaden, who considers himself in the scientific arena.

Delgado has said 'it is as though orthodox physics and science have been on trial for the last ten years and have failed to produce an answer.'^[19] Well, if this is a trial of science, it is a trial *in absentia*, and it is not surprising that there has been no answer. I see no indication that there has been any attempt to apply the scientific method, no rigorous testing of hypotheses. Instead—and this applies to all the major protagonists—there has been a haphazard accumulation of what might loosely be called 'data', and the construction of vast and shaky edifices of speculation. This applies even to Meaden, whose latest concoction is a theory that megalithic circles were constructed to immortalise crop circles^[20]. He now invokes this as proof of crop circles in prehistory! Empty of content as this theory may really be, it has turned out very popular. Recently, when I was putting our viewpoint to a farmer, she silenced me with a completely unexpected 'well, why is Stonehenge

round, then?'

What could the media have done? They certainly couldn't force scientists to investigate crop circles, in which most of them took no real interest. But they could have found some to challenge the quality of the experts' evidence and question glib references to electromagnetic forces, dowsing and mysterious energies. In talking to one journalist, I got the feeling that this omission might not always be malicious, that journalists could not identify the matter as a pseudoscientific one and that they had little choice but to accept the experts at face value. They are actually glad of conflicting views; it makes for good entertainment. That, of course, is the other problem. Rarely do the media examine issues like this thoughtfully, and they do not keep stables of their own experts in science and pseudoscience as they do in economics and politics. Skeptics must not only investigate the issues, they also have to work hard to get themselves and their viewpoint noticed. But it is possible. I was lucky enough to be on TV suggesting hoaxing as an explanation last year the evening before Delgado and Andrews were taken in by a hoax during 'Operation Blackbird', their surveillance effort. And when Bower and Chorley broke their story, we were able to seize the chance and put our point across in a handful of newspapers and on BBC local TV.

Far more daunting is the challenge to get thoughtful coverage of the issues. Too often, one has but a brief moment to summarize a complicated position. How the British public will ever come to understand and respect the scientific method without detailed exposure of the issues is unclear to me. And they need this understanding and respect for the scientific approach. Probably, like me, you feel that environmental issues are important. If so, you may agree that the Green movement is doing a lot of good work bringing attention to the issues. Unfortunately, in Britain, green matters, like health, seem to attract and nurture careless and wishful thinking, along with an antiscientific attitude.

Holders of such views, some of whom have seen crop circles as a cry from Mother Earth, ignore the facts that, although science and technology may have facilitated and sometimes brought about environmental abuse, along with their benefits, they have also given us the power to know what is happening to the environment and—perhaps—to correct it.

My heart sinks when I think of the damage that I fear has been done to the public understanding of science by media coverage of the crop circle fiasco. It sinks further when I think that in one hundred years time, some convinced patron of the paranormal will write whatever passes for a book^[21], and a chapter will be devoted to

the Wessex Crop Circle Enigma of the twentieth century. These circles mystified scientists, the author will say, and have never been satisfactorily explained, even to this day. I find my only consolation in the hope that the growing and vigorous sceptical movement that started at the same time—speaking in quarter centuries—will have made its mark, and there will be plenty of late 21st century sceptics to say just where the author has gone wrong.

Notes

The other members of the Wessex Skeptics involved in the investigations were: Robin Allen, Bertrand Desthieux, David Fisher, Chris Nash, Matthew Trump. With thanks to: Paul Adams, Debra Chesman, Chris Cutforth, Kate Fielden, Mike Hutchinson, Martin Pitt, Juniper, VECA.

Since this article was written, the Wessex Skeptics have been contacted by Dr Meaden, who has informed us of a change in his position; he no longer believes that the pictograms are genuine products of plasma vortices, and now thinks that all but a subset of the simpler patterns are the result of human activity. A survey of aerial photographs would be a promising line of investigation. Dr Meaden is also now of the opinion that information apparently obtained by dowsing is unreliable.

References

1. See, for example, *The Circles Effect and Its Mysteries*, G.T. Meaden, Artetech 1990 (2nd edition).
2. 'Shock Encounter as a Circle is Born,' *The Mail On Sunday*, 25 August 1991.
3. For example, pp. 164–165 in *Circular Evidence*, C. Andrews and P. Delgado, Bloomsbury, 1989.
4. *Circular Evidence*, p92.
5. G.T. Meaden, *Journal of Meteorology*, Volume 16 Number 159 (May-June 1991), p163.
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12. 'Farmer's hoax beats a boffin,' *The Sport*, 3 September 1991.
13. See *Sunday Express*, 30 July 1989, for initial report on Delgado and Andrews' enthusiastic endorsement of 98 circles at Haye-on-Wye; *Wolverhampton Express and Star* for their retraction after the publication of the information that a farmer had made the circles to encourage grouse to settle (date unknown; reference taken from *Crop Circles: A Mystery Solved*, P. Fuller and J. Randles, published by Robert Hale.)
14. 'Men Who Conned The World,' *Today*, 9 September 1991, pp 1–2, pp 11–12.
15. 'Come on, Pat, Admit You Were Had,' *Today*, 10 September, pp. 4-5.
16. Wingfield made these allegations on the Granada TV programme *Up Front*, 20 September 1991.
17. CCCS public relations response to *Today* story; private communication.
18. Strange goings-on—see, for example: *Circular Evidence*, p150 for Busty Taylor mysteriously tripping over barbed wire, pp 172–73 for litany of compasses, microphones and cameras behaving strangely. Also Meaden, Conference report: p41.
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20. G.T. Meaden, *Goddess of the Stones*, Souvenir Press, 1991.
21. To be published.

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FORUM

The Greenhouse Effect:

The latest urban myth?

Laurie Eddie

There are many popular stories, commonly referred to as “urban myths”, or “urban legends”, which from time-to-time you will come across in the media. They are repeated, often with years or even decades between their appearances. Some common ones are the Solid Cement Cadillac ^[1]; the \$50 Rolls-Royce, (or Porsche)^[2]; Alligators in the Sewers ^[3]; the Pet in the Microwave ^[4]; the Cooked Dog ^[5]; and the Cat/Rat farm ^[6].

When the information comes from a “responsible” source, people will often accept these myths as “fact”. Unfortunately, too often people include the media as a “responsible” source, especially when the story originates with, or is backed by an “expert”. Similarly, if a rumour is repeated often enough by the media, it takes on a truthfulness of its own.

In addition to the willingness of the general public to accept unfounded rumours, there appears to exist amongst them a strong streak of fatalism, which attracts the public to tales of imminent disasters, especially cataclysmic disasters, such as the end of the earth. A recent example of this was the Jupiter Effect scenario. A writer on astronomy claimed that when, in 1986, all the large gas planets (Jupiter, Saturn, Uranus and Neptune) were aligned together on one side of the sun, the combined effect of their gravitational attraction would have a cataclysmic effect upon Earth; abnormal tides, accompanied by tidal waves hundreds of feet high would sweep across the continental land masses, while earthquakes, of a magnitude never before encountered, would rip the earth apart ^[7].

The only truth in this was that these planets would come together on one side of the sun. Because of the different lengths of their orbits, the large gas planets from time-to-time all end up on one side of the sun together. This natural phenomenon is called an alignment. There are two types of alignments. A Minor Alignment occurs about every 50 years, when the major planets are together on one side of the sun, but are not particularly close. The second type, a Major Alignment, occurs every 178 years when these planets are located within 12 degrees of each other.

However, since these Major Alignments have occurred for thousands of millions of years with no apparent effect upon the earth, it was hardly likely that any cataclysm of the magnitude claimed would result. However, this fact was conveniently not mentioned. Instead the public were told only that: [a] a Major Alignment was to occur; [b] that it was an unusual cosmic event; and [c] that it would produce abnormal gravitational forces upon the earth, creating massive damage and the deaths of hundreds of millions of humans.

The proponent of this theory, by preying on the gullibility of people’s preoccupation with the fear of death and destruction, made quite a lot of money. In this case, the “expert” may have had an ulterior motive, however, sometimes things are not that simple.

The Greenhouse Effect

We are currently experiencing a similar deception. I refer of course to that latest urban myth, The Greenhouse Effect. Essentially the claim is that since the start of the Industrial Revolution our factories have been discharging huge amounts of carbon-dioxide (CO₂) into the atmosphere, and that, because CO₂ will prevent heat being radiated into space, but be reflected back to Earth, we can expect the climate to get hotter.

Such a claim has all the characteristics of an urban-myth. It sounds plausible; “It could be true”; it is being pushed by “reputable sources” and by experts (or by people claiming to be experts); their claims are being reiterated by the media on a regular basis. It has all the necessary ingredients for a fatalistic scenario. Finally, it has gathered sufficient momentum to be carried forward, with a truthfulness of its own, and it has a strong environmental feature, something which attracts the very vocal “greeny” power-bloc. In other words it has reached that point where it has become fashionable to be concerned about global warming ^[8].

Yet, when we examine the real facts do we find that it has substance, or is it merely just a load of hot air? We discover that there is absolutely no hard evidence

to prove that the GHE even exists. As Tom Gosling commented, "Time and time again you see these headlines which treat it as a fact, when it should be treated as hypothetical" ^[9]. The evidence being put forward, in fact, turns out to be nothing more than vague, unsubstantiated speculation, mostly by a small band of doomsday-sayers, very vocal people, who having first claimed that the amount of CO₂ in the atmosphere has increased 100% over the last 100 years, conveniently ignore evidence which shows there has only been an increase from three parts per million, to four parts per million, and are now claiming that evidence for the GHE is to be found in rising ocean levels, and increased air temperatures.

Rising oceans?

Claims about rising sea levels are based upon extremely poor evidence. There have been few accurate records of changes in sea levels, since oceanologists have only really started checking sea levels in the past forty or so years. The latest figures, for South Australia, claim that the sea levels in the Gulf have risen 1mm in a year, a very small amount. On the basis of such material, many claim this proves that the ice caps are melting and that we will all be under water within 50 years. Such claims conveniently ignore the fact that sea levels are not static. We know from geological records, going back millions of years, that sea levels have been rising and falling by many hundreds of metres. In addition, the continents themselves have been rising and falling. At one time or another, most of the Australian continent has been under water, and as Barry Pitman pointed out, "it's acknowledged that many measuring stations are themselves slowly sinking" ^[10].

There is a strong body of evidence to show that about every 10,000 to 20,000 years, there is a massive worldwide Ice Age which lowers the level of the oceans by several hundred metres, exposing large areas of land which are presently under water. As this Ice Age passes, the water level rises and once again covers the exposed land.

We know, with a fair degree of certainty, that this movement of ocean levels has been occurring for millions of years, long before the so-called GHE. What we do not have is an exact timetable to predict when the next Ice Age will occur, so we are not in a position to say exactly how high, or low, the oceans should be at the present time ^[11].

We also have little long-term evidence of changes in temperature around the world. The most reliable data

currently available indicates there has been no actual rise in sea temperature since 1850. This finding by the Massachusetts Institute of Technology^[12] refutes the claims by some groups, such as Greenpeace, who emphatically claim that there has been a rise in temperature of half-a-degree Celsius in that same period.

Regarding air temperature, over the past 100 years the amount of industrial gases released into the air should have raised the air temperature by at least three degrees Celsius. Yet again we can find no evidence of such an increase.

Climatic change?

Meteorological records are only a recent innovation. While regular temperature readings are available for London from 1670, there is some doubt as to their accuracy, since an effective thermometer was not developed until 1714 (by Fahrenheit). In addition, proper recording of meteorological data requires large networks of data recording stations and satellites. Such facilities have only really been available in recent times; (even by 1870 there were only 100 recording stations for the whole of Europe).

Prior to that our information on meteorological conditions must rely on anecdotal and historical information. These records are as varied as Japanese records which show the average dates for the first cherry-blossoms, the types of crops able to be grown in certain regions, the freezing dates for certain lakes and the duration of pack-ice off Iceland.

For instance, we know that between AD 592–640 there was a major drought in the eastern part of the Mediterranean. Agricultural records indicate that between AD 1000–1300 Europe was 0.5 to 1.5C warmer than the present period, because vineyards were more widespread throughout Europe at that time (E.B.).

In the 18th century Europe experienced an abnormally severe winter, in which for the first time the Thames actually froze and birds froze to death in flight. This event was only recorded because of the abnormal events associated with the extreme cold. How many previous events must have occurred before they were recorded?

Abnormal weather patterns were recorded in 1816–17, when Europe and America suffered an unusually cold spring and summer, which resulted in widespread crop failure. That particular abnormal season was the result of the volcanic explosion of Mount Tambora in Indonesia. (This explosion was even larger than the better known one of Krakatoa in 1883). The temperature records for that period are available because, by that

time, scientists had commenced keeping daily weather records.

Thus we have evidence of considerable, but normal, variations in ocean levels, abnormal weather and temperatures. Against this we have little long term records of ocean levels, and no evidence of increased average temperatures.

A point conveniently ignored by proponents of the Greenhouse Effect is that the major volcanic eruptions, such as Tambora, Krakatoa, Mount St. Helens, etc., each released billions of kilograms of sulphuric acid into the atmosphere, amounts which reduce to a level of insignificance the amount of CFCs released by industrial societies. One of the largest polluters of the atmosphere is Mt Erebus in Antarctica, which spews out some 1,000 tonnes of chlorine each day.

The entire issue commenced with the Villach Statement ^[13] a carefully worded, conservative document, which merely set out to postulate what could happen if the amount of greenhouse gases in the atmosphere were to double. From that point we have seen all types of fatalistic formulae conceived, with frequent press releases in which the GHE is taken for granted as a factual disaster. Naturally, the media provide wide coverage for these sensational statements, rarely asking where the truth lies.

The critics

In perspective, one must look seriously at the claim by Fred Singer, Professor of Environmental Science at Virginia University, who claims the GHE is a blatant fraud, and that 40% of the researchers at the Intergovernmental Panel on Climate Change, in Toronto in 1990, disagreed with the conclusions and that their opposing views were suppressed by the panel ^[14]. In similar fashion, at a recent conference in Sydney, researchers who questioned the existence of the GHE and the validity of the GHE evidence being presented were refused the right to speak.

It is quite obvious that there are powerful groups pushing what is essentially an urban myth, and that these groups are playing on peoples' fears. As a result the issue has been blown entirely out of proportion, and has become a political issue, one which the political parties are keenly attuned to utilizing to attract the green vote.

The facts are, that the only evidence of the GHE are sophisticated computer models, set up by computer programmers in an attempt to replicate one of the most complex phenomena we know of, without even being

fully aware of all the input factors required for the model. Apart from the computer theory, there is absolutely no evidence that the GHE actually exists. As such it remains firmly within the realms of mythology, yet the danger lies in the fact that it is being pushed dogmatically by bogus scientific pressure groups, intent on making politicians feel guilty and forcing them to adopt their beliefs and force everyone to behave in ways which they believe are good for us ^[15]. Before we go making dramatic changes and introducing laws, which may not be necessary, we must question the qualifications of the scientists, and others, who are making the fatalistic predictions of doom.

Fortunately, there is an increasing questioning of the validity of the GHE, and a recent programme on SBS, *The Greenhouse Conspiracy*, concluded that the GHE was, "the product of a coalition of self-interests, researchers hungry for funds, politicians looking for a cause, journalists eager for a story" ^[16]. Now new evidence suggests that the whole issue may be far more complex than originally conceived, and that there may be other factors involved in the so-called GHE. Recent studies of the Greenland ice cap reveal an 80 year cyclical variation in temperatures caused by a corresponding cycle of sunspot activity ^[17].

References:

1. The Cement Cadillac appears in several versions. They involve a husband who drives a mobile-cement-mixer. On the way to a job, passing his own home, he sees a Cadillac parked in the driveway. Thinking the worst, he assumes his wife is having an affair, and that the car belongs to her lover. He backs up his truck, pours his load of cement into the car, and drives off. When he gets home, his wife tells him that they have won a Cadillac in a competition, and that it is parked outside.

2. The \$10 Rolls-Royce concerns the wealthy businessman husband who has run off with his secretary. He contacts his wife and tells her that he is not coming back, and asks her to sell his car, a Rolls-Royce (or Porsche), and forward the proceeds to him. The wife does as she is asked, except that she advertises the car for sale at a price of \$10. She sells the vehicle and sends him this amount. Think about how unlikely this one is.

3. The Alligators in the Sewers myth concerns the tourists who bring home a baby alligator, after a while they tire of it and flush it down the toilet. It emerges in the sewers, takes up residence, living off bodies of dead animals. Finally it grows quite large and starts feasting on sewerage workers.

