the Skeptic

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convention issue

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From the President

A couple of weeks ago I had intended to use this column to fire a broadside against the Government, the management of the ABC and anyone else who seemed appropriate, because I had read in a newspaper that the cost cutting exercises planned by the ABC included the dismantling of their Science Unit. I was greatly incensed by this information, confirrning as it did my long held suspicion that those who exercise authority in any system are precisely the wrong people to be trusted with authority. Prior to declaring a Skeptic's jihad against the ABC, I rang Robyn Williams to confirm the story, only to find that the newspaper reporter had got it wrong and that no such dismemberment was planned. As a Skeptic, I should have known better than to take a newspaper report as being necessarily accurate or complete.

This impression was strengthened when, again courtesy of the ABC, I received a letter from an outraged UFOlogist, taking umbrage at some doubts I had raised about extraterrestrial visitors in a book review on *Science Book Shop*. "Are we to assume" the writer thundered, "in the light of Barry Williams' personal opinion, that observations from literally thousands of viewers plus serious testimony in countless books, journals, newspapers and classified reports are merely the ravings of genuinely misguided people, misled by natural phenomena?" My answer to him was that, in the absence of any concrete evidence, it is quite reasonable to doubt the opinions of thousands of people, not excluding the opinions of Barry Williams. The value of evidence depends on its quality, not its quantity.

Every day we are assailed with demands that we ban this, control that and eschew the other thing, all based on the most sketchy of evidence and on incomplete and often inaccurate reports in the popular media. To give a trivial example, there has been an extensive, almost religious, campaign in recent years to cut down the usage of common salt, which has been blamed for many of the ills from which we suffer. Yet, the scientific evidence suggests that, except for those who suffer from hypertension, normal ingestion of salt is unlikely to harm anyone. It seems to me that it pays to be sceptical in more areas of life than merely in the exposure of the pretensions of the paranormalists.

That of course is only my opinion.

- Barry Williams

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All correspondence to:
Australian Skeptics Inc
PO Box E324
St James NSW 2000
Australia
Tel: (02) 417 2071

State Branches

New South Wales:
PO Box E324
St James NSW 2000

NSW, Hunter Region:
c/- Prof Colin Keay
Dept of Physics
Uni of Newcastle NSW 2308

Victoria:
GPO Box 1555P
Melbourne VIC 3001
Tel: (03) 850 2816

ACT:
PO Box 555
Civic Square 2608

Queensland:
GPO Box 2180
Brisbane 4001

South Australia:
PO Box 91
Magill 5072

Western Australia:
25 Headingly Rd
Kalamunda 6076

Tasmania:
c/- Dr J W Marchant
PO Box 43
Richmond 7025

Editors: **Barry Williams**
Harry Edwards

Bent Spoon Winner

The Australian Skeptics Bent Spoon Award is the least sought after honour around. Awarded for the most preposterous proposition perpetrated in the panoply of the paranormal, it represents recognition that some paranormalities are more outrageous or just plain sillier than others.

Past winners have included the Melbourne Metropolitan Board of Works for employing a psychic are chaeologist, the Findhorn Foundation for importing a psychic dentist. racing driver Peter Brock for his promotion of a "polariser", Ann Dankbaar for not finding the Colossus of Rhodes, and Tom Wards for being Australia's least successful clairvoyant.

The award for 1991 was announced at the Skeptics' 7th Annual Convention held in Sydney over the Queen's Birthday long weekend. The judging panel admitted that it had been a tough year to make a decision - there were few candidates worthy of consideration, but a clear winner emerged after much discussion.

The 1991 Bent Spoon Award went to *Woman's Day* magazine for its recent increased coverage and support of the paranormal, in particular astrology.

Woman's Day, normally regarded as the quiet repose of recipes, knitting patterns and stories about the Royals, has recently increased its coverage of paranormal issues. with stories devoted to UFO abductions and the like. It has particularly given a lot of coverage to astrology - apart from two (2) regular astrology columns, it has also had such earthshattering disclosures as gardening by the stars. In all, at least four pages per issue are devoted to astrology and other pseudoscience.

The fact that, simultaneously with this increase in paranormalities, *Woman's Day* has increased its circulation by 300,000 to a total of 1,013,000 is cause for some thought. That increase alone is bigger than the circulations of most magazines in Australia!

The editor of the magazine has been quoted as saying that her readers regard the astrology sections as just a lot of fun and not to be taken seriousIy. This would be more acceptable, if it were true. but somehow we doubt that all of her magazine's readers are so restrained in their beliefs. Certainly the magazine does not carry a disclaimer on its astrology pages to the effect that they should be read only as fun, although that would be a laudable public gesture on the magazine's behalf.

And a final thought for the environmentally minded: Four pages of astrology times 1,013,000 copies per week is a lot of trees.

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Australian Skeptics Annual Convention Report

Tim Mendham

The Skeptics' Seventh Annual Convention was held in Sydney on June 8-9, the Queen's Birthday long weekend.

As was the case with the last time the convention was held in Sydney, in 1988, and much to the delight of our Victorian members, inclement weather meant that the numbers attending were low, but what they lacked in quantity they made up form qualty.

