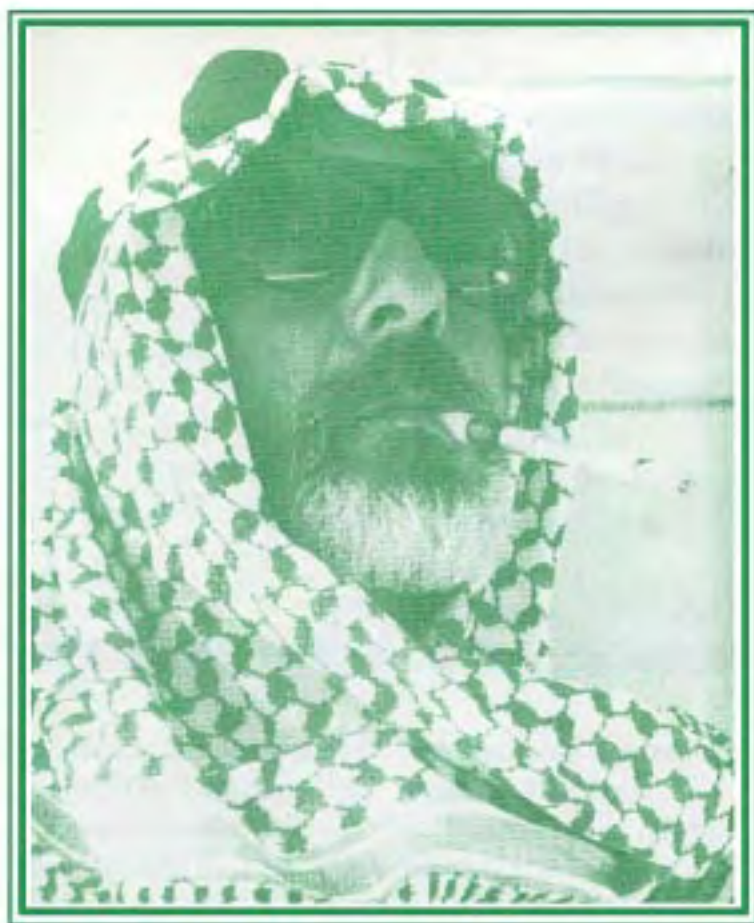


the Skeptic

Volume 13, No 3 (Spring 1993)

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convention issue



THE GREEN SHADOW
Harry Edwards on an Undercover Assignment

Convention Report
Philosophical Speculation
Interview with Paul Davies

CONTENTS

4	Help Wanted
5	News and Views
8	Convention Notes
11	Competition Results
14	UFO Sighting
15	Dealing with the Devil
17	Interview with Paul Davies
25	Predictions of Doom
27	Dear Diary
29	Kinesiology on the Air
31	Kinesiology Explained
32	Review - Theiring's Theories
34	World Round-up
35	Origin of the Spaceships
36	The Open Mind
39	Palm Reading
41	Review - The Creationists
42	An Encounter with Scientology
43	Review - Parapsychology
44	Travels of a Skeptic
46	Philosophy
50	Land Acupuncture
51	Forum - Politics
53	Letters
58	About our Authors

From the President

In this issue last year, we were offering incentives to the person who became subscriber No 1000. I am pleased to report that as this issue goes to press, we now have over 1200 subscribers, with Victorians leading the rush. This is a result of some very active promotion by our Victorian Committee through their FM radio programme, the publicity they generated before the Convention and their participation in the Great Australian Science Show. They are to be commended for their drive and enthusiasm and all other state committees are encouraged to follow their example.

Any organisation like the Skeptics relies very heavily on the dedication of a few active participants and, as we grow in both size and influence, the load on their willing shoulders increases proportionately. Elsewhere in this issue, we make a request for volunteers to take a more active part in the affairs of the organisation and I can only urge each of our readers to consider what they can

do to assist.

The need for informed scepticism has never been more urgent, as we find much of our popular media giving increasing credence to the unsupportable claims of practitioners of mystical and magical thinking, where our institutions of higher learning are beginning to offer courses in irrational practices and where more and more of our health providers are offering 'alternative' or 'complementary' medicine.

James Randi, during his recent visit, said that magic thinkers were aiming to take us back into the dank, dark caves whence our ancestors came, while modern scientific thinking was leading us to the stars. He had made the choice to go to the stars and so have I, but the dripping water from those caves is sounding louder every day.

Barry Williams

the Skeptic

Vol 13, No 3

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Help Wanted

The NSW Branch will be mounting a stand in the *Great Australian Science Show* which will be held in the Powerhouse Museum, Sydney, from September 21-26. This show has proved in the past to be a great draw-card for us in Melbourne and Brisbane and is now making its first appearance in Sydney. In Melbourne in June, almost 29000 people attended the show, which is designed to profile Australian science and technology in an entertaining and informative manner, and included displays, speakers and workshops.

We propose to display items which demonstrate the scientific methods which underlie modern technology, magicians will be in attendance to show how illusion and delusion lead many to irrational beliefs and we will be promoting scepticism as an irreplaceable component of the scientific endeavour. Naturally, we will have an ample supply of books and magazines and especially subscription forms on offer.

We need volunteers to help staff our booth, which will be open from 10.00am - 5.00pm each day, and are appealing to all Sydney based Skeptics to give us a little of their time. We not only need your bodies, but also your ideas as to demonstrations that will be both eye-catching and informative. It is anticipated that we will need at least 3-4 people on the stand at any time so if you can help call us after 6.00pm on (02) 417 2071 (during the day, you

can leave a message on the answering machine) or fax us on (02) 417 7930 with your ideas or offers of help. If you are a professional and have a good science story to tell, why not volunteer to be one of the speakers during the show. Let us know, or contact the organiser, Mike Pickford, directly on (059) 890 970 or fax (059) 890 993 and don't forget to tell him you are with the Skeptics. Two theatres are available, one holding 80 and the other 250, with all AV requirements provided.

Whether you can help or not, we urge you to visit the show and to bring as many children as you can round up. It's never too early to get them involved in the fun of science.

* * *

We also need new blood to revitalise and to increase the impact of our state committees.

If you feel that you would like to contribute to the operations of your state branch, please drop a line to the address shown in the left-hand column of this page.

Branches are encouraged to promote regular meetings, dinners or other events to allow the subscribers to keep in touch with other Skeptics in their region.

* * *

NOTICE

A 3 X 3 hour videotape presentation of the recent National Convention is now available from Victorian Skeptics
GPO Box 1555P, Melbourne 3001.
\$49 + \$7.50 p&p

Editors: Barry Williams
Harry Edwards

Subscription:
1993 - \$25.00 pa

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News and Views

In a perceptive article in the *Sydney Morning Herald* of 31 July, the paper's US correspondent Pilita Clark, drew attention to the disproportionate number of Australians who are present when "events of mass gullibility take place". Referring in part to the number of Australian devotees of David Koresh in the Waco debacle of recent times, the journalist also wrote of the 60 Australians among the 4000 TM devotees who have gathered in Washington DC, which has one of the highest murder rates of any city in the USA. The purpose of the gathering is to meditate *en masse*, thereby reducing the crime rate. The claim is that if a sufficient number of people meditate away their stress (it used to be $\sqrt{1\%}$ of the population - we don't know what mystical figure is used now), then the 'collective consciousness' of the whole society benefits and crime rates fall.

The meditators are claiming success already, despite the 24 murders that occurred during the second week of their demonstration, generally considered to be a record for that unhappy city. They claim that the overall rate of crime has dropped during that period, although law enforcement authorities say that the data used to make such claims is raw and likely to be revised.

Whatever the actual crime rates are, we can expect all sorts of publicity from the TM movement, claiming success by the simple method of only using the facts that fit their claims, a not uncommon practice among promoters of irrational theories. The promoters of TM assert that independent research

supports their claims, yet we have found that while most of the independent research supports the uncontroversial claim that meditation can assist in reducing individual stress, support for the more nonsensical claims of TM, such as collective consciousness, levitation and reducing crime rates, comes from TM related organisations and are thus to be viewed with more than usual scepticism.

Of course, there is another and far simpler method of reducing the crime rate and that is to repeal all laws. Australian Skeptics is not advocating this course, merely pointing out yet another simple minded solution to a complex problem.

* * *

Congratulations to Skeptics' patron Dick Smith on his successful first balloon crossing of Australia.

Has anyone ever thought that there must be some mystical connection between the name Smith and Australian aviation records? First there were Ross & Keith, who made the first flight from England to Australia, then Kingsford, the first flight from the USA to Australia among other records, and now Dick, with the first solo helicopter around-the-world flight and the first balloon crossing of Australia.

It's almost enough to make one believe in predestination or something.

* * *

We are delighted to hear from John Sluis, producer of Annie Warburton's *Afternoon Show* on 7ZR, Hobart about the woman in the USA who is suing televangelist Robert Tilton's World of Faith Outreach Center for \$50 million after promised 'cures' of

her husband in exchange for contributions to the church failed. Her husband died, but this didn't stop the church pestering her for further contributions. Her case has had some success, in that the church has been ordered to hand over its financial records. As John says, "Perhaps if more people were prepared to sue these 'evangelists' they might pull their heads in a bit" Amen to that.

* * *

I have spoken in these columns before about messages that appear on lamp standards around the city of Sydney. This is where I first became aware of the End of the World predicted for last October and of the symptoms of alien abduction. These light poles are becoming important sources of information from the fringes of society and may be a reaction to the concentration of media ownership (and then again, they may not).

Long running items on these poles are the message that begin "Eat 5-10 food items often" and which continues in fractured English to recommend sitting on plastic furniture and sleeping on the floor, leading to "as good as university in 10 years". Another is the item claiming "Barristers and Solicitors corruption" and inviting readers to assemble in Martin Place on Saturday, wearing a flower. These favourites have been running for years, unattributed, making it difficult to test the results of these interesting experiments.

More recently we have seen advertisements for "All Night Sex Parties" offering "free food, drink and sex" (\$25 entry fee), to which more socially aware citizens have

added, in felt tip pen, "AIDS, herpes and syphilis".

Also common are notices offering jobs, furniture sales and dietary aids, with tear-off slips containing phone numbers. One that recently appeared had overtones that appealed to my sceptical eye. "I want 6 full-time and 10 part-time people" it proclaimed. Now what on earth is a "part-time person"? The answer is clear - a werewolf, that's what. Ban migration from Transylvania say I.

* * *

Speaking of barristers, our thanks to Lindsay Ellison for the advertising insert out of a newspaper which encouraged readers to join a book club. Among the many tempting, low cost (reduced from \$34.95 to \$7) offerings was listed "Nostradamus: The End of the Millennium - Prophecies 1992 to 2001" Barely discernable in the illustration was this prophecy for 1992 "George Bush re-elected". Lindsay reckons that, based on this remarkable piece of prescience by the old Nostra, next year the price should fall to \$6, then \$5 and so on.

* * *

So, Australia is well on its way to having its very own Saint?

Whether this is a public relations exercise on behalf of the Catholic Church or a genuine reflection of the state of our society, I have no idea. Nor do I know whether Mary MacKillop had the requisite characteristics to achieve sainthood, it not being an issue to which I have ever addressed much thought. However, it appears that the bureaucratic regulations of the church require that, to get to her present semi-saint status, she had to have been judged to have caused a miracle and to achieve the promotion to the real thing, she has to be shown to have caused another one.

It seems to be a little much to expect two miracles, especially as, in my opinion, a miracle is about as likely as Erich von Daniken winning the Nobel Prize, however, if Queensland were to win the Sheffield Shield next year, I might be persuaded to change my mind.

* * *

The march towards Clever Countryhood advances apace with the news that the NSW University of Technology is instituting a course in Acupuncture.

Claims made in a radio interview that the National Health and Medical Research Council had spoken approvingly of the therapeutic value of acupuncture need to be investigated. As far as we can ascertain, the NHMRC merely stated that acupuncture acted as a mild analgesic, possibly through the stimulation of the release of endorphins, and no endorsement was given to this practice as a treatment for any illness.

* * *

Meanwhile, the forces of rational, scientifically based medicine are starting to take the threat of 'alternative medicine' seriously. National Committee member and General Practitioner, Dr Richard Gordon, has been asked by the NSW Branch of the AMA to head a committee to investigate claims made by alternative practitioners.

Any medical Skeptics who wish to assist Dr Gordon in his investigations can contact him at PO Box E324, St James NSW 2000.

* * *

Sceptical solicitor, Paul Ward-Harvey, has sent us the latest unbeatable offer from Time-Life Books, "Mysteries of the Unknown". First book in the series is "The UFO Phenomenon" and, from the blurb attached, it seems to be a very

uncritical look.

* * *

Thanks to the unnamed correspondent who faxed us a leaflet from Aura Photographics of Bundall, Qld who will "travel Australia wide" to photograph your aura.

It seems that "aura field photography actually measures your energy field and displays it with lights and colours". The leaflet also gives colour interpretations, including "Violet: The mystical, magical colour. Eroticism, charm and enchantment can appear with Violet". Oddly enough, I once knew a lady called Violet and she was nothing at all like that.

Still, a picture of your aura seems like just the thing to bung in the family album.

* * *

Ben Bensley, of Normanhurst NSW, has sent us a brochure from Alchemy Academy Australia, located near Emerald in the Dandenongs.

This organisation offers "Prima Seminars in Hermetic Philosophy and Laboratory Alchemy". The brochure offers, for the sum of \$675 (bring your own food) a six day live-in seminar series which includes "An examination of Sulphur, Salt and Mercury within the three kingdoms of Nature and Man"; and "An introduction to alchemical jargon, symbolism, legends and myths, in relation to the Philosophers' Stone".

It would appear that the AAA is part of the Paracelsus Research Society, named for the famous 16th Century Swiss alchemist and physician Paracelsus (real name Theophrastus Bombastus [could this be the origin of the term bombastic? Linguists please advise.] von Hohenheim), who is credited with directing alchemy towards improving the effectiveness of medicines. A noble ideal for the 16th

Century no doubt, but its relevance to the 20th Century remains obscure.

Paracelsus is described in the *Chambers Concise Dictionary of Scientists* as “a loud-mouthed and often drunk and boastful mystic” who “...used such offensive language in abusing opponents that, following a legal case which he lost, had to leave Basle...”.

We can only hope that the modern day followers of this seer do not subscribe to his personal habits. \$650 seems a bit much to pay to be abused when one fails to transmute lead into gold.

* * *

Dr Alex Ritchie, prominent Skeptic and palaeontologist at the Australian Museum, has completed excavations of the site of the Devonian fish fossils at Canowindra in central western NSW (Vol 13, No 1).

Alex claims that this is one of the largest deposits of fossilised fish ever found in the world. He is now seeking sponsorship to set up a museum in the town to display the vast amount of material (over 200 tonnes) he found and any philanthropic Skeptic is invited to contact Alex at the Museum.

As yet, we haven't heard what the creationist push has to say about this find, but don't be surprised if they claim it was the remains of an antediluvian fish and chip shop, almost certainly owned by a distant ancestor of the Doyle family.

* * *

To anyone born north of the Murray and east of Broken Hill, the curious

weekend activity of the southerners and westerners, known as Australian Rules Football, has always appeared to be a bizarre religious rite.

As is usual with any expansionist religion, the faithful have indulged in missionary activities in northern climes with no more success than is the case with any other minor sect, their converted adherents being regarded merely as weekly sacrificial

person of a prominent Californian fire walker Mr Tony Robbins. Mr Robbins has for years been making extraordinary claims about the mystical and psychological benefits to be derived from the highly questionable activity of stomping over hot coals, despite the many demonstrations by Skeptics groups around the world that the ability is purely as a result of the laws of physics and requires no mystical abilities at all.

Regardless of the advantages that are alleged to accrue from fire walking, the Sydney Swans continue to be slaughtered by their opponents on a regular basis.

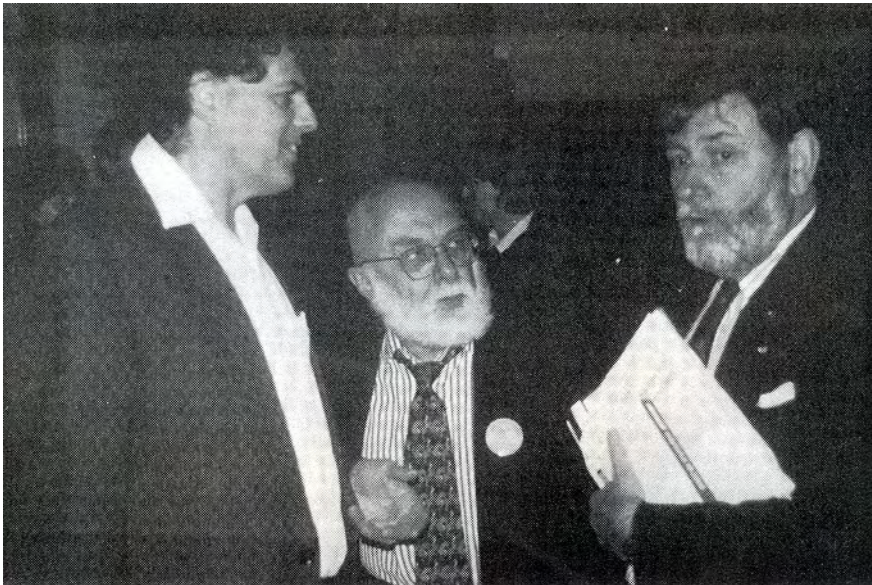
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We repeat our invitation to Mr Robbins, or to any other promoter of fire walking, to take part in a trial arranged by

Australian Skeptics, in which they can test their mental conditioning by walking across a heated metal plate.

An interesting variation on this trial was suggested by James Randi. He offers to put a frying pan in the coal bed and asks that the fire walker takes one step in the pan during a walk. We believe that our trial is a better demonstration of the difference between ‘heat’ and ‘temperature’ as the metal plate can be at a considerably lower temperature than the coals.

We are negotiating to conduct a demonstration of fire walking during the Great Australian Science Show at the Power House Museum in Sydney, September 21-26. **BW**



**Mark Plummer, James Randi and Barry Jones MP
chatting during a break at the Convention**

victims to the more established practitioners from the south.

As such, this behaviour would not normally come under the purview of Australian Skeptics and our antennae were not even disturbed when the Sydney Swans acquired the coaching services of the Messianic Ron Barassi. Even his enlightened preaching seems to have had no effect on the Swan's sorry fortunes as they regularly, and despite extreme meekness, fail to inherit the earth, or at least those parts of it that contain their opponents' goal posts.

Imagine our surprise then, when on a recent *A Current Affair* programme (Channel 9), we learned that the Swans' management had imported a ‘team motivator’ in the

Convention Notes

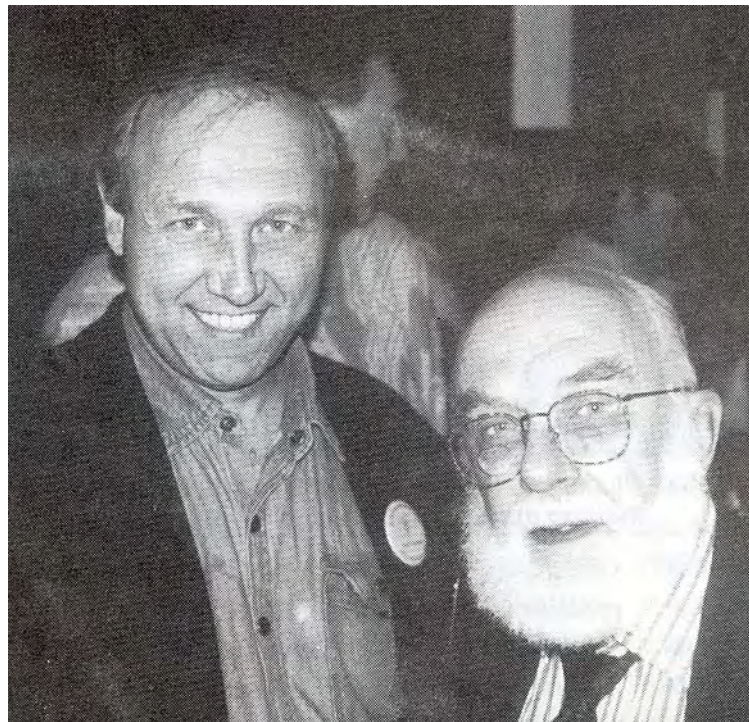
The Ninth Annual National Convention, in Melbourne on the weekend of June 19-20 was the most successful ever held. More than 300 people attended each of the two days of the convention they were both entertained and instructed by the high quality presentations.

The sessions began with a light-hearted debate on the topic "Scepticism Sucks". The affirmative side was taken by Harry Edwards and Penny McKay, purporting to represent some entirely spurious parapsychology organisation, who laboured the point that scepticism leads to disgruntlement while belief leads to bliss. This proposition was opposed by Professor Ian Plimer and Barry Williams who, though obviously ill prepared for the debate, by their cheerful and irreverent approach to the topic, gave the lie to the rather lugubriously put arguments

of their opponents. This good cheer availed them not at all as, when the question was put to the vote, the affirmative won by a considerable margin, prompting cries of "ballot rigging" from the now disgruntled losers. The debate was enlivened more than somewhat by the intrusion of a young man making certain accusations against the nominally sceptical side. This intervention is covered in more depth elsewhere in this issue.

The convention proper began with a witty and erudite opening address

by Barry Jones MP, who described himself as a 'Sisyphian Sceptic', one who kept pushing the rock of his scepticism uphill, knowing that it would inevitably roll back to the bottom and cause the task to begin again. This description could not have failed to have struck a chord



Adam Joseph with James Randi: architects of success

with those of the Skeptics who spend their time in countering the increasing tide of irrationalism in our society.

Mr Jones was followed by National President Barry Williams, who began with the observation that a casual observer of the day could be forgiven for thinking that Skeptics' conventions existed solely as platforms for "bearded blokes called Barry". He spoke on the topic "Death by Ignorance", disputing the widespread view that belief in the paranormal was essentially harmless,

by referring to several recent cases where such beliefs had led to death. He also challenged the media to consider the position in which they placed themselves by, in their news segments reporting these fatal events with all due solemnity while, in their 'entertainment' segments, promoting the very irrational thinking that led to such results.

Barry was followed by Joan and Tony McClelland, founders of CultAware, who spoke of the difficulties they faced in separating their son from Scientology. They described in matter-of-fact, though disturbing, terms the difficulties they faced, the threats they were subjected to and the help they received from like-minded people. Later, they were joined by three young women who described how they had been involved in

three different destructive cults and how they had managed to separate themselves from them. Of particular interest was the woman who had worked in the Scientology 'Celebrity Centre' in London, where high-profile adherents were treated extremely well while their celebrity status was used to promote the cult.

During the convention we had two presentations by our official guest, James "The Amazing" Randi. He spoke of a recent court case in which he had been sued for US\$39 million by an American parapsychologist,

who claimed that James had defamed him. The jury found that James had indeed defamed the man, but in so finding, also found that the man was not entitled to any damages. James explained that this was a better result than actually winning, because the man now had no grounds for an appeal.

He then gave an entertaining talk on his exposure of various psychic fakes and showed a video tape of his exposure on the Johnny Carson show of a fake 'faith healer', Peter Popoff who listened on a radio earphone to his wife describing symptoms and names of gullible people who attended his 'services'. Popoff was forced out of the business, but is now back doing the same sort of act, a tribute to the extreme gullibility of those who will believe in spite of any evidence. He also showed a video tape of himself performing 'psychic surgery' on a willing volunteer, an extremely gruesome sight that left the faint-hearted weak. He spoke with passion on the topic of 'facilitated communication', which he saw as a cruel, though possibly well meaning, deception of the families of profoundly intellectually disabled people and

described how he had investigated this phenomenon in the USA.

James Randi's final message was that the purveyors of New Age mysticism were really inviting

and invited the audience to join him, a sentiment from which few of those present would have demurred.

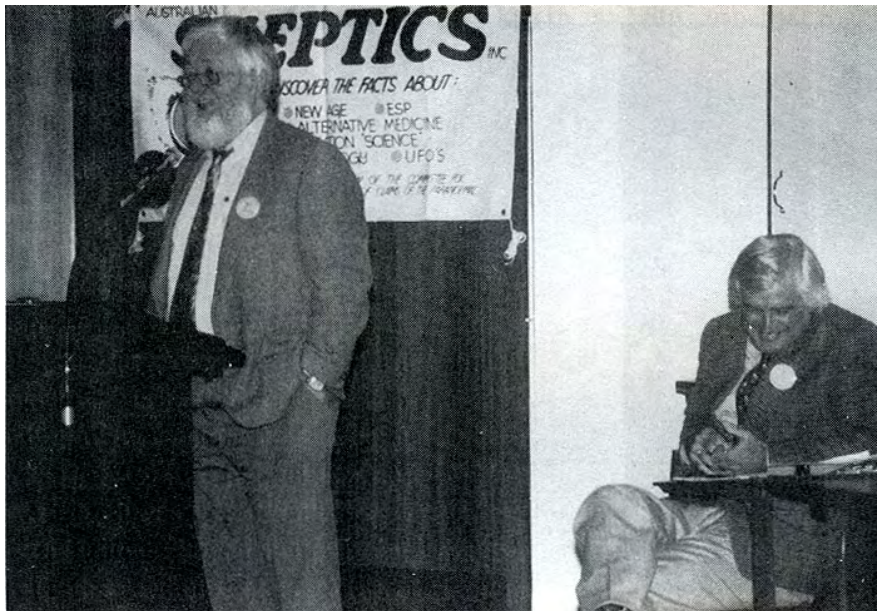
More than 100 people attended the dinner that followed the first day's proceedings and were entertained by Mark Plummer and James Randi talking about their activities exposing charlatans in the USA.