4. The Pet in the Microwave ? It seems that an old lady is given a microwave by her children. After bathing her dog she places it in the microwave to dry out. Of course the dog gets cooked from the inside out.

EDUCATION

The Festival of Light, Noah and a Flood of Nonsense

Alex Ritchie

As a working scientist with 37 years experience in geology and palaeontology I have long been concerned by the efforts of certain fundamentalist religious groups to insert religious dogma into school science classes in the guise of 'creation science'.

On 28th March 1992 I attended what was advertised as an 'Education Seminar' on the topic "Should Creation be Taught in our Schools?" The three hour seminar, held in Parramatta, was sponsored by a group called 'The Australian Federation of Parents for Quality Education'. The letter accompanying the invitations was headed "Festival of Light. National Co-ordinator – Rev Fred Nile." The letter was signed by Mr Bruce Coleman, Chairman of the above Federation, a member of the personal staff of Rev Fred Nile at Parliament House and who also chaired the seminar. The Festival of Light letter lists, down one side, the names of 67 members of its "Advisory Committee" including such leading public figures as Sir Colin Hines, Mr Reuben Scarf, Dr Bruce Shepherd and Canon Lance Shilton. I do not question the right of these, or any other, individuals to serve on such a committee. I do question, however, whether members of the FOL's Advisory Committee are fully aware of the real nature and anti-educational implications of F.O.L. activities to which they lend their names.

I attended the Parramatta seminar accompanied by two colleagues, both Christians with wide experience in education. Mr Barry Price, a physicist formerly with the Catholic Education Office, is the author of *The Creation Science Controversy* (1990). Dr Frank Burrows, School of Biological Sciences, Macquarie University was co-editor of the symposium volume, "Confronting Creationism: Defending Darwin" (Univ. of NSW Press, 1987). The scheduled seminar listed three 45 minute talks and two 15 minute question sessions.

The first talk, "An Overview of the Creation/Evolution Debate", was by Mr Trevor Holt, described as a "former Science teacher". The second talk, by Mr Jeff Smith, "industrial chemist", was more honestly titled as "Communicating the Creation Message in the Heathen

Country of Australia". Both speakers were evangelistic preachers. Their talks were preceded by, interspersed with and terminated by fervent prayers. The scientific content of both talks was nil.

The approach was unadulterated Young-Earth, Noah's Flood Creationism (i.e. the world was created about 6000 years ago in six 24 hour days and Noah's Flood was an actual event around 4000 years ago that formed all of the Earth's geological and fossil record). The seminar started 15 minutes late, causing the first two talks to overrun and conveniently using up the first question time. The third speaker, Mr John Heininger, Chairman of the Evangelical Apologetics Society, devoted most of his talk, entitled "A Science Education, Not Indoctrination", to demonstrating links between various active anti-creationist groups, singling out Australian Skeptics and CSICOP for special mention. The gist of Heininger's message appeared to be that most of those opposed to the teaching of Young-Earth Creationism and Flood Geology in Australian schools were humanists and/or atheists. This may come as a shock to the overwhelming majority of Christians (Protestant and Catholic) who accept the irrefutable scientific evidence for the great age of the Cosmos and the Earth.

Mr Heininger, aware that I was in the audience, took the opportunity to quote (or more correctly, selectively misquote) me, citing my letters to the *Sydney Morning Herald* opposing creationism. Question time which followed was a travesty. This will not come as a surprise to anyone familiar with creationist debating tactics and concepts of "free speech" or "equal time". When I asked the Chairman (Bruce Coleman) for right of reply to John Heininger this was denied.

The audience, mostly consisting of the faithful, clearly had no wish to hear a scientist explain why 'creation science' has no place in Australian science classes. The meeting ended in uproar when the first speaker, Trevor Holt, asked to say a closing prayer, advanced from the lectern into the audience, directly confronted Barry Price and me, denounced us as agents of Satan and called on

Jesus to intervene, with his hands over our heads, presumably trying to exorcise evolutionary devils. It was an educational, if not an edifying, experience. As a finale the second speaker, Jeff Smith, advertised a forthcoming public talk in Sydney in mid-May by a "Dr" Alan Roberts on the supposed discovery of Noah's Ark in Turkey.

The fact that a fringe group of fundamentalist Christians want to teach outdated religious dogma in Australian science classes is not news. The fact that this insidious, anti-intellectual, anti-educational campaign is being carried on under the banner of the Festival of Light is more serious. Is it really the official policy of F.O.L. that all Australian schools should teach in science classes that the Earth is only 6000 years old and that we all came out of the Ark in 2345 BC? If so it is time the FOL came clean, stated its aims openly and let the public judge for themselves. The 67 members of FOL's Advisory Committee would be well advised to familiarise themselves with what is being promoted in their name and state publicly whether they wish to be

associated with such views.

I wish to emphasise that, in raising these issues, I am not attacking religion. I am defending science. The so-called 'debate' between Evolution and Creation is a diversionary tactic to distract attention from the real issues involved. The real 'debate' is between advocates of Young Earth, Noah's Flood Creationism on one hand and all science (physics, chemistry, astronomy, geology, biology, palaeontology, anthropology, archaeology, etc.) on the other. I call on those scientists, in all disciplines, especially those who are also Christians, to speak up on this matter to help keep Young-Earth creationism out of our science classes.

Most major religions today have come to terms with, and have incorporated in their beliefs, the scientific discoveries of the past few hundred years. Young-Earth, Noah's Flood creationism is not just the science of 150 years ago; it is also the religion of 150 years ago. The 'creation science' threat is as much an attack on modern theology as it is on science. ■

Defending Science Against Creationism

The Parramatta 'Education Seminar' experience taught me a valuable lesson. At short notice I had difficulty locating and enlisting interested colleagues to attend the 'seminar' as participants or observers and was hampered by lack of names, addresses and contact phone numbers.

Although many of those involved in science, science education and religious studies are aware of this threat, the general response of scientific, educational and religious communities to the creationist assault is apathy. Active response to creationists is spasmodic, uncoordinated and limited to individual, or small groups of, concerned scientists and educators. If the creationist threat to science education continues, or intensifies, we must be better organised and coordinated to meet it.

I am currently compiling a list of individuals, from a wide range of scientific, educational and religious disciplines, who are concerned by this situation. I would be interested to hear from anyone interested in participating, especially those actively involved in science and education. I see such a group as providing a means of: coordinating the scientific and educational response to fundamentalist creationists; providing information on creationist activities, movements, meetings and methods; monitoring, exposing and

publicising creationist activities within the educational system; providing sources for scientific advice on a wide range of specialist scientific topics misrepresented by creationists; pooling resources which are not widely or readily available (creationist and anti-creationist books, magazines, articles).

I would appreciate views on the value of such a network, also any suggestions on how to maximise our efforts. One way may be to circulate an occasional newsletter. I invite brief contributions on relevant and topical items on creationist or anti-creationist activities within the scientific and educational communities in Australia for inclusion in a preliminary newsletter. It may also be possible to arrange occasional meetings, seminars or symposia on the creationism versus science issues.

Readers prepared to be actively involved in this issue, on the scientific side, should send:

- a) their names;
- b) field(s) of interest and/or expertise relevant to creation v. science issues;
- c) working address, telephone and fax number; to:

Dr Alex Ritchie, Australian Museum, 6 – 8 College Sreet Sydney 2000. ■

PHILOSOPHY AND THE PARANORMAL (II)

The Search for Truth

William Grey

This is the second in a series of articles in which Dr William Grey of the Department of Philosophy, University of New England, Armidale, examines some fundamental issues raised by psychic and paranormal claims.

The Evolutionary Succession of Explanatory Theories

In the previous article ('Science and "Psience"', *The Skeptic* 12.1, Autumn 1992) I provided a sketch of our science – based understanding of the world and some of its alleged deficiencies. I then considered paranormal claims, and discussed the radical revision which would be required of our basic beliefs if paranormal claims turned out to be true. It is often suggested that science-based understanding is provisional, and therefore unreliable. In fact the provisional and self-correcting character of science is not a weakness, but one of its major strengths. In this article I look at the changing face of science, and the way that it has progressively, and excitingly, enriched our understanding of ourselves and of our world.

Science is not a static body of doctrine. It grows and changes. The physics of Aristotle (384 – 322 BC) could not explain planetary motion; the physics of Newton (1642-1727) could not explain electromagnetism. Perhaps we can look forward to a new revolutionary theory in which the law – governed operation of occult forces will (at last) be explained. But the success stories about how radical innovations have overthrown earlier theories have to be balanced against those cases in which inquirers have allowed their enthusiasms to outrun the evidence. The history of science is littered with the corpses of theories which had to be discarded because they simply did not square with the facts. We explain combustion without phlogiston, planetary motion without epicycles, thermal conductivity without caloric fluid, electromagnetic radiation without a luminiferous æther. But sometimes superseded theories live on. And it turns out that in many cases superstitious belief systems (such as astrology) are plausible hunches which have outlived their usefulness.

There is no sharp or stable boundary between the epistemological graveyard of discarded theories and the more pathological manifestations of human inquiry. Paul Kurtz (1981, p 8) suggests that when we have a science that fails to meet certain minimal criteria it can be classified as a pseudoscience. There will be borderline

cases, but Kurtz (1981, p 9) recommends that 'pseudoscience' be used to apply to subjects that "(a) do not utilize rigorous experimental methods in their inquiries, (b) lack a coherent testable conceptual framework, and (c) claim they have achieved positive results, though their tests are highly questionable and their generalizations have not been corroborated by impartial observers". These criteria are unsatisfactorily vague, but they can serve as a rough first approximation.

Phrenology is an exemplary instance of a pseudoscience. It was a popular field of inquiry in the nineteenth century. Phrenology claimed that personality and dispositions are determined by the size and shape of the brain in a way which is manifested on the outside surface of the head. Bumps on the bonce were the key to character. The theory generated a lot of excitement a century ago, but has now been discarded. Phrenologists were certainly right to suppose that there is something important about the structure of the brain in determining character, but seriously mistaken in supposing that the gross size and shape of the brain were relevant structural features. Kurtz (1981, p 9) suggests that other examples of pseudosciences are: numerology, palmistry, oneiromancy, moleosophy, aleuoromancy, apantomancy, and psychometry. The 'mancy' words are concerned with divination, or precognizing the future. Divination provides an astonishing diversity of candidate pseudosciences. Trying to discern the shape of the future has been, and still is, a widespread and continuing human preoccupation.

Historically, inquirers have resorted to an enormous and extraordinary range of investigative techniques to try to divine the future. The list provided by Kurtz is in fact modest. The techniques which have been used (in addition to Kurtz's suggestions listed above) include: aeromancy, alectryomancy, alphitomancy, anthropomancy, astrology, astromancy, austromancy, axinomancy, belomancy, bibliomancy, botanomancy, capnomancy, catoptromancy, chaomancy, cheiromancy, cleromancy, coscinomancy, crithomancy, crystal gazing, dactyliomancy, dowsing, geomancy, halomancy, harusciopy, hieromancy, hieroscopy, hydromancy, ichthyomancy, lithomancy, meteromancy, myomancy, ophiomancy, orniscopy, ornithomancy, pegomancy, pessomancy, psephomancy, psychomancy, pyromancy, rhabdomancy, scapulomancy, sciomancy, sideromancy, sortilege and tephromancy. (No, I did not invent this

list!) Most of these techniques operate by consulting some instrument or phenomenon which is supposed to reveal the pattern of the future.

Any technique of divination presupposes (a) there is a definite future state of the world, and (b) this future state is somehow reflected in a present pattern, and hence knowable. Both assumptions can be disputed. It is by no means clear that there is any such a thing as a definite future state of the world (that is a metaphysical assumption which I certainly question); and even if there is a definite future state of the world, it is not clear that it could be a possible object of knowledge. Such knowledge would appear to require backwards causation, which as Broad (1949) noted, challenges a deeply entrenched metaphysical assumption (see Kurtz 1981).

The length, diversity and unfamiliarity of the list of divination techniques suggests several things. First we can infer that the techniques are unreliable. If any one of the methods was reliable you can be quite sure that its use would have continued, and no one would have persisted with the quest for ever newer and ever more bizarre methods for discerning the shape of the future. The reason that most of the words listed above are (I conjecture) ones that you have never heard of before (and may never again) is simply that they are labels for procedures which have been found useless and therefore abandoned. They are now of interest only to the antiquarian.

It is however of great interest to ask why inquirers persisted so relentlessly in the futile attempt to discern the future. It is such a powerful urge that it is almost certainly biologically-based. Indeed the capacity to anticipate the future is probably a major driving force behind the development of the central nervous system. Colin Blakemore has suggested that the power to discern the shape of the future with complete accuracy would be such a valuable asset that there would be explosive selective pressure favouring any organism which possessed it. Blakemore (1976, p 707) draws the obvious moral: "For this reason alone the biologist must regard with extreme suspicion the claim that some individuals have extra-sensory perception, or true clairvoyance".

The Search for the Invariant

What is distinctive about science? Why should we favour the explanations science provides ahead of the claims made by friends of the paranormal? The sciences in general, and the physical sciences in particular, have been extremely influential in shaping our understanding of the world. One important feature of the development of science since the time of Descartes (1591–1650) and Galileo (1564–1642) is the way that physics has claimed to be able to provide a complete account (in some sense)

of all that happens in the world. The physical picture of the world conceived in the seventeenth century views the world as consisting at bottom of shaped matter in motion. This classical picture, inspired by Descartes and Galileo and developed by Newton, has been radically modified and supplemented — mechanics proved to be an inadequate basis for physics, let alone science as a whole. But an important element of the Newtonian conception has remained. This is the idea of causal closure. If we seek to explain what happens in the world, that is, to understand any event or happening, we can appeal only to antecedent states of the world, and the laws of science. There is *nothing* outside physical laws to which we can appeal to explain what happens in the world. The important and revolutionary legacy of Descartes, Galileo and Newton was the conception of mathematical formulae, rather than God, determining the state of physical systems.

Newton thought that mechanics would be the basis for a systematic and comprehensive theory of the world. The Newtonian conception received its sharpest articulation in the writing of the French mathematician and philosopher Laplace (1749–1827), who thought that given the positions and motions of all elementary particles in the universe, it would be possible to calculate the precise state of the world at any other time (Laplace 1814, pp 3–4). Physical laws together with knowledge of boundary conditions would enable every future state of the world to be predicted, and every past state to be retrodicted. Laplace's conception of the world as a vast deterministic machine cannot be plausibly defended.

While Laplace's simple picture did not survive, what *has* survived is the belief that systematic scientific inquiry will successfully uncover the structural features of the world and render it intelligible. Science is at bottom an attempt to formulate theories about the world which take the form of immutable truths. The basic intent of disciplined thought is to analyze phenomena by penetrating the mutable appearances and revealing underlying invariants—that is, characteristics which do *not* change. The laws of physics, for example, specify invariant relations, and in general the fundamental statements of a science are expressed as conservation principles.

At a very general level we can identify two fundamentally opposed stances in the history of Western philosophy reaching back over two and a half millennia to (the usual) Greek origins. On the one hand there is the conviction that truth and reality reside in stable and immutable forms—the tradition of Parmenides (born c 510 BC) and Plato (c 428 – c 348 BC). On the other hand there is the conviction that reality is ceaseless flux, change and decay—the tradition exemplified in the philosophy of Heraclitus (died after 480 BC). These

opposed metaphysical conceptions have continued, after a fashion, to the present. Many philosophers, especially those with an interest in the natural sciences, have favoured the Platonic tradition. This perhaps is not surprising since scientific explanation is typically based on the assumption that repeated patterns are the manifestation of some underlying invariants, and the task of inquiry is to discover the invariant principles.

In fact the analysis of any phenomenon is possible only if we analyze it in terms of some invariant which is conserved throughout the change. The formulation of the laws of kinetics by Newton was a discovery which demanded the invention of differential equations—that is, a method of defining change in terms of something which remained unchanged. Without invariants, whether the subject be physics or economics or demography, it is impossible to formulate precise testable laws. Certainly descriptive inquiry is possible in the absence of law-like statements, but at this stage of their development an inquiry is inchoate and phenomenological; perhaps an essential preliminary, but only a preliminary, to the establishment of mature science, which is quantitative and not just descriptive.