National President Barry Williams opened the proceedings with the announcement of the Bent Spoon award, which this year went to *Woman's Day magazine* (see story p4).

This was followed by a keynote address from the recently retired Attorney General of NSW, John Dowd QC. Mr Dowd spoke from his personal experience of NSW politics and politicians on the role of success and failure in the events which decide our future. He suggested that failure was an experience suffered by everyone, yet it was an experience for which few people had any training.

He gave an example of how perceived success in one endeavour can prove to be a failure in another and can have a direct impact on the political colour of the nation: some years ago, after a post-election countback, a NSW Laborcandidate won his seat which meant that Neville Wran won a leadership challenge by one vote and subsequently became Premier of NSW. This was a great success on one level, yet it meant that he could not then fulfil his ambition to enter federal politics and become Prime Minister and thus, on another level it could be considered as a failure. He suggested that failures can be an important yardstick to many people, who prefer to see themselves as nature's losers, thus giving them something to cry about. Success, for them, would not be as interesting or as productive. He also noted that there were people who took advantage of people's incapacity to come to terms with failure and commended the Skeptics for their efforts in exposing the more insidious of these fantasy mongers.

Scepticism Around the World

This was followed with a talk by Skeptics' founding President Mark Plummer, who described his experiences as executive director of the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), through which position he had the chance to visit many Skeptics groups worldwide.

Nonsense from Common Sense

After a break, Alan Olding, Senior Lecturer in philosophy at Macquarie University, discussed *How Nonsense Comes Out of Common Sense.* In an erudite paper, he described some philosophical fallacies which misinterpreted the social and ethical nature of the world in which we live. He specifically discounted notions of relativism, whereby all things are equally valid and acceptable, stating that in some areas a"yes" or"no" decision is not only posslble but warranted.

What if it were True?

Barry Williams rounded out the first day's talks with a humorous example of relativism carried to extreme, an *addendum ad absurdum* which extrapolated scenarios based on the assumption that paranormal claims are true.

He elaborates on one aspect of this theme in this issue, but needless to say that his description of such a world, in which we know the results of the lottery before it is even drawn, where there is no point in telling jokes because the listeners know the punchlines, where ozone holes can be removed and wars averted through psychokinesis and where the world is transformed by extraterrestrial technology, was both funny and unsupported by any evidence.

The serious point of Barry's talk was that if all of the claims made by paranormalists were true, it would make for a remarkably different world, yet the uses to which the claimants of these 'powers' put them are trivial in the extreme.

Sunday, June 9 began with a session on the uses and abuses of science.

Gambling

Brian Robson, a computer programmer, discussed *Gambling - Government Fibs and Media Myths*, with an emphasis on staterun gambling enterprises such as Lotto and Lotteries. He expounded on the real odds involved in such schemes, of which most players were unaware and more importantly, were not informed. Government promotion, of course, concentrated on winners and conveniently ignored the losers, substituting instead innuendoes about "lucky agents" and fascinating but meaningless coincidences. As the convention was held in a Sydney Rugby Leagues club, replete with poker machines, Mr Robson's effort was considered to be courageous, at the very least.

Chaos Theory

Next was National Committee member and aerospace engineer, Ian Bryce, who described the basis of chaos theory and its implications for predictability. He demonstrated chaos calculations on computer, complete with chaotic music, and suggested that whereas chaos theory is an entirely legitimate branch of science, it shows the same hallmarks as quantum mechanics in being misused by the paranormal fraternity in either justifying paranormal claims or negating the ability of sceptics to refute such claims.

Hypnosis

Dr Kevin McConkey, Associate Professor of Psychology at Macquarie University, gave an excellent paper on laboratory studies of hypnosis, which we hope to publish in the next issue. He covered a wide range of fields, but especially the use of hypnosis in the treatment of medical conditions and in forensic use, casting doubts on claims as to its efficacy as proposed by a number of people, both paranormalist and otherwise.

Convention speakers Richard Carleton and Peter MacInnes flanking an Abdominal Snowman, or could it be our revered President, Barry Williams?

Strange Creatures

Dr Colin Groves, Reader in Anthropology at the Australian National University, then closed this section of the convention with an illustrated talk on supposedly scientific evidence for the Yeti, or Abominable Snowman, of the Himalayas. Confining himself to scalp and footprint evidence, he proposed that all of such evidence was faulty and/or had been debunked. He explained how some of the better known 'footprints'had been doctored, showing before and after photographs. He also pointed out that so-called 'scalps' had been shown, after scientific analysis, to be hides from the shoulders of Himalayan ungulates and not from the heads of primates. One notable and apparently incontrovertible piece of photographic evidence, a supposed long shot of a Yeti, had even been debunked by its original proponent, when he later visited the site and found the image to be a rock formation.

After a lunch break, Dr Groves screened a copy of the famous Patterson *"Bigfoot"* film, excerpts from which have frequently been shown in Australian TV programmes which seek to give credibility to the Bigfoot myth. He analysed creature movement and filming circumstances

and showed how careful selection of segments of the film made a far better case for a mysterious creature than the complete film ever could. This is thought to have been the first time the complete film has been shown in Australia.