The Sunday session began with a talk by Dr Stephen Bassar on the topic "The Therapeutic Goods Act - A Licence to Kill", in which he gave examples of goods which had no discernable

therapeutic value, but which had been given a listing number under the Therapeutic Goods Act. He covered

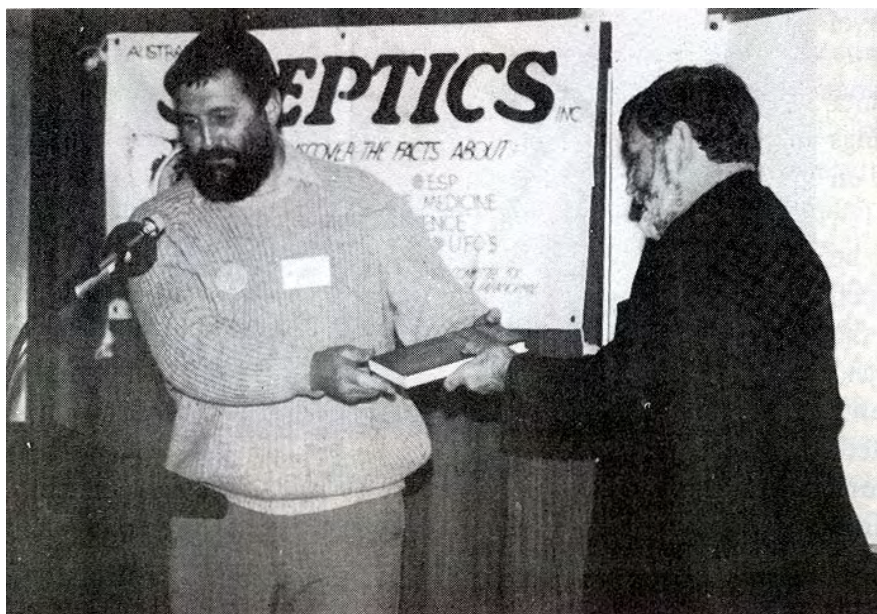
in depth a 'bio-neutraliser' which had been advertised in a Melbourne magazine, a device, so it was alleged, that was charged with 'bio-energy', was useful treatment for all manner of diseases and conditions and protected against electromagnetic radiation. This handy item later came to the attention of the ABC *Investigators*

programme and was shown to be about as useful as a wet tea towel. Stephen's paper will be published in a future issue of *the Skeptic*.



Barry Williams and Ian Plimer not being entirely serious in debate

humanity to go back into the caves, while modern science had taken us to the moon. That, he suggested, was

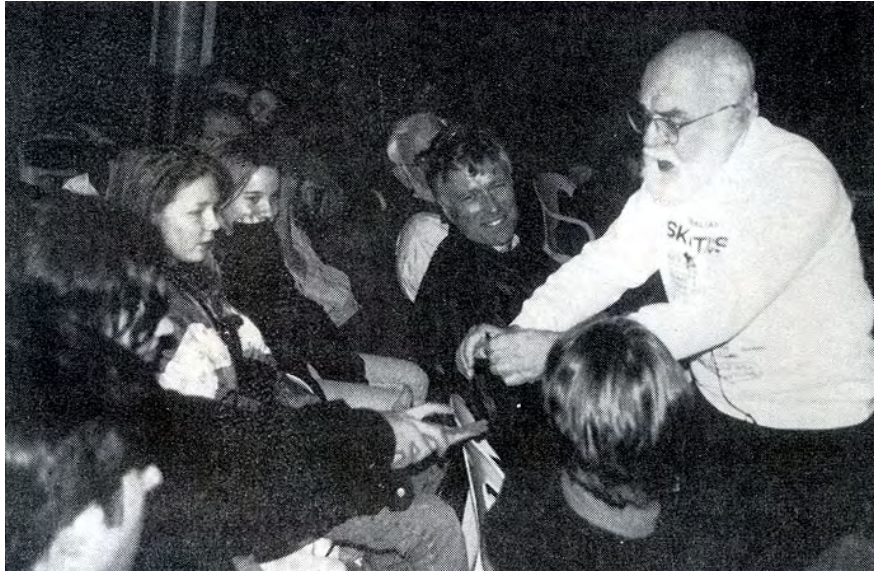


Vic President, Ian Drysdale, makes a presentation to Barry Jones MP

the choice which confronted the human species; to go back into cold dank caves or to travel to the stars. He had made a choice for the stars

Physicist and amateur astronomer, Dr Steve Roberts, then gave an amusing slide and talk presentation on a number of pseudosciences, including astrology, creation 'science' and UFOlogy, whose theses are shown to be nonsense by the discoveries of modern astronomy.

The presentation of the Bent Spoon Award to Steve Vizard's *Tonight Live* programme (Channel 7) was acknowledged by the audience as a popular one,



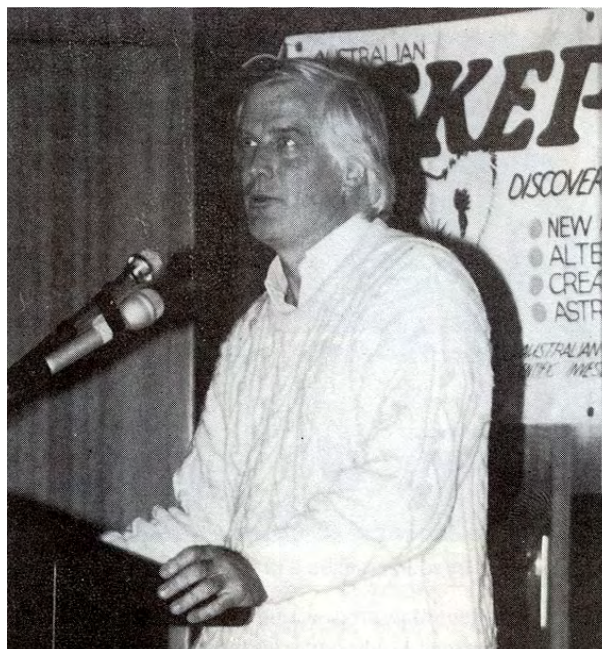
Randi performs spoon bending at Great Australian Science Show

although it was strongly challenged by the whole programming department of the same channel, which has given us such gems of serious culture as *Ancient Secrets of the Bible*, *The Extraordinary* and *Chance and Coincidence* among many others. Also highly commended were the Federal Government for providing a Townsville astrologer with a Small Business Training Grant and the Natural Law Party for their outstanding contribution to the level of political debate.

Professor Ian Plimer concluded the proceedings with an amusing talk on the evidence for Armageddon, a topic he said would become much more newsworthy as the year 2000 approached and millenarian movements once again proliferated. He showed a very impressive chart which revealed an exponential growth in the number of earthquakes above 2.5 on the Richter Scale from the 16th Century to the present. This,

he said, was proof that the world was rapidly approaching its end, then asked the audience to find the fault in his logic. That fault was that it is

only in this century that accurate records have been kept of earthquakes for the whole planet and that the Richter Scale is a modern



Ian Plimer lets go with both barrels

method of measurement which was only devised during the past half century. Ian also delighted the audience with his imaginative description of how it would be difficult, if not impossible, for the

god of *Genesis* to create the universe now, given all the constraints imposed by modern bureaucratic intervention.

That the National Convention was such a success is a tribute to the hard work and organising skills of the Victorian Committee. As one of only two people to have attended all nine National Conventions, I am happy to report that this was the best ever. Although it is always difficult to single out individuals in this context, I would like

to pay particular tribute to Adam Joseph, a member of the Victorian Committee, a media professional and an outstanding MC of the proceedings, who put an enormous amount of his own time into the Convention and the associated activities relating to Randi's visit.

James Randi is arguably the world's best known sceptic, and has spent many years exposing the works of various alleged psychics and others who prey on the gullible. We were very fortunate to have him in Australia for two weeks, during which he made many appearances in the media and at public presentations in both Melbourne and Sydney, where hundreds of people were entertained and instructed by his forthright and stimulating presentations. To both James and Adam go our heartfelt thanks.

BW

Competition Results

Harry Edwards

First I would like to thank all those who joined in the fun, the response shows without a doubt, that far from being close minded, unimaginative kill-joys, our sceptical readers excel in humour, ingenuity and inventiveness, and came up with brilliant deductive answers - albeit some of which were positively bizarre! Photographs replicating the original levitation (Vol 13, No 1) were included among the entries as were cartoons suggesting the modus operandi employed by the levitator.

Some of these are featured in this article so that you too can marvel at and/or have a belly laugh.

The most frequent (and obvious) method suggested was high speed photography, followed by physical attachment with super-glue or chewing gum. Other suggestions ranged from the matchbox rising on hot air piped from a creation 'scientist', through helium balloons to, (dare I mention it) the box resting on a black condom elevated by an exceptionally virile secretary!

One of the first entries came from Keith Rex, who insisted we publish his answer and who wanted to know how many subscribers got it correct (like him?). While the editors of this journal do not take kindly to being dictated to, in this instance it seemed appropriate to let Mr Rex be hoist with his own petard. He wrote:

"Harry is using the old trick of a fine string. He is holding the ends in his hands, the middle in his teeth and it passes through the box in such a way as he is able to make it go up or down by moving his hands out or in. Now that's child's play and any dummie (sic) would know that".

As an aside, the fact that the top of my head is missing in the photograph had nothing to do with the puzzle. It was in fact one of the better photographs of me taken by my wife - usually I'm missing from the neck up!

For those who suggested the matchbox fell off my head, was dropped from above by a person unseen, or that there was some physical connection between myself and the box, that was not the case. The matchbox being above my head also eliminates suspension on a fine thread from any part of my person or attached to a protuberance of some sort. The hands have no relevance, they are simply distractions.

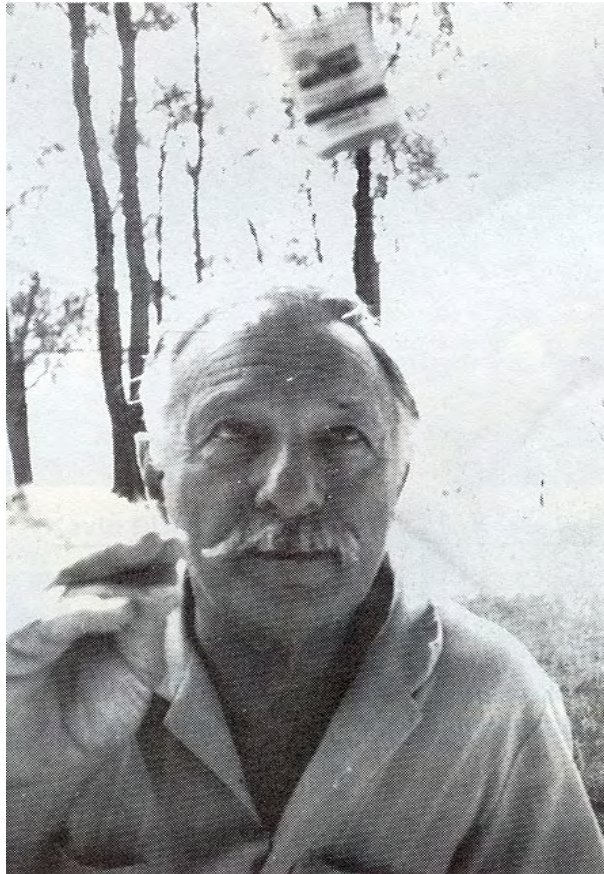
The following is a selection from the entries: From

Clive Jones, "The matchbox is hanging from a discretely hidden nasal hair."

Steve Cornelius deduced from his tarot cards that "a fine flesh coloured thread embedded in Juicy fruit chewing gum poked up the levitator's left nostril." was the answer. While this was not correct he was right in suggesting that the position of the hands was irrelevant.

John Warren went for "superglue on the chin." and Michael Morris for "pyramid power."

Another superglue entrant, student Samuel Walding, enclosed two photographs showing how the illusion could have been achieved, and although incorrect we've awarded him a Bent Spoon T-shirt for the effort.



Harry exhibiting EUTS

Another photograph (of a levitating moose) accompanied Kevin Black's six entries, one of which was correct. In addition to his prize, we consented to mention the shameless plug for his new book "Don't Fall Off Mount Flatten" published under the pseudonym; Shirley McLoon.

Mark Avery went into great detail favouring photographic expertise but was way out when he suggested that "Mr Edwards is the Quit Smoking Campaign's entrant with a hole in his throat into which one end of a shish kebab stick was stuffed on the other

end of which was the matchbox." I smoke a pipe Mark!

By a careful scrutiny of the entrails of Himalayan earthworms Mr K Straughen deduced a "helium filled Straughen, put them back in the garden!

One of Doris Leadbetter's entries will be treasured and used as an unsolicited testimonial should the occasion ever arise: "The matchbox of which only the cover is used is lightly impaled on the end of a black condom which protrudes from the Secretary's open shirt. My husband with whom I have conducted several experiments to validate this theory, believes that only a phenomenal man could accomplish the trick thus,



Samuel Walding beating Harry at his own game

assuming that the condom is attached in an orthodox way to the phenomenal man. As the secretary indeed claims to be a phenomenal man, I suggest that this is the likeliest way he managed the trick. It also explains the strained expression on his face as he waits for the photographer to get his shot." Doris didn't win the prize but thanks anyway - subsequent experimentation has opened up new horizons!

Josef Holman thought along similar lines to Doris, however, without the use of a black condom as camouflage the erectus giganticus would have been patently obvious! Unlike Barry Williams I am not a professional exhibitionist!

"Christ, he's farted!" thought Dora Mogensen when she saw the levitation photo but then on second thoughts tried magnets, dental floss, a false moustache and Creationist quarks - sorry Dora, but thanks for your donation to the Skeptics.

And finally from Ron Bernardi this quintessential piece of logic:

"He's quite clever, the forces at work here are many and varied. First his use of mind control to unify the field with harmonics is quite outstanding. The emission of ELF waves even radiate from the photo in the magazine. I'd say the use of free energy driven by an



Samuel Walding and henchdog Oscar revealing all

anti-gravity vortex which in turn is powered by a white-black noise generator cleverly hidden in his shirt pocket, this causes Torroidal Pulse energy which requires oxygen therapy to operate. I must also inform your readers that Harry is really an Alien classified as a Ghobe elite, it is clear evidence that Harry Edwards is a Psychic Guardian, but I know that there are conspiracies against such world shattering knowledge; since writing this letter I have received visitors and threatening phone calls. Yes I know the danger but truth must out. Harry be warned, watch out for phone taps, strangers calling, strange happenings and visits from Jehovahs Witnesses! Use your third eye!"

We tried to contact Ron at his last known address to reassure him but we were too late - he became the first case of Spontaneous Human Ectoplasm and had disappeared through a crack in the floor.

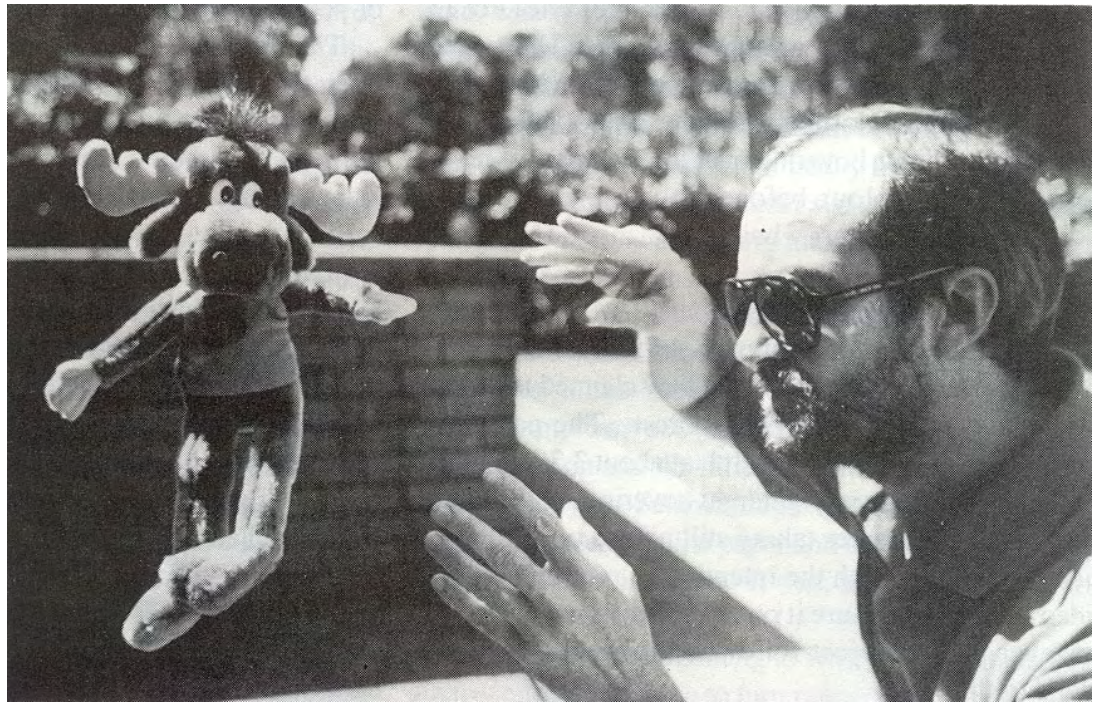
So what have we, a supermind or a simple explanation? Study the angle of the matchbox relevant to the horizontal, and note that although the two photos were taken from diametrically opposed positions the label still faces the camera. This suggests, to the deductive and logical mind, suspension and revolution. Conclusion? The matchbox could be suspended on a very fine thread, possibly the "invisible" type favoured by magicians. Well you're getting warm, it was suspended, but not by any man-made fibre, it was hanging on a single thread of an almost completely demolished cobweb!

Congratulations to: Kevin Black, who submitted six entries one of which reads:

"The matchbox is suspended by a strand of spider web or nylon, too fine to be detected by the camera." He has been awarded 35 pages of "To Hell with God?" by Steve Cooper, being one sixth of his preferred prize!

To Doris Leadbetter, a copy of "Et Tu Judas" in Ancient Greek (we're out of the Latin version) for the most humorous entry, with apologies - she can't have the secretary gift wrapped!

And for the most bizarre entry, Ron Bernardi will be posthumously immortalised in the next edition of the

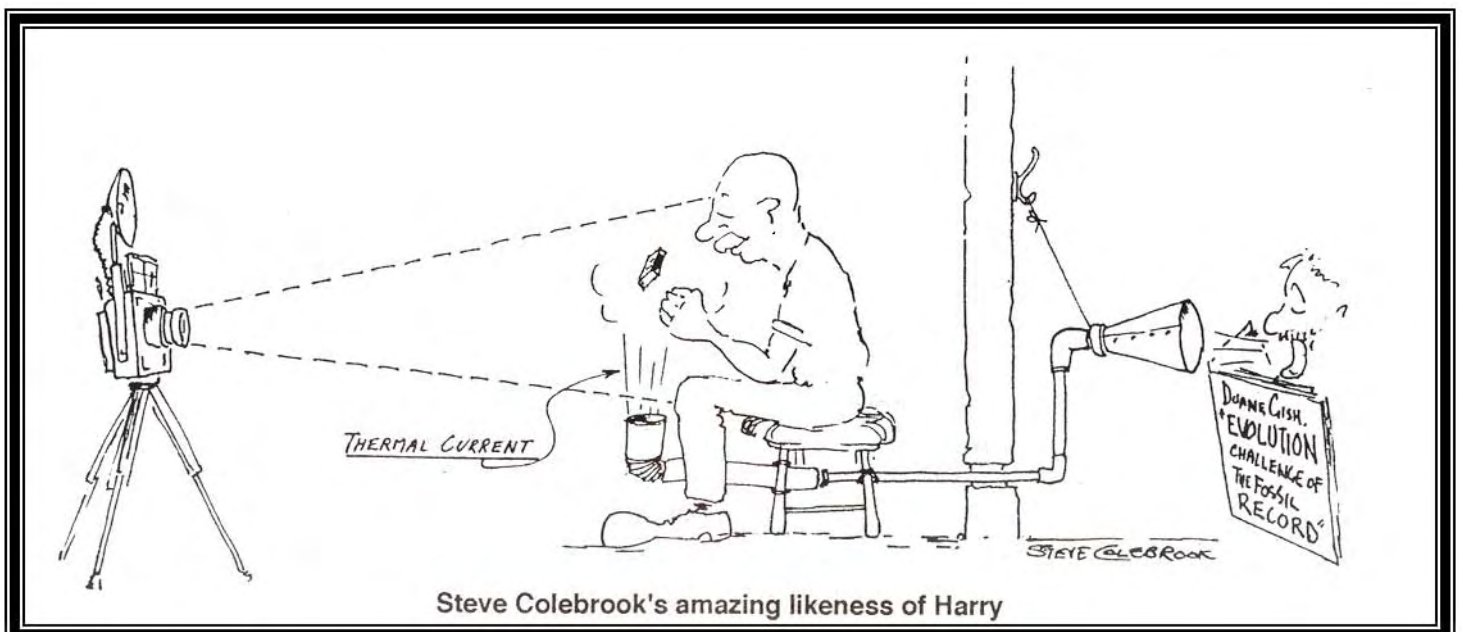


Kevin Black levitates a moose. Kevin is the one on the right.

Reader's Digest, "Unsolved Mysteries of the Past".

Consolation prizes have also been awarded to Stephen Colebrook for his cartoon and Samuel Walding for his photographs.

Thank you once again for your enthusiastic co-operation, and keep your feet on the ground! ■



Steve Colebrook's amazing likeness of Harry

SIGHTINGS

Usual Faulty Observation

Harry Edwards

Having concluded that I live in a UFO free zone (Vol 13, No 2), my complacency was shattered when UFOs were reported by several eye-witnesses between May 27 and May 31 over the Northern Beaches area of Sydney - weird orange lights hovering over the ocean and a bright light changing colour before blooming into a large multi-coloured sphere, being the most frequently observed.

The local suburban newspaper (*The Manly Daily*, May 28) featured a full front page story about two young men who captured on video what they claimed to be two UFOs hovering over Frenchs Forest. The pair were returning home from a nightclub at about 3.30am when they spotted a strange bright light hovering off the coast. They spent 20 minutes taking still photos of the object, then raced home with the intention of returning with a video camera to capture it on tape. It was not necessary however, as the object followed them and brought a friend with it!

Interviewed, one of the observers, a 19 year-old university student, said "The whole time not only were we acknowledging it; but it seemed to be acknowledging us." and "...it kept changing colour from fluorescent to reddish, even the aura it was giving off was changing. I definitely felt that there was an intelligence behind it." He claimed to have experienced a loss of time and remains convinced that he has had a "galactic experience". He also admitted to having an avid interest in the unexplained and to collecting videos and magazines about UFOs. It was not revealed what subjects he was studying at university.

Manly UFO investigator, Gary Wiseman (better known to Skeptics as an astrologer and psychic entrepreneur) was called in by the *Daily* for an opinion and, after viewing the video tape, he said that he had never seen an object expand and contract so dramatically, thereby indicating that he was unaware of the fact that video cameras have a feature known as a zoom lens. He also said "It's not necessarily from outer space, but it looks like something with extreme energy*. The reaction from the boys is very similar to those people I have talked to in the past." We are left to speculate what sort of people Gary was referring to!

The reporter also rang me to see if I would be interested in viewing the tape, but I was unable to spare the time. However, given a description of what was on the tape, I ventured the opinion that it was probably Venus rising. As it was low on the horizon, this would account for the colour changes and distortions, through atmospheric effects. Rod Somerville, Sydney Observatory education officer, subsequently confirmed that Venus rose at 3.15am that day.

The orange lights were apparently observed by many people over a period of several nights, but they were certainly no mystery. One Avalon resident zoomed in on the lights with his binoculars and discovered they were attached to a large ship. This was confirmed by a Manly police officer who said there was a large container vessel moored off Harbord during the nights in question and the orange lights were all that were visible during the dark hours.

Another resident further down the coastline, looking through his telescope, spotted two men flying kites on Dee Why beach. Less objective, however, were those who were convinced they had experienced a true UFO sighting. One man said "The two lights I saw stood still for a long time. They moved very gracefully. These were definitely UFOs." And a Balgowlah woman said that she had spoken with aliens in the past who had told her they were hoping to halt the environmental destruction of Earth!

It would be trite of me to finish by saying "What are we to conclude?", when the evidence is as plain as the nose on one's face. The *Manly Daily* beat up continued for two more days.

Personally, I believe it was a UFO - a Usual Faulty Observation.

* Gary was right here. If, as seems highly likely, the sighting was of Venus, then its mass of 4.87×10^{24} kg, converted to energy using the formula $E=mc^2$ amounts to "extreme energy". On the other hand, while Venus is "necessarily from outer space", the riding lights of container ships are almost certainly not.

CONVENTION

The Day My Soul was Sold

Barry Williams

On Saturday, June 19, at the National Convention, Prof Ian Plimer and I (for the negative) were demolishing the puerile arguments of Harry Edwards and Penny McKay (for the affirmative) in a debate entitled “Scepticism Sucks” (the title was selected by the Victorian Committee members who, I am led to believe, are occasionally sober). I had just, by the stratagem of inducing MC Adam Joseph to open his shirt, solved one of the longest standing and most profound questions in theology, to wit “Does Adam have a navel?” (the answer is yes), when the high-flown rhetoric was interrupted by a young gentleman, curiously garbed in a long, flowing frock coat, flat black hat and what may or may not have been a jabot at the throat, demanding to be heard.

The import of the young man’s claim was that he had in his possession some copies of a document which, if we Skeptics refused to sign it, would prove that we were really more superstitious than we claimed. (This does not strike me as being a particularly scientific test.) A certain degree of nonplussedness (nonplussitude?) ran through the debaters as they contemplated this rather novel proposition, however, unabashed the young man continued his harangue. Fixing me with a beady glare, he demanded to know my marital status and, having discovered it, demanded further to know the name of my spouse.

Now anyone who knows me well knows of my congenital antipathy to answering questions from those whose right to ask I question (I believe that the stationing of an RAN icebreaker in the Todd River at Alice Springs is as a direct result of some of my responses in the last Census). He insisted, I demurred and this impasse may have continued indefinitely except for a helpful Skeptic in the audience who shouted out, “It’s Mrs Williams”.

My innermost secrets having thus been exposed to the critical gaze of the assembled multitude, I took delivery of a sheet of paper. Headed “Pact With The Devil” it purported, in execrable English and even worse spelling, to commit me to selling my soul to Satan, Beelzebub and Leviathan. My name had been written, presumably in the handwriting of my interlocutor, in the space provided. Further down the page, in the same hand,

was written “My wife”, with a space yet further down for my signature. Now I am not a lawyer, but I suspect that the result of my signing this paper would have consigned my ‘soul’ and that of the young man’s wife to eternal damnation. A heavy responsibility, as I am sure any fair-minded reader would agree. After all, I didn’t even know the young man’s wife (and certainly not in the biblical sense).