Whether there really *are* any absolute invariants is passionately contested. One school holds that invariants are not features of reality which we discover, but fictions which we invent and employ in our models, and, while they may be indispensable tools for thinking about the world, there is no reason to suppose that they reflect objective features of reality. This denial of genuine objective invariant principles has been variously expressed in the philosophical schools of conceptualism, instrumentalism or pragmatism. But whether the invariants are to be located in our heads (conceptualism), in our theories (instrumentalism), in our practices (pragmatism) or in the world (realism), any decent explanatory theory has to locate them somewhere. The debate between realists and their adversaries is however one which we do not need to take up here. The important point to note is that significant progress in theoretical understanding typically takes place as a result of the unification of a field of inquiry brought about by the discovery of some new invariant principle. A recent instance is the discovery of the “strange attractors” which provide the unifying and organizing principle in the branch of dynamics infelicitously named “chaos” theory.

Biology provides a clear illustration of this pattern. The global significance of the evolutionary theory of Charles Darwin (1809-1882) lay in its power to unify. Instead of a vast variety of immutable species (whose ultimate origin and purpose God alone knew), it became possible to conceive that all species had developed by a slow process of incremental adaptation from a small number, perhaps a single variety, of organism. Like other

great unifiers, Darwin stood on the shoulders of giants, among whom must be included Linnaeus (1707-1778) and the much-maligned Lamarck (1744-1829). Linnaeus must be credited with the spade-work of tracing the continuities and patterns from the seemingly chaotic Gestalt of the biological community. The patterns which emerged from the taxonomies of Linnaeus however were purely formal. It was Lamarck who proposed that the relations between species were *causal*, replacing the Great Chain by what has been called the “Escalator” of Being. The revolutionary importance of Lamarck’s suggestion has been unfortunately overshadowed by his discredited proposal that speciation occurred because individuals inherited favourable characteristics acquired by their parents through non-genetic pathways.

We can broadly characterize the development of biology over the last two hundred years as follows. The work of Linnaeus (in particular) in the late eighteenth century established taxonomies which suggested that there were underlying continuities or patterns which could be traced between different species. In the nineteenth century, Darwin (and Lamarck) suggested that these patterns were not merely formal similarities, but represented a systematic causal relatedness between species, with Darwin’s account prevailing over Lamarck’s. The discovery of formal patterns of continuity between species was not too upsetting to the prevailing religious orthodoxy: all that showed, it was thought, was that God used a basic set of blueprints (or archetypes) when creating species. Darwin’s suggestion however could not be accepted with equanimity. Finally in the twentieth century, Francis Crick and James Watson elucidated the causal mechanism by which the process of evolution takes place. (It is interesting to note in passing that in the present century biology has become austere mechanistic and reductive, while physics has become holistic and sometimes almost mystical. A century ago the basic patterning assumptions of biologists and physicists were precisely the opposite!)

Darwin’s unification of the biological world naturally invites comparison with two other triumphs of synthetic thought. These are the demonstration by Euclid (fl. c 300 BC) that a huge body of incorrigible geometrical truths could be systematically generated from a small number of axioms and postulates, and Newton’s synthesis, which showed how the motions of material objects, celestial and terrestrial, could be explained in terms of a few underlying physical principles. Euclid, Newton and Darwin each showed how a huge body of not obviously related facts could be understood and explained in terms of a single unifying framework of principles. Each of these achievements has had a profound and exciting impact on subsequent generations of thinkers, who have attempted to emulate these

exemplary models of systematic thought. To be called a “Darwin” or a “Newton” is the highest compliment that can be paid to a theoretical innovator.

Progress in science typically arises thus, as the result of the discovery of some significant layer of structure, standardly revealed by the discovery of a new invariant principle or natural law that unifies the phenomena under investigation. This model of explanation, powerful though it is, should not be overstated. Although it fits many proposed explanations of natural phenomena, it is far from compelling when applied to some areas of human concern. For example, in the case of political, moral and social phenomena, it is very doubtful to suppose that there is any objective underlying order to be discovered. Misapplication of the model can lead to a particularly objectionable form of dogmatism about the scope of human knowledge called ‘scientism’ which holds, roughly, that *all* knowledge is coextensive with the sort of knowledge we derive from observation and experiment.

The Structure of Paranormal Belief

While the belief structures which underlie psychic and paranormal claims are often puzzling and bizarre, they typically turn out to be misapplications of the very same patterns of thought which have helped us to develop our best theories about the world. I have argued elsewhere that superstitious and delusory belief systems are typically based on an erroneous belief that an important layer of underlying structure in the world has been identified through the discovery of some important new invariant principle (Grey 1986). In the final section of this paper I summarize some points developed there, and offer further considerations to reinforce the argument.

Take a clear instance of a pseudoscience, say astrology. This is a delusory belief system, by which I mean a set of claims about why things happen as they do which turns out, on inspection, to have no foundation. The evidence against astrology is as conclusive as anyone could wish (see Carlson 1985; Bok and Jerome 1975), yet it still has its adherents. Why? One reason is that there are some circumstances in which false beliefs can play a useful role.

The usefulness of false beliefs can be illustrated with the following story. It is one of several anecdotes told by John Masters (1956, p. 92) to reveal the peculiar character of the Ghurkhas, with whom he served in a number of campaigns on the North-West frontier of India. The story tells of a Ghurkha soldier who escaped from a Japanese prison in South Burma and walked home alone 600 miles through the jungles of occupied Burma to his base in India. It was a remarkable journey which

took six months. Also remarkable was the fact that the Ghurkha never asked for directions along the way. He did not speak Burmese, and did not trust the Burmese anyway. But he never needed to ask directions, and he never lost his way, because he had a map. He carefully recorded in pencil on the map every river he crossed, every turn he took, and every path he followed. British intelligence was keen to get the map and find out all about the journey. However the map which had served the Ghurkha so well was a disappointment. It was a street map of London.

This story reveals something of the character of the Ghurkha. But it also suggests something about structured belief systems in general, and deviant or delusory belief systems in particular. Such belief systems sometimes play the same role in our thinking as the London street map did for the Ghurkha. They can help us to structure and make sense of our experience. One reason that astrology still has its devotees (I conjecture) is that for some people it is like a London street map, which helps them to find their way through their experiential jungle. And trying to disabuse them of its value may be as futile as British intelligence attempting to disabuse the Ghurkha of the value of his map. The map could be given a simple pragmatic justification: it worked! Another “London street map” which persisted for centuries was the explanation of human character in terms of the balance of the so-called four humours, which were held responsible for *choleric*, *phlegmatic*, *sanguine* and *melancholic* dispositions. In such cases people accepted what we now can recognize as seriously defective maps because there was no other (or no better) map available.

Less creditable reasons for accepting defective maps are: (a) The standard maps are less interesting. The philosopher David Hume (1711-1776) thought that this natural human propensity for credulous belief, which he called the “love of wonder”, was responsible for generating a great deal of error. (b) The standard maps are ideologically unsound. Political or religious preconception may incline one to accept or reject a theory. Thus some people unwisely accept biblical testimony as a reliable authority about the origins of the universe and humankind. (c) Any map is as good as any other map. This sort of extreme epistemic permissiveness appears to be based on the extraordinary claim that theories do not need to be circumscribed by evidential constraints. I will return to the question of what makes some maps better than others in a later article.

Coming to appreciate the utility of defective maps in particular circumstances involves understanding not just the content of paranormal claims, but also the structure of paranormal belief. The powerful urge to accept what seem to be (and often are) outrageous empirical claims

is not always the result of some incomprehensible perversity. *It is actually a pathological expression of the very same capacities which enable us to develop some of our most important and profound insights about the world.*

Psychics and other credulists are typically engaged seriously (but misguidedly) in that most characteristic of human enterprises: the attempt to capture our chaotic and fragmentary experiences in a network of meanings, and to discover the hidden connectedness which (we hope) underlies all the disorderly and recalcitrant happenings in the world. As Stephen Hawking (1988, p. 13) has expressed it, “ever since the dawn of civilization, people have not been content to see events as unconnected and inexplicable. They have craved an understanding of the underlying order in the world”. Despite the conspicuous difference in approach, the belief structure of psychics has something in common with scientific world-views. This is the urge to discover (or failing that invent) repetitive patterns which lie hidden beneath a veneer of disorder. Like the scientifically-minded, credulists are in pursuit of unifying invariant principles.

A central article of faith which many credulists and psychics hold in common is the belief that *there are no real coincidences or accidents*. Accident or mishap is always a superficial appearance, a product of our ignorance which, they believe, can be explained as manifestations of some hidden underlying order (astrological, numerological, or whatever). Beneath the chaotic appearances there is an underlying unity, a hidden order or deeper meaning which (they believe) some psychic Rosetta Stone will uncover. That is their fundamental guiding (or *misguiding*) assumption.

This pattern of belief is not restricted to psychics. Carl Jung (1875-1961) developed his notion “synchronicity” to characterize causally unrelated events which he believed were nevertheless meaningfully connected. Jung believed that in addition to physical laws which govern relationships between events, there are principles by which causally unrelated events can be significantly linked together by non-causal connections (Jung 1960; quoted in Koestler 1972, Ch. 3).

Psychics believe that there are extra-physical ways in which happenings in the world are related; that there are hidden meanings to be deciphered through techniques and methods which transcend the limitations of empirical science. It is by clinging to this basic article of faith that some of the most extravagant and preposterous claims about the world are developed. Yet it is precisely the same assumption—faith in underlying order despite appearances to the contrary—which has motivated many of our most powerful theoretical innovations.

Astrology and other credulous belief structures share with empirical science a distaste for disorder; an urge to find a hidden underlying connectedness linking disparate events. It is the same pattern-making assumption which has enabled us to develop a subtle and profound understanding of the nature of our world. However it is an assumption which can also lead us wildly astray.

Having closed the gap between profound insights and specious nonsense a little, the next (very important) step is to try to identify where the boundary between deep truth (good theories) and spurious belief systems (bad, nonsensical or “dotty” theories) lies. It is closely bound up with the way that some belief systems systematically insulate themselves from criticism, and hence from progress. In the next article I will go on to address the question: what is it that distinguishes systematic inquiry in respectable disciplines (like physics) from the spurious claims of discredited fields (like phrenology)? This is called the problem of demarcation, and I will go on to discuss it in the next article.

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... greenhouse from p 22

5. Another variation on this theme is the "Cooked Dog". This concerns a couple holidaying in Asia, with their pet dog. They go into a restaurant and, with some language difficulties, order a meal. They then indicate that they would like something for the dog to eat. Again there is a language problem, but finally the Asian owner indicates that he understands and leads the dog out to the kitchen. They sit back awaiting their meal. Finally a large covered platter arrives and when the lid is lifted, there cooked and prepared for eating is their pet dog.

6. Investors are offered the opportunity to invest in a sure fire money making scheme. The money is used to purchase a property to breed cats and rats. The cats will be allowed to breed in large numbers, then killed and skinned for their pelts. The rats will be bred to feed the cats, and they in turn will be fed the carcasses of the cats. Sounds simple and effective, except the entire concept was a hoax which the newspapers continue to print as a factual story. Often these urban-myths have a basis in fact, although it may go back many years.

7. Another group of "experts," the New Agers, described this same alignment of the planets, as a "harmonic convergence", which they claimed would usher in a new age of peace, prosperity and happiness for the world.

8. Teresa Gorman, *International Express*, p 31

9. Tom Gosling, *Australian Magazine*, p 3

10. Barry Pitman, *Advertiser*, p 17.

11. Interestingly enough, the American scientists promoting the GHE were the same people who, 15 years ago were telling us that we were about to have a new ice-age.

12. Tom Gosling, op cit, p 3

13. The Proceedings of the Villach Conference, Austria, October, 1985.

14. Julian Cribb, *Weekend Australian*, p 28

15. Teresa Gorman, op cit, p 31

16. Julian Cribb, op cit, p 28

17. Bill Burroughs, *New Scientist*, p26

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URBAN MYTHS

Two Styles of Debunking

Allan Lang

In *the Skeptic* (Vol 11, No 4) it was mentioned that the more credulous of the religious persuasion were still declaring that the Russians had managed to bore through the crust of the Earth to a place not dissimilar to the abode of the damned, as described in Christian legend. This tale has been examined by two journals of a generally Christian perspective. Although both rejected the truth of the story, they did so in a markedly different manner.

In the 16 July 1990 edition of *Christianity Today* this legend was examined and established as a pack of lies. Rich Buhler, in an article “Scientists discover Hell in Siberia: Stalking the vanishing hitchhiker and other Christian fictions”, effectively demolished this tale. His article correctly placed the Hellhole story in the category of urban legends: fables and myths that get passed along as true stories. Buhler said that in addition to the Siberian hell story the “Christian Rumor Hall of Fame” included the:

“porno film being made about the sex-life of Jesus”;
 “letters from Social Security notifying senior citizens about a new forehead/right hand identification system”;
 “firm of Proctor and Gamble being owned by a satanist church”.

The Siberian borehole story was being spread in the US by a Texas evangelist and a national Christian television network. Buhler contacted the evangelist’s office and asked what documentation they had. They faxed him two pieces, a copy of a Finnish article and a letter from a man in Norway.

First the article. It wasn’t from a “respected Finnish scientific journal”, but from a newsletter published by a Finnish missionary group. When contacted this group said that a staff member had read an article in a newspaper and passed it to the newsletter editor by word-of-mouth.

Tracking back to the newspaper, it was found not to be an article, but a reader’s letter. When found, the reader said he had seen the story in a Christian magazine published in Helsinki. The editor of that magazine said he got the story from an elderly man who translated it from English, and thought he had got it from a Christian newsletter from California. Here the trail disappears. It

is apparent that despite a creditable effort in searching for the origin, no authentication has been found.

This is typical of urban legends, the trail leads through a friend’s neighbour’s brother’s employer’s doctor’s ex-wife who saw a letter in a paper written by a man whose cousin’s postman’s mother was told the story nearly first-hand, without the tale ever getting beyond hearsay.

And what about the supporting letter from the man in Norway, who said he had seen the Siberian drilling story “all over the papers” in Denmark and included a clipping along with what he said was a translation? This letter was only written after the original tale had been promoted by the evangelist and the TV network. And it was totally fictitious, a fact willingly supplied by the letter writer, Age Redelin, when contacted. He had been visiting California and seen coverage of the drilling story. It was obvious to him that nothing had been done to substantiate the story, and that they were gullible enough to accept any old rubbish. So he decided to test them, and sent them a letter, the fictitious “translation”, and the original Norwegian story (which happened to be a piece about a Norwegian building inspector!).

In all the *Christianity Today* piece was an excellent expose of urban legends, and the way they are transmitted, done in the best sceptical fashion.

This cannot be said for the examination of this tale about the same time by our local Creation Science Foundation (which has declared that it is **not** an educational, scientific or technical organisation having as its principal object the dissemination of knowledge) which also published a mild debunk.

The CSF kind of debunk was in the June – August 1990 *Ex Nihilo* Vol 12 No 3 “Screams from the Earth?”. Although they implied that the tale was an “urban myth”, it is possible that they do not know what urban myths are. The CSF writer appears not to understand the basic structure and origin of “urban legends” as he claimed that, “A myth is usually based on a nucleus of truth”.

In fact, this is not true of urban legends.

Jan Harold Brunvand, arguably the foremost authority on urban legends has said: “Urban legends typically have three good reasons for popularity: a suspenseful story line, an element of actual belief, and a warning or moral

that is either stated or implied. Only a few urban legends contain supernatural motifs, but all of them include at least highly unnatural details. This fact shakes popular belief in them not a bit, for people in all walks of life credit such stories, and various publications frequently reprint them – or radio commentators report them – as the truth.” (p.165, *The Study of American Folklore*, 1986, W W Norton, as cited in R.Hicks, p.328, *In Pursuit of Satan, Prometheus*). It may be noted that the Hellhole story matches these criteria to a remarkable degree.

It should be noted that while people may believe the legend to be true this does not mean that there is any “nucleus of truth”. According to Brunvand the stories have, almost invariably, “fully fictional plots”.

An urban legend is a myth supporting an axiom. As long as the logic of the legend supports the “truth”, it is not necessary that the legend has any origin in any actual event. Although most recounters of urban legends claim to have heard the story from one who was there, or at least from one who heard it from a really reliable source, the usual case is that nothing like the events of the legend ever happened.

It is possible if you are a Biblical literalist you might not be able to accept the previous view of urban myths, particularly as it would appear to quite probably cover Genesis Chapters 1–11. The idiosyncratic view of the strict literalist would be that if moral tales were not factually true this would lead to the unacceptable position that Christians are actually telling porkies.

So the CSF scanned around for a “nucleus of truth”, and after declaring it to be a “STORY WITHOUT FOUNDATION”, promptly explained how some sincere Christians had obviously founded this story on a misunderstanding of actual news reports of the Kola Borehole project, and then in all innocence passed on the legend.

This assumes the people who would spread this kind of tale actually read journals like *New Scientist* and *Scientific American*, which is unlikely.