Education

The final session of the convention covered the role of the media and education in the paranormal and pseudoscientific arena.

First speaker was Peter MacInnes, past educator with the NSW Powerhouse Museum, broadcaster and currently a self-confessed "feral teacher" who is preparing a series of texts for high school science students.

He related his experiences with the education establishment, his attempts to teach a critical attitude to students, and some of the stranger correspondence he has received on a range of esoteric pseudoscientific subjects.

Media Experiences

He was followed by distinguished television journalist Richard Carleton, *"60 Minutes"* presenter and long time Skeptic, who related some past experiences with the media. He iterated the view that even the most technologically literate people - he instanced TV sound technicians - can hold some surprisingly superstitious beliefs.

He discussed a *"60 Minutes"* project he had just completed, concerning an Australian faith healer who has been quite successful in eastern Europe. He also spoke of his distress in finding that newly opened book shops he had seen in Hungary, devoted up to twenty percent of their limited shelf space to works on paranormal and occult topics.

Further Media Experiences

Final speaker for the convention was Tim Mendham, National Committee member and journalist, who in turn related his experiences, on either side of the Skeptical fence, both as an interviewer and interviewee. He endorsed Mr Carleton's view of the surprising number of believers in superstition among members of the journalistic profession, which is generally considered to be one which encourages cynicism in its practitioners. On the contrary, Tim referred to many cases of journalists who are not as sceptical of the paranormal as their reputation might lead one to believe.

A lively question time followed, with Mr Carleton suggesting that the Carlos hoax perpetrated by himself and James Randi was obviously a huge success because it rated so well. It also had the advantage of making some media more cautious of giving free publicity to dubious claims. The ethical nature of the former view was questioned by a number of people, who felt that the media should take a more elevated approach to paranormal and pseudoscientific claims.

Barry Williams closed the convention by thanking all the speakers. While the numbers were lower than anticipated, it was considered to be a successful and thought provoking event.

The next convention will be held again on the Queen's Birthday weekend, 1992, probably in Canberra.

In Brief

In recent weeks, Tasmanians have been astonished by stories of ghostly apparitions appearing to staff at the Royal Derwent Hospital's wing for the mentally diabled. Much local, interstate and international media time has been expended on seeking expert explanations of this strange phenomenon. However, all may not be as mysterious as the stories suggest. Dr James Marchant, President of our Tasmanian branch, has sent us a clipping from the Hobart *Mercury*, in which journalist Mac Moult reports the results of investigations by occupational health and safety experts.

Reported cool draughts, which were alleged to have caused workers "hair to stand on end" have been attributed to the change of the ward from open plan to partitioned rooms, thereby upsetting air conditioning flows, giving rise to cold and warm breezes in different parts of the ward. Flashing lights have been shown to be reflections from car headlights on a nearby highway and mysterious "chimes" are believed to come from music lovers living nearby.

Mr Moult's story, standing as an island of rationality in the midst of an ocean of speculative media hype about this non-event, is to be commended as a total reversal of the cynic's view of the journalistic code, "never let the facts stand in the way of a good story".

Regardless, those who expect this rational explanation to put paid to sensational stories about Tasmanian ghosts are extremely trusting souls. ■

HEALTH

Immunisation Under Threat

Richard Gordon

In April 1991 the NSW Minister for Health, in conjunction with the Minister for School Education, announced that all children attending state schools would be required to present a Certificate of Immunisation. While it was not compulsory for children to be immunised, those who were not would not be permitted to attend school while there was the threat of an epidemic in that school. It seems extraordinary that, at a time when medical science has made great advances in the control of previously life-threatening diseases through the medium of immunisation, groups exist that seek to denigrate this important medical tool.

The methods used for the prevention of disease are:

(i) Separate the host from the infecting organism - **ISOLATION**

(ii) Attack the infecting organism - **ANTIMICROBIALS**

(iii) increase host resistance - **IMMUNISATION**

A Brief History of Immunisation:

Edward Jenner (1749-1823) reported in 1798 that smallpox could be prevented by inoculating humans with fluid from the sores of vaccinia, a disease of cattle.

Louis Pasteur (1822 - 1895) discovered that culturing disease, producing organisms at a certain temperature (attenuation), then injecting them into an animal, produced immunity to the disease. This was first demonstrated with chicken cholera.

What is Immunisation?

Immunisation is a process whereby a person gains immunity to a disease, with the aim of preventing, or at least modifying the effects of the disease.

How is it done?

There are two methods, active and passive immunisation.

Active Immunisation means that the person's own immune system is stimulated to make antibodies to a disease by injection or ingestion of a part or whole of the infecting organism, or of the toxin which it proinfecting organism, or of the toxin which it produces.