He persisted with his hectoring and, as at this stage I felt sure he was a stooge set upon me by one of the ‘humorists’ in the Victorian Committee, I signed with a large and impressive X (his mark). It seemed appropriate to the occasion and the illiterate text of the “Pact”. This did not satisfy the Satanic messenger so, with a flourish, I wrote something on the paper and thereafter steadfastly refused to return it to him. It was, after all, my Pact not his.

As the joke was beginning to wear a little thin and the audience was beginning to turn ugly (some of them were none too pretty to begin with), I indulged in a little more good-natured badinage (or bad-natured goodinage, take your pick) with the lad, then invited him to go forth and multiply (or words to that effect).

I might have given the matter no further thought, regarding it as being an amusing, though minor, incident in a weekend of more serious debate, had it not been for a phone call I received a week or so later from a journalist, Vanda Hamilton. Was it true, she asked, that I had signed a pact with the devil. I allowed that that might well be true and during the rest of the interview I made it clear that I had regarded the incident as being merely an amusing interlude. As the interview concluded, I asked her where she planned to publish the story. “*Truth*”, she responded.

As someone who had last perused this worthy journal in the 1950s, when my pubescent fantasies were constantly being inflamed by its breathless recounting of the juicier revelations from the divorce courts, my mind was instantly filled with visions of headlines reading “Skeptic in Nude Love-Nest Romp” or “Skeptic and Model’s Love-Child Shock”. Imagine my dismay, when reading the July 7 issue of *Truth*, to be confronted

by the headline “Sceptic Signs Up With Devil”. Yes, my worst fears had been realised. *Truth* had become both predictable and boring.

The story which followed this rather banal headline reeked of that synthetic outrage that is more properly the moral position of assorted Leaders of Her Majesty’s Loyal Oppositions. Describing me as “one of Australia’s best-known sceptics” a claim that, despite the modesty for which I am justly famed, I am forced to concede might be true, it went on to allocate to me the title of “president of the Australian Sceptics Society”, which I am not, nor have I ever been. One would think that at least they could get the name of the organization right.

It identified my accuser as Mr Drew Sinton “researcher into the paranormal”, a profession that must rank with “snark hunter” as one most destined for a life-time of disappointment. Mr Sinton, who by his actions in this affair must surely lay himself open to the charge of being an agent of Satan, described me as “a walking, talking guinea-pig who would be watched by sceptics to see what happened”. Now, I am no zoologist, but I think I am safe in saying that while there may be very few talking guinea pigs around, most of them are capable of walking. On the other hand, the thought of sceptics watching me to see what happens is one which fills me with a sort of nameless dread. (Come to think of it, just the other day, I did notice Tim Mendham staring at me in a calculating manner. Could it be that Mr Sinton’s prediction is coming true?)

Mr Sinton went on to suggest that I was “caught in a ‘catch 22’ situation, where anything bad that happened to him could be put down to the contract”. Now there’s an interesting thought. At last I have someone to blame for things that go wrong. Of course, that doesn’t explain the misfortunes I have encountered during the past half century or so, before I signed the contract. Could it be that a pact with the devil, like so much legislation these days, is retrospective? The story concluded with a generous allowance from Mr Sinton. “To get out of the contract, Mr Williams would have to renounce it in public, thereby admitting his belief in the supernatural.”

The problem I have with Mr Sinton, and others who believe in supernatural entities, is that they assume that everyone else shares their beliefs, albeit secretly in some cases. Let me make my position quite clear. I do not now nor have I, as far as I can remember, ever believed in the existence of supernatural entities who control our destinies. I can understand why people feel the need for such beliefs, but I do not regard that need as being rationally derived. In particular, I have grave difficulties

in accepting that anyone with an ounce of intelligence could accept the concept of ‘the devil’, ‘Satan’ or ‘Beelzebub’. This concept is neither intellectually sustainable, nor in fact does it appear to have much theological support. Historically, the role of a ‘king of evil’ was commonly ascribed by various tribal societies to the deities of their tribal enemies, a perfectly understandable though somewhat uncharitable action. In the case of religions that claim to be monotheistic with an omnipotent deity, the very idea of a “Prince of Darkness” is logically absurd.

But to get back to my real concern about the story in *Truth*, which is the bald assertion that I had in fact signed such a pact “...Mr Williams signed the pact in front of more than 250 people...”. Ms Hamilton actually has no evidence that I did any such thing, relying only on the claim made by Mr Sinton, who was nowhere near me when I scribbled on the paper and who could not possibly have known what it was that I wrote (it could have been “Call the police” for all he knew), together with my light hearted admission on the telephone. If, as the tone of the story indicates, Ms Hamilton acknowledges the reality of ‘the Devil’, then why should she take the word of someone who has signed a pact with that extremely implausible entity? Neither Mr Sinton nor Ms Hamilton has any idea of what I wrote. Only I know what it was and I still have it and I ain’t telling.

So, despite a complete lack of supporting evidence, *Truth* told the world that I signed a pact with the devil which left me in a dilemma! What could I do? Being a man of action, I sprang into it at once. Ordering my multi-national legal team, Messrs Horace Rumpole and Perry Mason, to institute legal action, I immediately retained the services of Messrs Sherlock Holmes, Hercule Poirot, Cliff Hardy and Sam Spade to privately investigate the backgrounds of Mr Sinton and Ms Hamilton. I then laid official complaints with Det Sgt McKay of Victorian Homicide, Det Insp Frank Burnside of Sun Hill Police and Lt Theo Kojak of the New York Police Dept. I had my health checked by Drs William Sharp and Kildare and, calling my private pilot, Squadron Leader James Bigglesworth, I ordered him to warm up the crate (a technical aviation term) and flew forthwith to the arms of my mistress, Miss Marple, where I reside in comfort to this day.

What, you don’t believe all that? Well, Ms Hamilton and Mr Sinton are entitled to their fantasies and I am entitled to mine. If they have trouble coming to terms with it, may I suggest they enlist the services of a good psychiatrist - Dr Hannibal Lechter. ■

INTERVIEW

The Minds of Reason

Adam Joseph & Ian Plimer

The following article is the transcript of a recorded interview between Professor Ian Plimer and Professor Paul Davies, first broadcast on ‘The Liars’ Club’ radio show on 3RRR March 19, 1993.

It was transcribed and is introduced by Adam Joseph, producer and presenter of the show.

I first heard Professor Paul Davies interviewed on his new book “The Mind of God” last year on ABC’s *Lateline* program. It was thoughtful and provocative. There have been many interviews with Davies since then and I think I heard most of them. What began to concern me was that if you heard one interview, you’d heard the rest. The same questions and answers. The book itself is stimulating and creates an interest in wanting to hear the author speak on the many reasons he theorised as he did. Should I seek an interview? What would I ask him. How can we be even a touch more provocative? It got me thinking to the most provocative professor that I had met, a man who doesn’t shy away from asking questions and demanding answers from heavy cultural baggage carriers. I wanted to hear the provocative questions posed by one professor to another one and see what would happen.

Professor Ian Plimer, Head of Earth Sciences at Melbourne University agreed to be interviewer for the regular Sunday *Liars’ Club* Skeptics radio show. Penguin Books arranged an hour with Professor Paul Davies during his promotional dash across Australia. Our regular physicist Dr Steve Roberts also came along to carry the microphone stands and a copy of “The Mind of God” to be autographed by Davies ... for a friend of course. Due to the length of the interview, it turned out to be far too long to be featured in its entirety on radio. In fact only a third of it was featured before the next program came in and threw us out.

There are enthusiasts who see Professor Paul Davies in the same light as Stephen Hawking, to many the world’s most famous living scientist. There is no doubt that both have challenged the senses and intellect of many with their theories on the origins of the universe. Davies in particular has gone one step further in his recent book

“The Mind of God”. It’s an attempt to theorise on a different level than just the origin of the universe, but to the meaning of it all. There are those who have used the title of the book itself to claim Davies has jumped into their religious world and all their prayers are now answered. It is obvious these people haven’t read the book. Nevertheless it is a challenging and thought provoking enough book for some reviewers to have said, “makes us re-examine the great questions of existence” (*New York Times*); “Insightful, provocative and worth the effort” (*Sydney Morning Herald*). Davies has written and co-written 20 books to date and although some may not agree with his theories, he certainly provokes debate in scientific minds. Nevertheless, he is a welcome addition to the Australian brain train as he sits in the Chair of Mathematical Physics at the University of Adelaide. All his books are released in Australia by Penguin. The following interview will be more interesting if you have read “The Mind of God” or some of his other works.

Plimer: *In your books you’ve been telling us how the universe might be able to create itself. Can it destroy itself?*

Davies: Oh yes. The laws of physics are reversible in time. What can come into existence can go out of existence. Now we don’t know that the universe is going to end with a big crunch that will annihilate it. It could be that it will go on expanding forever and ever. But it is certainly a possibility that it will exist only for a finite time.

Another scientist, Stephen Jay Gould, is quoted as saying that if we had a re-run of life on earth, then life as we know it wouldn’t be the same, we’d have a completely different assemblage of organisms, both in the fossil record and on the planet today. If we had a re-run of the universe, would it be the same?

No it wouldn’t. And I think I agree entirely with Gould, if you re-run the movie the universe would look entirely different next time. There probably wouldn’t even be an Earth, and if there was, there probably wouldn’t even be life on Earth, and even if there was life on earth, it almost certainly wouldn’t lead to homo sapiens. Nevertheless,

I believe that given the laws of physics, that the emergence of complexity from simplicity, leading ultimately to life of some sort, and consciousness of some sort is inevitable. I think that that is, so to speak, written into the laws of physics. The reason I say that is, I don't believe that the origin of life on earth was a miracle, nor do I believe that it was a stupendous and probable accident. I think it was part of the natural outworkings of the laws of physics.

We see the complexification and self-organisation of matter occurring in many places in the inanimate world in physics. In chemistry we see, and on a smaller scale in biology, self-organising processes and I think it's easy to believe that the origin of life and its evolution, and ultimately the origin of consciousness, are all part of this natural tendency for physical systems to self-organise and self-complexify. There's nothing mystical about this, but given the laws of physics, this sort of trend from featureless simplicity to organised complexity, I think, is assured.

And so there I would disagree with the biologists because biologists don't like the idea of any sort of trend. But to the physicists and the cosmologists it's perfectly clear that the universe began in a state of featureless simplicity, it's now in a state of organised complexity and that's not just on Earth in the biosphere, that's a general cosmological trend.

If we had a re-run of the earth, then we can tie in the origin of life very carefully to when it first rained. We think it first rained about thirty eight hundred million years ago. If we had a different system, had a re-run, and we didn't have rain as H₂O, but had it as HCL, is it possible to then get life?

I would doubt in that particular case that life would form, but we don't know what you need to have life. We do know what you need to have life of the sort that exists on Earth. For example, we need carbon and almost certainly liquid water, but we must not be too chauvinistic, we must keep open the possibility of life that might be based upon totally different chemistry, and even more exotic possibilities of life. But even if we just restrict to life of the sort that we know on the earth, then we must be open to the fact that if, as I have said, the emergence of life and consciousness are things which are pretty well automatic given the laws of physics, we would expect that life will have emerged elsewhere in the universe too, where the conditions are similar to those on the earth. But leave open the possibility that life may exist on even more exotic places.

If you look at one of the really fundamental laws of

nature, like the Second Law of Thermodynamics, what happens if it's wrong, just once?

You mean what happens if there are miracles that can suspend these laws?

If the Second Law of Thermodynamics doesn't work just once. Just on one day in the history of the universe!

Well, I think I must draw a distinction here between precisely the law that you've picked, the Second Law of Thermodynamics, and the other laws, because as you probably know the Second Law of Thermodynamics is a little bit different in as much as it's a statistical law anyway. That is, what it tells us is that, with overwhelming probability, for example, if I drop an egg on the floor and it smashes, the bits of the egg will not re-assemble themselves into the whole egg. Nevertheless, such an eventuality is not strictly speaking impossible, its just overwhelmingly improbable.

So all we can say is that the Second Law of Thermodynamics in the way it normally operates, very probably gives a description of things continuing as they are now. But if we should find some seeming miracle, something apparently where time, so to speak, runs backwards, that's not strictly speaking impossible.

But if we take your question and say, supposing the Law of Gravitation were to be suspended just once, so that we might all float up in the air, what then? What I say is this, that it is an act of faith, when you embark on science, that you believe in the uniformity of the laws of nature. It's one of the founding assumptions, and it's an assumption which science shares with Theology, that we live in an ordered universe and that this order is dependable and absolute. It's not a relative thing and it's an act of faith because we cannot be sure that everything won't come to a shuddering halt tomorrow. But you can't be a scientist unless you assume that there is some dependability in the laws of nature. But it is certainly nothing one can prove; you can't prove that the Law of Gravitation will always hold.

We have many significant events on this planet that have only occurred once, things like a massive event of impacting, a massive change in the oxygen content of the atmosphere, it only happened once. Have we got any evidence in the universe of some events that just happened once and these profoundly influenced the universe the way it is now?

Well, maybe that the big bang only happened once. You see if we take the ...

But not a cascade of big bangs?

Right. If we take the conservative party line, this particular time, then the universe we see is the only

universe there is. That what we see of it is representative of the whole. That there was a big bang, and this big bang brought the whole thing into being. Now there are elaborations of this theory in which there are lots of bangs and there are other universes and so on. There is no particular reason to believe that. The evidence we have points to the big bang origin of the universe, and the simplest thing to dispose of this was just a singular event, just one bang.

When we look at the history of our planet, we find that there have been a few major crises that we've experienced. One was about two hundred and thirty-five million years ago when it was a real crisis in the history of life, we lost ninety-six percent of all species, and we had another event about sixty-five million years ago which was very similar; we lost about eighty percent of the species. There is a view existing that we are currently in the third major mass extinction event in the history of the planet. You've spoken about the end of the universe, how do you think this planet will end? Bearing in mind it may well end before the universe does.

Yes indeed. First we should realise that as far as astronomical processes are concerned, there's nothing terribly threatening for the earth. The sun is about middle-aged, it was formed about four - four and a half thousand million years ago, and its got four - five thousand million years to go. So there's no special reason to suppose that the earth will become uninhabitable for a vast amount of time in the future. Billions of years, not millions.

There is of course always the possibility that something unpleasant will happen to the earth, an asteroid will crash into it; maybe that's what saw off the dinosaurs sixty five million years ago; this is always a possibility. Though even during these catastrophic events, it hasn't wiped out all life, but it may well be that humanity will not survive because of some impending catastrophe. I think more worrying is not so much that we will be wiped out by an asteroid, but that we will wipe ourselves out by our own stupidity. We don't have to do that.

I don't see there being any insuperable obstacle to human beings surviving on this planet for a vast amount of time in the future. We have to get over some current political and economic and resource problems, but you know, really, there's a vast amount of energy available, there's no reason why we can't spread into space for our resources in the future, there's no fundamental reason to limit human habitation to this planet.

Yes, the 96% extinction, the one 235 million years ago we think was disease. It was mainly animal species that

were wiped out, the plants survived moderately well. We can never be sure that some really nasty disease isn't going to wipe us out. Even AIDS could see off humanity. But there's no sort of inevitability about this, there's no law of nature that says that the longevity of species is limited.

You write about the creation of the universe which implies a creator. How different is your creator from the creator of the Creationists?

(Laughs) Couldn't be more different.

Well yours is not malevolent, that's a start.

I usually try to use the word origin of the universe so as to be neutral as to whether this is a spontaneous event or whether it is something which is, in some sense caused to happen. But of course I've been at great pains to point out in all of my books that the origin of the universe is something which does not necessarily require a preceding cause. Most people suppose that everything that happens in the universe has to be caused by something before it, and they point to the origin of the universe and say something must have started it all off, something must have made the 'Big Bang' go bang.

One of the most exciting things of our modern cosmological theory is that we see that there is a loophole in the argument that every event must have a well defined prior cause, and that loophole is quantum physics which has a genuine inherent and fundamental spontaneity in it. That is, we see events in the laboratory such as particles which come into existence, that appear to be genuinely spontaneous in the sense that there is no particular reason why that particular event happens at that particular time.

This inherent uncertainty or indeterminism or spontaneity in nature only operates on the sub-atomic scale but if, as we believe, the universe began in this microscopic form, then it's possible to believe that the universe could have come into existence entirely in accordance with the laws of physics without having any physical process or supernatural process necessary to create it.

Many people think that therefore we can abolish God completely. That if the universe can come into existence entirely in accordance with the laws of physics, you don't need a God to make it. Well you certainly don't need anything like the traditional view of God. You know, the old man in the sky, pressing a button and setting things going according to some preconceived plan. The question can still be asked however, given that the laws of physics, particularly the laws of quantum physics, can permit not only the universe to come into existence, but to then organise itself to the rich and elaborate form that

we see today, where these laws of physics come from, why those laws are what they are, and are not different? In other words, we haven't answered all questions by finding a way by which the universe can bring itself into being.

Isn't that having two bob each way ?

No, I think it's quite natural to say that if these laws are extremely ingenious, one almost might say contrived, they can not only enable the universe to appear, but can enable that universe to order itself to the degree of elaboration that means that conscious beings can come into existence and reflect on the meaning of it all. That sort of inevitably begs the question of why those laws, and where those laws come from, and why are things ordered in quite that way.

Now among my colleagues, of course many of them are professed atheists, and if you present them with these facts, they will say "I entirely agree that this looks very contrived, it really is marvellous, I'm in awe of nature. I have a reference for nature, it is really a magnificent and ingenious scheme, but I simply accept it as a brute fact. I will just take it on board without questioning where it's come from, or whether there's any meaning to it". Then another would say "well, this marvellous scheme, this body of facts, is something that demands a deeper level of explanation".

And if you want, you can call that deeper level of explanation God. But the God that you are talking about is a very abstract sort of concept. It's a sort of purposeful grounded being, I suppose it's the closest that I can get to explaining to what I mean when I use that word. It's a million miles away from the God of the Creationists, and it's quite a long way away from the God of ordinary mainstream popular religion. Although I've been amazed in talking to contemporary theologians how close their image of what they mean by God comes to this sort of scientific position. What Richard Dawkins has called the God of the physicists, is at best the God of the biologists.

If you look at, say, the God of the biologists in our designer built planet, why have we got so many elementary design errors ?

Really fundamental errors. Because there is absolutely no question that the course of evolution has a very large random component. My position if you want to press me on the question of evolution, and I think that it's well worth spelling this out, is that I don't think that anybody can be seriously in doubt that life has evolved over the course of history of this planet, and furthermore it started out very simple, it's ended up very complex,

not only have individual organisms become complex but the biosphere as a whole has become complex. Now biologists resist the notion that there is any trend, that there is any directionality in this, and yet to a physicist it seems self evident that, as a matter of fact, that there is an error of time attached to this growth of complexity.

Yes, the fossil record shows the same. There's a very distinct direction.

I'm interested into where that error of time has come from, and the way that I usually express it, very cautiously because people get quite emotional about these things, is that Darwinian evolution, by random variation and natural selection, is the truth but maybe not the whole truth. What I think it leaves out is an element of spontaneous self-organisation which we see in inanimate physical and chemical systems.

I'll just give a simple example, if you heat a pan of fluid from below, it starts out looking totally featureless, it ends up boiling, which is a chaotic state, but in between there's a regime on the edge of chaos where the system becomes spontaneously self-organising, and if you do it carefully it can develop into a pattern of quite distinctive hexagonal convection cells. So it's a more organised state than the featureless one, but not so complicated as to be chaotic.

This spontaneous self-organisation, which is so evident in a wide range of physical and chemical systems, must surely also occur in biological systems. I would be truly astonished if the bio-system was free from spontaneous self-ordering or self-organising effects. I think it does.

When you look at the origin of life you can see that. You've got low-tech molecules which have accumulated on the surface of the planet. You've got a lot of them, they might have even come in from meteorites, and you see an event of time where there must have been spontaneous self-organisation. It was probably catalysed also. But you see it. And you combine rather simple low tech molecules into bigger low tech molecules. The boundary of those big molecules in life we don't know, but it's certainly there.

With regard to Darwinian evolution, I think that's just one of the concepts to explain a phenomenon. There are many, many other ideas besides natural selection. It doesn't work very well. There are many others that do work even better. I'm quite interested in the work of Stuart Kaufmann. I know he's a bit of a maverick, but he's been developing computer models of networks which show self-organising ability, and these are supposed to be modelling gene networks, and what it

shows is that complex systems can show surprising self-organising ability that, just on the basis of sort of card shuffling or gene shuffling in a sort of linear and random way, you wouldn't be led to expect.

And so you get these silly arguments where people say the probability of a human being arising just by chance is one followed by so many zeroes that you would consider it to be essentially a miracle.

Yes, they're the favourite creationist arguments demonstrating their ignorance of course.

But of course, these arguments are totally irrelevant because that's not the way it's been done. So I think that we do have to take into account, and I don't think we fully understand the mathematical laws that govern the self-organising processes.

But I think what is now emerging from the new science of complexity is that systems as diverse as an economic system, an ecosystem, or maybe an individual species, is that these systems share certain common mathematical principles of self-organisation which are only now being elucidated. So that at the bottom you've got the sort of laws of physics which we all believe in, and then at the level of more complex systems, there may be other laws and principles which are entirely consistent with those underlying laws of physics, but cannot be reduced to those underlying laws of physics. And it's this new layer of principles that govern the behaviour of complex systems in the way they organise, which we are only just beginning to understand. And I think it will have a lot to say about the process of biological evolution.

Many of your critics that come to your public lectures have not read your book. They object on matters of dogma. I would imagine there would be a lot of religious objection, especially from the fundamentalists and loony wings. How have they really responded to your writings?

Well very few of them actually come to my lectures I might say.

So they know it all presumably?

Either that or the gulf is so great that we don't have anything to say to each other. Normally when I'm asked for my position on creationism, I say I don't have anything to say to creationists because the founding assumptions of science are such a world away from the dogma that creationists will employ that we don't really have any common ground on which we can communicate.

They're not scientists; they have no view of science; they've set the rules first and go around and collect the data. There are a couple of gentlemen in your city (Adelaide) who have proved that the speed of light has

been slowing down since creation of Adam and Eve. I would argue that is junk science? That's one of the central tenets of their creationism that physics doesn't work, that some of the natural sciences like evolution, geology, that they're irrelevant, they don't work. So on one domain they want to work in science and as soon as you talk about scientific method or scientific thinking, they bail out into religion. And a rather strange sort of religion also.

A lot of people, not just creationists, but a lot of people are very happy to pluck from science things that attract them, but don't wish to apply the same rules of science which lead us to believe in those things in a uniform way.

So for example, people often write to me saying "I can get you to heaven through a black hole" or something of that sort. They're quite happy to use the concept of black holes, and when you start pointing out things like the speed of light would prevent this, that and the other, they say "but we are quite happy to allow the speed of light to vary". But then you say that the whole justification for a black hole depends upon the finite speed of light, that the whole argument becomes inconsistent.

So science isn't there as a sort of tray of goodies which you can plunder and pluck out the bits you like and reject the bits you don't like. You either buy the scientific method with its inherent scepticism and its provisional nature or you reject it.

But you are making a fundamental error, and you are using logic. It doesn't work with people who are consumed by dogma and religious passion. Logic doesn't work.

I realise that there are many people that don't wish to use logic, that they have already made up their minds what they want to believe, and of course you can't hope to then use logical argument to shake those peoples' beliefs. And I don't think you should try actually.

Yes, well if they read the books they won't find it. I don't give very much support for those ideas. I do get ticked off from time to time. I had a friend and colleague at my previous university who was from Pakistan and had rejected Islam, regarded it as a dangerous philosophy, who used to say that "I was in danger of, in presenting this stuff, of providing ammunition for people who wished to use science in support of their religious beliefs, and therefore I shouldn't be writing at all about these things".

Well it just seems to me that if science has something important and provisional and inevitably to say about

the meaning of life issues, it's a pity to feel that we've got to operate a system of self-censorship, because this stuff will get mis-used. I do get distressed from time to time seeing my name coupled to all sorts of crackpot ideas and organisations, and it's the risk you inevitably run if you want to comment on some of these things. But I think anyone who reads my books will see that I'm not giving support to New-Age beliefs or any sort of fundamentalist beliefs at all. That's not my position.

But many of your writings are sprinkled with expressions which really raise an eyebrow. And doesn't that convince many people. For example, you often refer to 'numerical experiments', or 'theorists suspect that', or 'there is no direct experimental confirmation of the validity of these ideas' or 'it has been suggested that' or 'theoretical calculations and'...

Yes, yes, but isn't this the way that science works?

It is, but many of the lay readers who are reading your books would raise an eyebrow and say 'well I'm not convinced, what really is a numerical experiment, I can't see it, I can't feel it, I can't put my hands onto it, and is it really garbage in - garbage out'. So there have got to be a lot of sceptics out there who maybe don't have the scientific and mathematical background, nevertheless they're concerned that a numerical experiment doesn't mean anything to the lay person.

Well it doesn't, but I think part of the job of trying to get science across to the wider public is to introduce them to some of the procedures of science and some of the reasoning processes, and doing numerical experiments is one of the ways in which scientists grope towards an understanding.

If you're constructing mathematical models, how can you really be sure you've got all the parameters?

The whole point about science is you can't be sure of anything. I've said it several times, science is provisional. It leads us I believe, generally, in the direction of reliable knowledge. But the whole point about science is that it is proposed models of the world, they propose descriptions of the world, and then they go out into the scientific community and have them battle-tested in a sceptical environment. And unless a scientific theory can overcome that essential scepticism of the scientific community, then science is failing, because if your idea and my idea that they may be different and considered equally possible, then anything goes.

The whole point about doing science is you have got to test any of these models against, ultimately, experiments and observation. So these models are simply

advanced as hopeful descriptions of the world. And any given model of the world will be something that will have a limited number of parameters in it.

Yes, there are lots of reservations among many people about mathematical modelling because we see especially natural systems, you might model eight variable, and you don't really know the other nine or ten variables (if there are nine or ten) and there's an enormous amount of scepticism about mathematical modelling, however, it is generally accepted. This is an attempt to get a best fit.