While the idea of creationists misreading scientific reports is not inherently absurd, to distort the Kola Borehole stories to the extent required to support the Hellhole story would set a new creationist record.

The CSF writer carefully added his own misunderstanding and spent a substantial portion of the article explaining that while the Hell story features (high temperatures, drill spinning wildly) could have come from creationists misreading actual reports of the Kola project, in reality they showed there were quantities of water down there, which proved Noah’s Flood. The writer concluded this speculation by ambiguously

declaring that it was a pity such stories could gain a foothold, to which skeptics can only unambiguously agree.

Speculation on an alternative viewpoint

The suggestion has been made by Sir Jim R Wallaby (*the Skeptic*, Vol 12, No 1) that *Creation ex Nihilo* is actually a satirical magazine aimed at puncturing the anti-intellectual pretensions of creationist sects.

While this idea has a superficial charm, and cannot be ruled out in the case of the Hellhole article, Wallaby has failed to prove his thesis.

While it is possible that *Creation ex Nihilo* was a satirical journal before the June-August 1991 issue, this can no longer be the case. Although Wallaby used this particular issue as an example to support his case, his argument fails, because this and subsequent issues have been posted under Australia Post “A” class registration (previous issues were B class).

This data enables some analysis of the CSF and its publications to be made based on Australia Post General Postal Services: Terms & Conditions Part V Division 2 (as of 3 September 1990), giving the conditions required for Registered Post.

The CSF has always posted its separate *Prayer News* as an “A” publication, which limits the type of organization that the CSF can be. The terms, as defined, rule out the CSF being a “relief organisation” (Section 105-b-ii), a returned service welfare organisation (Section 105- b-iii), or a “country interest publication” (Section 105-b-iv), so the CSF can only be a “religious organisation”.

As *Creation ex Nihilo* is now also published under “A” registration this journal can now no longer be “published for the social, recreational or scholastic activities of that organisation” (Section 105-b-i), which would presumably include satire, whether intended for amusement or education.

Sir Jim’s Comment:

I doubt if anyone, even in their wildest fantasies, could have imagined that *Creation ex Nihilo* was ever a ‘scholastic’ magazine. ‘Recreational’ could have been a possibility, after all some people find recreation in dwarf hurling.

As for ‘relief’, it would appear that the CSF may be in breach of Australia Post’s Long, Pointless and Bureaucratic Rules, Section 105-b-ii, after all, in that its journal provides a good deal of comic relief within the portals of Wallaby Manor. ■

ON THE MEDIA

Scientific Numerology?

Harry Edwards

The *Weekly Southern Courier* (Sydney) of August 6 1991 featured a half-page interview with numerologist/psychic Robin Stein, who has been researching the intrinsic qualities of numbers for the past 16 years. Author of two best sellers, *Your Child's Numerology* and *The Numbers of Love*, she said that her research "has been done as scientifically as possible" and that she "will make it (the research) available to any person who wishes to look at it statistically". She went on to say that she wants her work to be taken seriously by the medical profession, sociologists and the police, and that "you can tell a lot about a person from their birthdate". "Given the birthdate of a suspect in say a serial murder investigation", she said, "I believe I could quickly advise police on which ones were capable of such a crime and which ones were not".

The socioeconomic ramifications of a system whereby the police force, detectives, forensic scientists, doctors and specialists in hi-tech systems could be replaced by a computer operator with a data bank containing a list of birthdates are considerable, and it came as a surprise to read that Ms Stein was only now seeking to have her services accepted, rather than being knocked over in the rush. But then, bureaucracy always seeks to complicate rather than simplify life and the medical profession already has enough to contend with from alternative practitioners.

I have always admired the tenacity of those who dedicate themselves to a cause, even if it involves pushing large quantities of waste matter up steep hills. In Ms Stein's case, however, she was adamant that her research was not 'airy fairy', but scientifically based. This being so, I wrote to her seeking access to her material and suggested that she might like to submit to a mutually agreed, controlled test of her claimed abilities, with fame and fortune as the prize, should she succeed. In her telephone response she said that I was the first person in 15 years who had asked to see her research material (a fair indictment of the thousands who have readily accepted her findings without question) and that she could not release it publicly because it would be "detrimental": to what or whom I was left to speculate. However, subject to my reading her latest book to become acquainted with her principles (an

essential prerequisite to understanding her hypothesis, she insisted), she would discuss the matter further and would consider a test of her claims.

Fair enough, I thought. Perhaps in my ignorance I was being presumptuous and audacious without first considering the results of 16 years of scientific research. Curiosity motivated Australian Skeptics to shell out \$14.95 to enable me to buy the book. On the cover of the 387 page *Numbers of Love*, it asks "What is Numerology?" and "How does it work?"

The answers came early in the piece, invoking the usual response in the absence of scientific and rational explanations – that of EUTIMs (energies unknown to intelligent man), e.g. "numbers have a quality as well as a quantity" and "a number or group of numbers in a birthdate creates an invisible force or vibration, we cannot see it but we can see its manifestation". The usual analogy with electricity was proffered in support of this analogy. The author here is at variance with my understanding of a number, which is a positive integer used to represent the number of elements in any class, and which is indicated by a mark. The essential idea being that there must be a one-to-one correspondence between those elements and the mark used to denote the integer. Thus the integer 5 is the mark associated with the number of fingers on a person's hand. It is difficult to concede, therefore, that written or printed marks have innate physical or psychic properties.

In a note, Ms Stein says "when a study is backed by statistics, the supporting evidence adds strength to any conclusions reached by that study". Up to a point this holds true, but the value of the deduction also depends on the appropriateness of the premises used in the determination. Unconvinced that Ms Stein had established her scientific credibility, I proceeded to Chapter 1.

This holds that the numbers of a birthdate provide a 'Blueprint of our existence' (similar to an astrological natal chart but extremely simplified) and that numerology originated in the lost cities of Atlantis and Lemuria. This use of unsubstantiated myths in support of a dubious proposition immediately calls into question Ms Stein's claim to have scientifically researched anything.

Chapter 2 outlines Ms Stein's first principle – setting up the Blueprint. First we are required to draw a 'magic square' and subdivide it into nine boxes. The boxes are numbered as in Fig 1.

3	6	9
2	5	8
1	4	7

Figure 1.

We are not told why the square is 'magic' nor why this particular arrangement of numbers is necessary, essential or relevant. The numbers of the birthdate are then entered in the appropriate boxes. Thus, in the case of someone born on June 24, 1917, the configuration would appear as in Fig 2.

	6	9
2		
11	4	7

Figure 2.

Each number is held to indicate a level of energy and multiple appearances of any number in its box shows an increased level of energy. Number 1 supposedly indicates "verbal expression"; 2 is for "intuition"; 3 for "imagination" and so on through all the attributes according to Stein. Of the number 1, the author says, "verbal expression is the ability people have to put their feelings into words – many people with one or more 1s in their Blueprint become lecturers and writers".

We are told that "when there are two 1s on the Blueprint, there is an increased level of energy" and these people are "able to express themselves with ease". Statistically, in the 20th Century, the probability of having at least two 1s in a given birthdate is 0.68 (see box). How this abundance of literary and oratorical skills correlates with an average illiteracy rate of 45% in the third world and between 2 and 20% in western

countries, I fail to see. Of those with three 1s in their chart, Ms Stein found that the highest percentage were writers, financiers and lawyers. Then comes an inconsistency, as those with four or more 1s show a preference for agricultural, rather than literary pursuits.

To support her conclusion, at the end of the chapter, Ms Stein lists ten famous personalities who epitomise the special gifts of multiple 1s. The list contains no lawyers or writers and only one prominent Australian renowned for his erudition and lucidity – Sir Joh Bjelke Petersen.

Among those whose lack of multiple 1s (and presumably lack of verbal expression) preclude them from this list are William Shakespeare (26/4/1564), Honore de Balzac (20/5/1799), Edward Gibbon (27/4/1737), Leo Tolstoy (28/8/1828), Alexander Dumas (27/7/1874) and many others.

Given that every person born in the last 992 years has had at least one 1 in their Blueprint and that eight years from now that guarantee will be withdrawn, can we therefore expect that there will be a noticeable lapse, by a significant percentage of the population, into mumbling incoherence? Ms Stein's thesis would seem to have it so, however, this may be overcome by an increase in the number of people with one or more 2s, leading to an increase in "intuition", defined as "immediate understanding by the mind without reasoning". Well that should eliminate much of the need for verbal expression. All other numbers up to 9 have been allocated other attributes, not necessarily complementary ones. Number 4, for instance, denotes "manual skills" and "assertiveness" and number 8 links "logic" with "intellect", attributes at least as often found singly as together.

Having conveniently slotted people into pigeonholes, Ms Stein then divides the 'magic' square into 'planes', where three adjacent numbers (or the absence of numbers), forming vertical, horizontal or diagonal lines are given various traits and tendencies, again based on the 'vibrations'. This of course, greatly expands the parameters of an individual's profile.

Without canvassing all the other variables (including the ubiquitous pyramid, introduced in later chapters) Ms Stein's 'principles' lead to many pages of arbitrary, ambiguous, contradictory and generalised statements which will, like the astrologer's chart or the clairvoyant's spiel, to one degree or another, fit anyone.

Ms Stein claims (and this I do not doubt) to have a bank of 10,000 names and birthdates to support her contentions and, at the end of her book, includes numerous charts and graphs showing the percentage of professions and occupations against the appropriate

birthdates to corroborate her findings. I noted that the differences in many cases were as low as 2% and there was no indication of any control groups. My conclusion agrees with that of Sir Jim R Wallaby in "Numerology – It just don't add up" (*the Skeptic* Vol 9, No 1), that positive results can only be achieved by selective use of data and the Barnum effect does the rest.

Testing a numerologist is a relatively straight forward affair once they make a specific claim. Ms Stein is on record as claiming she can tell who is capable of committing heinous crimes and suggests that her principles could be applied with advantage by the medical profession.

One can also infer from her book that she can tell the sex of an individual, merely from knowing their birthdate. This would make her very unusual, if not unique among numerologists, the bulk of whom need to know the sex before doing a reading. I drew this inference from a passage in the book referring to tests of her skill, which reads:

"Some of these birthdates belong to well known personalities but where it is important to maintain privacy, only the birthdates were sent to me and a master list of names was kept by the person or association, for verification at a later date if necessary".

This indicates that the sex of the respondents was not known to Robin Stein beforehand and, in a letter to her, I stated as much. I also sent her a preliminary application form, outlining the Australian Skeptics challenge, on September 17, 1991.

After six weeks, there being no response, a draft of this article (to this stage) was sent to Ms Stein on October 28, 1991, with an invitation to exercise a right of reply. This she did on November 4, commenting that many of the items mentioned were incorrect (without specifically mentioning any of them and notwithstanding that most were verbatim quotes from her newspaper interview and book), adding that she was able to provide numerous recommendations and testimonials in support of her success rate. There followed several questions in respect of the Australian Skeptics' constitution, its committee members and a

request for proof that the offer of \$20,000 was genuine. Ms Stein concluded with a threat to publish her letter in a "well known media publication" should I fail to furnish the above details and that her solicitors had been alerted to take any action they deemed necessary, should anything printed by Australian Skeptics require examination in a legal sense.

It was perfectly reasonable for Ms Stein to inquire into our bona fides and I complied with her request to provide the information requested, save only the names and addresses of the committee members (we too respect privacy), and informed her that testimonials

were never acceptable as evidence of paranormal abilities, lacking controls and critical examination at the time of occurrence. I also expressed surprise at the tone of her letter which, in view of the extremely attractive financial offer we had made, and the prospect of international fame attendant on her successful completion of the test, implied suspicion and was

In any given year of the 20th Century there will always be one 1 and, in the months of January, October, November and December, all dates have at least one extra 1, making 123 days in all. Then we have the dates 1, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, and, where applicable, 31 from the other eight months, making a total of 223 days, or 61% of the year having at least two 1s.

In this century we also have the years 1901, 1910 - 1919, and 1921, 1931.....1991, or 19 years (19%) which also have an extra 1. This gives us a further 7% of the year, making the likelihood of having more than one 1 in any birthdate a 68% certainty. People born on November 11, 1911 must have been extraordinarily prolix (or agricultural)!

threatening in content.

Further correspondence ensued in which Ms Stein again expressed her doubts as to the legitimacy of our offer, citing my misquoting her as the reason. The alleged misquote concerned the reference made above to her being able to tell the sex of a person from their birthdate.

In my response (December 1), I pointed out that the passage in her book quoted above claimed that she made some assessments based purely on birthdates, with no indication of the sex of the respondent. If she could not determine the sex of the person, surely the most fundamental of all a person's attributes, from the birthdate, then any blind assessment she made must have been fatally flawed from the start. It may have led to a male being warned of potential gynaecological problems. However, she does not say whether her findings were verified, therefore she cannot use that claim to support her argument. Neither are the readers of her book in a position to judge the matter for themselves.

Having received no answer from Ms Stein for nearly two months I wrote again, prompting a response on January 24, 1992, in which she reiterated her suspicion that any test devised by Australian Skeptics would not be a fair one and saying that the only test she would agree to would be one thrown open to the public on the radio, where callers could be given their profiles, using their birthdates alone. In this, Ms Stein seemed to be unaware of any of the rules applying to double blind testing and the complete unacceptability of tests relying on self validation for their results. She also seemed to have ignored the fact that any test had to be agreed to by both parties before it could go ahead. And again she implied that, in making assessments based on birthdate alone, she did not require the sex to be stated. The letter concludes with a contradiction, "When I do a reading for a person, I take only the first name and a telephone number and these are on record in my diary, if it (a test) is set up fairly, I will agree".

As it now appeared that Ms Stein could finally be interested in a test of her claims, the following was suggested as a preliminary test to determine the parameters of a comprehensive trial.

"We will send you a list of birthdates of persons on whom there is sufficient information for later verification. You would be required to very briefly, but specifically, comment on certain aspects of their characters. If you score better than chance, then a more comprehensive test would be designed to enable you to compete for the \$30,000 award." I stressed, however, that prior to undertaking the above, she would have to state in specific terms exactly what she could ascertain from the birthdates, in particular those areas mentioned in the interview in the *Weekly Southern Courier* on August 6, 1991, in which she said "given the birthdate of say a suspect in a serial murder investigation, I could advise police on which ones were capable of such a crime and which ones were not." Furthermore, we would also like Ms Stein to expand on the help she believed she could provide to the medical profession and to sociologists.

Ms Stein agreed to a meeting with myself and Barry Williams in order to explore what she could and could not do, using numerology. This meeting took place at her home on March 25, 1992.

Ms Stein began by emphatically denying that she could tell a person's sex from their birthdate. She drew her 'magic square' and, entering the date of birth of my eight year old son, gave an astoundingly accurate assessment of his character, astoundingly accurate that is, until I realised that it was also remarkably appropriate for my nine year old granddaughter, for Barry's two year

old grandson, and for most pre-teens of my acquaintance. She then set to work on the birthdates of her devious inquisitors. Both of us thought that the assessments were reasonably accurate, but then we each also thought that the assessment given to the other one was reasonably accurate for himself. This meeting bore out a well known fact about psychic character assessments - the statements made are usually true, but they are not specific to any individual - they are true for everyone (or for everyone's self image). Had Barry and I not been Skeptics, indeed had we had the predisposition to believe, a predisposition anyone consulting a psychic would be expected to have, then the reading would have seemed to confirm some esoteric knowledge on the part of the reader. As it was, it was easy to see what was being said for what it was, generalizations.

Barry then posed a question to Ms Stein to which she gave a most unsatisfactory answer. He said that her name indicated that she might be Jewish, which she confirmed. He then pointed out that under the Jewish calendar she would have had a totally different set of numbers in her birthdate and then asked if this would cause her to have two different personalities. She equivocated about this along the lines of the numbers only seeming to work if taken from the calendar that the person "grew up with". This is a complete negation of the effect of any "energy vibrations" and readers can make up their own minds as to what the statement might mean, if anything. She told Barry, who was born on the 10th of the month, that this indicated that he may have been separated from one of his parents in childhood, qualifying it by saying it could be by death, illness or family breakup. Barry asked if the fact that he was born in 1938, a year before the outbreak of WWII, and the likelihood that his father would have joined the armed forces, had anything to do with the assessment. Ms Stein demurred but Barry is still not convinced. When asked if two people with the same birthdates should show essentially similar characteristics, Ms Stein responded with "they could be at either end of the spectrum", again unwittingly confessing that she could not determine characteristics from a birthdate alone. The meeting followed this course for some time, with Ms Stein steadfastly refusing to make any specific and testable claims, while maintaining that she could tell a person's characteristics from their birthdates.