Examples are:

(i) **Tetanus toxoid,** where a part of the toxin produced by the Tetanus bacterium is injected to produce immunity to that toxin. (Also diphtheria)

(ii) **Measles vaccine,** where a strain of measles virus is cultured in a process called attenuation so that the virus loses its ability to cause disease, while remaining vital and retaining its structure so that injection of the "attenuated"virus will cause production of anti-bodies sufficient to prevent the development of measles in a person exposed to the "wild" measles virus.

(iii) **Polio vaccine,** where an attenuated strain of polio virus is taken by mouth to prevent polio.

(iv) **Innuenza vaccine,** where influenza viruses are cultured, then killed before injection, to prevent influenza.

(v) *Hepatitis B vaccine*, where a piece of hepatitis B virus DNA is harvested from yeast organisms by genetic engineering and injected to prevent hepatitis **B**.

Passive Immunisation occurs when antibodies to a disease are derived from the blood of a previously infected person or animal and injected to confer immunity to a disease or toxin. The most common are to prevent hepatitis A in travellers or those in contact with infected persons. A similar technique is used to prevent the effects of venomous bites (anti-venenes).

The benefits of immunisation have been immense. Many epidemic illnesses have seen a drastic reduction in the number of victims and one disease, smallpox, has been totally eliminated. Diseases such as polio, diphtheria etc, are rarely seen (no reports of polio in NSW in 1988, 89, 90 and only one case of diphtheria in the same period). Diseases such as measles, mumps and rubella are seen in greatly reduced numbers. I have not seen a case of measles for three years, whereas in the early 70s I saw more than 50 cases per year.

Prevention of these diseases is not only concerned with

the prevention of the acute infections but also with the complications that arise from them: paralysis with polio, meningitis and encephalitis; deafness, blindness and intellectual impairment with measles; sterility with mumps; paralysis with diphtheria. Not to mention a significant death rate with all of them.

Immunisation is attended by some risk, but its dangers are minuscule by comparison with its benefits. However, a recent epidemic of measles has stimulated several reports in the media and the re-emergence of a group called the "Immunisation Investigation Group", comprising a number of naturopaths, acupuncturists, homeopaths and others. This group points to dangers of immunisation which are quite real. They are:

(i) The risk of actual infection from an attenuated virus and subsequent complications similar to those of the 'wild' virus eg measles.

(ii) Severe reaction to the injection itself eg pentussis (whooping cough)

(iii) The inability of a mother to pass on immunity to her newly born baby because immunity from immunisation is not as high, nor as long lasting, as that from having the actual disease.

(iv) The fact that current immunisation techniques do not confer immunity on 100% of those immunised.

These criticisms of immunisation remind me of the person who does not look left and right before crossing the road for fear of straining his neck; the person who won't wear his seat belt for fear of being trapped in the car and the couple who have sexual intercourse, without any contraception because condoms are not 100% safe.

The facts are:

(i) The risks of infection and complications from injection of an attenuated virus are less than 0.1% of those from the disease itself.

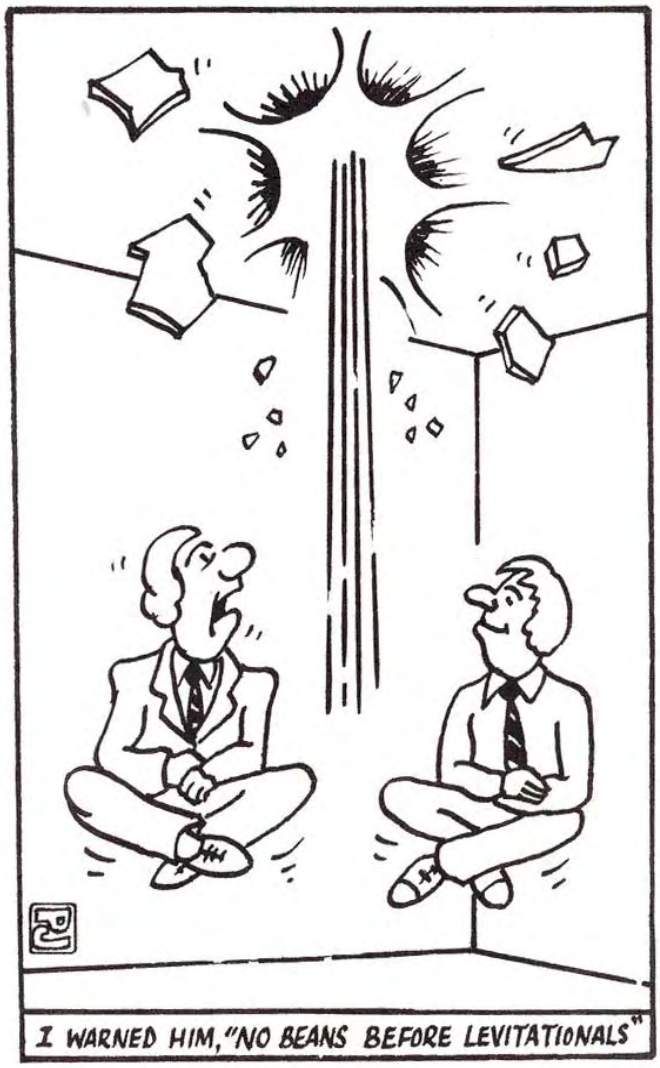
(ii) Reported severe reactions to whooping cough vaccine have been found to be due to other causes.