Yes, but I mean the classic case is surely the British Treasury model of the economy which has a thousand variables and failed to even predict the recession. So that's absolutely right.

There are other things the British treasury wouldn't use which scientists use, for example, the coherence criteria I think is very important in adding weight to empirical evidence. In modern serious science, coherents are fundamental, that is for example if you are talking about a process in physics that you can get coherence with evidence from biology, evidence from chemistry, evidence from geology, evidence from mathematics. And that coherence supports the concept much much more strongly than say a theoretical model. And a lot of modern science is now inter-disciplinary, and thinking of coherence science has been the way to approach modern science. How would you comment on that ?

I think there's a world of difference between mathematical modellings applied to what I would call fundamental physics, and as applied to complex systems of maybe the sort that you're talking about. For example, when we say that there is an inverse square law of gravitation, I think that is a statement that's getting very close to the truth. We can talk about slight deviations and so on, but I mean I think basically it is the case that the gravitational field of the earth diminishes like the inverse square of the distance and that's something that can be very well tested to a high degree of accuracy.

So I think when we use mathematics to describe nature in fundamental physics, that is something that is reliable and convincing and indeed the whole thrust of my book "The Mind of God" is that this mathematical order in nature is something of deep significance. What interests me personally is how it is that we human beings have stumbled across this thing we call mathematics, and that we're able to decode the mathematical nature of the world.

But there's a distinction to be made, and it's a rather

subtle one between attempting, for example, to describe the law of gravitation mathematically, and attempting to describe an economic system mathematically where we know that mathematics is really just a convenient way of encoding a lot of complicated data. It doesn't have the same sort of status as far as predictability is concerned as gravitation and the question is, where is the dividing line? Where is the dividing line between systems that can be reliably mathematicised and those that can't?

Well it may be that the dividing line is drawn awfully close to fundamental physics. Even something as simple as the motion of three bodies is not especially amenable to mathematical treatment, let alone a really complex system, say like an ecosystem.

But lay people I think have a lot of problems with science. I don't think scientists have sold science very well. I think lay people have enormous difficulty in understanding science. And when people talk about scientific theories, such as plate tectonics theory or evolution theory, they have real problems in getting their fingers into understanding what that means compared, say, with the law of gravity where they can drop something. They can drop an egg ... see it break, and they don't see the egg reconstitute itself. So they're dealing with a couple of laws there. How do you think we can get over that problem? The scientist is getting the community much more aware of what the nature of science really is, rather than being the panacea to all the problems. How do you think we can sell it much better?

Well first of all, the very word theory I think is misunderstood because people use theory in daily life to mean conjecture. And when a physicist in particular uses the word theory, it's usually much more than that. Theoretical physics is a conceptual framework around which physics is organised, which has to be put together with great care and rigor, and is much more than simply, 'I think it might have been like this', or 'I think that something might work like that'.

That I understand as a scientist but the lay person doesn't. They haven't got a hope of understanding what a theory in science is.

That's right. People will often hear, in a television program about the police, 'we have a theory that this murder was done by an outsider' or something. What they mean is it's just a sort of conjecture that that's perhaps what's happened. But a scientific theory is something that is more than just a model. And in particular in physics (I keep coming back to that, it's

my subject) that a scientific theory demands, at the very least, a comprehensive and consistent mathematical description.

Now how we get that across to the public I don't know. I think the difficult issue is not so much to get across the distinction between theory and conjecture, as to get across this awfully subtle point that science leads us in the direction of reliable knowledge. But science doesn't deal in certainty. Scientific knowledge is always tentative and provisional; that we have these theories, and we have these models.

We must always be prepared to change our minds, we must always be open to new evidence, and so that at any given time we may feel that certain things are so well established that we rely on them a great deal, but it would be utter folly to insist automatically that they must be absolutely right. And let me just give you a simple example, there are not many scientists around who would feel that the earth is flat. I think that we have pretty well established that the earth is round and that the earth goes around the sun.

Contrary to what the bible says of course, in a number of places.

Absolutely. So I think however far our science advances, we're not going to actually change our minds on that one. But if experts, scientists, are giving confident predictions, then the lay person would always bring up arguments, say about the confident descriptions of the Great South Land in previous centuries, before the South lands were discovered, and they give great descriptions of what they looked like.

Do you think maybe some of your concepts on the nature and origin of the universe, may in the twenty-first century end up like these previous ideas.

I think we have to realise that when we are dealing with subjects like cosmology, that this really is wide open. Just in my lifetime I've seen a big swing from a completely different theory, the so called 'Steady State' theory of the universe which was very popular in the fifties and early sixties in which there was not even an origin of the universe, to the Big Bang theory becoming fairly well established. The argument now seems to be not so much that there was a Big Bang, but over some of the details that occurred in the very early stages.

But it would be absolutely stupid to insist that this particular picture of the universe that we have now is going to remain unmodified, and is the last word. I don't think there really is anybody around saying anything like that. But that's at one extreme, at the other extreme, I do

believe that the earth is round, I think I can feel fairly confident in that.

But there are other predictions that scientists make, for example John Gribbin . He put up a concept about the Jupiter effect, that once we had the earth and the planetary systems aligned, the earth was going to be wracked by disastrous earthquakes on March 10, 1982.

I don't think John (Gribbin) would defend this today.

Now such a prediction from eminent people caused great consternation. And unless I missed some catastrophic event, and I generally experience most of them in my life because I create them, but unless something didn't happen, you've got a credibility problem when you start making predictions like that.

Look, I'm not going to sit here and defend John's prediction of the great Californian earthquake.

So this worries me a little bit about scientists making long term predictions. Making predictions based on incomplete evidence, and one of the things that really worries me about modern science, and it very much worries me about physics, is the fact that people are becoming much more narrow rather than having an integrated inter-disciplinary view of science.

To conclude, I just wonder if you could maybe incorporate that in answering the question. Why do you think, when so many school children are really interested in physics, we seem to be losing children from physics? Do you think it's because physics is getting narrower, or do you think it's getting less inter-disciplinary, do you think it's getting less exciting, do you think it's getting more abstract?

I think what has happened over the last twenty years or so is that school-kids have become much more aware of career paths, and they see that entering a subject like physics requires (a), a lot of hard work, and (b), it's not obvious to them what sort of career path they are going to follow when they've got in.

Now this is another problem of educating the public, because physics is the foundation of a lot of very satisfying, and in some cases financially rewarding careers, and we have to get that message across to young people. But there's no denying that it is hard work, there are some tough concepts and I think the way physics is taught in schools, in our secondary schools, really does not expose them to some of the sort of interesting exciting topics that we've been talking about.

Many people will say to me when they ask me what I do, and I start talking about black holes or something like time dilation or whatever, and they'll say "I didn't know that was physics, when I did physics it was mirrors

and pins and dropping ball-bearings through glycerine and so on. Why didn't anyone tell me these exciting things are physics too".

So I think we have to get some sort of mix in which the excitement of these modern topics has got across to the kids, but without replacing the rigor they must have in doing the spadework, learning the basic ideas and getting the mathematics under control. There's no substitute for good hard solid mathematical treatment.

Well I would argue that every scientific discipline has a lot of rigor and must have a numerical basis to it. However, it seems in the community today that physics does have a special image problem in contrast to say, chemistry or the life sciences or the earth sciences...

I don't have any doubt that it's on the decline.

... and it's very concerning because in the long term it's not good for our culture to have one of the sciences declining and very weak.

Absolutely right. I mean one of the reasons I left Britain was because I felt that physics is in a state of decline there. It has degenerated so badly in the secondary schools, that it's going to take twenty years at least to do a U-turn.

And it's particularly serious that girls drop physics at the first possible opportunity. Surveys done in Britain show that the majority of girls drop physics at the age of 14, by the time they reach PhD level and register with the Institute of Physics, the female membership's only 4%. So I think that there's a particularly serious problem in the way physics appears to be girl-hostile in the way it's taught.

So I think there are a lot of problems and I'm especially concerned about the decline of physics. It's not just a UK phenomenon, it's happening in the United States as well, and I think one of the significant features, seeing that we are talking about these cultural things, is that increasingly in the United States, physics is being kept alive by Asians. So it's possible that something in the Asian culture is more friendly towards physics than it is in the European culture.

We in the Australian Skeptics are very much aware of the lack of scientific knowledge of the community, one thing that worries us even more is the lack of critical ability, which we think is an educational problem.

I would like to continue talking about this problem, however, unfortunately our time has run out. We'd like to thank you very much Professor Davies for talking to us.

It's been a pleasure.



PREDICTING THE FUTURE: PART (II)

Predictions of Doom

Harry Edwards

Scientific predictions

There are many ways that the world, or at least life on it could end according to the more pragmatic forecasters, but most will allow you plenty of time to clean your teeth and pack your bags. At the high end of the scale threats to our existence are predominantly man-made. Nuclear or bacteriological warfare for example could drastically decimate the world's population, and, if the theory is correct, a nuclear chain reaction could do more than cause a temporary wobble in our otherwise smooth passage through space.

Since the end of the Cold War, a more insidious prospect is the long term effects of carbon dioxide being released into the earth's atmosphere. Climatologists speculate that the higher temperatures caused by the greenhouse effect could cause the icecaps to melt, raising the sea level, turning deserts into swamps and productive land into deserts. The resultant shift in populations and the loss of some of the world's biggest breadbaskets would exacerbate the already critical and precarious state of millions living on a knife's edge.

Regardless of whether or not we contribute to our own demise, we are already faced with the threat of another approaching ice age, the fifth in a one million year cycle. No need to rush out and buy a fur coat just yet, it's not due for another 10,000 years. Don't be too complacent though, before the ice age is upon us we could well be fried, peppered and mutated by cosmic rays. The Earth's magnetic field fluctuates from maximum to zero over a period of 150,000 years as its polarity reverses. The magnetic field is strong enough for most of the time to protect us from life threatening radiation, but in the year 4000 it will be zero again exposing us over a period of 500 years to the possibility of penetrating radiation from intense solar flares which occasionally belch forth from the Sun. Those still around need not worry, no doubt some enterprising individual will come up with a light weight lead umbrella and overalls for protection.

One prediction for the end of the world on which all scientists agree, is the self consumption and death of the Sun on which the Earth relies for life to exist. It has been consuming its hydrogen fuel for 5 billion years and

has an estimated life of another 5 billion. In the last billion it will expand, evaporating the oceans and turning the planet into a red hot cinder. Perhaps attending a fire-walking seminar and getting some practice in isn't such a waste of money after all!

Another theory held by American scientists is that life on Earth is wiped out every 26 million years by a barrage of comets triggered by an as yet undiscovered companion star which orbits the sun at a great distance. They theorise, after studying fossils, rare metals and ancient impact craters, that it could account for the disappearance of the dinosaurs 65 million years ago. Don't hold your breath, the next barrage isn't due for another 15 million years.

In his book, "A Choice of Catastrophes", Isaac Asimov lists five classes of categories for the possible end of the world and/or civilisation. They range from the possible through the probable to the inevitable and concludes that the catastrophes to which we are most vulnerable are those created by mankind, and which can, with rational and humane behaviour, be avoided.

Pragmatic predictions

A fascinating book, "Impossible Possibilities", by Louis Pauels and Jacques Bergier, poses many hypotheses on the future. First published in 1968, translated from the German in 1971, and published in England in 1974, it is interesting to read nearly thirty years later to see just how close some of the predictions came.

In the book much reliance appears to have been attached to the prognostications of Harry Stine, a rocket specialist and science fiction author in 1950-60. The data extracted from the exponential curves calculated by him as functions of time and the duration of life, particularly the conclusion that the life of a child born in the year 2000 could be prolonged for several centuries or even a millennium. Similarly, the works of Andre de Cayeaux and Francois Mayer of France showing the acceleration of history. Whilst I have little doubt that discovery begets discovery and progress begets progress, I dispute that the future can be plotted with any accuracy on a chart using those criteria, as the inhibiting factors do not seem

to have been taken into account. The necessity and expediency of development, invention and innovation are preclusive, and the rates of acceleration or retardation of those factors are further exacerbated by commercial, financial and political considerations and interests.

Thus we have in the field of parapsychology, an accelerated interest and research into telepathy, and its potential in the space age, evident in the former USSR where hypnosis and telepathy are regarded as scientific facts. This leads Bergier to conclude that "by 1984 telepathic communication between the Earth and the Moon will have been established, (and) nobody will still doubt the reality of parapsychology." Research on this subject in the USSR dates back to the turn of the century and in 1993 telepathy still remains unproven. A retarded interest is evident in the prediction which sees "the electric car as the vehicle of the '80s, one programmed by a punch card and which drives itself." The concept is far from new and with the advent of computerised equipment, automatic guidance and braking systems, programmed electro-cars are a practical proposition. However, the universal change-over visualised by the writer to take place by 1984 is no closer to reality almost a century after the first electric car was built.

The author also foresaw that by 1987 "all electrical appliances would be independent of the plug." this apparently based on battery driven appliances making their appearance in the 1960s. Further, "the new appliances will make their own electricity out of fuel by means of small converters or fuel elements, or contain a built-in rechargeable cadmium-nickel accumulator". The latter has seen a certain degree of fulfilment due to research and development in miniaturisation techniques, but a dramatic breakthrough in electrical storage capacity is still in the future. Fuel elements are still not a practical or commercial proposition, and while re-chargeable batteries are commonplace, their use in large domestic applications is still not economically viable. Oddly enough the automation of factories manned entirely by robots in the 1980s was not postulated.

Hurrah, a hit!

Somewhere along the line, I said that the law of probability would inevitably ensure a hit. This was true of one prediction by Bergier who forecast "the struggle between Communism and Capitalism will be over in 1984". Well not quite, but credit where credit is due, he was close.

Predicting the future, whether it be by arcane or

pragmatic means, is fraught with disillusionment. At best, a prophet has a severely restricted chance of success, but if predictions are couched in sufficiently vague terms and restricted to those events likely to occur and re-occur, then the chance of success is greatly enhanced.

How to be a successful seer

The role that probability plays in the future telling game cannot be overstated. Cloaked in non-specific, vague and ambiguous wording it becomes the nucleus for successful predicting. We use words such as chance, likelihood, and possibility every day with a general understanding of what we mean, but without precise definition. If we toss a coin, the chance, likelihood or possibility of it falling heads or tails is fifty-fifty, for each throw, considered independently of other throws, past or future.

Probability therefore, becomes the expected occurrence of an event, the frequency of which has been measured over a given number or period of time. This is confirmed by Bernoulli's theorem, known as the Law of Large Numbers which states, that observed events over a period or series of trials will approach fixed limits as the number increases. Let's see how this applies to predicting future events, the results of which are often claimed as being obtained by clairvoyant means.

Take for example a hypothetical prediction: "A tragic aircraft disaster in 1993 will result in over 100 deaths." After the tragedy, the psychic claims (assuming it was placed on record) that he foresaw the event in a vision or as a manifestation of his powers.

Before we examine the prediction to see what part probability plays, let me ask a question. How many major aircraft disasters can you recall happening over the past ten years? Three, half-a-dozen, ten maybe? There were 40; people's memories are short. Look at the following statistics:

Between 1953-1963 there were 13 major aircraft crashes with three accident free years. 1964-1973 saw 24 major disasters and only one year accident free. Between 1974-1983 there were 32 crashes, and in the last decade 40. There has been no year free of accidents since 1965. Thus over the past 30 years the world has averaged a major airline disaster every fourteen weeks.

From a consideration of the above and other airline statistics one can conclude that given larger aircraft, flying more miles, with greater carrying capacity and notwithstanding stringent safety measures, the number of accidents will also increase. It should be obvious then, if a clairvoyant predicts a major aircraft disaster in which hundreds of people will die but is less specific about the

time and place, the law of probability will ensure that the prediction will come to pass.

In passing, I should mention that if one also includes light planes and helicopters in the statistics it would almost be impossible to miss; they average one every ten days! On some occasions there have been as many as three in one week.

The same reasoning applies to natural disasters - earthquakes, volcanic eruptions, cyclones, fires etc: In the past 100 years there have been over 100 great fires and explosions, 15 major tornadoes and hurricanes, 25 floods, avalanches and tidal waves, and 30 earthquakes and volcanic eruptions, a major natural disaster nearly every six months. It should be borne in mind that the definition of a 'major disaster' is one in which up to 200,000 people have died on a single occasion. The average increases exponentially when the less severe are included.

Other predictions almost coming with a guarantee of success are the death of a film star, assassinations and murders of prominent people, bus, train and shipping accidents, crimes, frauds and scandals. If you have access to a "Whitaker's Almanac" (a reference book of fact and accuracy published annually) in your local library, a perusal will show that not a single week goes by without a couple of major tragedies or newsworthy events of some magnitude somewhere in the world.

The frequency with which certain events occur, whether they be natural catastrophes, man made disasters, accidents or crimes, is quite astonishing, usually making the headlines one day and forgotten the next.

Using the examples given, a clairvoyant could predict for any year two major aircraft crashes, at least one earthquake, a cyclone or a flood with great loss of life, a couple of major crimes and scandals, a train crash, two bus accidents, the death of two film stars and an outbreak of disease. The odds are that he would be ninety nine per cent correct - providing he was not too specific with times, dates and places. "Seeing" the future is not the province of clairvoyants using extraordinary powers, but the use of information freely available to all, common sense, astuteness and a little bit of luck.

Putting the above into practice I have achieved great success in predicting the future. Details of the exercise can be read in *the Skeptic* Vol. 9. No. 3. ■

The following began as a separate article, however, as it logically follows the preceding item, it has been included as part of the Predictions series.

Dear (secret) Diary

Along with other junk mail I periodically receive a newsletter from Fatima International, an organisation dedicated to propagating the myths of Fatima, Medjugorje and other Catholic shrines where the Blessed Virgin Mary has allegedly been seen. The tracts are litanies of dire predictions for those who do not repent and offer salvation only to those who attend church regularly, play with their rosaries and chant Hail Marys.

Handed out with the latest edition was a copy of "A Pope's Predictions to the Year 2000", which seemed to me to offer an appropriate follow-up on my recent articles on the subject, particularly in respect of predictions based on statistics and the laws of probability. One aspect I failed to canvass in those articles was "privileged information", i.e. information of use to the prognosticator and unlikely to be available to the general public. Jeanne Dixon, who according to her biographer has a wide range of diplomatic and social contacts, makes good use of privileged information to enhance her accuracy, so when the spiritual leader of some 500,000,000 Catholics claims (or has claimed for him) that the information on which his predictions are based came from personal conversations with Jesus Christ and the Madonna one would expect to have some credence in them.

The hand-written predictions were allegedly found in a dusty leather-bound diary belonging to Pope John XXIII '1 by a Vatican cleaning woman while sorting through a box in a little used storage room. Evidently the Italian Sadie, (possibly a graduate of the Freedom University in Florida, with a major in the recognition of important religious artefacts) was unaware that Rupert Murdoch pays handsomely for posthumous diaries, and having spent her coffee break evaluating the find handed it over to the Rev. Guiseppe D'Angelo, 73, who has now decided to release some of the diary entries made between February 1959 and April 1963.

The scrawled messages reveal a frightened and excited pontiff who decided to keep his meetings with Christ and the Madonna a secret.

Italian experts (un-named) say that the diary is 100 percent authentic and they urge the people to prepare themselves for even leaner times before the 'New Beginning' next century. (Has a familiar ring?)

According to the Rev D'Angelo, the diary records that Christ and the Holy Mother visited Pope John nine times between February 12, 1959 and July 2, 1962 and revealed a host of natural and man-made disasters about to

descend upon the world over the next eight years, including the assassination of a great leader, wars, powerful winds and waves, violent earthquakes, famine, and an atomic war which would reduce the Earth to "a charred spinning rock". However, that nightmare will be followed by a lengthy period of harmony - a beautiful serene Heaven on Earth.

Some thirty years have elapsed since the predictions were allegedly made and there has been no change in the frequency of wars, disasters and assassinations which preceded or followed them².

While I seem to recall reading similar apocalyptic forecasts in a much older book than the pope's diary the one that really intrigued me read as follows:

Heavenly visitors will arrive in flaming chariots of steel on June 5, 1995 (JC and the BVM forgot to say where but MUFON and BUFOR please note 3) and begin their task of assisting the clean-up and repair of the environment and the crippled countries. Many will fear these odd-looking beings, but they come in peace and will with God's guidance transform Earth from a charred spinning rock to a lush, oasis in space. The survivors

will flourish in a world without war, disease or hatred...by 1988 (sic) we will have shared in the visitor's advanced knowledge, conquered disease, will live biblical ages, have the power of resurrection and the dead will rise. Finally, on December 25, 2000, millions will witness the sensational appearance of a messiah in the sky over New York."

Well there you have it folks, while we missed out on the promised paradise, take heart, we can still look forward to the UFOs, ETs and the second coming, I sincerely hope that notwithstanding the intervening disasters that were forecast, we will all still be around to wonder what profiteth a man who shall forfeit his sanity to gain a few souls!

1 Pope John XXIII (1881-1963) (Pope 1958-63) although not elected until the 12th ballot, clearly a compromise candidate, turned out at the age of 77 to be one of the most popular popes of all time. Formal proceedings have since been instituted that could lead to his canonization but based on this record I doubt that it will be as the patron saint of the seers!

2 See accompanying table.

3 There will of course be those who will argue that "they" have already arrived. ■

Table showing typical events* likely to occur in any given eight year period

Period Type of event Occasion (very incomplete list)

1900-08	War	1904 Russia-Japan.
	Assass	1901 President W McKinley, USA
	Disaster†	1902 Mt Pelee volcano, Martinique
1909-17	War	1914 WW I
	Assass	1914 Archduke Franz Ferdinand, Aust/Hung
	Disaster	1912 Titanic sank
1918-26	War	1922 Greece-Turkey
	Assass	1918 Czar Nicholas II, Russia
	Disaster	1918 Influenza epidemic
1927-35	War	1935 Italy-Abyssinia
	Assass	1934 Chancellor E Dollfus, Austria
	Disaster	1932 Famine, Russia.
1936-44	War	1939 WW 2.
	Assass	1940 Leon Trotsky, Mexico
	Disaster	1942 Hurricane, Bengal
1945-53	War	1950 Korea
	Assass	1948 Mohandas Ghandi, India
	Disaster	1947 Texas City explosion, USA
1954-62	War	1959 China-India
	Assass	1958 King Faisal, Iraq
	Disaster	1960 Earthquake Agadir, Morocco
1963-71	War	1965 Vietnam, 1967 Israel-Egypt
	Assass	1963 President John F Kennedy, USA
	Disaster	1969 Famine China
1972-80	War	1980 Iran-Iraq. 1973 Israel-Egypt
	Assass	1979 President Park Chung Hee, Korea
	Disaster	1976 Earthquake, Tangshan China

1981-89	War	1984 Iraq-Iran
	Assass	1984 Indira Ghandi, India
	Disaster	1986 Chernobyl nuclear reactor
1990-98	War	1991 Gulf War
	Assass	1993 President Ranasinghe, Sri Lanka
	Disaster	1993 Pinatubo volcano, Philippines

* The magnitude of the disasters selected for this table vary from a few deaths and considerable damage to ten of thousands killed and devastation. The death toll in the 1969-71 famine in Northern China exceeded 20,000,000**. Any well informed reader could add several more in each category in each period.

† Mostly natural disasters have been included in keeping with the majority of Pope John's (Christ's?) (Madonna's?) predictions.

** While this event could be claimed as a hit it is not without precedent as a disaster. In the 14th century Bubonic plague took an estimated 75,000,000 lives; the Irish potato famine of 1846-51 1.5 million; famine in China decimated the population by over nine million in 1877-78; over 21 million died in the influenza epidemic of 1918, and an estimated 5 million died in the post world-war famine in the USSR in 1920-21.

Sources: Encyclopaedia Britannica 1992 edition.

Guinness Book of Records 1983 edition.

Neville Williams' Chronology of the Modern World 1763-1965 Penguin 1975.

The World Almanac, 1990 edition.

MEDIA

Kinesiology on the Wireless

Annie Warburton

Imagine my horror, shame and indignation upon arriving home from the 1993 Skeptics Convention full of renewed love of Sweet Reason, to find myself nominated for the next Bent Spoon Award. *Moi!!!* Whose afternoon program on ABC radio in Hobart is one of the few anywhere in the country to eschew utterly all the crackpot -ologies and -isms except from a critical stand-point! Or so I thought.

It happened thus: On the Monday following the conference I interviewed the mellifluous Adam Joseph, luminary of this organisation and principal conference organiser, so far as I could make out. We did a run-through of previous Bent Spoon winners and the latest crop of nominees, with a climactic announcement of this year's winner, Steve Vizard. Lots of fun. Later on in the show we - that is, my producer and I - had a prize to give away - a recipe book - and in order to milk our 'exclusive' for all it was worth, we promised the prize to the first person who correctly named the winner of the Bent Spoon. (One of the infallible rules of radio is that people will ring up for any prize, no matter how paltry, if there's any sort of game involved.)

One of the calls we received in the course of this enjoyable but worthy beat-up was one nominating me for next year's award (a disgruntled loser, obviously) for having had a 'kinesiologist' on the program. Well yes, I did. Twice.

Now I know the media comes in for a lot of justified criticism from Skeptics for the free rides they give to ratbags and charlatans of all stripes, but the thing is, it's not always easy for us non-experts to distinguish what's new and ground breaking in science, medicine and psychology from what's faddish quackery.

Brendan O'Hara is a classic case in point. And very plausible indeed he was, as you might expect from someone with a name so redolent of the Blarney. Brothers and sisters in scepticism I beseech you: Open up your hearts and hear my sad tale before passing judgement on me.

Brendan was reported in the local paper as having given a seminar on kinesiology for 40 Catholic schoolteachers from northern Tasmania. Point one in my favour, ladies and gentlemen: the Micks don't usually

go in for Mysterious Energies Unknown to Science, except for their own peculiar brand. I should know, having had a conventional Catholic upbringing myself.

What he had to say to the *Mercury* (speaking from Our Lady of Lourdes primary school) seemed reasonable: that 'kinesethic' exercise enhanced communication between the two halves of the brain and properly practised could improve memory, concentration, reading, spelling, even running.