It became glaringly obvious that there was no possible method by which we could devise a scientific test of Ms Stein's generalised and, we have no doubt, sincerely held beliefs. Shortly thereafter we took our leave and the file is now closed. ■

FORUM

MSG Fears – An Urban Myth?

Raymond Watson

It is unfortunately true that it takes more than a tiny six-line newspaper paragraph, buried in the back pages, to dispel a full-blown hysteria, but that's all that was devoted to a fairly weighty medical finding by an EEC scientific committee last year. *The Age* 'In Brief' column of June 14, 1991 reported that the European Economic Community Scientific Committee had given MSG - monosodium glutamate - a clean bill of health as a food additive. The committee considered the once-popular flavour-enhancer so harmless that it didn't even warrant a recommended 'acceptable daily intake'.

MSG is the monosodium salt of glutamic acid, an amino acid found in vegetable and animal protein. It is a major part of animal, including human, metabolism. It is actually vital for the normal development of muscle and connective tissue. As Caroline Richmond, medical history researcher at London's University College has pointed out ("Is CRS Just a Flash in the Wok?", *New Scientist*, Sept 26, 1986), "it would be remarkable if animals, including humans, were allergic to MSG because we produce our own – and it is a normal constituent of the meat, fish and poultry that we eat." Even vegetarians consume MSG, as it occurs in wheat and other grains. It is from wheat that Asians extract their 'gourmet powder', powdered MSG.

So how is it that we are still caught up in this 'Great MSG Fear', or 'Chinese Restaurant Syndrome' as the Americans call it, with thousands claiming all manner of allergic reactions to food containing, or thought to contain, MSG? In the USA – California of course – MSG in processed food has even been blamed for several random killings. Harassed Chinese restaurant owners now display prominent signs declaring that they no longer use MSG in their cooking. Some of the poor blighters were almost made bankrupt during the 1980s when 'CRS' became the fashionable hysteria.

Culinary common sense would have reminded these people that millions of Chinese and other Asians have been tossing a pinch of MSG into their woks for centuries without any apparent ill-effects and, like other westerners, thousands of Australians regularly ate MSG-flavoured food in Chinese restaurants for decades before the CRS scare. But common sense has little to do with fashion and you don't let facts get in the way of a good hysteria.

Chinese Restaurant Syndrome took off in the USA in 1968, when Robert Ho Man Kwok had an article published in the *New England Journal of Medicine* in which he claimed that he suffered numbness in the back of the neck radiating to the arms, accompanied by palpitations, whenever he ate in Chinese restaurants. Although Kwok merely speculated that this could be due to MSG, or the cooking wine, or the high salt content, the flood of letters and anecdotal articles to the journal, triggered by his original article, all blamed MSG.

The *Journal's* academic reputation and the presumption of Kwok's 'objectivity' due to his Chinese ethnicity seemed to clinch the argument. None of the

correspondents commented on the possibility that Kwok's symptoms might be psychosomatic, nor did they discuss alternative causes, such as chemical reactions involving cooking methods or materials used.

Caroline Richmond's *New Scientist* article discusses several subsequent research papers on CRS and points out that none had specifically pinpointed MSG as the cause, despite experiments involving large doses of the stuff. Even Herbert Schaumberg, of the Albert Einstein College of Medicine, who first identified CRS in a letter to the *NEJM* admitted that, as a lover of Chinese food, he cooked with MSG at home. CRS only afflicted him when in Chinese restaurants. The physical attendance at a Chinese restaurant must be significant, especially when you realise that there is more MSG in one 'western' stock cube than there is in an entire Chinese banquet.

All I would like to add to the vexed question of MSG and CRS are two of my own anecdotes:

* In my long experience as a hospital worker in the emergency department of a large Melbourne public hospital, I know that numbness or tingling in the neck and arms, accompanied by palpitations, are classical symptoms of hysterical hyperventilation. Who knows? Maybe CRS only occurs after the diner gets the bill? HoMan Kwok notwithstanding, I have never seen a Chinese or Chinese Australian suffering from CRS. It is noteworthy that most patients that present to the emergency department claiming adverse reactions to restaurant food and who are diagnosed as not **physically** afflicted, are usually not from the ethnic group whose cuisine they have eaten. I am not a psychologist but if I was, I'd be grappling with some theory of 'exoticism', whereby the diner blames unfamiliar 'foreign' food for symptoms that are actually symptomatic of some other, non-physical, psychological problem.

And, may I digress here to say I am reminded in all this of some of my more dissolute associates who will drink heavily, decide to eat out at an 'ethnic' restaurant, consume more alcohol, retire to someone's home, polish off a couple of bottles of port with the coffee, evacuate the contents of their stomachs, and, upon waking next morning, forget what they have done and, feeling crook, blame it on the curry, or the garlic..or the MSG.

*The only long-term acquaintance of mine who claims to suffer CRS, and who believes it to be caused by MSG, has always disliked Chinese food, long before CRS became 'fashionable'. He is an Australian 'meat and potatoes' man of Celtic ethnicity. Now he has a 'medical' reason for declining invitations to Chinese restaurants, even when his friends seek out a restaurant that guarantees no MSG in the food. Perhaps he believes that 'inscrutable orientals' simply cannot be trusted? At home he exists on a diet of roast beef and potatoes with lots of gravy, pools of it, which he mops up with bread and scoffs down with great relish. He makes his gravy the easy way, with a commercial powdered preparation, which contains, as the small print on the packet clearly indicates, a hefty dose of monosodium glutamate. ■

CREATIONISM

Misleading References

Stephen Basser

Readers of *the Skeptic* are probably getting a bit sick of being reminded about the difference between empirical science and beliefs based on faith, but I urge those of you who are to read on as I wish to address the apparent difference in ethics between those who seek to find out and those who claim to already know.

The process of evaluation of claims is crucial to scepticism and one of the most important components in the evaluation process, and in the presentation of 'evidence' is objectivity. Anyone who allows their beliefs to cloud their objectivity is surely on the slippery slope to pseudoscience.

The Creation Science Foundation, and their attempts to substantiate a belief in Divine creation are also, no doubt, familiar to readers of *the Skeptic*. I believe that the CSF and its members are free to continue their efforts to provide supportive evidence for their claims, and that the Australian Skeptics is free to continue to defend this right of the CSF and their own right to evaluate and criticize such evidence. I believe that the CSF is not being honest and objective in either their evaluation or presentation and that they have, in the case I am about to outline, bent the rules to suit themselves.

In 1991 Australia was visited by Dr Dmitri Kouznetsov, a Russian neurotoxicologist who believes in the miraculous creation of the Universe. The CSF attempted to gain support for its beliefs by promoting Dr Kouznetsov's scientific achievements and referring to his membership of the editorial/advisory boards of three scientific journals. (*Creation Ex Nihilo* Vol 14, No 1 Dec 91)

- (1) Ecology Research (UK/Belgium/France)
- (2) *Journal of Applied Biochemistry and Biophysics* (UK/Germany)
- (3) International Journal of Neuroscience (UK/Canada/USA)

When Dr Kouznetsov spoke in Australia he was questioned about these journals and apparently one student newspaper upset the CSF by questioning the

credibility of them. This was reported in the November 1991 *Prayer News* as follows:

"... but one student newspaper published a major attack on Dr Kouznetsov's credibility. Not only were all his arguments completely misrepresented, but the article tried to make out that his extremely high qualifications and reputation, as advertised, were misleading. The only way they could do this was by blatant falsehoods. For example the article (referring to the three international science journals of which Dr Kouznetsov is on the Board) claimed that no institution in Australia had these journals, thus implying that they were somehow second rate. Knowing that this was almost certainly rubbish, we did a phone check, asking about just one of the three, the prestigious *International Journal of Neuroscience* (which once devoted an entire issue to Kouznetsov's work). The first two universities we rang had over ten years of issues on their shelves. Other snide innuendo was also completely fabricated and the article's title was laced with profanity. Such savage, 'over the top' counter attacks suggest the enemy has suffered a substantial blow (Ephesians 6: 12)."

Why did the CSF ask about "just one of the three" journals? I will tell you why – I rang Melbourne and Monash Universities here in Victoria and checked the *Ulrich International Periodical Directory 1991–92*. This is the leading international directory that lists both where journals are available and in which databases they are sourced. Both the CD-ROM and hard copy editions of the directory were searched. The first two journals are not listed in this directory and in addition were not on the microfiche database that lists all journals available in Australia. It is extremely unlikely that a scientific journal in good standing with the scientific community would not be listed in these databases. *The International Journal of Neuroscience (IJN)* is available in Australia and is a fairly well regarded journal, though I am not sure that it is regarded as "prestigious", having recently been

embroiled in a controversy over publishing a paper of questionable scientific validity on magnetic field treatment of epilepsy.

As the CSF seemed to be inferring credibility of Dr Kouznetsov's beliefs by his association with this journal I sought the opinion of the editor, Dr Sidney Weinstein. I also referred to Dr Weinstein the claim that the *IJN* "devoted an entire issue to Kouznetsov's work", which I suggested implied an issue devoted to creationism (I believe the CSF wished to imply this as a 'lay' reader of *Prayer News* would be impressed that a scientific journal had devoted a whole issue to creationism).

Dr Weinstein's replies (I received two), are I believe, self explanatory. I have not included all material in the letters for the sake of space, but I am happy to send full copies to the CSF (on receipt of a SSAE) before they try to claim to I am quoting out of context.

"I am aware of Dr Kouznetsov's unfortunate belief in the "miraculous" creation of the universe. He is technically correct in saying that "miracles cannot be explained by science". How can they, since by definition "miracles", not rationally based can only be "explained" by legend and poetry, but surely not rationally. Naturally, I share your realization that this miracular dogma is absurd."

Unfortunately, the Creation Science Foundation has apparently misappropriated the good name of *IJN* by attempting to insinuate a nonexistent affiliation between us and religion. Therefore, I will caution him that such an implied association is inappropriate. Although he has the right to preach his religion I also hope that the efforts of the creation "science" people to proselytize by implying authorisation of a scientific journal is challenged by scientists' awareness of its devious intent. I urge you to make our position clear: Neither this editor nor this journal supports irrational beliefs".

(Signed) Dr Sidney Weinstein 8.10.91

"The religious creationists deny all scientific evidence contrary to their beliefs and want all of us to accept their faith. I am pleased that *IJN* is considered "prestigious" even by the adherents to the religious concept of creation and that Australian universities subscribe to it. What is suggested, incorrectly, however is that they subscribe because our journal publishes articles concerning evolution. We do not; our focus is, as the title indicates, purely on neuroscience. The "entire issue" which was devoted

to Dr Kouznetsov's research dealt with neurotoxicology and not evolution, either from the religious or scientifically objective viewpoints. I know many good scientists who function in both worlds: although devoutly religious, they use the methods and procedures of pure science without permitting the former to influence the other".

(Signed) Dr Sidney Weinstein

6.1.92

The CSF has, at best, manipulated the truth and, at worst, has lied in an attempt to gain support for their position because it is unable to provide scientific evidence that supports it. Having praised the *IJN* as being "prestigious" I will await with interest their response to the comments made by the Editor of this journal. Surely they won't try to retract their praise now that the truth is out? The facts are that no reputable scientific journal has published work by Dr Kouznetzov that specifically supports his belief in miraculous creation. Only one of the three journals mentioned by the CSF in relation to Dr Kouznetsov is available in Australia and the editor of this journal denies any support for its unsupportable case and the onus is now with them to publicly acknowledge this and their deception.

If scientific dialogue is to continue with the CSF then they must show a willingness to adhere to some of the rules of science and their apparent resistance to doing this says a lot about their true motivation. ■

CREATIONISM

Stanism Rampant in the CSF?

Kate Orman

You read it here first, folks – the worship of the dreaded Stan has not only taken over popular music and culture, as reported in *The Skeptic* (Vol 11, No 4), but the influence of Stan is being felt by those humble seekers after truth, the Creation Science Foundation.

For evidence, we need only turn to a typical issue of the CSF magazine, *Creation ex Nihilo* (December 1990 - February 1991), a copy of which fell into my hands. Not only is the title of the magazine in direct contradiction with scripture – the Bible clearly states that the Universe was not created out of nothing - but just look at the contents...

Amongst lots of cartoons, news clippings, and pictures of people looking worried, there are a number of articles which are deliberately deceitful. For instance, ‘Shades of Babel’ gives a brief quotation from ‘The Y of Human Relationships’ (*Nature* 344, April 12, 1990, pp 591–592): “...the Y chromosome data agree with those on mitochondria in showing that most variation is present within racial groups. From this it would seem that most of the present variation was already present in an ancestral human population, before descendants of that population migrated world-wide.” Author Carl Weiland argues that “from an evolutionary viewpoint, there was no reason to expect this. If evolution were true, the genetic data could just as easily have shown that the races obtained many of their differences after their separation.”

However, John Maynard Smith’s article is not talking about the differences between the races at all - he is referring to variations in the DNA of the mitochondria and the “pseudoautosomal” region of the Y chromosome. Neither of these have anything to do with skin colour, height, face shape, etc – in other words, the perceived differences between the human races. Maynard Smith’s statements certainly do not support Weiland’s assertion that the races arose from Noah’s family.

The article also fails to mention Maynard Smith’s statements that he believes the genetic “Adam” lived in China, though the genetic “Eve” lived in Africa; that this “Eve” lived 200,000 years ago, and was part of a population containing at least 5,000 women; and that

the genetic “Adam” and “Eve” were not alive at the same time - all of which statements contradict the Creationist model of human origins.

In omitting these facts, Weiland creates a deception comparable to that performed on Isaac by his sneaky son Jacob. He is obviously under the influence of Stan, as are the authors of other articles in the magazine. One piece seeks to show that evolution could not occur by chance, using the worn-out old monkeys and typewriters argument, when it is well known to scientists that natural selection is the very opposite of chance. Artist and inventor Samuel Morse is paraded as a Creation Scientist, when he was not a scientist and died 70 years before Darwin published *Origin of Species*. An article from that well-known scientific journal *The Brisbane Courier-Mail* states that Mount Everest is growing at the rate of half an inch every year. This “puts Everest’s beginning at 697,872 years ago... This gives no support to evolutionists’ claims that Everest is millions of years old.” Nor does it support the Creationists’ claim that the Earth is only 6,000 years old – but this seems to have escaped the editor’s notice.

But the most powerful evidence that the CSF has turned from Christ and embraced Stan is to be found in the editorial, a vicious diatribe against gay men. The article provides some very suspicious statistics - since most victims of sexual violence are women attacked by men, how can “most victims of sex murders die at the hands of homosexuals”? No matter how you feel about homosexuality, gay human beings do not deserve to be the victims of prejudice and violence. For the CSF to encourage hatred of gays is in direct violation of what Jesus called the second great commandment: “Do not take revenge on anyone or continue to hate him, but love your neighbour as you love yourself.” (Leviticus 19.18)

In seeking to have Creationism taught in schools, thus forcing others to accept their religion, perhaps the CSF should take note of Sergei Zubatov, a Soviet convert to Christianity whom they quote: “Isn’t spiritual totalitarianism more terrible than the political kind?”



INVESTIGATION FOLLOW-UP

All About Auras

Harry Edwards

Coincidentally with my article on the Inner Peace Movement (Vol 12, No 1) going to press, I was asked by the producer of *Today* (Channel 9) if I would like to be interviewed along with Bob Masters, an American visitor here to promote the IPM. The offer was too good to refuse, particularly as I was given to understand that Mr Master's area of expertise was the human aura. The following is a transcript of that interview (*my unspoken thoughts are in italics in the brackets*). Elizabeth Hayes is the interviewer.

EH Bob Masters is here from America to promote the Inner Peace Movement and to show people how to develop their psychic abilities. Not everybody is a believer though, and one of them is Harry Edwards, National Secretary of the Australian Skeptics, and they're here to join us this morning. Good morning to you both. **BM/HE** Good morning.

EH Bob, I'll start with you. You are here to promote the Inner Peace Movement and one of the things you do is teach people about their auras. Tell me about this aura.

BM OK, the aura is an energy field. In religion it will be called your soul, your spirit and it surrounds everything. It surrounds people, buildings, trees. Everything has an energy field and we could call it vibrations. And some people could get good vibrations from it, some could get confusions. (*Steel ball bearings and toothbrushes have souls? And I've yet to see a confused rock! Strike one!*)

EH But you're saying you can see peoples' auras and you can determine the colours of the auras.

BM There's four main colours. There is the red type. A person who's very decisive and direct. There's the yellow type, a person who's a perfectionist and well organised. You have a lot of harmony, a lot of yellow in your aura. There's blue...