(iii) Mothers will not need to pass on immunity to their new born, if these diseases have been eliminated by immunisation or if immunisation schedules are modified appropriately.

(iv) It is not necessary to produce 100% immunity in a population to greatly reduce, or even eliminate the incidence of a disease.

I first came across the Immunisation Investigation Group when I read an article in a magazine called "Australian Wellbeing" in 1988. A homeopath advocated the use of 'alternative' methods of immunisation. As with all homeopathic methods, these were untested and unproven remedies, without even a theoretical basis.

This New Age approach to well tried and beneficial medical treatments poses a threat, not only to those foolish enough to use them and to their children, but to the community at large. Immunisation has been extremely successful in reducing the frequency and the severity of many serious diseases. It pays us to remember that smallpox was made an extinct disease, not by faith nor by mysterious energies, but by the application of medical science. We ignore this at our peril.



CREATIONISM

Deception Exposed

Ken Smith

It was Orientation Week at the University of Queensland, in February 1985. Following my usual custom I wandered around looking at stalls set up by various student groups. A student carrying a pile of booklets offered me one - it was *The Quote Book*, subtitled *"112 quotable quotes on creation/evolution by leading scientific authorities"*. A sticker on the back stated that it was presented by the Creation Science Foundation and the Association of Christian Tertiary Students. While talking to him I flipped through it, noting the headings, until I came to the section dealing with radioactive dating. Since I had given some lectures on the principles of this I read each of the "quotations" in this part. When I got to number 97 I said to him "Hey! That's a misquotation!"

"What do you mean?" he replied .

"That cannot possibly be a direct quotation from the journal *Radiocarbon* " I said. "How do you know?" he responded. "The format of articles in Radiocarbon is quite distinctive. The dates are given on a separate line at the top of the article, not included in the middle as in that alleged quotation". He looked a bit stunned at meeting someone who was familiar with the scientific literature.

"Go across to the Geology library and see for yourself,' I suggested to him. Whether he did or not I don't know, but the episode raised doubts in my mind about the whole book.

When I took the book home I offered it to my wife, to get the reactions of a non-scientist. She read the first few pages. When she came to "quotation" number 20 she said "I didn't know Malcolm Muggeridge was a scientist". I had missed that one. Over the next couple of years or so, in my spare time, I read the original sources for about 80 "quotations". This revealed that most of them misrepresented the original to a lesser or greater degree. But another interesting piece of evidence appeared.

One night I was browsing through a creationist book when I came across a quotation which seemed familiar. Sure enough, when I dug out *The Quote Book* there it was, in exactly the same words, errors and all. "Aha!", as Martin Gardner would say. Was it possible that I had misjudged the Creation Science Foundation? Could it be that their creationist colleagues in USA were responsible for the errors, which had simply been copied by our Sunnybank friends? It didn't take much checking after this to convince me that most of the errors could be found, somewhere or other, in the vast amount of creationist literature which comes our way from USA.

This was confirmed by none other than the Managing Director of the Creation Science Foundation, Dr Carl Wieland. In a letter to *The Australian Baptist*, published on March 8, 1989, he wrote about *The Quote Book:*

'It was hastily compiled under pressure and mainly from secondary sources, which turned out to include some lecturer's paraphrases originally taken from tape recordings, for example.'

This is a startling admission of plagiarism! There was absolutely no indication anywhere in *The Quote Book* of any sources from which the information had been compiled, other than the citations for each of the "quotations". Since Dr Andrew Snelling , B.Sc.(Hons), Ph.D., was one of those who was responsible for the book I had assumed that the normal canons of scientific work had been applied. Any scientist who indulges in plagiarism, particularly on the scale of The Quote Book, will find that his career comes to an abrupt and dishonourable end.

Let me give an example of a misquotation for which the source can be identified with a degree of certainty. Henry M. Morris has written a book entitled *King of Creation*, published in 1980. It contains a vast number of "quotations" from various scientists. On page 123 Morris quotes the Nobel prizewinner Ilya Prigogine as writing :

'But let us have no illusions. If today we look into the situations where the analogy with the life sciences is the

most striking even if we discovered within biological systems some operations distant from the state of equilibrium our research would still leave us quite unable to grasp the extreme complexity of the simplest of organisms.'

This is correctly quoted from volume 23, page 169, of The Impact of Science on Society. But Morris had a few pages earlier (page 116) quoted Prigogine as writing:
'But let us have no illusions our research would still leave us quite unable to grasp the extreme complexity of the simplest of organisms.'
"Quotation" number 25 in *The Quote Book* is claimed to be from Prigogine. Which of the above "quotations" is found here? You guessed it! The erroneous version! If you plough through Morris you will find other "quotations" given more than once. Comparing the index in Morris with the authors of the claimed "quotations" in *The Quote Book* reveals that at least 14 of the "quotations" which appeared in *The Quote Book* can also be found in Morris. It is extremely likely that the Prigogine "quotation" was taken from somewhere in the voluminous writings by Morris.