Sounded intriguing, so we got him on. Now, what you must bear in mind is that filling two hours of talk radio with fresh and interesting material five days a week is a full-time job for two people, though you do get help with editing, recording and so on. And remember you are competing against your fellow presenters and producers in Breakfast, Mornings, Mid-mornings, Drivetime, Nights and Weekends, not to mention Terry Lane (a good sceptic), and the numerology-favouring Tony Delroy. They're all scouring the same newspapers, magazines, press releases and the myriad electronic media - all ferociously trying to beat their fellows to snaffle up the sought-after celebrity, the promising livewire, the definitive authority on this or that.

You spend a lot of time on the phone in pursuit of your quarry, only to learn that they're out, they're in a meeting, they're on a course, they're at a conference, they're overseas, they're not talking to the media, they're sick of talking to the media, or they've just been booked by your mate in Drive. Or worse: you nab them, and five minutes later a colleague wanders in to inquire who you've got on today, and when you answer: "We've got the bloke who's putting the mile-high billboards into space", or some such, your colleague tells you, with just a touch of *schadenfreude*; "He was on PM last night and he was shithouse." Sigh.

What I mean is, by the time you've got through all the dead ends, false starts and no-shows, there's precious little time left to de-brief your 'talent' in advance to ascertain whether they're likely to make some outrageous claim that would call for a countervailing expert. With political stories of course, you put on the opposition as a matter of course, at some stage. But with science or medicine, or even history, it's not always possible to

foresee controversy, and you'd be surprised how many people ring up to complain about some wrong assertion they've heard on radio, but who won't come on themselves to set the record straight, even though they're qualified to do so.

I know, I know. I'm beginning to sound like John Cleese in that sketch about gondolas, where the voice-over narrator has a public breakdown, so I'll return to the subject of Brendan O'Hara.

In our first ten-minute chat he talked about the two sides of the brain and their specialised functions; he even mentioned the corpus callosum in the correct context. This bloke's no crank, thought I. Having not long ago finished reading Derek Denton's "The Pinnacle of Life" and Michael J. Corballis' "The Lopsided Ape", I considered myself something of an educated amateur in these matters.

He also talked about how the different configurations of the male and female brain lead to learning difficulties between the sexes, and that was the clincher: here was no dupe of the fashionable pseudo-scientific orthodoxy which ascribes all social and behavioural disparities between the sexes to male bastardy - here was a bloke worth listening to!

So we got him back for a talkback session a few weeks later. I'd hoped that listener calls would give him the chance to explain in more practical terms the connection between 'kinesethic' exercise and improved mental function. Things started out well enough; he used the simple example of the 'pat-a-cake' game as a method by which children learn left/right brain co-ordination. Fair enough. He said when people try to summon up a memory or focus a thought they tilt their heads and look upwards and to the left, thus subconsciously invoking their left-brain capacity for verbal memory. Oooh! Sez I, trying it out. He's right!

The calls started to come in, and soon the discussion was off on all sorts of whacky tangents. From here on I can't give a precise account of what was said, but my first inkling that not was not well came when Brendan invoked the supposed efficacy of acupuncture as authority for some otherwise unremarkable proposition.

"But I thought the jury was still out on acupuncture," I mildly objected. He looked genuinely surprised and assured me that I need have no fears on that score; the jury was back, and they'd found unanimously in favour of acupuncture. Hmmm. (Weeks later I came across Stephen Basser's article on the subject in this magazine, but all the learning therein availed me naught by then, alas.)

Again, my recollection of subsequent events is a bit hazy, but Brendan was getting a bit carried away in his zeal to get his message across over my blossoming scepticism and that of the odd caller. Somehow he got onto some mate of his who'd so refined his mental faculties using kinesiology that he could tell anything about you, just by looking at you! "Including what you had for breakfast?" I wittily riposted. And that was more or less the end of it - time was up anyway, so we exchanged the usual on-air pleasantries and parted amiably enough.

And that's the truth, brothers and sisters, so help me. I have laid my soul bare. I now have three questions for you:

1. Is there any merit in kinesiology at all?
2. Does your wayward sister really (sob) deserve a Bent Spoon? (Do you have some kind of ceremonial defrocking? For some reason I keep having visions of Chuck Connors at the beginning of 'Rifleman'; epaulettes ripped off, sword broken over the captain's knee, slowly drummed out of the fort
3. If you publish this, will you write something funny about me in your list of contributors, or do I have to make it up myself?

Answers from the Ed:

1. Not a lot, as the following article and other contacts with practitioners will indicate.
2. You will have to try a lot harder than this to become a lucky recipient Annie. Perhaps if you had a regular psychic on the programme and started broadcasting messages from the Brotherhood of Pleiadean Missionaries you might stand a chance.

The actual ceremony consists of the recidivist being haled before a convocation of local Skeptics and being subjected to a barrage of subtle irony, sneers, sarcasm and innuendo. It has a devastating effect, as well you might imagine.

3. Harry Edwards writes his own blurbs which, of course, we don't publish. After all, the Skeptics have a reputation for having a reverence for truth, which is not lightly cast aside.

All descriptions of authors are based on the best information available to the editors at the time of writing and are screened by a panel of QCs skilled in the laws of defamation. They have even been known, on rare occasions, to be accurate. ■

EXPERIMENT

Kinesiology Applied

Sir Jim R Wallaby

Following on from Annie Warburton's plaintive plea in the previous article, I am extraordinarily grateful to Mr Marven Gibson of Phoenix Arizona for sending me a three page dissertation entitled "Kinesiology for the Twenty-First Century" or "How to Access the 'Cosmic Control Center'".

The paper begins by describing Applied Kinesiology (AK) as "gaining broad recognition as a valuable diagnostic tool in the field of holistic medicine", a claim that utterly fails to surprise me.

It goes on to describe an experiment which will allow the subject to access the 'unused' portion of the brain to answer questions they didn't know they knew the answers to. (Why do I keep thinking that the 'unused' portions of New Agers' brains comprise their totality? This is probably an example of the interconnectedness of everything, or holism.) This happy objective can be accomplished by considering ourselves as though we were "a mobile computer terminal with a wireless connection to COMPUTER CENTRAL - a gigantic mainframe computer ("somewhere out there") that is monitoring all of us on a second-to-second basis." It advises us to address the inner source of our intuition, defined variously as "conscience, inner voice, gut feeling, spirit guide, higher self or God", but not, it would appear as the brain. Then we are invited to pose our questions in such a way that they can be answered by either Yes or No, however, it warns, "Do not ask questions such as 'will the baby be a boy/' or 'will the Phoenix Suns win the NBA championship?', cautioning that "we are not supposed to know the future", and that "This is only to be used altruistically".

Examples of the 'altruistic' questions one is allowed to ask are, "Are batteries in watches bad for the wearer's health?" and "Do microwave ovens adversely affect the molecular structure of the food that is cooked in them?". Thus it would appear that altruism is associated with electricity but not with babies and basketball. The article does not offer any enlightenment on who exactly 'supposes' we are not to know the future. It does say "Just be aware that we are all being monitored constantly!!!!", which will no doubt come as no surprise

to those who subscribe to the Great One World Government, New Order, Pleiadean, International Banker, Fluoridation, Henry Kissinger Cosmic Conspiracy, beloved of subscribers to *Nexus* magazine.

The paper concludes with the clarion call "MAY THE SOURCE BE WITH YOU" and an invitation to send US\$13 to receive the draft of a 125 page book "Thy Will Be Done", which is "the saga of how one man with an overwhelming curiosity has used the experiment for EVERY decision he has made for the last seventeen years". (Why do the names of assorted politicians pop unbidden into my mind?)

I know the accusation is often levelled at Skeptics, that we knock things without trying them. Well here is an experiment that we can conduct without too much preparation and one, moreover, that has been proposed by the proponent of the idea. It seems to be a fair test and I am about to try it.

What I will be doing is "silently thinking or pondering a question that can be answered by a simple 'yes' or 'no'." while, "At the same time looking for an involuntary physical sensation to manifest itself in one of (my) fingers". Now here comes the proof of the pudding. "If the experiment works, a 'yes' will materialise in the index finger and a 'no' in the middle finger. It may come as a tickle, a twinge, a twitch, a numbness, a pulling, a pulsating or even a change in temperature."

OK, I've got that. My hand is relaxed on the computer keyboard, with my index finger resting on the Y key and my middle finger resting on the N. Somehow, my inner voice, gut feeling, higher self, intuition, spirit guide or God tells me that my AK will manifest itself as a pulsating twitch. All I have to do is relax and silently pose the question. You, the reader, will be able to see the results for yourself at the end of the article. Please be patient now while I pose the question.

Nice and relaxed. Inner voice tuned in. Gut feeling rumbling. Here I go then.

"Is this dissertation on kinesiology the greatest load of unadulterated crap I have read in years?" Yyy. Game, set and match to the Skeptic, I think. ■

THEOLOGY

Thiering's Theories Examined

Mark Lawson

A radical reinterpretation of the New Testament proposed by Australian biblical scholar Dr Barbara Thiering, received considerable attention when it was first aired publicly, via a special ABC television programme, in 1990.

Since then there has been another television programme and two books - the second of which, published late last year, should be the definitive version of the reinterpretation as it was written by the scholar herself. (See bibliography).

All that publicity has at least brought the often dry and dusty world of biblical scholarship to the attention the general public, who might otherwise be unaware that alternate theories about the bible even existed.

In all other respects the reinterpretation could be said to have failed. In its full form as revealed in last year's book, even a non-scholar with some knowledge of the history of biblical analysis, such as myself, can point to enormous problems with the reinterpretation.

For the reinterpretation is extraordinarily elaborate; is based on a flimsy assumption and leads to the startling conclusions, such as Jesus living for more than 30 years after his supposed death, that are both unlikely and completely unsupported by any other evidence.

Apart from a minor contribution to the debate over the dating of the Dead Sea Scrolls, the reinterpretation thus holds only novelty interest for those who follow (at a distance) the blood-sport of biblical scholarship.

Briefly, Dr Thiering bases her reinterpretation on an extension of the use of the Peshar technique. In ancient times, scholars occasionally looked in texts on historical events for meanings relevant to events of their time - the Peshar of the text.

Pointing to certain references in the Gospel to secret meanings, Dr Thiering then says that all four gospels were written with this ancient practice in mind and that every phrase has a second meaning which can be uncovered using rules set out, in no great detail, in one chapter of the book.

Her interpretation also draws heavily on the known practices of the first century Jewish sect, the Essenes - practices known from both the Dead Sea Scrolls (which the Essenes wrote or stored) and first hand accounts by

the first century historian Josephus. Dr Thiering also refers to the Gospel of Philip (discovered in 1945 but given little weight by scholars) and other bits and pieces such as the New Testament Book of Revelation.

When the Gospels are decoded in the light of that material the miracle stories are found to be, so Dr Thiering says, references to Jesus's reformation of the practices of the Essenes. Thus, the transformation of water into wine was a symbolical miracle in which Jesus declares that everyone, even the blind and the lepers, are equal before god.

Before the reform, wine was used in the baptismal rites of a group of celibate Essene males. Everyone else had to make do with water.

Scholars have been trying to explain the miracle stories in everyday terms for centuries. One theory among many about the wine-water miracle, for example, is that there was a wine residue in the jars mentioned in the story and water poured into the jars thus became wine, albeit a very thin one. Another suggestion to explain the loaves and fishes miracle is that Jesus's act in distributing a small amount of food shamed others in the multitude to produce the cut-lunches they had been hiding, thus ensuring that there was enough for all.

Yet another explanation for all the miracle stories, and the one usually preferred by non-fundamentalists, is that all the stores were invented and inserted by an early evangelist to make a religious point, perhaps while under some sort of inspiration. The stories then have a religious rather than historical meaning.

Thus if Dr Thiering had stopped at the miracle stories she might well have found some support among scholars. What are the stories supposed to mean anyway?

Unfortunately the Peshar method is stretched to an 80-page, often quite detailed chronology of the Life of Jesus, all of which relies on the interpretation of symbolic meanings. Along the way many of the crucial events of the Gospels, including Jesus's birth and untimely death, are relocated to Qumran, the excavated Essene Monastery-Fortress (scholars argue about the settlement's purpose) on the shores of the Dead Sea east of Jerusalem.

To fit these shifts into the Gospel events, Qumran is

blessed with at least three different code names - Bethlehem, Egypt and Jerusalem - while an Essene power struggle furnishes the reasons for the appearance of the Roman governor, Pontius Pilate and the crucifixion itself. Jesus is given a poison so that he appears dead and is put in a cave until Pilate goes away, satisfied with the day's work.

Jesus recovered and lived a quiet life from then on, meeting with his disciples occasionally (the after-death appearances) and co-ordinating the writing of the four Gospels to ensure the special meanings are all there.

One theme that runs through all of this is that Dr Thiering is reluctant to surrender any part of the gospels as a later invention. The reinterpretation starts from the point that the gospels must all be true, albeit a true code. Why is it all true? Because the decoded message seems plausible.

In the book "Jesus the Man" she says, "The 'proof' is in the final success of the method. A clear and integrated picture emerges, leaving no doubt the whole process was intended."

That circular logic would be more convincing if there was any evidence outside the gospels to support the reinterpretation. There is, for example, no hint that the early Church leaders - including Paul, the real founder of the church - or the Gospel writers were aware that Jesus remained physically alive (as opposed to living in heaven), long after his crucifixion.

Nor is the reinterpretation plausible. If anything it is over-complex, and that complexity is partly the result of Dr Thiering's unwillingness to surrender even those sections of the Gospels that scholars have long regarded as doubtful, such as the birth story in Luke, where Jesus is born in Bethlehem, and the claim that Joseph was descended from David. The reinterpretation is, in its own strange way, a fundamentalist justification of the Gospels, although it is one which assumes that Jesus was nothing more than a gifted human.

Dr Thiering's reinterpretation also dismisses a very long tradition of biblical scholarship that has reached completely different, and rather more plausible, conclusions about the gospels.

From careful comparison of the gospels, for example, scholars have long suspected that whoever wrote Matthew and Luke (the names are just later traditions) had access to earlier gospels, now lost, besides the earliest existing gospel, Mark. Those lost books are known only as M, Q and L.

As Mark was written with a pro-Roman bias - Pilate pleads for Jesus's life with the mob and so on - while

explaining away the known fact that Jesus was executed in Roman fashion (the Jewish fashion was stoning), scholars guess the gospel was written for the growing Christian community in Rome. As Jesus appears to "foretell the destruction of the temple, which occurs in AD70, they believe it must have been written around that date.

A great deal more could be said on such matters but for the moment we will pass on to the one side issue in Dr Thiering's work which does have present relevance - the controversy over the dating of the Dead Sea Scrolls.

Scholars have long been arguing over the dating of the scrolls, discovered in 1948, and the identity of three figures repeatedly mentioned in them - "the liar", "the leader of righteousness" and "the wicked priest".

The consensus view, dictated by the Catholic-run international team labouring to translate the scrolls is that the scrolls date from the first century BC. The three figures are thus various historical characters from that safely pre-Christian time, and their nick-names reflect the political bias of the Essenes.

Dr Thiering, dating the scrolls from the style of writing used, says they were written during Jesus's lifetime and that the wicked priest and the liar are both the reforming Jesus. The leader of righteousness is John the Baptist, head of the conservative religious faction.

A third view (there may well be others), championed mainly by senior scholar Dr Robert Eisenman, is that the scrolls were written in the generation after Jesus' death. The liar is Paul (formerly Saul), who was at that time founding a breakaway religion based on his own version of Jesus' teachings; the wicked priest is the pre-Roman Jewish high priest of the time and the leader of righteousness is the Jewish leader, James, also identified as the Brother of Jesus in the Bible - although the title is unlikely to have meant biological brother.

According to that theory Paul was a troublesome convert, with his own ideas about Jesus, whom he had never met. The Essene leaders eventually sent him safely out of the way, or so they thought, to the proto-Christian communities overseas. But Paul's re-packaging of Jesus proved so effective that it blew away the unappealing Roman gods, while the Essene version of Christianity was swept away in the national catastrophe of the Jewish revolt against the Romans (66-70 AD).

Arguments over dates aside (carbon-dating is too inexact to resolve the dispute), the Dead Sea Scrolls have received much publicity in recent years over the International Team's apparent inability to complete its work.

Some of the scrolls had been translated and published

but many others remained stuck in the team's work schedule, leading to accusations that the Catholic-dominated team was holding back scrolls that would damage the theological basis of the Christian faith.

Bootleg copies of the scrolls slipped out of the International Team's tight grasp last year, to be quickly translated and published (one member of the international team then successfully sued for breach of copyright when his translation was used without permission).

Although there do not seem to have been any shattering revelations from the remaining scrolls, Dr Eisenman was quoted in London Times in November last year as saying that the newly translated scrolls confirmed that James was the leader of righteousness.

His comments were countered by one the scholars aligned with the International Team saying that the previously unpublished scrolls were "as interesting as an old mop".

Whatever anyone may make of any of the above arguments, the debate over the scrolls is obviously far from over, more than 40 years after they were discovered. In fact, it might just be starting.

Bibliography

Jesus The Man, A new interpretation from the Dead Sea Scrolls: Dr Barbara Thiering; Doubleday 1992. (The definitive statement of Dr Thiering's views, as discussed above.)

The Dead Sea Scrolls - The riddle debated: Dr Leonie Star; ABC Enterprises, 1991. (A popular explanation of Dr Thiering's work plus comments on the publicity and public reaction. Dr Star is an Elizabethan scholar.)

The Dead Sea Scrolls Deception; Michael Baigent and Richard Leigh, Jonathon Cape, 1991. (The latest of four books by these lighter-weight scholars who are closely aligned with Dr Eisenman, mentioned above. Mainly concerned with the scandal over the non-release of the scrolls, and accusing the International Team of, among other things, links with the CIA. Now dated as the scrolls are in the public domain, the book still a clear exposition of Dr Eisenman's views on Paul and the early church.)

Jesus: The Evidence; Ian Wilson, Weidenfeld and Nicolson, 1984. Also published by Pan in 1985. (Clear and comprehensive summary of biblical research by a journalist. Mr Wilson has spoiled his record by declaring, in other books, that the Turin shroud was genuine only for scientific tests to find that it was a medieval fake. None the less, Jesus: The Evidence is quite good.)

Other books

The Cambridge Bible Commentary: Understanding the New Testament. O. Jessie Lace, editor, Cambridge University Press 1965.

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The Early Church, Henry Chadwick, Penguin, 1967. ■

World Round-up

Harry Edwards

The efficacy of prayer.

Fr. Rafael Calonia offered mass in the fields at the foot of the Mayon volcano to seek divine intervention in turning away any further manifestations of the volcano's wrath. The Philippine Institute of Volcanology and Seismology monitoring the volcano subsequently reported 154 tremors and the mountain exploded seven times blowing super-heated ash six kilometres high burying several villages. It is not reported whether or not Fr Calonia had sufficient faith to hang around to see the results of his invocation.

Another cure-all

The New Age Center in Manila is conducting seminars promoting the Gerson Therapy. It is claimed to have been tested and documented to cure TB of the skin, bones, kidneys, eyes, lungs, joints, migraines, allergies, hypertension, psoriasis, multiple sclerosis and cancer. If you are sceptical then they will cleanse your soul with the help of crystals, herbs and oils!

Astrology v Voodoo

Colombo (AFP) March 31, 1993. A wealthy Sri Lankan businessman has been charged with the murder of a witch-doctor who was hired by a rival businessman to curb the other's business.

Police sources said D. Chandraratne 42, stabbed the voodoo doctor D M Sirisena, 65, several times and then drank the victim's blood at a house in Piliyandala in the suburbs of Colombo last week. Chandraratne decided to kill the witch-doctor after consulting his astrologer following information he had received that his jealous rival had employed Sirisena to cast a spell on him the sources said.

Sect arrest

Australian couple, Anne and William Hamilton-Byrne, leaders of "The Family" religious sect which operated in Victoria from the 1960s to the 1980s, have been arrested in New York. They are being extradited to Australia to face perjury and other charges. In a now notorious interview on A Current Affair some years ago, Ms Hamilton-Byrne claimed that she was God. ■

WHIMSY

A Few Links Missing

or

The Origin of the Spaceships

Kara von Dunnykan F.R.A.U.D.*

Of all the mysteries which haunt us, the origin of our own species is perhaps the most perplexing. Some have speculated that our roots lie beyond the Earth. These theories are scoffed at by orthodox scientists, blinded by their narrow world view. Now, however, a series of extraordinary discoveries made recently in the suburbs of Sydney looks set to overturn the tables in the temples of archaeology and anthropology.

While digging in the garden of his terrace house in inner-city Glebe, Sydney UFO investigator and psychic financial consultant Yeno H. Pas'eh uncovered a succession of mysterious objects, ranging from bone fragments to metallic artefacts which were clearly the products of an advanced civilisation.

Immediately recognising the gravity of the find, Yeno (known as Chris prior to a 1990 rebirthing course, when he adopted an Orion name) took the objects to the Australian Museum. What happened next confirmed his suspicions about so-called conventional science. The museum's archaeologists, clearly baffled by the relics, attempted to disguise their ignorance by playing down the significance of the discovery, going so far as to claim that one of the metallic items was nothing more than a biscuit tin lid.

Yeno, however, was sure of his ground, and though denied the help of the "experts", resolved to investigate the case himself.

The first step was to determine the age of the site. We have all heard of methods such as Carbon-14 dating which measure the decay of radioactive elements. This was, of course, out of the question, as Yeno is implacably opposed to nuclear energy. Instead he decided to apply his psychic gifts to the problem, and in so doing invented the valuable new technique of Crystal-15 dating.

Discovering a small piece of quartz on the site, Yeno fastened the mineral to his forehead and using a shamanic chant from Tierra del Fuego was able to detect the energy which emanated from the long buried fragment. The weak flow betrayed a great antiquity. After nearly half

an hour of transcendental research, Yeno arrived at an approximate age for the dig. The result? The relics had lain in the Sydney soil for at least ten thousand years!

With their age established beyond all doubt, Yeno set about examining the objects one by one. Ironically, it was the strange metallic disc which the "experts" had been so quick to ridicule that proved to be the most important single find. For on this disc, once careful cleaning had removed the grime and corrosion of aeons, were revealed intriguing etchings, which Yeno came to recognise with growing excitement as a form of ancient writing.

The following is an approximation of what was found.

A NOT S AS O TED CR MS

What do these symbols mean?

We can only guess. The disc had another secret to reveal, one which would challenge accepted ideas about the nature of life on the earth - and beyond! Yeno was fascinated by the perfect aerodynamic shape of the disc, and the fact that it was clearly part of some larger object. Attention now turned to the bones found on the site. Could there be some connection between the two finds? A careful inspection of the remains revealed startling new clues. By their size and weight they had obviously belonged to a small being, perhaps only a foot in height and adapted to a low gravity environment. Now the pieces of the puzzle fell into place. The metal disc had to be the remnant of an interplanetary craft. And the tiny being? The occupant!

A bizarre twist entered the story when Yeno noticed evidence of the effects of heat on the bone fragments. A strange aroma also emanated from them. Later analysis revealed the presence of eleven different substances, all herbs and spices. Had the craft crashed and the crew been embalmed and cremated in some strange

continued p 38 ...

PHILOSOPHY

Scepticism and Open-mindedness

Perplexed Tamasine

The steps from brain to brain must be cut very shallow, if thought is to mount them,...

Virginia Woolf in "The Years".

If you are a solipsist, read no further, for this discussion assumes the existence of Reality. Of course, since all you solipsists are making this up as you go, you might as well keep going - I'd like to know how it turns out.

Weak-minded solipsists - that is, relativists - usually acknowledge that Reality exists, but claim that it is bloody hard to get to know, and hence we all end up with our own version of it. For instance, consider the electron: is it a wave or a particle; a dimensionless point or a smear swirling round a nucleus; a probability function or a sure thing racing round the latest incredibly large accelerator; a figment in some reductionist's dream, or a billiard ball on God's table. Such a protean entity forces us to settle for the best, most workable model of Reality currently available for a particular situation, or mood swing.

However, since my model of Reality is your load of drivel, are we forced to agree to differ? Yes, philosophically speaking, since every model, or world view, ultimately rests on an unverifiable belief. For example: Reality exists; Reality does not exist; God exists; the Devil represents unconditional love (he'll take you no matter what you've done); it is irrational to be rational; it is rational to be an economist; and so on. Hence, there can be no compelling argument in favour of any one world view.

But, can we propose "good" reasons for favouring one world view over another? No ... because what we consider to be "good" reasons depends on our world view. For example, a fey world view claims that fairies exist because lots of terribly honest, down-to-earth people with twenty-twenty vision, and enormous amounts of common sense, have seen them. Whereas a common sense world view says fairies don't exist because people who claim to have seen them have limited powers of observation, poor memories, over-active imaginations, an insatiable need for attention, and are, in general, quite fey.

So, if we can't compel, and we can't persuade, can

we at least exchange views in a more or less sensible fashion? Obviously we can, since we form warring groups. This means that we understand and share the views of the group we belong to, and we understand and disagree with our opponents ... doesn't it? For example, take physicists and chemists. Physicists think Reality is essentially dry, and are hell bent on drowning it. Hence, they work on hot fusion, or the creation of water in the midst of heat. Chemists, on the other hand, think Reality is essentially wet, and they want to dry it out. So, they concentrate on cold fusion, or the production of heat in water. Both groups understand each other perfectly in terms of funding envy.

A more general dichotomy of world views occurs between those with a sceptical bent (some think the "sceptical" is a pleonasm), and those who are "open-minded". These are usually seen as diametrically opposed positions. Yet, on the surface of it, both seem appropriate stances in an uncertain, frequently deceptive, difficult to understand (if not downright incomprehensible) and meaningless world.

In fact, surely open-mindedness is essential to scepticism? That is, a person who is always asking questions, even in the face of so-called common sense, and who re-examines and modifies their views in the light of new evidence, surely such a person has an open mind - indeed, must have an open mind.

So, why is it that sceptics are so often accused of closed-mindedness? Well, partly because they don't live up to the heroic specifications outlined above. But mostly, because open-mindedness is confused with the uncritical acceptance of everyone else's views. However, it is one thing to acknowledge that we all see the world differently, to admit that we cannot muster arguments that compel agreement, and to concede that persuasion is a problematic process. It does not follow that we must give equal weight to all views. Our own reality may tell us not to.