EH I know that. (laughter) Yes, go on.

BM There's blue. Steve has a lot of blue. [Steve Liebmann, the other presenter]. Sensitive, warm and ...

EH No, no, sorry I... now Harry's, what about Harry's?

BM Harry looks good, a lot of green ... (*he never explained what green was, but I suspect it was because I was about to puke!*). Then there's purple, the creative type. In the IPM we show people how to develop their personality, traits, their psychic gifts. Each gift has a

colour and those are the four colours. (*I make it five!*)

EH Harry, you just simply don't accept any of that.

HE I do accept that aura exist and that they can be seen by means of Kirlian photography.

EH So that's the electric field?

HE It's what you call a corona discharge in air, a phenomenon well known in scientific circles, and plenty of tests have been done on that. The auras can actually be photographed, but as far as people seeing them with the naked eye is concerned, that's complete and utter nonsense. They cannot be seen with the naked eye.

(*Strike two!*)

EH Bob, just how do you see it? How do you claim to see my aura for instance?

BM For me, I do see it like a TV set in my mind. While I'm talking to you I can see colours in my mind. (*Not around the subject? A superimposed hallucination?*)

EH Is that not just a feeling you get about me or ...

BM It's also a feeling ...

EH Rather you see a yellow halo slipping around me?

BM Harry is right, (*Strike three!*) it's not ...he's right in a way in that some people do see it and some don't and it's not anything that you can prove. (*Of course!*) The IPM is self help, it's not only auras, it's goal setting, how to be in charge of your life, how to be decisive, how to get on the way or what you want while you're here. (*Smart move, change the subject!*)

EH Sure, but Harry you're arguing that it's more than that?

HE Yes, I'd like to stick to the practical aspects of these teachings. People are being taught that they can see and read auras. Now this is not fact, you cannot see an aura with the naked eye, it's pure imagination, it's complete fantasy. Bob said it can't be tested. It can and has been tested and proven wrong. (*Strike four.*)

EH How can ...

HE By getting someone to stand behind a screen and asking a so-called aura reader if they can detect whether or not there is someone there. This test was carried out sometime last June I think on Channel 9 or 7. They had ten screens, behind some of which people were standing and the aura reader was asked to say which ones. They were completely wrong, none out of ten, something like that. (*Strike five!*)

EH Bob, there's something of a hoax then?

HE (Looking at BM) I'd say yes, he's either got a fantastic imagination or he's misguided. (Laughter)

EH Bob, are you misguided?

HE Or just faking?

EH And of course, you make a lot of money out of this.

BM I've been psychic all my life. I've earned money through helping people, that's true. I think it's very natural. In society they call it a businessman's hunch, or woman's intuition. And people are very sensitive and the group I work with, we show people how to trust their feelings.

EH How come Harry can't do this?

BM Well I think Harry is sensitive. I think it's different languages. Harry might call it a gut level feeling, instinct. I call it ESP. It's semantics. (*Bob's aura seems to be becoming more confused by the minute.*)

EH Harry, you've been to the psychic fair and some IPM workshops. I mean, what was so offensive at those, if anything?

HE It's a complete and absolute charade as far as I'm concerned. Now I'd like to ask Bob a question. How far do these aura radiations extend from the body?

BM The more relaxed a person is from what I know, the further out their energy field. (*Do the auras of inanimate objects radiate infinitely?*) Kind of throwing a rock into a lake, then spreads out like that. (*Quite!*)

HE So what sort of attenuation rate are we looking at (*Let's use some really technical terms!*). I mean, after 50cm how much of the aura is left?

BM I don't really know. (*And he's teaching others about auras?*)

HE You don't seem to know much about auras. (*Strike six. Nasty fellow, go on, rub it in!*)

BM Just a little bit.

EH What's the point Harry?

HE The point is that when auras are measured they extend only a couple of millimetres. Now at one of the seminars I attended they went through a process called 'aura cleaning' ...

EH This is the Inner Peace Movement?

HE Yes, this is the IPM where they have a client stretched out on a table and the healers, the so-called psychic healers, carry out stroking motions about 50 cm above the body and when they get to the end they give a flick of the fingers. This apparently cleans the aura.

EH Oh, you can change the aura? Bob, you didn't tell me this.

HE This is something ridiculous. It's something you

can't tangibly touch, right? And I was standing at the end of the table and these seven healers were flicking this aura crap all over me for about 15 minutes.

EH (Laughing) You're a non-believer, I can feel it.

HE And these poor suckers were paying ten bucks to relax on a hard table for five minutes.

EH Making those poor suckers feel better about the ten bucks they forked out Bob?

BM Now Elizabeth and Harry, um we, Harry, a lot of people on Earth feel the way Harry does. I suspect that this is not for everyone. (*Especially those capable of thought!*) What we do in the community, in Sydney, Brisbane and around the country is we have a lecture ...

EH Yeah, can you stick to the point of how to remove an aura with the flick of a wrist.

BM That's as like recharging a battery, just like taking a shower. (*Why not connect the lobes of your ears to a battery charger?*) The healthy technique of smoothing out your energy field. It's a relaxation technique.

EH It's just making someone feel nice?

BM It's good, that's good, the better you feel the better things go. (*Put the government on pot and solve all our problems?*)

HE So what happens in a situation like being in a lift with eight or nine other people?

BM It may not work then. (*Surely if clothing doesn't inhibit one's aura, and it can be physically touched, stroked or cleaned, each and every contact encountered in daily life must have an effect. No wonder the IPM is never short of customers with short circuited auras, confused vibrations and disjointed chakras!*)

EH It's a conflict of auras. Harry, it's a terrible situation – rainbow colours ... (laughter) Nonetheless, I can see that no-one is necessarily going to meet in the middle. **It's a believer – non-believer situation and one that does deserve questioning, one that does need to be looked into. After all, it's people's money we're talking about.** (*Strike seven and knockout!*) But I do thank you both for coming in this morning.

Conclusion: Bob Masters is a nice guy, a likable, smooth, soft talking salesman, who may or may not believe in the product he is selling. I would have thought that a prerequisite of any salesperson wishing to be persuasive would be to have a thorough working knowledge of the product or, in this case, at least a handle on the appropriate pseudoscientific gobbledygook. Most encouraging was Elizabeth Hayes' final comment.

My special thanks to Virgie Edwards for the time spent transcribing this interview.

REVIEWS

Mental Pollution Exposed

Barry Williams*Creationism: Scientists Respond***Ed Peter Hogan****Australian Skeptics, Victorian Branch, 1991 42pp**

The system of beliefs that masquerades under the title 'Creation Science' is theologically infantile and scientifically fatuous. Its claims, such as they are, cannot withstand critical scrutiny at any level, yet the perpetrators of this intellectually bereft dogma still seek to infiltrate our society, particularly the educational system, with tracts couched in simple minded language, aimed at the scientifically unsophisticated. In this book the Victorian Branch of Australian Skeptics has confronted this technique in the most direct manner possible. They have reproduced (with approval) ten of the Creation Science Foundation's pamphlets, each of which poses a question about evolution, and have followed with answers from scientists who specialise in the areas concerned. This approach graphically illustrates the problem faced by anyone who wishes to expose the specious arguments of the creation 'scientists'. While the creationists' points are made in language suitable for the kindergarten, the scientist must answer in the language of science, which is, of necessity, much more complex.

Nevertheless, this is what the writers have done in this book, exposing the disingenuous fallacies of the creationists in language accessible to the average intelligent person.

In his Foreword, Melbourne *Age* science writer, Graeme O'Neill, begins his argument for why people should be concerned about creationism, by stating "In recent years I have changed from regarding them (creationists) as fairly harmless zealots, whose influence had waned this century, to an insidious force whose growth threatens the intellectual roots of our society."

The seven specialist authors then dismember the cases put in the pamphlets, showing them to be based on misrepresentation, poor scholarship and ignorance of basic scientific and historical facts. Of particular interest to me was Dr Neil Archbold's demolition of a common creationist fallacy, that of scientists being fooled by 'false ancestors', citing, as always, Piltdown Man and

Harry Edwards*Mind Pollution of Fortune Telling***Manjit Singh Boparai, (Self published)**

A resident of Lismore since migrating from his native Punjab four years ago, Mr Boparai has written book which is the culmination of years of research and his involvement with the Indian Rationalists.

Concerned about how superstition pollutes the mind, the author attempts to promote rational thinking by examining and analysing astrology, palmistry and other paranormal phenomena, and backs his conviction that fortune telling practitioners are frauds by offering a \$10,000 reward for anyone who can demonstrate his or her fortune telling talents or miraculous powers under fraud proof conditions.

The subject matter is examined historically and descriptively; questions are asked and answered logically in respect of the claims made. Mr Boparai pulls no punches, calling a spade a spade and examples of how the gullible are fleeced around the world abound throughout the 106 page, self published book. Much of the content is based on the author's personal experience. It is informative and easy to read – a strident denunciation of common paranormal beliefs.

Copies can be obtained by writing to Mr Boparai at PO Box 6250, South Lismore, NSW 2480, or through Australian Skeptics, PO Box E324, St James, NSW 2000. Price \$8.00 (postage included).

Nebraska Man. As Dr Archbold states, "It must be remembered that the... discarded examples were discarded by scientists (not fundamentalists) as the specimens were subjected to further study."

The book contains an excellent reading list for those who wish to understand more about the subjects under discussion. It is a very useful tool for those, especially teachers and parents, who are likely to face the onslaught of this fundamentally silly, but potentially dangerous, pseudoscience.

Available from Australian Skeptics, GPO Box 1555P, Melbourne, 3001 or PO Box E324 St James, 2000.

Price \$6.00 (postage included)

REVIEW

UFO Video a No-No

C S Bembrick

In this and the following review, two of our readers look at the recent spate of UFO programmes on TV. Following the revelations in Adam Joseph's story (Page 7) about the imminent arrival of our galactic mentors, and if these TV shows give us an idea of how the new world will be, I'm off to the Pleiades. Ed

I am obviously very much behind the times. I feel left out – deprived even, of the rich experiences occurring almost every other day to the average man in the street. Not only have I not seen a UFO, I haven't talked to an alien or had a trip in an alien spaceship to a Utopian planet. My state of deprivation was only revealed to me recently when I saw the programme screened on Channel 7, entitled *UFOs: Miracle of the Unknown*.

As someone with scientific training and long experience of scientific investigation, this programme alternatively had me roaring with laughter and grinding my teeth in frustration at the 'facts' being presented. A documentary programme it was not, as not once was there any hint of an alternative explanation offered for the UFO phenomenon. Time and space permits me to give only a few of the more obvious examples here, to the illogical and contradictory statements advanced in this programme as established 'facts'.

The programme opened with the well-known and ancient lines on the Peruvian desert and asserted that these were "generally agreed to be spacecraft landing sites". Only the straight lines were shown and not the profusion of animal shapes and designs. As far as I am aware, the only person to "generally agree" that these were spaceship landing sites was von Daniken, whose writings have now been generally discredited by investigative journalists and others. The curious thing is that, for the rest of the two hour programme we are shown photos and film footage of spacecraft, whose capabilities are said to be far in advance of anything we possess, having "cosmic energy" and "electromagnetic" drives. The strong message given is that these craft would not need anything like a long runway for touch-down. So why are the lines in the desert "spacecraft landing sites"?

Other 'evidence' advanced for the landing sites of alien spaceships were the patterns in the cornfields of southern England. The only trouble I had with this one is that I distinctly remember reading in *New Scientist* that two old codgers had owned up to doing these for a "bit of a lark" over a number of years. They owned up because they thought they were getting a bit old for it! They described the methods and simple tools they used to create the patterns in the wheat. (The story by Martin Hempstead elsewhere in this issue should finally put paid to this particular brand of nonsense, but I wouldn't bet on it. **Ed**)

Much still photography and video footage was shown in the programme, demonstrating UFO 'spacecraft'. While some very small percentage of this was intriguing, with no immediate and obvious explanation, most was of very poor quality and some was very obviously and poorly faked. Among the items claimed to be a giant UFO 'mother ship' was an excellent video shot of a daytime fireball (large meteor). While these are not exactly common, they are well enough documented in the scientific literature.

One other 'UFO sighting' was the film taken from an aircraft of the coast of the South Island of New Zealand. The film clearly showed a spherical object changing shape in a most remarkable manner. It was also said to be "performing amazing aerobatics". I seem to recall that this footage was analysed frame by frame and shown to be Jupiter rising through the sea mist and haze, low on the horizon. Any amateur astronomer who has seen a bright planet as it rises or sets through haze and pollution will be familiar with this phenomenon. If it was a spaceship, then it would have to be made of rubber.

Some video shots of these supposedly advanced intergalactic spacecraft showed them bobbing around over the treetops like insects (or like cardboard models on a string). If these were advanced alien ships, they were clearly out of control – pitching and yawing in a most alarming manner. They should have crashed in the next few minutes. This poor 'spacemanship' of the aliens presumably accounts for at least three crashed craft, we are asked to believe have occurred and the remains of which have been spirited away to secret locations and

since kept under wraps. One of these highly sophisticated vehicles was apparently shot down when a South African Air Force plane zapped it with a primitive (Earth-based technology) experimental laser cannon. A bit like a stone-age man downing a space shuttle with a poisoned arrow.

We were asked to believe that the US Air Force is regularly flying captured UFOs from a secret airbase and have been doing so for some time. These craft, we were told by a “physicist” have some type of antigravity drive. If the US is so advanced in this alien technology, why does it still spend billions building space shuttles with antiquated liquid fuel rockets and solid fuel boosters? Why are they planning 25 years ahead to land a man on Mars using the same antiquated technology? (And why spend millions on the SETI Search if they have already found the **Extra Terrestrial Intelligence?** **Ed**)

To cap it all off, we are told that the US has had access to at least one live alien since 1948! He even met a President and made a deal! He lives for 800 years so should be still around somewhere. He has, by implication, assisted the US in the design of the stealth bomber, only one prototype of which, to my knowledge, exists as of 1992. Thus one one highly intelligent alien from a very advanced civilisation has taken almost 50 years to build a primitive aircraft for the US.

Also under wraps in some secret morgue in the US are the bodies of three or four mini-aliens – “3.5 feet tall”. They are being kept secret for fear of “frightening the public”. I don’t know about you, but 3.5 feet of dead alien doesn’t strike me as something the general public would run away from. Also I can’t see any advantage, in the cold war situation of the 50s and 60s, of having a few shelf-feet of alien meat at home in the freezer. So why all the secrecy? Why hasn’t this momentous event been written up in the reputable scientific journals? I suspect because there is nothing to write up.

During this programme we were introduced to only two people with some scientific background who spoke in favour of the UFO hypothesis. One “physicist” stated in effect that the UFOs had anti-gravity (i.e. inertialess) drives for which infinite accelerations and speeds were possible. Then we were treated to long interviews with an “astrophysicist”, with no reference to any recognised research institution mentioned, who was careful to talk only in generalities of his belief in advanced civilisations within the galaxy and the possibility of humanoid life forms. He did not offer any critical analysis of the ‘evidence’ presented and was thus presented as a

scientist, but was promoted as a believer in the UFO phenomenon. He appeared to be being put forward as the new generation von Daniken, now that the original is no longer flavour of the month.

More use was made of the late George Adamski, the self appointed professor of philosophy, long known to be a charlatan, who is now apparently experiencing a sort of rehabilitation in some UFO circles. George and others apparently tripped off regularly in alien spaceships to other planets and have held long discussions with alien “wise men”. These aliens are reputedly earnestly concerned for our well being and that of our polluted planet. Why they choose to impart this information through the odd body they pick up in obscure canyons in Arizona and New Mexico, rather than to any of the international conferences being held on pollution problems is difficult to understand. One would have thought that a paper presented by a clearly alien entity would have a substantial effect on even the most reluctant international polluter.

I could go on, but let me conclude by saying that in a programme of this length, there was only a very small percentage of hard evidence (film footage) which was ‘believable’ (meaning it wasn’t obviously faked nor was it an immediately recognisable natural phenomenon). My verdict on the programme: 2% intriguing, 98% hogwash. ■

NSW UFOs Explained

During the early part of May, a rash of UFO sightings were reported from the NSW Central Coast, with reports of lights shining through windows, of small lights joining up with ‘mother ships’ and of high speed manoeuvres but, as far as we can gather, no reports of abductions or sexual experiments.

These sightings continued over a couple of weeks and our initial reaction was that they were probably caused by aircraft of the US Navy, exercising with the Australian Fleet in the lead-up to the Coral Sea Week celebrations.