So much for history. The fifth paragraph of Wieland's letterpublished in The Australian Baptist gave us something to look forward to. It read:

'This Quote Book is in the process of being painstakingly edited for re-issue in a "bulletproof' version, including even more quotes which enhance its indictment of the presumed "certainty" of evolution.'

This "bulletproof" version has now appeared. It goes under the title of *The Revised Quote Book* (abbreviated *TRQB* subsequently), and was published in 1990. The subtitle has been changed to read *"Quotable quotes by leading authorities"*, omitting the word "scientific". There are now 130 "quotations", including two from the *Bible* - King James version, of course, not one of the modern translations. It is published by the Creation Science Foundation Ltd (inc. in Queensland), and the editor in none other than our good friend Dr Andrew Snelling Ph.D. (Geology) (his B.Sc. (Hons) is omitted this time). Various people are thanked for assistance, including the Managing Director of the Creation Science Foundation, Dr Carl Wieland .

If you have seen the original version, don't bother getting a copy of the revised version apart from the correction of the actual wording of the "quotations", the addition of some, and the deletion of a number which were so hopelessly wrong that printing the correct wording would have destroyed the creationist point of view, it is much the same. Inside the front cover Snelling writes:

'As CSF's senior research scientist, I have spent much time over the past five years, with the help of others, checking each reference, insisting on the source in full being held on file before any quote had a chance of passing.... Great care has been taken to avoid charges of quoting out of context (though howls of protest will doubtless still issue forth). Often a much longer portion of an article than is necessary, has been included, so as to give sufficient to do justice to the context, and to be fair to the author.'

Life is far too short to keep checking all the claims creationists make, and listing their errors. However a brief look at the section on dating methods is sufficient to show that the revised version is far from "bulletproof", and that, contrary to claims, quotation out of context is still very much in evidence.

I must confess to a feeling of considerable amusement when I looked at the very first "quotation". This claims to be from a letter by Charles Darwin, written in 1858. The exact date is not given, and since the standard edition of Darwin's letters fills six volumes, I hesitated to engage in an extensive search. However the "quotation" is one of those using "secondary sources", as Carl Wieland had mentioned. I tried to get hold of the source, given as *The Washington Times*. The University of Queensland library does not take this newspaper. I then tried an inter-library loan. Rather to my surprise, it could not be located in Australia. It wasn't worth the cost and effort of getting a copy from USA, so I left that one aside. Towards the end of 1987 I attended a lecture by Dr Philip Almond, Head of the Department of Studies in Religion at the University of Queensland. He spoke about various cults, and mentioned, almost as an aside, that *The Washington Times* was published by the Holy Spirit Association for the Unification of World Christianity. This Association is better known as the Unification Church, and even better known as the Moonies. It seems most unusual for a fundamentalist Christian organisation to be quoting, apparently with approval, from the newspaper of such an eccentric cult.

The Washington Times is not the only instance of a source of dubious quality. Two quotations, number 65 and the unnumbered one on the back cover, are attributed to Dr. Lyall Watson, who may be known to some Skeptics, but

apparently not to members of the Creation Science Foundation, as the author of *Supernature*. It is rather strange to find fundamentalist Christians claiming support for their case by appealing to someone who accepts astrology, pyramid power and palmistry, and whose works are classified by libraries under"occult sciences".

The perils of using secondary sources had, I thought, been fully recognised by Dr Andrew Snelling, B.Sc. (Hons), Ph.D. (Geology). Apparently this is not so - "quotation" number 14 is also cited from *The Washington Times*.. In 1982 historian Dr Barry Gale published a book entitled *Evolution Without Evidence*. It was published by the University of New Mexico Press, and subtitled *"Charles Darwin and The Origin of Species"*. One paragraph on page 8 reads:

'The problem confronting Darwin at the end of 1838 was not so much the fact that if he communicated his ideas he would be severely criticised, but rather the fact that he did not have very much to communicate. His theory had, in essence, preceded his knowledge - that is, he had hit upon a novel and evocative theory of evolution with limited knowledge at hand to satisfy either himself or others that the theory was true. He could neither accept it himself nor prove it to others. He simply did not know enough concerning the several natural history fields upon which his theory would have to be based.'

Most of Gale's book deals with the period from 1838 to 1859, when Darwin's *Origin of Species* was published. During this time Darwin, aided by various other workers, was able to put together a formidable amount of evidence for his theory. In both versions of *The Quote Book* the source of the "quotation" is given as *The Washington Times.*

In both versions, presumably following the initial misquotation by the Moonies, the first sentence of this paragraph is omitted. This gives an entirely different appearance to things. Without that vital sentence, it would be assumed that Gale was referring to Darwin's 1859 publication. With the sentence included the reference is obvious. Contrary to the claims of Dr Andrew Snelling , B.Sc. (Hons), Ph.D., a most important part of the context of "quotation" number 14 has been omitted. Also the "quotation" is not fair to the author (Gale), again contrary to the claims made for *TRQB.*