And, indeed, just as no sceptic is sceptical of everything all of the time, no person is open to all ideas, beliefs, theories etc all of the time. Total scepticism implies that all theories are wrong. Total open-

mindedness claims that all theories are right. Both of these stances give equal weight to all views, and both are ultimately totally paralyzing.

If you doubt everything all of the time, you can predict nothing. Cause and effect cease to be related, and there are no consequences that can be calculated with any certainty. Thus, boiling an egg becomes a stressful experience with an uncertain outcome - will the egg actually cook this time, will it be hard or soft, will it crack and make a horrible, inedible mess, or will the pot run dry and the house burn down? Is it worth bothering? Faced with a multitude of possible uncertainties, the unrelenting sceptic is enervated, unnerved, demoralised and demotivated - not to mention hungry and homeless. (Hmmm....total scepticism is beginning to sound chillingly appropriate.)

On the other hand, if all theories are right, then every cause can be associated with every effect, and counter examples carry no weight. If you actually behave as though any theory will do, then getting a boiled egg is a chancy business. For example, if you want three minute eggs, and all notions of how to obtain three minute eggs are right, then you could either boil the eggs for three minutes, or boil them for five minutes because heat is moving slower these days, or boil them for two minutes because time has been stretched, or stick them under a pyramid for a century because pyramid power is slow and dignified, and so on. After trying all of these methods, and many others, you become a frustrated, bitter person, unwilling to try anything ever again.

In other words, the kind of closed-mindedness attributed to sceptics is actually impossible, and so is the kind of open-mindedness demanded of them. This explains why total open-mindedness is never practised by the very people who demand it. Thus, the "thinking" student of divinity does not accept fundamentalism, the holistic thinker scoffs at the reductionist, channellers question each other's legitimacy, clairvoyants act as though they don't believe each other's predictions (particularly regarding the end of the world), and those with closed minds cannot countenance the sceptic.

The misconceived view of scepticism as total rejection is well exemplified by the jibe: "But are you sceptical about your scepticism?" This is usually uttered with a great deal of smugness, for it is taken to represent a demolition of the entire sceptical position. For, if scepticism is equated with rejection of everything all of the time, then, ho ho, the sceptic must reject scepticism, ho ho.

But, far from being rejection, scepticism is the

suspension of final judgement. Truth, it is claimed, is elusive. The best that can be managed at any time is a workable approximation to Reality. Hence, a sceptic holds temporary, transient beliefs, and changes her mind when the evidence requires such a change.

Given this notion of scepticism, we can doubt the wisdom of being sceptical without involving ourselves in a paradox. In fact, having doubted our doubt, we can conclude that, for the moment at least, it is still the best option. Why? Because some people, such as politicians and husbands, tell lies. While the physical world hardly ever tells the truth. Hence, our seemingly hard boiled egg is mostly empty space, and since this means we are perpetually hungry, our heads spin and our senses mislead us into thinking that statues can move (no, I don't mean the Yellow Peril).

On top of this, our thinking processes are often faulty or biased, so that we think souffles always rise because the cook is brilliant, and fall because the stove is stupid. Or, we reason in circumstances where reason doesn't work (e.g. dealing with men). And so, confused and bemused, we turn to common sense. But common sense is insensitive to Reality. For example, did you know that if your car breaks down on the road, someone is more likely to stop to help you if they see that someone has already stopped to help you? (I didn't make this up, it was the finding of a psychological study). In view of all this, it would seem a little rash to chuck scepticism out.

This leaves us with one tiny problem. (Only one?) In practice, sceptics can be very opinionated. When they say pigs can't fly, they mean it. Grounded pigs constitute a timeless fact, if not an eternal truth, and no correspondence will be entered into. What is the basis for such conviction?

Well ... if we disallow definition changes (e.g. a flying pig is a drunk on a jumbo jet); ban shifts in meaning (e.g. flying is really swimming, and pigs can swim - can't they? - so, if the air was thick enough, pigs could fly); exclude changes of venue (e.g. to a planet with weak gravity); reject miracles, and claims that our senses deceive us, and that really there are pigs whizzing round our heads, along with X-rays, neutrinos and dog-whistle noises. Yes, if we prohibit such contrivances, then the sceptic's certainty seems justified, for there appears to be a dearth of observational or experimental evidence in favour of flying porkers.

But, can we allow the poor old sceptic an occasional certainty without undermining his position totally? No, we can't.

Even one certainty requires compelling evidence as

its justification. But, how to distinguish between compelling evidence and wishful thinking? By producing evidence to show that one's evidence is of a suitable nature. And more evidence, in turn, to show that the evidence for the evidence is itself OK. And so on, ad infinitum. Thus the sceptic is condemned, not only to an eternity of changing his mind, but also to endlessly justifying his justifications. No wonder he sometimes lapses into dogma, thereby inadvertently contributing to the erroneous notion that sceptics are closed-minded.

Unfortunately, a flexible mind and the ability to justify endlessly may not be enough to qualify as an open-minded sceptic. For we have overlooked the logical flaw in using a method of justification to justify the method of justification. The scientific method cannot validate the scientific method, any more than a tall story can establish the legitimacy of the "anecdotal method".

It follows that the sceptic, or anyone else for that matter, cannot "prove" that their notion of evidence is the "right" one. Not even if they mix their metaphors and try to justify the controlled experiment by giving an eyewitness account of how they were abducted by one.

But, if no-one is "right", then it is not closed-minded to stick to the notion of evidence that your particular world view requires you to espouse. It is simply irrational to believe in any form of evidence at all. Hence, the sceptic is not closed-minded, but merely irrational, like everyone else.

Confused? Well then, let us consider self-defence for the open-minded, slightly addled sceptic living in a crazy world. For example, should you rashly admit, in public, that you are just a teensy weensy bit sceptical about something, and should someone immediately accuse you of having a closed mind, try indignation: "I'm surprised that a supposedly open-minded person like you is so sceptical about my way of seeing things!"

If this doesn't get rid of them, and they follow through with the doubt-your-doubt chestnut, look lost, forlorn and bewildered. Explain how truly awful your childhood was, how your entire family deserted you, and ever since, you've been unable to trust anyone or believe in anything. And, since no-one can doubt emotion as a basis for belief, you thought they, of all people, would understand, rather than mock, your position. If this fails to create an "empathy hiatus followed by a flight response", try grinding your teeth.

And as for you solipsists ... you are all brilliant, creative, sensitive geniuses. ■

... Spaceships: from p 35

extraterrestrial rite? The evidence was crystal clear.

Yeno now worked on a hunch which he had been harbouring since he had dated the site. An age of ten thousand years put the finds firmly within the Atlantean era of world history. Referring to a highly respected text on the subject, "Atlantean History in Your Suburb", he discovered that Glebe had indeed been a key link in the Atlantean aura-energy network.

Could there be a connection between the ancient Atlantean civilisation and the extraterrestrial visitors? Had the two cultures been in close contact here in Australia? In finding an answer to this riddle, had Yeno solved the mystery of the origins of the human race itself?

It is well known that ancient Australia was a land of giant animals: wombats as big as cows, kangaroos as big as horses. Surely it follows, therefore, that the human inhabitants of this land were likewise of giant proportions.

Students of Atlantean lore will already know of the tall stature of the ancients. Yeno, however, was not prepared to make unsubstantiated assumptions and used rigorous scientific techniques to compile his data. He compared the size of the ancient animals and their modern counterparts and then translated his findings into human terms. By this method he calculated that the average height of the Atlantean inhabitants of Sydney must have been approximately ten feet. The average height of modern humans, at between five and six feet, represents a mean figure between the stature of the Atlanteans and that of the tiny extra-terrestrials. The inescapable conclusion? The two races had fused into one to create modern humans!

The more perceptive may query the precise mechanics of an intimate relationship between a being of ten feet in height and another only one foot tall. A recently published paper by Dr. Yves Voyeur, "Observations on the Interactions of Great Danes and Chihuahuas", may shed some light.

Having completed his research, Yeno embarked on a whirlwind lecture tour of community halls all over Sydney's inner-western suburbs. He is now working on a book based on his findings. A world tour is planned in association with the acclaimed Navaho mystic Hubert Evening Gloom, who has managed to channel the spirit of Yeno's tiny alien, known as "The Colonel". As Yeno said in a recent television interview, "It's time the whole world knew the truth." And who could argue with that sentiment. ■

INVESTIGATION

Palm Reading in the South Pacific

Harry Edwards

From time to time we receive newspaper clippings from Dr Jan Tent our unofficial, albeit enthusiastic, Skeptic in Fiji. One of note late in 1991 featured Babu Lal Khatri, an 80 year old Indian palmist who, for a fiver, will peer through his magnifying glass at your palm and, with the aid of an old worn out imperial tape measure, make some very specific predictions.

Now five bucks to us may be a reasonable rate for a prospective hour's entertainment, but in Fiji, it represents a day's pay for many who can ill afford to fall victim to charlatanism. One would also have to be extremely gullible to take Mr Lal's readings seriously, for he naively cuts his own throat by saying, "I have read the palms of over 1000 people and I only tell them what they want to know". This being so, there is hardly any point in consulting a palmist who is not going to interpret what he claims to be able to see accurately anyway.

The above notwithstanding, according to the article in the *Fiji Times* (a Murdoch publication), Mr Lal can tell among other things, how long you will live; whether you will die soon; the cause of your death; when you will marry; how successful your marriage will be; the number of children you will have; if you will be successful, and whether you will travel.

With Jan's co-operation I decided to put Mr Lal to the test by giving him a photocopy of the palm of my right hand. A light dusting of talcum powder enhanced the reproduction of not only the main creases, but all the fine featherings, breaks, dents and dots which, according to palmists, are a physiological, psychological and chronographic blueprint of our lives.

With strict instructions not to give Mr Lal any information other than my sex, Jan fronted up for a reading. His edited report is as follows:

"I went to visit Mr Lal on January 23, 1992, coincidentally my 40th birthday. He was reluctant to do a reading based on a photocopy since he claimed there were important lines on the hand which were not visible. (This is in fact not correct, there were more lines available for interpretation than Mr Lal subsequently used. HE)

So I decided to let Mr Lal read my own palm.

Mr Lal revealed the following: I would die at age 79,

(but he couldn't say how despite the newspaper claim that he could); that I married about 20 years ago; that I was 45 years old; that I would have five children; that I have had and will have family problems; my life would be happiest from age 35 to 45 years old; I have four other siblings; that I would not win lotto and I spend too much money; I have a "hot" (quick) temper; I would be successful in business, and travel.

During the reading Mr Lal also asked some leading questions. How old am I? Was it true that I only had two siblings? And commented that my studies were finished and that I would do no more."

How accurate was Mr Lal?

First the facts. Jan is a 40 year old ex-patriate engaged in research for his PhD. His studies will never finish - such is the life of an academic. First married in 1974, he was divorced in 1980 and remarried in 1990. His wife aged 37, gave birth to her first and most likely only child in October last year. Jan has one brother and one sister.

Apart from all the incorrect guesses, Mr Lal's predictions and pronouncements were fantasy and generally unverifiable. He stated the obvious based on the observation of clearly identifiable and common human traits and relied heavily on probability. It is obvious that he, an Indian living in Fiji, was clearly influenced by, and based his pronouncements on his own cultural and social mores - primarily large families subject to the same passages in life to which we are all more or less subject, and a limited general knowledge of the "outside" world. However, true to his word and within reason, he did tell his client what he wanted to hear!

At the prospects of another quick fiver (the first reading took ten minutes), Mt Lal relented and asked whether the photocopy was that of a male or female hand (despite the size of the print making the question superfluous), and (significantly), how old the subject was, Jan said that the photocopy was that of a friend yet aroused no suspicion when unable to tell him even my approximate my age. Mr Lal studied the printout, joined Shirley MacLaine out on a limb and proceeded uncomfortably without that information.

His assessment? 1. I have many enemies; 2. will live

till I'm 83; 3. will be successful in private business; 4. have had a troubled marriage; 5. have six siblings; 6. suffer from gastro-intestinal trouble; 7. have a hot temper; 8. own a car; 9. won't win lotto (that's a twist but far more likely than winning it!); 10. will travel; 11. have money problems, and 12. will die overseas.

Right or wrong, numbers 2 and 12 I will never be able to confront Mr Lal with, and if I have any enemies I'm certainly not aware of them unless that refers to creationists, clairvoyants, aura readers and two ex-wives! In any case they can't be too dangerous as I'm going to live till I'm 83! This incidentally contradicts two other palmists who predicted my demise at 50 and 53 years respectively. Of course Barry Williams would probably say the latter were correct anyway, I am only perceived as being alive!

To a certain extent I have been successful in business but then that's an even money chance, you either are or you are not. Mr Lal's observation was no doubt based on the assumption that I was probably about the same age as Jan and successfully engaged in some sort of business in Fiji.

One in three Australians have a troubled marriage ending in divorce, and even the most harmonious have their ups and downs, Mr Lal made no mention of my previous two divorces nor that of Jan. This is particularly significant as Mr Lal made the excuse that the relevant lines on the photocopy could not be seen, yet in Jan's case they were plainly visible.

I have one brother, a trouble free gut, and a temperament passive to the point of infuriating those who would provoke me. Owning a car in an affluent country is hardly a revelation and raises the question whether the particular line on the palm denoting car ownership has only appeared since the turn of the century and the demise of the horse and buggy. Are there others to indicate yacht and plane ownership?

Mr Lal probably assumed that a friend of Jan's would also be an expatriate in Fiji and must have travelled from Australia, so yes, I do travel like tens of thousands of other Australians every year, and like millions more have money problems. Finally, although the odds of winning lotto are hundreds of thousands to one against, our palmist got it right, I won't win lotto - simply because I don't buy tickets!

As an aside, Mr Lal has a premonition of death by drowning, his performance as a palmist suggests that it will be in the subject matter of an Australian colloquialism describing abject nonsense!

Conclusion

Mr Lal's pronouncements were not based on his interpretation of the flexion folds on the palm but were confined to guesswork and the parochialisms of his island environment. To invest one's money in Mr Lal's ability to predict the future would be akin to buying shares in the St Petersburg Municipal Gas Works and waiting for a dividend - they went out of business in 1917! ■

Important Announcement

1981 - 1985 Composite Issue

After several false starts, the composite issue of *the Skeptic*, covering Vol 1, No 1 to Vol 5, No 4, is almost ready to go to the printers.

As these issues are now out of print, and as continual photo-copying has rendered the text almost illegible, the Editors (with assistance) have expended enormous time and energy in re-typing all of the important articles and re-formatting them in a 150-page (approx), A4 sized book.

The book is organised under subject headings, rather than as a strict chronological compilation of the original articles. It is a comprehensive re-creation of the text of

the original magazines, although certain reprints from other publications have been omitted, along with items of purely topical and internal housekeeping interest.

Printing will be an expensive undertaking, so we would like an indication of the potential sales before we commit ourselves to tying up our scarce funds in holding unsold copies of the book. If you are interested in purchasing a copy, please drop us a line registering your (obligation free) interest. We will then decide how many to print and will advise you of the availability of the book. The price will be \$25 (including postage) and it will certainly be available before the end of October.

REVIEW

Getting to Know the Neighbours

Mark Lawson

The Creationists: The Evolution of Scientific Creationism, Ronald L. Numbers. Alfred A. Knopf, New York, 1992 (Dist by Random House in Australia)

Remember Queensland in the mid-1980s? Joh Bjelke-Petersen looked unbeatable and fundamentalism was at a high tide. I was heavily engaged in trying to stop creation science being taught as science in schools. One thing puzzled me. I scribbled a question in red ink, and kept it on my desk for months:

“Why extreme fundamentalism?”

It struck me as a good question, and still does. Creation science was bidding for public acceptance as a valid alternative to “evolution science”. Creationists wanted equal time in schools, equal regard from teachers and serious treatment in textbooks. Why, then, did they opt for such an extreme dogmatic view? Why insist on an earth a few thousand years old, creation in six twenty-four hour days and a single flood to explain the geological strata? They must have known that this dogmatism would alienate most Christians, let alone those outside Christianity. Why, I wondered, did they not go for a more moderate perspective, building God into something a bit less at odds with modern science? It takes a perceptive, sympathetic observer to probe the creation science movement and understand it deeply. This is what Numbers’ book, “The Creationists”, is about.

In his introduction, Numbers reveals that he was brought up as a fundamentalist. His father was a prominent preacher, and opponent of evolution. However, at college, the younger Numbers’ faith began to slip and he ended up testifying against creation science at the 1981 Arkansas court case. After reading this book, I suspect that he still understands fundamentalism at a gut level, in a way that outsiders like myself never can.

In the introduction, Numbers comments on the bitter hostility most scientists feel towards creation-ists, quoting one as commenting “We’ve got to stop the bastards.” He believes that condemnation should not be substituted for comprehension, and that “...it is profitable to get acquainted with the neighbours, especially so if we find them threatening.”

The book is long - over 350 pages of text and another hundred of references and index. Most of this is concerned with the development of American creationism, starting in the late nineteenth century. There are surprises here. It is clear that most nineteenth century opponents of evolution would not have been permitted into modern creationist organisations. People like Agassiz and Dana, though opposed to evolution, were nowhere near as dogmatic as current creationists. Further, evolution was not the touchy subject it became later. Most conservative Christians used devices like the ‘day-age’ or ‘gap’ theories to accommodate the Bible and science.

Things began to change in the 1920s, with William Jennings Bryan’s crusade against the teaching of evolution in school. Perhaps more important, George McCready Price began to put together his ideas on flood geology, which eventually took over the entire movement. Price was never a scientist, and there are pathetic stories of his struggles to keep his wife and family from starvation. Finally the Adventist church helped him out, finding him a series of appointments in church schools and colleges.

Slowly, Price’s ideas seeped through sectarian boundaries and became important in many areas of Protestant fundamentalism. As Numbers points out, many of the more moderate creationists at first welcomed Price’s work, not realising that it attacked them as much as mainstream science. The flood geologists regarded only their own ideas as acceptable, and this conflict tore some creationist organisations apart. Others, like the American Scientific Affiliation, ended up by largely rejecting flood geology.

The flood geologists, inspired by Henry Morris, eventually set up their own organisations. These were bound with strict rules about what members could, and could not believe. With this security, the creation scientists began arguing about other matters.

The internal quarrels are a surprise. You might think that, with the fundamentals settled, creationists would agree with each other. Not a bit of it! Savage battles erupted between the educators and the publicity seekers,

continued overleaf...

Scientology: a Chance Encounter

Mark Lawson

When a massive volume entitled “What Is Scientology?” arrived, unannounced, in my news room pigeonhole my colleagues began to eye me dubiously. “What is Lawson up to?” they collectively muttered. “Why is he flicking through a book on scientology, reading certain sections, then laughing?” There was no point in explaining that the copy girl had got as far as the “science” part in the title of this unwanted piece of mail and promptly shoved it in my pigeonhole, to get rid of it. As I have a completely undeserved reputation for eccentricity, I would simply not have been believed. So fending off a half hearted attempt to confiscate the volume on the grounds that my hold on sanity was already precarious I carted it home.

“What is Scientology?” is a very glossy and, as far as I can tell, well-produced hardback of near A4 size printed last year in America. As it’s also a whopping 880 pages it cannot be easily slipped into one’s back pocket for quick reference. This is a weighty tome indeed.

Contents? Well, it has heaps of glossy photographs. After an introductory 27 pages of photographs of Scientology HQs around the world, there are 140 pages or so of glossies covering five sixths of each double page spread with an extended caption in the remaining fifth. A potted history of philosophy, complete with staged photographs of people in historical costumes, is covered in this high-gloss style along with a history of L Ron Hubbard illustrated with drawings of the man himself at various stages in his life. Although there were no great

errors in the history of philosophy (at least none worth pursuing) the material about L. Ron repeated most of the stuff that the founder of Scientology made up about himself - such as being an expert in Eastern cultures and an habitue of Buddhist lamaseries, all before he was 16. (For the true story see “The Bare-Faced Messiah”, by Russell Miller, Sphere 1987).

Finally, at page 141 the reader encounters the heading “A Description of Scientology”, and the next 36 or so pages (yes, I counted) contain an effort to describe Scientology, as much as it is possible to describe the semi-religion/pseudo-philosophy. This part contains probably as much as any sceptic, or anyone else, would want to know about jargon such as “auditing” and “pre-clear”. Then the reader hits part three “The Services of Scientology” which is a series of ads for various courses. In fact, the entire rest of the book, with a 30-page pause for glossy photos of the converted, including actor John Travolta and jazz musician Chick Corea, is not much more than glossy advertising for all the things that Scientology CAN DO FOR YOU. No prices stated.

Apart from a few odds and ends such as a list of rather puzzling Scientology Axioms - “Axiom 16: Complete destruction is accomplished by the postulation of the as-issness of any existence and the parts thereof” - and a doubtful history of the church, everything else is extra.

Anyway, it makes a good doorstep. ■

... Creationists from previous page

and between the cautious, scientific types and the brash enthusiasts. In addition, there were major differences in political outlook. Fundamentalism has become associated with the extreme right but Walter Lammerts, one of the most rigid creation scientists, was politically radical and a fierce opponent of racism.

A major problem is that Numbers gives no clear idea of the set-backs that the creation scientists have received. Merely from reading this book, you might think that they were an unstoppable army. In fact they have received numerous defeats, and now seem to have lost much of their momentum. Certainly, in Australia, with their loss of their political friends in Queensland, they seem to have been deprived of influence. Another problem is that Numbers allocates only two pages to the Australian story, while the tiny British creation movement gets a full chapter. This is very misleading.

Still, this is a useful and interesting book. I gained many new insights into the creation science movement. It does answer my question, “Why extreme fundamentalism?” in several ways. First, creation science makes sense of the Bible. Everything is literal and simple and - according to the creation scientists - scientifically defensible. Second, there is none of the shilly-shallying of the more moderate creationists. Creation science makes it perfectly clear that the Bible (or, at least the fundamentalist reading thereof) is the truth and both evidence and theory must fit around it. These attributes, of course, make creationism more attractive to fundamentalists, but at the cost of narrowing its appeal elsewhere.

If you are looking for relentless debunking, steer clear of “The Creationists”. However, if you want to know the neighbours a little better - even if you disagree with them - then Numbers is worth reading.

REVIEW

Parapsychology Investigated

Michael Morris

A Skeptics Handbook of Parapsychology, Paul Kurtz (ed.), Prometheus Books, Buffalo, NY, 1985.

This volume is a collection of papers on the subject of parapsychology and sets out to “bring together many of the leading sceptics to evaluate the entire history of the field of parapsychology and psychic research and to examine the results.” The contributors include luminaries from both sides of the sceptical fence, such as veteran debunkers James “The Amazing” Randi and Martin Gardner, as well as Douglas Stokes and John Beloff, both long-standing researchers into the area. Not all the thirty articles are new; eleven have been previously published in various books and journals.

The book is divided into six parts. Part 1 contains historical overviews of the subject. There are three general histories by Ray Hyman, Simon Newcomb, who was the first president of the American Society for Psychical Research, and E.J. Dingwall, who spent over 60 years in the field. These three papers don't cover the same ground. Hyman's article gives a good general introduction to the history of parapsychology from the Fox sisters in 1848 up until the more modern ‘ganzfeld’ experiments. His conclusion is that although in the past paranormal phenomena have not been demonstrated, it is too early yet to judge more modern lines of research. “We will have to wait patiently, and perhaps for several generations more, before we are in a position to judge if the parapsychologists have finally achieved their goal of finding and taming a phenomenon”. (Hyman, p 90) The obvious comment here is that if they couldn't demonstrate anything conclusive over the past 130 years, how long does it take? Newcomb and Dingwall, whose accounts were first published in 1909 and 1971 respectively, both write from a more personal perspective.

As well as these general overviews and observations, there are two further articles; one on the search for a demonstration of ESP, the other on psychokinesis. All of these articles, apart from Hyman's, have one thing in common; they document the abject failure of parapsychologists to demonstrate paranormal phenomenon.

Part 2 is titled The Argument from Fraud, and contains ten articles. Two of the articles are confessions of fraud; one of the American spiritualist Margaret Fox Kane, one of the original Fox sisters, the other of the telepathist Douglas Blackburn. There are also articles on fraudulent children, two on the fraudulent Soal-Shackleton and Levy experiments, one on Borley Rectory “the most haunted house in England”, and two on how magicians

can assist psi experiments by James Randi and Martin Gardner.

In part 3, the parapsychologists get a chance to reply. John Beloff argues that although there is a certain amount of trickery involved in many cases, this does not mean that there is trickery involved in every case. Douglas Stokes argues that even though there are many problems with psi research, a suspicion of psi phenomenon is enough to merit continuing research. He outlines most of the major problems in the area, and suggests ways to control them. Susan Blackmore proposes several ways for parapsychologists to proceed in the face of negative results from current paradigms. Finally, there is an annotated bibliography, with short reviews of some of the sceptical literature available on topics such as ESP and PK research, Psychic Healing, Dowsing, Survival Research, etc.

Part 4 is “Parapsychology: Science or Pseudoscience”, and addresses the question of whether or not the results parapsychological experiments can be accepted by mainstream science. Christopher Scott, Paul Kurtz and Anthony Flew outline various aspects of problems with psi research, such as the fact that many experiments cannot be replicated, which rules out falsification, a major touchstone of the scientific method. James Alcock sees parapsychologists as having quasi-religious or dualistic motives with a need to find some existential meaning in life beyond materialism, which may affect their view of the world.

Part 5 is on “Some Methodological and Theoretical Issues”. Persi Diaconis addresses some statistical problems, and Martin Gardner criticises the notion that quantum mechanics can explain psi. In part 6, there are articles on psychic detectives, near death experiences and magical thinking in parapsychology.