The truth was revealed on the *Channel 9 News* of May 17, when a local businessman showed how he had been flying stunt kites, with glow tubes attached, along the beach front at Norah Head.

Yet again, the facts got in the way of a good story. ■

REVIEW

UFOs : the last word! (we hope)**Tim Mendham**

Two TV programs, totalling three and a half hours of UFOs within a month, is a bit much, especially when both claim to be the definitive word on the mystery that plagues us all. *UFOs: Miracle of the Unknown* ran for two hours on the Seven network on March 12, and nary a sceptical view to be found. Oh, to have such confidence! Oh, to have such gall!!

A stream of “experts” was called up to give the gospel on flying saucers, men in black, crashed craft and dead aliens. As the first expert was Erich von Daniken, one had one’s doubts from the outset as to the quality of the experts. This was confirmed later in the show when an ex-CIA operative said he knew one of the dead aliens was a commanding officer because of his epaulettes! He didn’t say how many pips there were on his shoulder, but as epaulettes are the universal (literally) sign of command, he couldn’t be far wrong, could he?

Then there was the plethora of UFO photographs and films - probably a greater number than had ever been shown in one place before, and therefore of some value. Unfortunately, because there were so many there was no discrimination made in using them – the good (if any) were played alongside the bad (the many), some of which being so awful you could see the strings. The show was so uncritical, it never made a distinction between good and bad evidence – all evidence was proof positive. That was why you had crop circles thrown in with Hopi indians, Nazca lines, the Great Pyramid, George Adamski’s ridiculous stories and blonde bombshell aliens, the Roswell “incident”, the face on Mars and a Kalahari desert crash (with an alien who looked like Stewart Granger). Inconsistencies abounded – some aliens have made their homes here while others cannot because of the pollution. Aliens are apparently naked, or tall men in black, or wear uniforms with epaulettes and work in craft that look like a 1950s nightmare. There were some patent hoaxes or mistakes – lights against the Capitol Building in Washington were obviously reflections, and a spacecraft approaching and receding from an airplane was equally obviously the tip of the plane’s wing caught in the refraction of the window’s edge.

Interspersed throughout was a series of apparently alien words of wisdom, narrated by a male and female who sounded decidedly under the influence of Valium. The wisdom was inane, and very New Age. Not like the advice to Adamski – “Stop the bombs”. There were no miracles, and why UFOs are “unknown” with so much “supportive” evidence was anyone’s guess.

Still, it was better than *UFOs: It Has Begun* (Nine network, March 9), which was narrated primarily by Rod Serling in a dramatic voice – “Based on fact ... all true”. Hang on! Didn’t Rod Serling die years ago. And isn’t that J. Allen Hynek, the famous UFOlogist? Didn’t he die years ago too? And those cattle mutilations? What about the FBI investigator who showed it was natural predators after all? And that list of the changing shape of aircraft – where was the Space Shuttle and the Stealth Bomber? And who are these other experts waffling on in a panel – they were left unidentified. And “Helen” (not her real name, but why they bothered giving her a name at all was, again, anyone’s guess) who gave a wonderful exposition of what it’s like to be stoned, dispersed molecularly, float through the roof of your car and undisperse in a space craft where the alien who greets you looks a lot like Barry Crocker and you sit in swivel chairs. (What, no epaulettes!) There were “lots of dials and screens” – doesn’t sound like these aliens are that technologically advanced, after all. One started to become suspicious about this program very early on in the piece. All became clear at the end. Date of production – 1979! Channel 9 foisted a thirteen year old program on us as “*It Has Begun*”. It might have begun then, mate, but believing in this sort of rubbish stopped soon after!

Both programs followed the view that quantity of evidence equals proof, and conveniently ignored the quality of the evidence. Unfortunately for them, a lot of poor evidence merely damns their case. If they can’t do better than this, they should stop trying. However, not to be daunted, the Seven network decided to repeat *Miracle of the Unknown* less than two months later – are they trying to tell us something? Maybe the network is run by aliens. Seeing some of the shows that go to air occasionally, I wouldn’t be surprised. ■

Creationism

I

Albert R Haig's "A Mathematical Disproof of Creationism" (Vol 12, No 1) is ingenious and, in principle, valid, but as far as I can see there is an error in his process of calculation. Surely the probability of any given combination of HLA determinants is the product only of the probabilities of the individual determinants: why multiply them by the product of the probabilities of not inheriting those **not** in the combination?

But it seems to me to be unnecessarily cumbersome to approach the matter by calculating recombinations. The HLA system has an extraordinarily high number of alleles (the alternative form of a gene, of which any one person can have a maximum of two at a time - so Adam and Eve could have a maximum of four between them at any one locus).

At the HLA-A locus, at least 30 are known; at the HLA-B locus, over 50. To get from 4 to 30 or 50 means, of course, that there had to have been mutations. This at once refutes orthodox creationism, which maintains that mutations are inevitably deleterious.

But some creationists are moving with the times and seem willing to admit that non-deleterious mutations can occasionally occur. Now it happens that the differences between HLA alleles are often very large: a single mutation will not suffice to change one into another. Klein et al (pp 1-12 in *Molecular Evolution*, edited by Clegg and O'Brien, 1990, Wiley-Liss Publications) calculate

LETTERS

Letters to the editor on any topic of interest to other Skeptics are welcomed. Letters should generally be restricted to no more than two pages of typed script.

that if the human species has existed for 500,000 years and were descended from a single heterozygous pair (i.e. containing four alleles), the mutation rate in the HLA system would have been 4.6×10^{-8} per nucleotide per year, an unprecedentedly high rate. There being 274 codons in the HLA-A system, each consisting of 3 nucleotides, this gives us one mutation every 2,640 years. But of course creationists don't have that many years to play with; for them, the human population is descended from five people (Noah, his wife and their three daughters-in-law), with a maximum of 10 HLA-A alleles, 4,300 years ago. Altering the calculations accordingly, we find one surviving (i.e. non-deleterious) mutation at the HLA-A locus every 61 years. If, as creationists maintain, deleterious mutations are the usual thing, some unlucky person's histocompatibility complex is mutating away every year or so.

But wait! If, reluctantly, a creationist has to admit that there simply had to be mutations, then, as argued by Nei & Hughes (pp 222 - 247 in *Evolution at the Molecular Level*, edited by Selander, Clark & Whittam, 1991, Sinauer Associates publication), a great many of these mutations were not neutral at all, but beneficial (because there is an excess of non-synonymous over synonymous mutations).

I haven't heard that any creationist, anywhere, permits beneficial mutations. Once you do that, then evolution becomes possible, you see; and then there is nothing for it but to accept the scientific evidence that it has actually occurred.

(Dr) Colin Groves
Dept of Prehistory &
Anthropology
Australian National University

The Response

I read with interest Colin Groves' reply to my article "A Mathematical Disproof of Creationism". He is, however, mistaken in his assertion of an error in my calculations. To explain, consider the two following questions, which ask quite different things:

a) What is the probability of a given person inheriting genes X and Y; and
b) What is the probability of a given person inheriting genes X and Y **and only** genes X and Y (that is, and no others)?

If we calculate the probability as suggested by Colin Groves, we answer the first question; if we calculate it as suggested in my paper, we answer the second.

Suppose that there are only four determinants to choose from, *a*, *b*, *c*, and *d*. If we calculate the probability of inheriting determinants *a* and *b* by simply multiplying the probability of inheriting determinant *a* by the probability of inheriting determinant *b*, as suggested by Colin, we obtain the probability of any combination of determinants which contains both determinant *a* and determinant *b*. That is, the probability of having any one of the following four possible combinations: *a* and *b*; *a,b* and *c*;

a, b and d ; a, b, c and d . However, if we want to calculate the probability of inheriting determinants a and b and only determinants a and b (that is, the first of the four combinations listed above), then we must not **only** take into account the probability of inheriting determinant a and determinant b , but also the probability **not** inheriting determinant c and determinant d .

Thus, as detailed in my article, we must obtain the product of the probabilities of each of the determinants in the combination and the probabilities of not inheriting each of the determinants not in the combination, if we wish to obtain the probability of that combination of determinants and only that combination of determinants, that is, with no other extra determinants allowed.

Furthermore, as stated in my article, this is the probability which is required in this instance. We are interested in calculating the probability of inheriting a particular MHC from Adam or Eve now, not the probability of inheriting any MHC which contains the determinants of an MHC from Adam or Eve, but may have other determinants as well. An MHC like this could only have come about through a cross over within the MHC. Therefore the calculations within my article stand correct as they are.

The rest of Colin Groves' article is quite correct and it is certainly true that the HLA antigen system provides insurmountable problems for creationists in more ways than one.

It is simply an easily established fact that the current genetic makeup of the human population could not have been derived from two people in anything approaching 6,000 years,

with or without mutations.

**Albert Haig
Meadowbank NSW**

Creationism II

On March 12, 1992 Dr Alex Ritchie informed me that Dr Andrew Snelling would be speaking at Katoomba the following evening and asked me if I would attend the talk on his behalf. When I agreed, Alex informed me of Dr Snelling's amazing double life (see "Will the real Dr Snelling please stand up?" *the Skeptic* Vol 11, No 4).

On Friday 13th (an auspicious date) I hurriedly organised a vehicle and a copy of Snelling's 1990 paper on the Koongarra Uranium Deposits (*Geology of the mineral deposits of Australia and Papua New Guinea*, Ed F E Hughes) and rounded up two interested friends.

We arrived half an hour late, by which time a film on creation 'science' was half finished. A short break followed the film, after which Snelling began talking. He talked for approximately 90 minutes and brought out the standard old creationist rubbish. Interestingly he actually mentioned the Koongarra uranium deposits in his talk, but he neglected to mention that he had worked on them as a consultant geologist. He claimed that a thorium date on the deposit gave an age of zero years, which is totally at odds with other published dates of up to 1870 million years old and he questioned why nobody had published this date. I was tempted to interrupt at that point but held my tongue until he had finished talking.

As is common at creationist talks, there was no time for questions after

Snelling had finished, but I realised that, unless the whole audience could hear it, introducing the material I had would be worthless. So I rose to my feet and, as loudly and clearly as I possibly could, I denounced Snelling as a liar. Having attracted everyone's attention, I proceeded to ask Snelling why his article only mentioned dates in hundreds of millions of years if he believed the real age of the deposit to be less than ten thousand years old (the maximum age of the universe according to his creationist teachings). Further, how could he publish two contrary opinions on the same subject without lying about one?

Snelling was visibly deflated by the attack and was not impressed by the production of the evidence against him. He tried to explain that, because the dates mentioned in the article were from other referenced sources (which they were), they did not necessarily represent his own conclusions. I pointed out that these dates appeared without refutation or challenge by him and, as such, appear to be accepted by him as correct. I pressed the issue; why didn't he publish the suspect thorium date? He said that he had tried to include it but the reviewers made him remove it.

Although I didn't think of it at the time, this was a particularly poor excuse; even if thorium dates proved unsuccessful, no referee would knock back a comment to the effect that they had at least been attempted.

By this time some members of the audience had turned hostile and two of them were standing in front of me telling me to sit down and stop making a scene. Ignoring them, I re-issued a challenge from Dr Ritchie to debate Snelling on flood geology and asked why he had consistently refused. Snelling claimed that he had accepted the challenge but that Dr

Ritchie had refused to meet the conditions Snelling required (Alex was unaware of any such conditions when I asked him next day).

The meeting then broke up into small groups. Both of my colleagues and I soon found ourselves surrounded by members of the audience, asking for more details about the claims I had made. With more room to breathe, I outlined the case against Snelling in more detail. Even when confronted with the evidence, some people refused to see any contradictions; however, others could plainly see that Snelling had published mutually contradictory statements and he therefore could not be telling the truth. By the end of the night a fair proportion of the audience appeared to have had their faith in the integrity of Dr Snelling's claims undermined.

I had thought in the past that it was hopeless to challenge creationists at their meetings and that the audience would be converted before the speaker arrived. In this case, however, up to half of the audience were not committed fundamentalists; they had attended the meeting expecting to hear about a legitimate alternative to evolution. These are the people with whom we have some hope. If the creationist nonsense goes unchallenged, it is easy for the uninitiated to be convinced that it is actually valid.

That is why it is important that, whenever possible, sceptics should attend such meetings and publicly challenge the speaker. On that night, Snelling told the audience to go home and "brainwash your children" (his actual words). Who can foretell the outcome if such repugnant attitudes go unchallenged?

Paul Willis
Curator of Vertebrates
Macleay Museum
University of Sydney

Creationism III

The article by Albert Haig, "A Mathematical Disproof of Creationism" (Vol 12, No1), which traces theoretically a particular set of antigens back to Adam and Eve, set me thinking about the problem of all those deadly diseases current among our modern population. Given that (as creationist fundamentalists hold) nothing has evolved since the 'Flood', then everything alive today must have been present on the Ark. As we know that the microscopic forms of life (but life nonetheless) which cause these diseases cannot live for long outside the bloodstream, it follows that the eight people on the Ark must have hosted all these terrible germs, viruses, etc., and shared the lot between them. Of course it would have been a great opportunity for God to rid the world of these nasties at that time, but No! All the people and innocent animals were drowned, but not these horrific bacteria which have wreaked havoc on us ever since.

Thus Noah could have been afflicted by: Cholera, Smallpox, Anthrax, Malaria, Legionella, Diphtheria and Typhus simultaneously, while Mrs Noah could have carried a cocktail of Measles, Mumps, TB, Yellow Fever, Scarlet Fever, Bubonic Plague, and AIDS. Ditto for the other six people.

Poor devils! Imagine them trying to carry out all those duties, so onerous as to make an army of strong men grow pale: providing the specialised food requirements for thousands of animals and birds; keeping separate the 1,000,000 (est)

kinds of insects, lest they devour each other; shovelling the mountainous piles of manure deposited each day by the mammoths, hippos, rhinos, bison, elephants and the many types of dinosaurs. And at the the same time, being afflicted by enough toxins in their bloodstreams to wipe out an army!

It's a wonder to me that Noah didn't give up and hurl his fevered and pain-wracked body over the side of the Ark for the more merciful fate of drowning in the flood.

Florence Ewings
Cleveland QLD

Astrology I

I would like to express my appreciation of Barry Williams' article "Planetary Influences" in *the Skeptic* (Vol 12, No 1).

Most papers in *the Skeptic*, when debunking some superstitions, deal with the subject in terms of scientific concepts. They address like-minded people and thus speak only to the already converted. Barry Williams, on the other hand, not only presents an informative and well written paper, but approaches the subject from the angle of a believer in astrology. The idea of finding new planets by investigating the discrepancies when predicting the characters of babies born under certain constellations, is excellent. Likewise, the fact that newly discovered planets and asteroids are given names of arbitrarily chosen gods, whose characteristics are then assumed to apply to babies born under corresponding constellations, should convince at least some believers that astrology has its moments of absurd reasoning.

Hans Weiler
Croydon NSW

Astrology II

Two quick points regarding astrology which I haven't yet read in the Skeptic.

1. A baby born in Winter will live its most formative months in different conditions from a baby born in Summer. The Winter baby may feel more restricted by clothes and blankets, experience less daylight and be less stressed by heat than a Summer baby. What effects upon a personality, if any, cannot be determined, but it could suggest a further reason for any correlations between star signs and personalities astrologers may dream up. I say 'suggest' because the idea certainly doesn't have any evidence to back it up either. (For a start, we would have to assume traits gained by babies born in equatorial areas would not be present in people born in cold regions, and vice versa).

The only merit in the idea is that astrologers would have to test subjects in both hemispheres if they are to prove any correlations between personality and star signs, if only to get rid of the confounding variable.

2. I believe the star signs were based on the lunar months, of which there are thirteen. The missing sign is called Arachnid (I think), the sign of the spider. My modicum of information has it that this sign was thrown out in the middle ages because it was associated with witchcraft. The few astrologers who know about it try desperately to ignore it, for it buggers up their books no end. They choose instead to revert to the familiar twelve sign system, proving yet again just how arbitrary the whole astrology business is.

**Mark Avery
Annandale NSW**

We carried an article by Sir Jim

in Vol 7, No 3, in which he listed the 13 constellations which are encompassed by the Zodiac. The one that is missing from the astrologers' list is Ophiuchus, the Serpent-bearer. This is a fairly ill-defined constellation, which the Sun enters on November 25 and exits on December 13, a total of 19 days. At that, it (the Sun) spends far more time in Ophiuchus than it does in Scorpius (six days). I would hazard a guess that one 'sign' was dropped because 13 is such an inconvenient number, with which to do simple mathematics. Equally, I would surmise that Scorpius was retained rather than Ophiuchus because the latter is a lot harder to pronounce and astrologers, being simple folk, like to keep things simple (no use confusing the customers). **Ed**

Responsibility I

In *the Skeptic* (Vol 12, No 1) Graham Preston asked if a thoughtful reader could answer the question "Do sceptics believe that people should be held responsible for their actions?" While conceding that every one of your readers is thoughtful, to know what all sceptics believe about a subject would be a mighty accomplishment.