But let us turn from history to science. The section attacking the validity of radioactive dating methods is the most extensively revised one in the book. In the original version there were 8 "quotations" in this section. Two of these are missing from the revised version, including the grossly distorted one which first drew my ire. Another one, number 105 in the revised version, has been corrected, and is almost unrecognisable as the correct form of the original number 98. To these 6 have been added 7 new "quotations". I had intended to look these up, and check on the context. However when I started to make a list of references I realised that there would be little point in this. One of the references is to a 1981 anthropological journal, one to a 1976 paper,and the rest to various publications dating from 1962 to 1972. If, during his five years work checking "quotations" and looking for new ones, Snelling could only come up with this meagre, and rather antiquated at that, collection of additional articles critical of radioactive dating, the most recent of which was by an anthropologist and which was, in addition, reprinted in the *Creation Research Society Quarterly*, the rest of us can rest content with the work of mainstream geologists. So let us look at some of those repeated from the original version.

The first "quotation" about radioactive dating is from Frederick B. Jueneman, editor of the journal *Industrial Research and Development.* Page 21 of the issue for June 1982 is headed *"Scientific Speculation by Jueneman"*, and carries an article with the title *"Secular Catastrophism"*. The last four paragraphs from this article read:

'The age of our globe is presently thought to be some 4.5 billion years, based on radiodecay rates of uranium and thorium. Such "confirmation" may be short-lived, as nature is not to be discovered quite so easily. There has been in recent years the horrible realisation that radiodecay rates are not as constant as previously thought, nor are they immune to environmental influences. 'And this could mean that the atomic clocks are reset during some global disaster, and events which brought the Mesozoic to a close may not be 65 billion years ago but, rather, within the age and memory of man. 'The mechanism for resetting such nuclear clocks is not clear, but knowledge has never really stood in our way in the quest for ignorance. Meanwhile, such prehistoric "creatures" as Nessie from Loch Ness or Champ from Lake Champlain , as well as others, may not be avatars at all, but survivors from the last catastrophe. 'Even as we.'

The first two of these paragraphs can be found in exactly

the same form on page 16 of *Science, Scripture and the Young Earth*, by Henry M. Morris, published in 1983. They also appear as "quotation" number 96 in *TRQB* - another example of plagiarism? One wonders why the third paragraph was omitted. Could it be that our creationist friends don't want to let knowledge stand in the way of their quest for ignorance? Or could it be that including a reference to Nessie may have raised the eyebrows of their supporters? If we put together the admitted lack of any known mechanism, Jueneman's words *"...this could mean..."*, (emphasis added) and the heading of the article it is clear that Jueneman is indulging in unbridled speculation. Now there is nothing wrong with speculation all scientists engage in it from time to time. But for Snelling to quote such unfounded speculations as though they were the considered thoughts of a "leading authority" is misleading, to say the least.

In 1977 William D. Stansfield published a book entitled *The Science of Evolution*. One paragraph on page 84 reads:

'It is obvious that radiometric techniques may not be the absolute dating methods that they are claimed to be. Age estimates on a given geological stratum by different radiometric methods are often quite different (sometimes by hundreds of millions of years). There is no absolutely reliable long-term radiological "clock." The uncertainties inherent in radiometric dating are disturbing to geologists and evolutionists, but their overall interpretation supports the concept of a long history of geological evolution. The flaws in radiometric dating methods are considered by creationists to be sufficient justification for denying their use as evidence against the young earth theory.'

Part of this paragraph may be found in *TRQB* under "quotation" number 97. There, three dots are placed after the word "evolutionists" (in the fourth sentence), and the remainder of the paragraph is omitted. The omission of Stansfield's criticism of creationists is understandable in a creationist work, even though Snelling claims not to have omitted any important parts of the context. But despite these claims, the deliberate omission of the words "overall interpretation" clearly shows that this "quotation" has been extracted from its context, presumably with some care, so as to provide a misleading impression.

Creationists are fond of finding fault with the carbon14 dating method. Many of their criticisms indicate unfamiliarity with the technical details of the method. A good example of this is found in "quotation" number 106 in *TRQB*.. An article by Alan Riggs in volume 224 of *Science*, pages 58-61, was entitled *"Major Carbon14 Deficiency in Modern Snail Shells from Southern Nevada Springs"*. The abstract of the article read:

'Carbon-14 contents as low as 3.3 +/- 0.2 percent modern (apparent age, 27,000 years) measured from the shells of snails Melanoides tuberculatus living in artesian springs in southern Nevada are attributed to fixation of dissolved HCO3- with which the shells are in carbon isotope equilibrium. Recognition of the existence of such extreme deficiencies is necessary so that erroneous ages are not attributed to freshwater biogenic carbonates.'

This abstract is printed correctly, but has added to it *'Ed. note: In other words, these living snails 'died' 27,000 years ago.]'*

The editorial note (by you know who) is going to mislead many unsuspecting Christians who read it. The whole point of Riggs' article is that the pool from which the snails were taken was supplied, in part, by water containing dissolved limestone (to simplify the technical terms), which, of course, contains no measurable amounts of carbon-14, since it is millions of years old. The last sentence in the abstract makes this quite clear - check the environment! Here the relevant part of the context has been included, but a completely misleading statement has been made. Deficiency of carbon-14 in the snails' water supply cannot be interpreted as providing data about their age!