I found two main problems with this book. The first was that many of the writers repeated the same material. The Fox sisters and the Soal-Shackleton affair are both outlined several times in the book, as is the problem with replicability. The other was that it included some speculative pieces, such as Alcock's piece on quasi-religious or dualist motives behind the belief in psi. The tone of the book is one of open-minded scepticism with no overly dogmatic pieces, and several parapsychologists give their arguments in favour of psi research, which gives it extra credibility. Overall, this book provides a good sceptical summary of parapsychology and gives the history of the field, as well as problems associated with the research, and criticisms of some of the speculations that parapsychologists indulge in. If you require a good sceptical introduction to the field in reasonable depth, this is it. ■

TRAVELS OF A SKEPTIC (V)

Apparitions, Faith and Cock-a-doodle-doo**Harry Edwards**

It is said that if you scratch a Filipino, beneath you will find a believer. The same can be said of Mexicans, Central and South Americans and others whose faith has been nurtured with uncompromising dogma the roots of which are deeply embedded in the supernatural, myth and a belief in miracles.

As Easter approaches in the Philippines there almost seems to be a concerted effort by the print and electronic media to propagate the feasibility of miracles and to encourage a belief in them.

Some of the alleged miracles are pathetic in their conception - rather like the bald hairdresser touting the virtues of his latest hair restorer -a walking, crying Madonna for example - an expensively garbed wooden carving of the Virgin Mary standing on a solid semi-circular plinth which, when stood on an incline will waddle along like a duck. I recall having a similar toy soldier as a kid. Then there is the highly venerated slice of polished wood, mounted in an ornately gilded frame, from a tree in which is said to be where the BVM was once imprisoned. Nobody seemed to question how someone who died nearly 2000 years ago could reappear as a miniature in a 50 year old tree on the other side of the world - and for what reason? The triangular shape of the grain too, is more representative of the way the Marianists dress their idol rather than the simple home-spun clothes one would expect the wife of a poor Jewish carpenter to wear 2000 years ago. Most remarkable was the testimony of one believer who allegedly saw a full sized normally supine black marble statue of a saint get up and walk! Interviewees all attribute miraculous cures to the foregoing.

While the Church officially declines to confirm or deny inexplicable happenings as miracles, when it comes to displaying artefacts, no matter how mundane, they have no reservations. The believers queue to make their donations, light a candle and hope for a miracle.

In living memory, man has, without the help of prayer

or faith in the supernatural, progressed from simple powered levitation to riding rockets to the moon, he has banished many killer diseases to the pages of medical history, can see what's going on around the world from the comfort of his own living room and watch his children play with sophisticated electronic gadgets undreamed of even a decade ago - yet - despite these wondrous achievements, every Holy Week hundreds flock to Mount Kanlaon, an active volcano in Negros Occidental, where witch-doctors, faith healers and psychics attend every Good Friday to rejuvenate their psychic powers by hurling animal sacrifices down the crater to either appease or to venerate the spirits said to occupy the premises.

Since 1989, in the town of Agoo in Northern Luzon, there have been reports of miracles following the appearance of a cloud formation in the shape of the BVM, a walking weeping Madonna and "a dancing sun."

Perusing the newspapers and magazines I came to the conclusion that a more appropriate name for the town would have been Magoo, after that lovable little cartoon character whose degree of optometric impairment was exceeded only by his uncanny ability to avoid disaster.

Marian apparitions are not a new phenomenon of course, Lourdes, Fatima, Guadalupe and Medjugorje are some of the better known shrines and all appear to have one thing in common - they only appear initially to the young, simple and religiously indoctrinated. Agoo's Judiel Nieva, variously reported as 12 or 16 years of age is no exception, his intellectual status too is consistent with other adolescents who reportedly "see" things or "hear" voices.

It has been noted that the appearance of the visions and their utterances only reflect the extent and level of the visionary's own religious knowledge - like the commercially channelled entities nothing new or profound is ever forthcoming. Further, like Michael Jackson's ever changing physiognomy and pigmentation

the general appearance of the BVM changes to comply with the ethnic and environmental expectations of the percipient. Thus in Medjugorje we have a fair skinned, blue eyed Croatian speaking apparition, while in Guadalupe it is described as an olive skinned, brown eyed Spanish speaking Madonna. Agoo's Mama Mary is fluent in Tagalog. To possess such chameleon like qualities and enjoy fluency in languages non existent 2000 year ago is indeed miraculous and prompts me to ask whether a question put to Agoo's BVM in Croatian would on request solicit an answer in Portuguese. While we await the appearance of a short, black, curly haired Pidgin-English speaking Madonna I am taking bets that no matter where she next allegedly appears she would be unable to answer a simple question put to her in her own dialect - Aramaic.

The appearance of religious apparitions is generally taken by believers to be a sign raising hopes of miracles to follow. Why God cannot speak for himself is unclear although it reflects the level in the pecking order to which the Catholic Church has relegated him.

Despite the expectations, there is a paucity of miracles, those claimed to be such when investigated usually turn out to be hoaxes or without substance. Likewise any pretence of heavenly wisdom dissolves when their utterances are found to be verbatim quotes from the Bible or other religious tracts.

Among the estimated 500,000 pilgrims who made their way to Apparition Hill on March 6, 1993 were a few closed-minded sceptics prepared to ask a question or two. Two ladies standing next to each other were relating what they saw, "...a cloud that was very white looked like the Virgin Mary with her arms outstretched." Asked exactly where this cloud had appeared, the two ladies simultaneously pointed up and in opposite directions! Mr Pineda, a former town mayor insists that he "saw the sun change colours" and "appear like a ghost. At first it was blindingly bright, but after a while I saw different colours, red, orange, blue and yellow. Afterwards it began to look like a ghost with distinctive rays. I also saw yellow on the people". Mrs Pineda however said she saw nothing, and her husband was subsequently seen purchasing a pair of dark glasses and

a white cane!

Others who stared at the sun allegedly saw the BVM, a crucified Christ, angels, the infant Jesus and three bearded men. Perhaps the real miracle is that any of these people can still see at all!

Agoo now takes its place with the other shrines around the world and commercialism has moved in for the kill. Oh that I had been there with my dehydrated homoeopathic Holy Water!

What are we to conclude?

Teenagers go through a frustrating period of life, too old to be a child, too young to be accepted as an adult. In their pre-teens it was, "watch (clever) me daddy", "look at me (fantasise) Mummy" to get the attention and reassurance they need. Now the emerging adult, sometimes in despair, will go to bizarre lengths to retain that attention, how easy it is by appealing to those with a proclivity to uncritically accept the most outrageous claims.

Sceptics will no doubt dismiss all the alleged visitations as hallucinations brought on by overwrought imagination. Given the right environment, and conditions conducive to enhancing expectations, people will see what they want to see.

There is in men a hunger for belief, the will to believe. Religion is the opium of the masses?

Maybe the desire to believe in miracles is symptomatic of a growing despair among those who have ceased to have faith in human beings, if faith can move mountains, then the hunger for faith can conjure up visions.

Finally, while sojourning in the provinces I awoke every morning to the crowing of a cock. The more I listened the more convinced I became that instead of the traditionally accepted cock-a-doodle-do he was crowing "Happy Birthday." Imagination? fantasy? or a breakthrough on a par with dolphin communication? Then there was this gecko... ■

Running Away?

Tell us your New Address so you don't miss out on your *Skeptic!*

THEOLOGY

Cracking the Dogmatic Framework of Thought

Rafe Champion

This article shows how the little-known work of William W Bartley has the potential to vastly increase the effectiveness of skeptical resistance to superstition and prejudice in their many forms and varieties. Creative problem solving and imaginative criticism are strait-jacketed by the dogmatic 'true belief' framework of Western thought. This framework generates on the one hand true believers who insist that they have the truth in their grasp, on the other hand relativists and nihilists who think that truth and falsehood are indistinguishable. The framework can be cracked with the aid of ideas from Karl Popper and William W Bartley to create an intellectual environment where imaginative criticism and the pursuit of knowledge will flourish. In this environment the swamp of unreason and prejudice may be drained, instead of merely being held back in one place while it spreads elsewhere.

Introduction

The last two or three centuries have been widely regarded as the age of Science and Reason. This has been viewed with satisfaction or despair according to taste. The Twentieth Century has certainly been the age of Science *par excellence* but superstitions of many kinds have persisted, while new ones have flourished. These include the mysticism of the 'mind of God' variety springing from popular interpretations of quantum physics, the myth of racial superiority and the smorgasbord of cults and sects on the fringe of organised religion.

This coexistence of superstition with science and reason suggests that there is something wrong with science and reason, as they have been generally understood. Karl Popper explored this possibility and identified some major structural problems in the dominant schools of Western thought. William W Bartley followed Popper to show that we tend to be hostages to a dogmatic framework of thought in which knowledge and rationality depend on 'true belief.' This is essentially a religious framework but it tends to persist even when

people turn away from conscious adherence to religious beliefs. The true belief framework, not surprisingly, generates true believers who do not accept the challenge of creative self criticism that is required to eliminate error and generate fresh problems and insights.

Many problems are illuminated by the discovery of the dogmatic framework of thought.

- * The dogmatic framework can be seen at work in all fanatics.

- * It partly accounts for the suspicion or even hatred of novelty which creates so many problems for innovators and those who explore new worlds of thought. The situation has been reversed in some fields of art and literature where shocks and novelties are pursued for their own sake and genuine innovators in traditional forms find themselves neglected.

- * Popper's ideas have been largely rejected by philosophers because his theory of tentative (conjectural) objective knowledge rejects both the quest for foundations and the concept of 'knowledge as belief' which is generally assumed in philosophical circles.

- * Self-improvement methods from Dale Carnegie to the modern 'consciousness-raising' movement have not helped people as much as they might because their positive elements are undermined by rigid adherence to the bad habits of a lifetime (I know that's silly but that's just me.)

The Dogmatic Structure

Popper identified an authoritarian strand at the heart of Western epistemology in a paper delivered to the Royal Society in 1960 and reprinted as the *Introduction to Conjectures and Refutations*. In this paper he set out to resolve some aspects of the dispute between the British and the Continental schools of philosophy. The British school insisted that the source of all genuine knowledge was observation; in contrast the Continental school promoted intellectual intuition, the perception of clear and distinct ideas, as the basis of true beliefs.

Popper pressed two claims:

1. Both sides were wrong.
2. Each had more in common than they realised.

As to each side being wrong, he argued that observation and reason each have roles to play in the growth of knowledge, but neither can be described as authoritative sources of knowledge.

As to their common features, they share a certain religious tone in their authoritarian attitude to the alleged sources of knowledge. They also share the naively optimistic view that the truth is clearly visible to all those who are willing to see it, meaning those who employ the right method and the right source of knowledge.

Popper showed how overly optimistic theories of knowledge, combined with a strong element of moralism about being right, produce a very nasty downside - the conspiracy theory of ignorance. George Orwell described this as applied by Catholics and Communists: "Each of them tacitly claims that 'the truth' has already been revealed, and that the heretic if he is not simply a fool, is secretly aware of 'the truth' and merely resists it out of selfish motives".

Popper explained that the traditional theories of knowledge are essentially concerned with authoritative sources of belief. Consequently no amount of debate between rival schools does anything to challenge the authoritarian framework assumptions that they all share.

In contrast, he argues that no ideal sources exist and all "sources" are capable of leading us in the wrong direction. He proposed to replace the question of sources by very different questions: "How can we generate better ideas to promote the growth of knowledge?" and "How can we hope to detect and eliminate error?" For new ideas we have to make use of our imagination. For error-elimination we have to use all forms of criticism to the best of our ability (see the four forms of criticism described in my previous article on Popper in *the Skeptic* Vol 13, No 1).

'The question of the sources of our knowledge, like so many authoritarian questions, is a genetic one. It asks for the origin of our knowledge, in the belief that knowledge may legitimate itself by its pedigree...if possible from God...'

His own approach derives from the view that pure and certain sources do not exist, and that questions of origin or of purity should not be confounded with questions of validity, or of truth.

This insight into the authoritarian tradition inspired Bartley to pursue a fundamental critique of the quest for positively justified beliefs, an error which he labelled "justificationism". The target of Bartley's critique is the

dogmatic or 'true belief' theory of rationality which demands positive justification as the criterion of rationality. This demand is summed up in the formula:

'Beliefs must be justified by an appeal to an authority of some kind, generally the source of the belief in question, and this justification makes the belief either rational, or if not rational at least valid for the person who holds it.'

The problem is to specify a suitable authority for certified beliefs. In the Anglo Saxon tradition of Empiricism the authority of sense experience was adopted. In the Continental Rationalist tradition, following Descartes, the locus of authority resides with the intellectual intuition. Both Empiricism and Rationalism evolved in conflict with ancient intellectual and religious authorities and their essentially individualistic ethos was recruited by political movements seeking liberty, equality and fraternity. But they did not challenge the deep-seated theory of justificationism which provided the common framework of thought in which the rival schools waged their battles for intellectual, moral and political authority.

Infinite Regress versus Dogmatism

The true belief framework is fundamentally flawed due to the perennial problem of validation and the dilemma of the infinite regress versus dogmatism. Sextus Empiricus was one of the first people to draw attention to this (circa 200 AD) and more recently David Hume made it topical with his devastating critique of induction. The dilemma arises as follows: If a belief claims validation by a supporting argument, what justifies the support? Where and how does the chain of justifications stop? If one attempts to provide reasons for the supporting argument then an infinite regress can be forced by anyone who presses for more supporting statements which in turn demand justification. It appears that this can only be avoided by a dogmatic or arbitrary decision to stop the regress at some stage and settle on a belief at that point.

This dilemma creates 'conscientious objections' to open-mindedness because a logical chain of argument apparently justifies resistance to counter arguments by suggesting that the only way out of the infinite regress is to place an arbitrary limit on criticism at some point: 'Here I stand'. To the despair of people who believe in reason, their opponents can defeat the principle of open-ended criticism and debate on impeccably logical grounds, simply by pointing to the problem of the infinite regress.

Critical Preference

The solution is to abandon the quest for positive justification and instead to settle for a critical preference for one option rather than others, in the light of critical arguments and evidence offered to that point. A preference may (or may not) be revised in the light of new evidence and arguments. This appears to be a simple, common sense position but it defies the dominant traditions of Western thought which have almost all taught that some authority provides (or ought to provide) grounds for positively justified beliefs.

Bartley published his solution to the logical problem of rationality and the limits of criticism in the early 1960s but the impact of his work was blunted by several factors. He first spelled out his ideas in the context of the evolution of modern Protestant theology and neither the theologians nor the philosophers took much notice. Some regarded Bartley as an eccentric theologian with a tendency to atheism. The problem of rationality is generally posed in non-logical terms and so Bartley's logical approach is likely to be regarded as unimportant or irrelevant. Threats to rationality are often depicted as psychological (pace Freud and Jung) or sociological (Marx) or due to relativity (Einstein) or uncertainty and indeterminism (Heisenberg.) In addition, as a revolutionary innovation Bartley's theory renders redundant most of the academic debate about rationality and belief. This is a threat that many professional philosophers are more than happy to hold at bay.

The Ecology of Rationality: Three Metacontexts

Bartley elaborated his initial insights using what he called an ecological approach to explain the implications of rejecting the dogmatic structure of thought. He examined the context of arguments to explore how dialogues may be polluted by dogmatism and he drew a distinction between positions, contexts and metacontexts. A position indicates a theory or belief about something; for example "I like cheese". Positions are adopted or postulated in contexts ie the context of lunchtime. Different positions are logically and empirically possible in any context and this raises the question of the attitude that prevails regarding the acceptance and change of positions. These attitudes constitute what Bartley calls metacontexts and he has focused on three 'ideal types.'

1. The Western 'true belief' tradition of justificationism.
2. The Eastern tradition of non-attachment.
3. A tradition of non-dogmatic critical preference which he calls 'comprehensive critical rationalism'

or 'pancritical rationalism'.

The justificationist tradition (or metacontext) is expressed in the 'true belief' approach to rationality and knowledge. Valid knowledge consists of true beliefs and rationality consists of holding fast to them. This approach dominates the mainstream of the philosophy of science and it may be a relic of the true belief religions which dominated the evolution of Western thought. The justificationist approach sponsors attachment, entrenchment, and the rigid adherence to positions, exemplified by the people who would not look through Galileo's telescope and the toddler who insists "I hate cheese" without ever having tasted it. In the Western tradition there is also a quest for growth and progress which is inconsistent with entrenchment. Consequently the Western tradition of epistemology contains a deep-seated tension between the 'liberal' tendency to growth and progress, and the 'conservative' tendency to entrenchment and rigidity.

The Eastern way of non-attachment sponsors a lack of commitment and entrenchment but this tradition is not particularly concerned with science or the growth of knowledge. In some of its forms it results in total apathy about life and affairs of the world. In fact the East/West division is probably a misleading one because there is a Western tradition of pacifism and withdrawal from the world, and the East is not devoid of dogmatism and fanaticism. But Bartley was concerned with certain 'ideal types' or models of thought and the distinction is valid even if the geography is suspect.

The third metacontext sponsors the growth of knowledge, aided and abetted by relentless creative and imaginative criticism. This provides a healthy environment for the generation of new ideas and the elimination of error. Some species of thought may not survive easily in this new intellectual econiche while others are likely to flourish and multiply.

Relativism, Dogmatism and Critical Preference

In the light of Bartley's ideas we can discern a number of possible attitudes towards positions, notably those of relativism, dogmatism (called 'fideism' in the scholarly literature) and critical preference (or in Bartley's unfortunately clumsy language, 'pancritical rationalism'.) Relativists tend to be disappointed dogmatists who realise that positive confirmation cannot be achieved. From this correct premise they proceed to the false conclusion that all positions are pretty much the same and none can really claim to be better than any other. There is no such thing as the truth, no way to get nearer to the truth and there is no such thing as a rational

position. Fideists are people who believe that knowledge is based on an act of faith. Consequently they embrace whatever they want to regard as the truth. If they stop to think about it they may accept that there is no logical way to establish a positive justification for their beliefs or any others, so they insist that we make our choice regardless of reason: 'Here I stand!'. Most forms of rationalism up to date have, at rock bottom, shared this attitude with the irrationalists and other fundamentalists because they share the same 'true belief' structure of thought.

According to the stance of critical preference no position can be positively justified but it is quite likely that one, (or some) will turn out to be better than others in the light of critical discussion and tests. This type of rationality holds all its positions and propositions open to criticism and a standard objection to this stance is that it is empty; just holding our positions open to criticism provides no guidance as to what position we should adopt in any particular situation. This criticism misses its mark for two reasons. First, the stance of critical preference is not a position, it is a metacontext and as such it is not directed at solving the kind of problems that are solved by adopting a position on some issue or other. It is concerned with the way that such positions are adopted, criticised, defended and relinquished. Second, Bartley does provide guidance on adopting positions; we may adopt the position that to this moment has stood up to criticism most effectively. Of course this is no help for dogmatists who seek stronger reasons for belief, but that is a problem for them, not for exponents of critical preference..

Conclusion

Bartley's work shows how rationalists of the dogmatic or justificationist variety help to maintain the 'true belief' structure of thought. In this structure our opponents can always win if they force the issue and demand that rationalists produce truly justified beliefs. The dilemma of the infinite regress versus dogmatism will defeat the rationalists every time they take up the challenge. The dogmatic, 'true belief' structure of thought is the seedbed for the weeds of irrationalism and many rationalists (such as inductivists in the philosophy of science) unwittingly nurture and sustain it.

This explains why it has been so hard for rationalists to usher in a genuine 'age of reason' by persuading people to relinquish supposedly 'irrational' authorities, especially those of religion. As long as the quest for foundations of justified belief persists as the unstated and uncriticised framework of thought, rationality will

be constantly threatened by revivals and offshoots of irrationalism in various forms. The point is to drain the swamp of unreason and not just dam it up or push the waters back in one place while they spread somewhere else. It may be that the decisive implement for this task of 'drainage' is the 'critical preference' mode of thought, informed by the insights of Popper and Bartley on the authoritarian tradition of Western epistemology and rationality.

Bartley's Biography and Books.

William Warren Bartley III (1934-1990) was a Harvard man. He read Popper's books as an undergraduate during the 1950s and against the advice of his teachers who warned him of 'that difficult man' he went to study with Popper 'as a kind of pilgrim'. His path-breaking work on rationality and the limits of criticism appeared in a study of the crisis in modern Protestant thought titled *The Retreat to Commitment* (first edition 1962, revised and enlarged Open Court edition, 1984). A more useful summary of this work appears in an article 'Rationality versus the Theory of Rationality' in a collection edited by Mario Bunge, *The Critical Approach to Science and Philosophy*, The Free Press of Glencoe, 1964.

He developed his career on three fronts. As an original scholar he expanded his original insights on dogmatism and criticism in many articles and in a posthumous book titled *Unfathomed Knowledge, Unmeasured Wealth: On Universities and the Wealth of Nations* (Open Court, 1990). As a biographer he wrote a controversial book on Wittgenstein and a best-seller on the life of Werner Erhard, founder of est, Erhard Seminars Training. He began work on major biographies of Popper and Hayek.

In his capacity as an editor he saved a huge manuscript which Popper started in the 1950s to be a companion volume to *The Logic of Scientific Discovery*. This languished in galleys for some decades until Bartley helped it through the press to appear in three volumes during the early 1980s. These are collectively known as *The Postscript to The Logic of Scientific Discovery*. Volume 1 is *Realism and the Aim of Science*, Volume 2 is *The Open Universe: An Argument for Indeterminism* and Volume 3 is *Quantum Theory and the Schism in Physics*. He discovered some lost chapters of Lewis Carroll's important work on symbolic logic and brought out the whole book including background information, annotations, diagrams and letters. He also participated in the revival of evolutionary epistemology, helping Gerard Radnitzky to edit a large collection of papers titled *Evolutionary Epistemology, Theory of Rationality and the Sociology of Knowledge* (Open Court, 1987). ■

PSEUDOSCIENCE

Land Acupuncture

Steve Hynes

Michael Blok, of Byron Bay, is an acupuncturist of what might be called the garden variety. While his more conventional colleagues busy themselves needling nausea and neurosis, Mr Blok prefers poking at the planet.

Michael Blok's patient is terra firma - the quarter acre block and the hobby farm. He describes himself as an acupuncturist who switched from treating bodies to treating the land. Originally from Somerset in England, Mr Blok is the human face behind a company called Subtle Energies Environment Service based at Byron Bay, New South Wales.

"The aim and function of this unique service is to promote and implement a creative sense of being in harmony with your chosen spot on the planet," says the firm's brochure. "Traversing our planet is a grid system of Ley Lines along which the electromagnetic energy flows, much akin and with the same function as the meridian systems in acupuncture on the human body."

What Mr Blok actually does is this. For \$100 per hour, plus expenses, he will come to your property and conduct a survey using a "dowsing wand". With the help of this device, Mr Blok maps the electromagnetic energy flow lines and identifies any areas of "geopathic stress" caused by "negative energy stagnation".

Using this information about the energy flow lines, Mr Blok will work out how to correct the energy flow. He will provide a design concept and itemised planning schedule for an extra \$250 and a land survey report and acupuncture plan for a further \$250.

The first of these outlines the ideal placement of buildings within their environment using the Chinese principles of "feng shui".

The land survey report outlines how to correct the energy flow problems detected by the dowsing wand. Mr Blok does this by burying copper-sheathed steel pins in the ground around the perimeter of the property. According to Mr Blok, these pins clear the negative energy stagnation by ionising the energy flow in the Ley Lines to the Schuman frequency of 7.8Hz, the natural earth vibration.

The benefits derived from this process are manifold. Plants will grow better, people will feel more relaxed

and be freed of such disorders as chronic fatigue syndrome, anxiety, depression, apathy, dream-disturbed sleep, digestion problems, nervous exhaustion and other health problems.

One of Mr Blok's extracurricular interests is the Centrequest Project. He describes it as "a unique survey of the natural occurrence of concentrated electromagnetic energies which abound in and around Byron shire and the Mt Warning area."

"This project is a practically applied use of the science of geomancy, to give credence to the Gaia hypothesis that beneficial electromagnetic energies frequent a global grid system."

Byron Bay, he claims, is one the lucky spots on the earth's surface to enjoy the beneficial coincidence of these forces. Others are Glastonbury in England and, wait for it, Sedona, Arizona.

When Mr Blok isn't shooing away stagnant negative energy, he conducts seminars. One such event to which I was invited was titled "Land Acupuncture and the Tao of Place". It covered such highly scientific subjects as "humans as bio-cosmic resonators/receivers", "spatial energetics and symbolic resonance" and "history of Chinese feng shui". I was tempted, but the \$90 fee was a bit daunting, even considering the entertainment that was surely in store. ■

FORUM

Paranormal Politics: The Final Blasts

Raymond Watson (*Paranormal Politics: A Response*, Vol 13, No 2) has raised the conservative banner to rebut my article (*Politics of the Paranormal*, Vol 13, No 1) about the historical affinity between the purveyors of the paranormal and political conservatism.

Raymond argues that because not all political conservatives are New Agers, and because the Left has a history of faith and dogma lording it over reason, that politics therefore has no necessary link with the paranormal.

Much of Raymond's argument is unobjectionable. Political conservatives do belong in the ranks of sceptics. My article argued that all (or mostly all) cats have four legs (mostly all believers in the paranormal tend to be conservatives) not that all things with four legs are cats (all conservatives are New Age nutters). These are entirely different logical propositions.

The political Left has, however, generally eschewed superstitious belief systems. Raymond highlights the exception to this claim - that of the Diggers and Levellers in the English Revolution - but this counter-example arose because the radicals fought the ideological fight with what intellectual weapons were available at the time, and 350 years ago secular, sceptical ideas were extremely rare.

Raymond's argument that Marxists in our century have been neither sceptical nor progressive (accepting Stalinist lies at face value, supporting the Gulags, etc) is one compounded of ahistoric dogmas of its own. That members of, for example, the Communist Party of Australia in the thirties were 'religious' Stalinists is true - there was blind devotion to 'Mother Russia' with 'Marxism-Leninism' as its catechism, 'Dialectic Materialism' as its mystery, 'the Party' as its church and Stalin as its prophet. But these Party members were also energetic defenders, in Australia, of free speech, civil liberties, Aboriginal and women's rights and living standards. As downsides go, their Stalinism was pretty awful but they were not inhuman fiends, nor were they reality-denying, unquestioning sectarians. They were neither all black nor all white, but a bit of both.