Preston is concerned about a problem that has puzzled philosophers for centuries; which is true, determinism or free will? In view of the facts that one's free will does not operate in order that one may be born, nor is free will relevant to the time and manner of one's death, it seems illogical to infer that human beings (or any life-forms) perform acts of free will between birth and death. During each second of existence every personal action,

whether of thought or deed, is the result of some prior action, near or far, recent or long ago, by oneself or some other agency, and such personal action could not, therefore, have been taken in any other way than the one achieved.

Massive implications are mentioned by Preston. They are massive indeed.

As for "knocking down the jail walls", and doubts about justice and punishment, don't ask me. I'm only a rational human being. Perhaps such details should be left to the decisions of victims of crimes and/or of their loved ones.

**John Fitzgerald
Frankston North VIC**

Responsibility II

"That we are not responsible for our actions" (Letters, Vol 12, No 1): the argument, Graham, is interesting – but the support you offer is a tad flawed.

Other animals do hold each other responsible for their actions; reproof is usually tendered with snarls and bites. In the act of 'domesticating' some animals, we impose our own laws, then hold them responsible for breaking them; reproof is usually less bites than snarls.

A computer alone is an inert lump; but the human who made it, or who operates it, or the bastard who wrote the program, can be held responsible (but would rather not be). (The human who takes responsibility for releasing a computer virus should be reproofed by the strategic application of a sharpened crowbar.)

However, the suggestion that we are manipulated by our own chemistry has huge implications in

prognostication. A simple blood test could reveal how any individual will respond to a given action. The Morgan Gallup Poll could become at once more accurate and more painful. Bank robbers could be arrested before the event!

On the whole though, I am sceptical about your theory. Perhaps Skeptics are those who are not ruled by their chemistry. Suggest you submit your theory to the Economists of Canberra – they would just love it.

**Andi Stevenson
Moulamein NSW**

PS Should there be anything in morphic resonance, it looks grim for those who are sceptical - I fear that most of the population are not.

Dating

In the latest Creation *Ex Nihilo* magazine (Vol 14, No 2, March–May 1992) Dr Andrew Snelling No1 (Dr Alex Ritchie's classification) has written an article "Radioactive dating method under fire". This article is based almost entirely on another publication:

Zheng Y F, 1989. *Influences of the nature of the initial Rb-Sr system on isochron validity. Chemical Geology (Isotope Geoscience Section), 80: 1–16.*

I have read this article by Zheng and, as expected, Snelling has given the usual, distorted creationist view of a paper that very honestly points out difficulties and how they may be best overcome. Unfortunately, my scientific expertise is biological, so I am unable to really answer Snelling's claims. This is where the experts among the ranks of the Skeptics may be able to come in. Could someone appropriately qualified answer Snelling in the next

issue of the Skeptic? Even a short answer would suffice.

Although creationists are indeed misguided, most are honest people who simply take the word of their "qualified experts" at face value. Rest assured I have enough contact with creationists to ensure that an appropriate rebuff to Snelling will be well distributed. This rebuff will also of course make good reading for the Skeptics.

**(Dr) Norman West
Oakleigh VIC**

N D E S

Harry Edwards' article "Near Death Experiences" (Vol 12, No 1) made me recall my own experience in 1979. After suffering a very serious heart attack, I was told a couple of weeks later that my heart had stopped five times.

At the time I did not know that my heart had stopped. After piecing things together the following was noted:

Heart stopped twice at Belmont Hospital: I did not notice anything, must have been asleep.

Stopped twice in operating theatre at Newcastle Hospital during temporary pacemaker electrode insertion under local anaesthetic. The gradual fading of the scene around me as I became unconscious had a light grey network superimposed upon it. This network was identical with the blood vessel pattern seen on the retina.

Stopped once in coronary care, visually the same as in the theatre. On awakening, there were five faces looking down on me.

As you can see, there were no "NDEs" in my case. I hope this is of some help in your research into NDE.

**Col Steel
Valentine NSW**

Language

Like your correspondents Peter Morton and Paul Kaufman, I found Tony Wallace's piece "Pseudoscience in Language" (Vol 11, No 4) incoherent and slightly offensive. I almost sat down to reply immediately, and that I was not organised enough to do so was probably just as well, as Mr Morton's rejoinder (Vol 12, No 1) said most of what I wished to say, and with greater eloquence. I would however add the following observations:

Firstly, the pedantry of which Mr Wallace complains is surely one of the symptoms of that dislike of woolly thinking which made most of us sceptics in the first place. Of greater significance than the fact that most sceptics are a bit pedantic is that the reverse is probably true. Let me develop the theme briefly. The idea, so beloved of the anti-elitist Victorian Education Department, that all forms of expression ("dialects") are of equal validity and that there is therefore no such thing as bad writing, must be closely linked with the sort of thinking which accepts pseudoscientific claims, for no other reason than that life would be so much more interesting if they were true. People who have not been trained (or who have not trained themselves) to apply rigorous standards of logic to their own speech and writing are hardly likely to apply it to others. Furthermore, clear expression and clear thinking are so closely associated that it is impossible to say that one is the product of the other; they advance hand in hand. Perhaps the Skeptics could lead a movement back to the teaching of rhetoric in schools.

Secondly, pedantry is a pleasant, inexpensive and relatively harmless

intellectual hobby, like *Times* crosswords. While we may rage at most of the sloppy expressions and verbal solecisms which we read in the newspapers or hear on radio and television, every now and then we are rewarded with some unintended gems. Most true pedants are familiar with the story of the American airline pilot who alarmed some of his passengers by announcing that they would be airborne “momentarily”, but my personal favourite was on the ABC TV news, just after the last stock market crash, when a breathless reporter informed us that “15 billion dollars were wiped off the value of the stock market in as many minutes”. Perhaps other readers may be prepared to share their favourite howlers, mixed metaphors and dangling participles?

**Stewart Skelt
Flemington VIC**

I recall, during a petrol strike, a similarly breathless reporter, standing in front of an oil refinery and, pointing at a large tower, informed us that “That is the cataleptic cracker, heart of the refinery”. **Ed**

Conspiracy

I’m surprised that there hasn’t been more sceptical interest in what I consider will be the ‘fringe’ phenomenon of the 90s – conspiracy theories. I suppose they’re not paranormal, but then, are UFOs?

Of course conspiracy theories have been indirectly important to sceptics as they are used by believers to explain why UFOs, psychics etc. are not generally accepted; that is because governments have covered up positive proof. I read in the *Age* 21-3-92 that even crop circles buffs have started to talk of a government cover-up now.

As for non-paranormal conspiracies, there are a few beauties around at the moment including:

1. JFK’s assassination. The big daddy of them all; over 75% of the US public believes in a conspiracy despite the forensic evidence.

2. World Government. A fixation of some right wing groups, given credence by George Bush’s “New World Order”. Difficult to pin down who ‘they’ are in this world group.

3. MIAs. For some bizarre reason, Vietnam still holds thousands of US servicemen, missing in action 20 years after the war ended. No demands issued yet!

4. Black genocide. Some US blacks believe that the high rates of murder, drug use, unemployment etc are due to a plot to wipe them out.

5. The Holocaust never happened. It’s just a Zionist conspiracy to gain sympathy for Israel. (Perhaps all anti-Semitism is part of this plot?)

6. Elvis Lives. Despite the coroner’s report.

**David Widdowson
Strathmore VIC**

There is no real reason why we should not tackle conspiracy theories, after all, most of them contain elements of pseudoscience or the paranormal and they all seem to have much in common with areas that the Skeptics do investigate. Indeed, in Vol 11, No 1, an article by Sir Jim R Wallaby, “Karl Marx’s Grave a Communist Plot - Official” sought to connect all conspiracies into one gigantic plot. As a consequence, Pleadians dressed in black, armed with a letter from Henry Kissinger and driving a car powered by a long suppressed free energy device, did **not** raid our editorial offices, which must prove something.

One thing that makes conspiracy theories seem so plausible is that they

usually address real problems. It is only the conclusions that are drawn that make the conspiracies depart from reality.

Come to think of it, how can we be sure that it was JFK who was killed in Dallas? What if it was Elvis? Hmmm..... **Ed**

Music

Regarding your question (Vol 12, No 1) as to the relationship between scepticism and music may I suggest the following. Having been an infants teacher before my marriage, I have observed over the years that most people (including my sons) who are musical tend to be good at mathematics. Those who are artistic are better at English. Mathematically inclined individuals would, I think, be more interested in science than artistic people and hence more sceptical.

**Bunny Camps
Belrose NSW**

P S Will we see, in the future, the staff of the Skeptic performing as the Skeptical Quartet?

A two man quartet? That’s novel. **Ed**

Apples

In answer to your question “Why do you think Einstein worried about falling apples?” (Vol 12, No 1).

It was not Einstein, but Charles Darwin and not “falling apples” but fallen apes. His theory of relativity showed that we are related to their descendants.

**Dr Joel Margolis
Glebe NSW**

DOOMSDAY

1992 Melbourne Cup Cancelled

Sir Jim R Wallaby

Posters, like the one illustrated here, have been found springing up around Sydney of recent times. I thank Scott Marshall of Turrumurra for bringing it to my attention. As the poster is not otherwise authorised it is left to us to conclude that it may well be the work of the Deity himself.

If this is indeed the case, then we are faced with some very serious questions. This would, if Archbishop Ussher can be shown to be correct, make the Earth approximately 5,996 years and six days old at the time. I cannot be more explicit as to the exact age as the estimable Ussher said it was created at 9 am, but I can't discover whether that was GMT or Israeli local time. In any event, it would seem that 1 am in Australia would be 5 p m the previous day in Israel and 3 pm at Greenwich, neither of which times seems to be particularly significant when it comes to calling it quits for the planet. One would have thought that the deity would have waited for a nice round number like 6,000 years before finally pulling the plug, but then it has often been claimed that he works in mysterious ways, so we will have to leave it at that. It is not explained what, in particular, God has got against bar codes.

However, to get back to the message, you will notice that "Jesus is coming *in* 1 am...". You will further notice that, while the Supreme Being has a fondness for the exclamation mark (!), he has scant regard for the full stop (.), not to mention the use of a capital 'I' for the word 'if' in the middle of a phrase and a distinct disinclination to write complete sentences.

Now you can see the dilemma. If this is really the "Word of God", then we must conclude that either:

- (a) God is illiterate; or
- (b) All grammar teachers are wrong. Supporting the first proposition is the fact that English is not the Deity's first language which would, I suppose, be Hebrew.

Indeed, when God was conducting his best documented activities, English was not even a language at all. Which raises the interesting question, "When the Rapture arrives, will we be given our marching orders in fractured English or in Hebrew, which, I would guess, not one in a thousand Australians could understand?" Perhaps God will speak like one of those minor characters in a Woody Allen film, which raises another point. Do you suppose that God prefers Mr Allen's

earlier, funnier films or would he, like young Tim Mendham, pretentiously claim to prefer the later *oeuvre*?

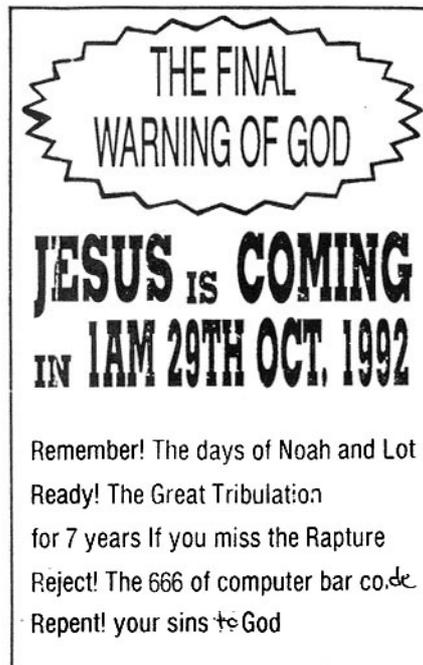
In any case, I urge the Federal Government to allocate, without delay, considerably more money to the 'English as a Second Language' programme or, failing that, to institute an immediate crash course in Hebrew for all Australians. Seven years of Tribulation is likely to play merry hell with their re-election prospects one would think.

The other option is, if anything, even less palatable. Imagine the cost of retraining all those English teachers.

In any case, Scott Marshall points out that as October 29 is a Thursday

and a working day, and as he correctly divines, not many people will be awake at 1am (whether this is Eastern Standard Time or Daylight Saving Time is not made clear), he plans to videotape the event and watch it at his leisure when he returns home from work that day.

As for me, well we Wallabies have always been sporting gents and I am prepared to offer a shade of odds against the event even occurring. In fact, if anyone would care to back the proposition, I hereby offer odds of 100:1 (for any amount you wish) that the world does not come to an end at 1am, 29th Oct, 1992. All bets (in cash) are to reach me by no later than Noon, October 28 and all bets will be settled at Noon, October 29. ■



Visitations

Just to prove that we really are becoming a Clever Country, we offer the following selection of visiting purveyors of TRUTH, culled from our mail box and local light poles and all appearing during April/ May.

'Rael', ambassador from the 'Elohim', travellers from (where else) the Pleiades, who not only planted us here on Earth, but are keeping a watching eye on us. Rael, who has a remarkably French accent for a Pleiadean, wants to raise funds to build an embassy in Jerusalem for the return of the Masters.

The fortuitously named **Elizabeth Clare Prophet**, who, if memory serves, was in trouble recently with the US Environment Protection Agency for polluting a national park, and who may or may not have appeared in person at "An Easter Conclave" in Sydney. The lecture I am sorry to have missed was "The Golden Age of Jesus Christ on Atlantis".

'Dr' Alan Roberts, discoverer of one of the multitude of 'Noah's Arks' that appear to litter the mountains of Turkey in greater numbers than there were ships in the Coral Sea Battle. 'Dr' Roberts is seeking funds to continue the research into Noah's Armada. (see story this issue)

Colin Andrews, who still thinks there is something mysterious about 'crop circles'. Colin was heard to claim on ABC Radio that he was privy to certain information from NASA, but then again, who isn't (see story this issue).

Robert Morning Sky, 'American Indian Medicine Man', who will (if his posters are to be believed) reveal 'the truth' behind the alien visits (see story this issue).

Dr Stephen Basser is a member of the Victorian Committee, and is involved in hospital administration.

Colin Bembrick is a geologist who works in the Astrophysics Department at the University of NSW, which appears to be an odd career choice.

Laurie Eddie, a member of the South Australian Skeptics Committee, is a Psychologist and Correctional Officer, not necessarily in that order.

Harry Edwards is the Secretary of the National Committee. He has an ultraviolet aura and his controlling number is 8.

Dr William Grey teaches philosophy at the University of New England. His record for predicting future events would make a psychic mauve with envy.

Martin Hempstead is a physicist at Southampton University (UK) and a member of the Wessex Skeptics.

Peter Johnson, cartoonist by appointment, claims that statements made in the last issue about his psychic abilities caused his partner to harbour unsustainable expectations of him. We can now state, unreservedly, that all South Australians, except Peter Johnson, are psychic.

Adam Joseph is a member of the Victorian Committee and a professional radio presenter. His principle hobby is attending strange meetings and being thrown out of some of them.

Allan Lang is a member of the South Australian Skeptics Committee who, for some reason, is very interested in Nostradamus.

Tim Mendham, a member of the National Committee, is a movie buff and has a particular interest in 'production values', whatever they might be.

Kate Orman is a member of the National Committee and, contrary to what may have been written in the last issue, is not a student. She is, however, a member of the Dr Who Fan Club.

Dr Alex Ritchie is a palaeontologist at the Australian Museum who delights in exposing the double lives of creation 'scientists'. He is less keen on being attacked by security guards.

Sir Jim R Wallaby is a man who needs no introduction, which is probably why he never gets to meet anybody.

Raymond Watson has been polishing his personally tuned crystal with essential oils by the light of the full moon, hoping it will turn into a computer. The Editor hopes so too.

Barry Williams, President of Australian Skeptics, professional exhibitionist and amateur typist, is responsible for the typos in this magazine %&@ shrldu.

Robyn Williams, Executive Producer and Presenter of the ABC Radio's *Science Show* and *Ockham's Razor*, is one of the world's leading science broadcasters.

About our Authors