Raymond automatically identifies self-proclaimed

political labels with political practice, which allows him to equate the multi-hued Left with Stalinism and to trace the Original Sin of any form of socialism to what he calls Lenin's totalitarianism. But this is to engage in the comforting recital of the familiar conservative mantra ('revolution makes everybody worse off except the new rulers') - that critically numbing mantra which itself denies the possibility that a concrete historical reality may have contributed to an isolated and genuinely liberating socialist revolution in a backward country (Russia) being defeated by the privileged bureaucracy under Stalin, which arose out of a society of want and scarcity. There is no similar unbroken political line extending from the Jewish 'Christian' heretics of early Palestine to Torquemada of Inquisition Spain.

As sceptics, we are concerned about the role of the paranormal and pseudoscience in the community. To the extent that the values underlying paranormal belief systems encourage fatalist, self-centred, politically passive individuals who are the objects of history instead of the active agents of human destiny, then the struggle against superstition can help to create a world where people think and act as rational beings.

Phil Shannon
Narrabundah ACT

Response

In his original article "Politics and the Paranormal" (Vol 13, No 1), Phil Shannon effectively lumped political conservatives together with Adolph Hitler, had us aligned with superstition and pseudoscience and working to divert people from "collective political action to change a wealthy, corrupt and power-hungry status quo". We were downright reactionary sods.

Suddenly, Mr Shannon has had a change of heart, he has decided "political conservatives do belong in the ranks of sceptics" after all.

I hate to appear ungrateful, but it is not good enough. I don't accept that Shannon's original article was a 'cats and legs' exercise in formal logic and I can only repeat

that it is no small matter for political conservatives to be associated with the perpetrators of the Holocaust, although he does not now allude to that dubious proposition.

Nowhere in his original article, nor in his response, does he establish “the historical affinity between the purveyors of the paranormal and political conservatism”, nor does he show that “most believers in the paranormal tend to be conservatives”.

As I said in my original response (Vol 13, No 2) to his article, he spent half of it finding ‘historical excuses’ for the superstitious beliefs of revolutionaries and he continues to do so in his response.

This does not make these ideas any less anathematic for sceptics, it only explains them away or ‘justifies’ them to those whose *raison d’etre* is the success of social revolution, not scepticism *per se*. Apparently superstition is “historically understandable” in radicals, but when entertained by conservatives, it is part of a plot to defend the power of the “wealthy and corrupt”.

Yes, it is wrong to lump all Marxists, socialists and leftists together with Stalinists and their crimes, but I did not “equate the multi-hued Left with Stalinism”, nor did I link all socialists with Lenin’s (and Stalin’s) totalitarianism. I singled out the Bolshevik regime as an example of totalitarian rule in response to Shannon’s slippery logic that lumbered the political Right with the responsibility for totalitarian terror, ie the Nazis, while letting the Left off the hook.

But it is equally wrong to suggest that those sceptical of the need for revolution necessarily defend oppressive regimes.

It might have been typical conservative understatement, but I did point out that this particular conservative is not averse to political reform. But I do plead guilty to “reciting the familiar conservative mantra” - well, I have said it a few times anyway - that ‘revolution makes everybody worse off except the new rulers’ because history seems to show just that. The Bolshevik revolution is no exception to this and Mr Shannon ends up agreeing, no matter how inadvertently, by admitting that it was “defeated by the privileged bureaucracy under Stalin”, ie ‘made everybody worse off except the new rulers’.

But what revolution has not ended up this way, “evaporating, leaving behind only the slime of a new bureaucracy”, as Franz Kafka put it? If you’re keen on ‘historical rules’, you might almost say it is ‘historically inevitable’. Start with the French revolution beheading its own revolutionary leaders and read on. What Shannon

calls a “critically numbing mantra”, I call a valid historical proposition.

My criticism of the typical Stalinist communist party was made in response to Shannon’s naive defence of Woody Guthrie’s embrace of the US Communist Party. The ‘good deeds’ that some Communist Party of Australia members carried out during the Stalin era needed to be qualified. No matter how genuinely individual CPA members might have felt about the issues, the Party’s struggle for political power obviously necessitated political agitation over social injustices. It is a fact, however, that according to the dictates of the Party, many of those good deed struggles would be dumped overnight if the Comintern suddenly veered away from ‘reformism’ or ‘economism’. The rationale for political activism was preparation for revolution, not ‘good works’.

Phil Shannon’s whole problem is that he equates the struggle against superstition with the struggle for social revolution and presumes that sceptics should do so too. His opposition to the paranormal and pseudoscience is based on his belief that they result in “politically passive individuals who are the objects of history instead of being the agents of human destiny”.

What destiny? Whose destiny? I believe that Shannon’s destiny is shorthand for participation in social revolution. He is free to believe in that destiny, of course, but hopefully sceptics who prefer gradualist political reform to revolution have not forfeited their right to claim sceptical *bona fides*..

Raymond Watson
North Melbourne VIC

The Last Word from the Editor

From my observations, Skeptics come in all shades of political opinion and in all degrees of enthusiasm, which is what we should expect. Australian Skeptics is an apolitical organisation and can only hope to prosper while it remains so.

The Forum pages in *the Skeptic* are designed to give the widest scope to our correspondents to stray into areas that are not strictly covered by our aims and while, as editor, I enjoy a good political bun-fight as well as the next entity, this correspondence is in danger of straying too far from the expressed aims of *the Skeptic* and degenerating into the realms of polemic. Therefore, it is now closed. ■

Popper Misrepresented

Gerald Huber's confusing comments on falsification and verification (Vol 13, No 2) have missed the point of Popper's contribution to scepticism. This should be clearer in the light of Bill Bartley's work. In simple terms, Popper jolted the philosophy of science out of a rut where it stuck for the better part of a century, looking for foundations of belief or, having failed in that, trying to find a way to calculate the probability of theories.

Falsification is merely a part of Popper's scheme and it is a part that is quite out of focus in Huber's account. Contrary to Huber, Popper did not offer falsification as a solution to the problem of induction (how can knowledge advance without any possibility of conclusive proof?). The possibility of falsification is a convenient criterion for a kind of knowledge which can be disciplined by evidence, in contrast with knowledge which cannot be subjected to that discipline. Falsification, as a criterion of demarcation, offers a viable alternative to the criterion of verification (proof positive) which the logical positivists of the Vienna Circle demanded. Since no such proof can be obtained, their criterion did not do the job, as Popper explained in 1934, though for some decades, various positivists continued to confuse students and others by trying to make it work.

For working scientists, the principle of falsification is simply a rule-of-thumb for making the best use of evidence. As Francis Crick wrote "It's getting rid of false ideas which is the most important thing in developing the good ones. You

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.

should not get bogged down with experimental details, you should make some sort of bold assumptions and try them out".

**Rafe Champion
Cremorne NSW**

Popper Questioned

I cannot resist comment on Rafe Champion's essay (Vol 13, No 1). Popper's advocates need to come to grips with what Popper actually says. For example, in his 1974 autobiographical essay, Popper, who is surely a more reliable source than anyone else on what he really believes, irrationally states: "belief of course is never rational: it is rational to suspend belief". This gem is not an isolated lapse on the part of an aging philosopher losing his marbles, but stands as a conclusion in Popper's lifelong philosophising.

Professional criticism of his philosophy of science points to an underlying irrationalism which cannot be ignored. It is disappointing that he is still touted as a reliable philosophical guide to, and defender of, scientific rationality. With friends like this, who needs enemies? If Popper's philosophy entails nonsense such as the above, then it cannot logically provide (to quote Rafe) "the very best arguments ... to support sceptics in the battle against prejudice and superstition".

Rafe states "it must be understood that scientific knowledge is tentative and provisional, it cannot be established as a body of dogma". This is an example of the Fallacy of False Dichotomy. Moreover, just what is tentative, for instance, about the everyday equations of chemistry?

The very idea of something being proven but still merely provisional is an example of the double-talking sabotage of logical expressions that Stove attacks in his "Popper and After, Four Modern Irrationalists".

**John Snowden
Tarragindi QLD**

Alexander

Dear me; your correspondent Robert Anderson (*Letters* Vol 13, No 2) has got himself into a muddle, hasn't he?

He has taken me to task most severely for my alleged criticism of The Alexander Technique in my article "Soul Food" (Vol 12, No 4). He criticises my methodology, he comments about rejecting it *a priori* and says "that is what Mr Schmidt does".

Wrong, Mr Anderson, wrong. That is exactly what Mr Schmidt has not done. There is not one word of criticism written or implied about The Alexander Technique. I suggest you read the article again. It was a light hearted (with one noted exception) look at a collection of advertisements - no more, no less.

Until I read Mr Anderson's letter I had no idea what The Alexander Technique was/is/does. I found the advertisement to be about as effective as one reading "Buy Splunge". It told the reader nothing.

I have, Mr Anderson, no criticism whatever of The Alexander Technique, but I still say it's a lousy advertisement.

**Geoff Schmidt
North Fitzroy VIC**

Davies Defended

I would like to reassure Andrew Parle that, after reading Paul Davies' "The Mind of God", I did not arrive at the conclusion that physicists drink a lot. Rather, I found Andrew's review (Vol 13, No 2) unnecessarily dismissive.

It is true that Davies asks a number of questions that cannot be tackled scientifically. But these questions arise from scientific enquiry and rationality. As Andrew Parle indicates, science and logic cannot, and probably never will, explain everything. But it is not correct to accuse Davies of resorting to 'God of the Gaps' to provide the answers. His contribution in this book is to define the present gaps in scientific knowledge and understanding.

Many scientists and philosophers have speculated on whether a god or God exists. This question cannot be rejected out of hand. For anyone who wishes to seriously consider such matters, Davies has presented the claims and arguments of both philosophy and scientific enquiry and their deficiencies. This is done in a book which is readable, non-technical and comprehensible to the average person.

Not surprisingly, Davies' conclusion is that the existence of God is open and certainly this being does not necessarily provide the answer to all or any of the questions raised.

If Professor Davies assumes the role of spokesman, is it because other scientists (including Andrew Parle) have failed to publish their work in books or other formats suitable for the average person? I for one look forward to more books from Professor Davies.

**Nick Blackaby
Flynn ACT**

Free Will I

Ian Bryce's letter (Vol 13, No 2) was a pretty plausible argument for freewill but I would suggest that freewill and determinism are modern science's answer to good and evil. Without one, the other bears no rational understanding.

I suggest that the whole debate be put in these terms. If one imagines time as a number line where negative represents the past, 0 represents now and the future is represented by numbers positive, all that which is past is (according to Einstein and common sense) unchangeable, all that which future is infinitely possible and now is where we experience the freewill/determinism dilemma. Simple and straightforward, don't you think?

**Cliff Grounds
Launceston TAS**

Free Will II

Ian Bryce (Free Will, Vol 13, No 2) still doesn't get the point. He argues the case that human beings function solely as a consequence of physical processes. At the same time he wants to refute any concept of determinism. What he means by determinism I'm not sure, but can't he see that if physical processes are the only factors involved in our functioning, then our thoughts and actions are "determined" by physics and chemistry?

His analogy of the computer doesn't help his position at all. No matter how complex things get and no matter how many random processes are added in, everything is still dependent on physical and chemical equations. In this scenario there cannot be any free will. It is not

a subjective matter. Things happen based on the interaction of whatever happens to be present, in accordance with physical and chemical laws.

Things just happen.

Ian seems unable or unwilling to come to terms with his own logic. If he is correct, it is nonsensical to write as he does. But then if Ian is correct, he cannot stop himself writing what he does. The words he wrote are simply the outcome of the particular collection of matter in his brain at that time. Can't he see this?

It is pointless, but of course unavoidable, to get amazed or delighted or annoyed by what others think or do, according to, Ian's world view. So if you believe what you say you believe Ian...when you think about it, it's impossible to rationally conduct a discussion in his terms, isn't it?

**Graham Preston
Annerley QLD**

Ian Bryce responds:

I use 'determinism' in the same sense as Paul Davies does in "The Mind of God" ie the assumption that events are entirely determined by other, earlier events. Thus the state of the world at one moment suffices to fix its state at a later moment - and hence all later time.

Determinism (in this sense of 'predictability') clearly does not hold in our universe. Quantum mechanics, thermodynamics, complexity and chaos mean that events are not 'determined' by physical laws. We have materialism without predictability.

Graham seems determined(!) that free will be a non-physical entity which nevertheless is capable of influencing our physical actions. As well as a total lack of evidence, this would apparently be ruled out by the observed laws of physics.

The behaviour of all atoms and particles is evidently completely governed by the laws of physics. Influence from any fifth force or ectoplasmic free will would have been detected as violating these laws. Sure, there is uncertainty arising from the 'chance' phenomena, but any non-physical entity acting through quantum mechanics would (on current understanding) cause violation of the statistical laws, which are observed to hold with great precision.

Thus I would describe free will as the ability of the mind (ie physical brain processes) to generate actions which could not be predicted (even in principle).

So, Graham, I do have a mind which can exercise free will. It must have a mechanism and that mechanism is evidently complex electrochemical brain processes. I don't feel any worse for knowing that. Do you?

Parapsychology

Funk and Wagnall's *New Encyclopedia* (1971, Vol 19 p 420 *et seq*) contains the following under the heading of *Psychical Research*:

(1) "Early investigations in the field included the examination by the British chemist and physicist Sir William Crookes of the phenomena produced at seances held by the Scottish medium Daniel Dunglass Home (1833-1886). Home, a physical medium, held his seances in full light, and the validity of the paranormal phenomena he produced has never been successfully been impugned."

(2) "In the experiments dealing with ESP, Dr (Joseph Banks) Rhine (of the Parapsychology Laboratory of Duke University) and his associates

used primarily a deck of twenty-five cards, somewhat similar to ordinary playing cards but bearing on their faces only five designs.... With selected subjects it was found that the degree of success in correctly naming the sequence of cards was so high that it was not reasonable to expect it to occur on a purely chance basis. In their experiments on psychokinesis, the group used ordinary dice that were thrown from a cup against a wall, or tumbled in mechanical cages. In these tests a relation was found between the subjects' willing of particular faces of the dice to appear upward and the percentage of times they did so. The results obtained in many individual experiments and in the research as a whole could not reasonably be attributed to the fluctuations of chance."

Are any of the readers of the *Skeptic* sufficiently familiar with the work of Crookes and Rhine to pass comment on these claims?

James Marchant
Richmond TAS

Cricket Query

I enjoyed your piece on cricket and the number 87. I hope you send a copy to the ABC cricket commentators. I look forward to the day when the number is mentioned in a score without further comment.

Another cricket matter which I would like information on, if it's available. When Border lost the toss at Old Trafford I thought, "that's unusual, he usually wins". He's now played about 145 tests, I don't know how many as captain. But what is his ratio of wins to losses with the toss. (I'm pretty sure he won most of them with the Windies tour.) If you can interest anyone with a taste for minutiae in pursuing this question I

would be most interested in the answer.

The best cricket statistician I've ever come across is a Pom called Bill Frindell. If asked by Arlott or Johnston (say): "when was the last time a bowler delivered three consecutive no-balls in the second over before lunch?" after the shortest of pauses back would come: "that would have been back in 1954 ..." I don't know what his data retrieval method was, but it was prior to computers, and it was stunning.

(Dr) William Grey
Armidale NSW

I did send copies of the magazine to various commentators with no noticeable diminution in the number of references to 'unlucky' scores during the current Ashes series. **BW**

Divining

While reading Steve Hyne's article on the Mahogany Ship and the horde of diviners who all claim to have found it (Vol 13, No 2), I was dumbstruck by one paragraph "...he got a strong reading from Terang, 60 kilometres from the site."

The reason for my surprise? Terang is the town in which I was born and raised. Could it be that this diviner homes in on the birthplace of *Skeptics*? Move over ships, water and gold - birthplaces could be the next target for dowsers.

Ian Drysdale
President, Victorian Skeptics

Acupuncture

Thank you for the report on acupuncture (Vol 13, No 2). It came in the 'nick of time' for me as I was just about to waste some time and money. Could we please have a report on chiropractic?

(Mrs) B M Camps
Belrose NSW

Music

In the Skeptic (Vol 13, No 1), I expressed my suspicion of the widely-believed myth that the key in which music is played has an effect upon the character of the music (apart from a change in pitch).

Most of the response by David Hagar (Vol 13, No 2), consists of a history of tonality over the last 2000 years and is totally irrelevant to the question as to whether this myth is currently true or not. In the few paragraphs in which David does address himself to the myth, I find his response quite unsatisfying for the reasons outlined below.

David agrees with my suspicion that the myth is not true for music played on fixed-pitch instruments which are tuned to equal temperament (as are all modern keyboard instruments). It is pleasing to be told that in respect to these instruments I am 'quite correct' in my suspicions, but he offers no *evidence* whatever to justify our common scepticism and so his agreement is of little comfort. He even omits to refer to the possibility which I mentioned, that since the black notes on a keyboard are situated at a different distance from the performer than the white notes, and raised physically to a higher level, they are perhaps played at a different 'touch'. If this is so, the number of black notes involved in the key in which the music is played *could* have an effect upon the perceived character of the music.

However, David *supports* the truth of the myth in the case of *orchestral* instruments. But I find the reasons for his beliefs quite unconvincing. I must ignore his bald statements such as that the orchestral musician "...leans on certain pitches", changing the pitches by a "couple of

cents" and "in orchestral performance there is a difference between the enharmonics of C#/Db...". What I am seeking is evidence for such beliefs and not another *restatement* of the myth.

However David does provide two arguments to support his belief in the myth for orchestral instruments. Firstly, he argues that because the strings in an orchestra tune their other strings by Pythagorean (ie beatless) fourths or fifths from their A string, it follows that they do not play in equal temperament. David ignores the fact that string-players very seldom play an open string; so rarely in fact, that when this special effect is sought, a special sign is placed on the score to indicate that an open string is required, usually a small "o" above the note. A string-player normally prefers to, and is *expected* to, finger the note of his fingerboard using a different string, since this allows vibrato to be used. Hence the manner in which open strings are *tuned* is irrelevant to the issue of whether string-players actually *play* in equal temperament or not.

David's second 'argument' is an appeal to my ear. He claims that in certain works which involve both a keyboard instrument and an orchestra, the latter is "miserably out of tune with the orchestra". I have listened to these passages and I fail to detect this misery. Perhaps he is right and I am wrong; perhaps his ear is better than mine; or perhaps in each case the reverse is true.

What I first sought and what I am still seeking is *evidence* for and against the 'myth of the keys'.

**Blair K Alldis
Tinana QLD**

David Hagar responds

I dismiss the *en blanc et noir* assertion as phantasmagorical.

My evidence is easy. Simply

borrow an electronic chromatic tuner, find a few orchestral musicians of merit and have them play long-tone scales in both major/minor modes in a variety of tonalities sans vibrato. Record the results from the vu-meter. Quantitatively, you may visualise what you may not be able to discern aurally.

The 'open' strings are avoided because of their timbre caused by string vibrating wood-to-wood rather than wood-to-flesh. To imply that string players tune Pythagorean and play equal temperament is to abrogate contemporary practice. Let them eat scordatura and have their vibrato too.

The Editor puts his foot down.

Enough is enough. Neither I nor the spell checker have ever heard of scordatura. This correspondence is now closed.

Sexism

I am both astonished and shocked at the gender bias shown in the last paragraph, just before Stop Press, of the article "Pop Psychic Pabulum" by Harry Edwards (Vol 13, No 2). The inference seems to be that because women read *Women's Day*, which is published in the millions, they should not complain that they are discriminated against, treated as second-class citizens, are considered intellectually inferior and are incapable of irrational thought.

There may be some women who rely on this sort of media for information and advice but mostly I believe it is read for light relief, for a giggle, to pass away time such as on a train journey, and for recipes. However the rubbish presented in it and similar publications, paranormal and otherwise, is no more irrational than that taught as 'truth' in churches and cults around the world to both

female and male adherents. And what about the 'factual' male-oriented media, such as the *Sun Herald*, also selling in the millions (same sort of millions) and such high-class publications as *Playboy* and comics which women do not often read. There are myriad publications of similar publications of similar rubbish read by the public at large. Are these examples of the great intellectual superiority of males readers?

Surely the responsibility and blame, if any, lies with the male owners and publishers who rake in the profits, taking advantage of a gullible public, both male and female, most of whom do not have the benefit of a great deal of education, least of all a scientific one.

No, women should most emphatically complain at being discriminated against. How else will it change? I am unaware of any society in the world today where women are not discriminated against to a greater or lesser degree. So, should any other people complain, for example blacks or Asians, who suffer discrimination on an irrational basis, and surely racism is irrational.

As to the inference that women are intellectually inferior and incapable of rational thought, this is a nice comforting thought for males, enabling them to carry on the patriarchal system with a clear conscience, but given the lie by university results and the many serious publications on all subjects, written by women.

I suggest as essential reading for Harry Edwards, and indeed all males, the recently re-published book "The Natural Superiority of Women" by Ashley Montague. (Collier Books, MacMillan Publishing Co, New York, 1952, 1992 Revised Edition).

Sadly, when an erudite male such

as Harry Edwards appears to be still harbouring blind spots such as this, it is clear that although, to the discerning few, both male and female, that GOD is dead, god, the male of the human species, is alive and well, as Denise White points out (*Letters* Vol 13, No 2). No wonder then that the world is in such a mess when it is ruled and administered by aggressive and mostly mediocre males who, in the main, adhere to the irrational precepts as per *Women's Day*, *Playboy* and sundry religions.

Pearl Eisen

Vermont VIC

In response to the above, we received the following.

Re: The letter from Pearl Eisen.

My husband wishes to make the following statement:

"I, Harry Edwards, being occasionally of sound mind, do hereby unreservedly apologise for any remarks in my article "Pop Psychic Pabulum", which may be construed as being offensive or which can be seen to imply a chauvinistic attitude.

This apology is made of my own free will, without coercion or the threat of the withdrawal of my conjugal rights.

The reprehensible comments were uncalled for, thoughtless, boorish, denigratory and totally inconsistent with the thinking man's respect for the female sex, a measure of which can be gauged by the price paid at Southeby's for a pair of Queen Victoria's knickers.

Signed with my own blood, Harry Edwards."

Harry will be posting this by registered mail as soon as I take my foot off his neck.

**(Mrs) Virginia Edwards
Newport NSW**

Big Bang

In her letter (Vol 13, No 1) Pearl Eisen brought up the question of whether evolution could have taken any other path. I would suggest that the *modus operandi* of the evolutionary process would be the movement of objects (sub and pre-atomic, as well as more solid objects) along the line of least resistance. This could have brought about a Big Bang or whatever, in the course of general evolution. So possibly the evolution of the Universe could have taken no other course.

Any point of evolution could be said to have evolved from an earlier point, so logically the process has no need for a beginning or a first cause, nor is there any need for a creator.

In natural selection, an example of the operation of the movement along the line of least resistance, would be that creatures which have the poorest camouflage would have less resistance to predators, leaving those with better camouflage (more resistance against the environment) with a better chance of surviving and reproducing.

Perhaps also, human behaviour, in all its complexity, is ultimately the effect of the movement of objects along the line of least resistance, seeing that, for one thing, we resist (or don't resist) behaviour that is least desirable. The causes of our behaviour - genetic make-up, previous experience, circumstances, reasoning, quirks, etc could be results of the movement of objects along the line of least resistance.

Maybe evolution, and our lives also, could have taken no other path.

**Len Bergin
MacLeod VIC**

Fatima

I subscribe to *the Skeptic* and have recently become interested in an event called the "Miracle of Fatima".

I read in a book that in a place called Fatima in southern Portugal on 13 October, 1917 a crowd of 70,000 people saw the sun spin on its axis and fall towards the ground and then rise up again. Apparently after that the whole landscape where the crowd was bathed in a variety of different coloured light - I think yellow and blue were two of the colours that were mentioned.

I am sceptical about whether this ever did happen but the fact that there was supposedly a crowd of 70,000 people that saw this impressed me. I am curious to know whether anyone at the Skeptics knows much about this or if any sceptical books or articles have been written about it. I have managed to find a few books on it but they are all written by believers. Thanks in advance for your help.

Damian Pope
Ashwood VIC

PS I went to the national convention last week, my first, and thought it was great - both in terms of being entertaining and educating.

Help Wanted

to staff the
Australian Skeptics Stand
at the
Great Australian Science
Show
Powerhouse Museum
Sydney
September 21-26, 1993
10.00am - 5.00pm
Phone 02 417 2071
Fax 02 417 7930

About our Authors

Dr Martin Bridgstock is a philosopher of science at Griffith University and a Life Member of Australian Skeptics. A former Pom, he can now say g'day like a native.

Rafe Champion is a freelance writer and defender of the philosophy of Karl Popper (not that you would guess it).

Kara von Dunnykan lives on the Central Coast of NSW, and spends her days working on a book about her encounters with dylectic entities from Sirius entitled *Chariots of the Dogs*.

Harry Edwards has got himself a Mac computer and is intent on making this magazine his very own. Just look at how many by-lines he gets in this issue.

Steve Hynes is a journalist from Warnambool. He appears to attract crackpots like a dog attracts fleas.

Adam Joseph, member of the Victorian Committee, is named after two biblical characters. We don't know if this makes him holy, but he does have a navel (see p 15).

Mark Lawson is a journalist with a scientific background. He writes on business matters for the *Financial Review* and has an interest in theological matters. This is about as interesting a combination as you are likely to find.

Michael Morris is a scientist whose biographical notes have fallen into a time warp.

Prof Ian Plimer, the Drinking Man's Geologist, is a mild-mannered academic who cannot understand why people are out to get him. We can.

Phil Shannon is a toiler in the vineyard of bureaucracy in Canberra, and if anyone can think of a better use for Canberra than turning it into a vineyard, we would like to know.

Perplexed Tamasine has transcended meditation and now devotes herself to fully experiencing anxiety. She is not related to Doubting Thomas.

Annie Warburton, presenter of the Afternoon programme on ABC Radio in Hobart, is a Skeptic's sceptic and anyone nominating her for a Bent Spoon will be horsewhipped by Harry Edwards. Sir

Jim R Wallaby denies that he is as bad as he is painted, nor as old (see Grey, Dorian).

Raymond Watson is a hospital worker who believes that everything begins with e.

Barry Williams believes that signing a pact with the devil could not cause more stress than getting this magazine out on time.