A subsequent section in *TRQB* is entitled *"Dating is always circular"*. Here again, not surprisingly, we find things taken out of context. *The Encyclopaedia Britannica* is a useful first reference for almost any subject, provided you follow up the articles by going to more technical works for details. The article on *"Geology"* in the 1929 edition is in volume 10, and was written by R.H. Rastall . One paragraph on page 168 reads:

'It cannot be denied that from a strictly philosophical standpoint, geologists are here arguing in a circle. The succession of organisms has been determined bya study of their remains embedded in the rocks, and the relative ages of the rocks are determined by the remains of organisms they contain. Nevertheless the arguments are perfectly conclusive. This apparent paradox will disappear in the light of a little further consideration,

when the necessary limitations have been introduced. The true solution of the problem lies in the combination of the two laws above stated, taking into account the actual spatial distribution of the fossil remains, which is not haphazard, but controlled by definite laws. It is possible to a very large extent to determine the order of superposition and succession of the strata without any reference to their fossils. When the fossils in their turn are correlated with this succession they are found to occur in a certain definite order, and no other. Consequently, when the purely physical evidence of superposition cannot be applied, as for example to the strata of two widely separated regions, it is safe to take the fossils as a guide; this follows from the fact that when both kinds of evidence are available there is never any contradiction between them; consequently, in the limited number of cases where only one line of evidence is available, it alone may be taken as proof.'

The first two sentences of this are quoted on page 135 of *The Genesis Flood* by John C. Whitcomb and Henry M. Morris (1961), the book which started off the modern creationist movement. They, however, take it from the 1956 edition of the *Encyclopaedia*. These same two sentences are the only ones in "quotation" number 113 in *TRQB*. Now it is not unreasonable for a 1961 book to refer to a 1956 edition of an encyclopacdia , but such a reference in 1984 (the date of the original *Quote Book*), cannot be justified so easily, and even less in 1990 - why not refer to the most recent edition? The "quotation" is not 34 years old, as the citation would lead people to believe, but over 60. It is quite apparent that Rastall's views have been grossly misrepresented by the way his words have been quoted out of context. He clearly referred to the "relative ages" of the rocks. In 1929 absolute dating, by radioactive methods, was in its infancy, but stratigraphy had a long and respectable history of determining the relative ages of strata. In fact, even our creationist friends use this in their attempts to attribute nearly all sedimentary rocks to Noah's flood they, too, believe that the rocks at the bottom were laid down first. The left hand of the creationist movement seems to want to have its cake, while the right hand is eating it!

I could go on and on, listing many other examples of quotations out of context. But this would bore you, and I don't think the editor would be happy to devote the whole of the next three issues of *the Skeptic* to an analysis of just one creationist work - there are many other more important forms of lunacy around us which need analysis and criticism. The original version became known as *The Misquote Book* perhaps this version should be labelled *The Revised Quote Out Of Context Book*. Sufficient has been given here to show that it is still very unwise to rely on any "quotation" a creationist makes from a scientific work as being a reliable pointer to what the original writer actually intended.

There is another aspect of the book which casts light on the memory processes of some creationists. Any research scientist needs a good memory. When solving a problem the thought may well arise "Ah! There was a paper by Joe Bloggs in an American journal a couple of years ago which dealt with just this point". The paper can then be identified by a few minutes work with one of the reference journals. It seems that Snelling's memory is not very well organised. A reader of fairly average intelligence, who works through *TRQB* from start to finish (a very tedious and frustrating exercise) may well think, when reading "quotation" number 43, "I've read that recently somewhere". Turn back to number 38, and there it is - the second sentence of number 38 is identical with number 43! Number 57 is buried in the middle of number 31! So the claim on the cover about "130 quotes" needs correction.

Since we have been looking at alleged quotations, perhaps I should end this article with a quotation. Failure to follow correct procedures in quoting from the technical literature is found among other people as well as creationists. Two doctors from USA, Glenn Wood and John Dietrich , evangelical Christians by persuasion, wrote a book entitled *The AIDS Epidemic* (Multnomah Press, 1990). One chapter in it is highly critical of some other Christian writings about AIDS. The errors they complain about are errors of fact (in the medical area), and quotations taken out of context (a very familiar story). On page 220 they write

'When the Christian author and publisher place a work in circulation that is inflammatory and untrue, it not only discredits them, it also discredits our Lord. Authors and publishers need to be responsible for what they print.'

The first edition of *The Quote Book* was littered with misquotations. The revised edition is littered with quotations taken out of context. Perhaps Dr Andrew Snelling , B.Sc. (Hons), Ph.D., and the Creation Science Foundation should pay more attention to the words of Wood and Dietrich.

■

Copetition Entries

Doris Leadbetter

Doris Leadbetter of Bendigo sent these belated entries for our "plausible science" competition, claiming that our closing date of April 31 was illegitimate. Which just goes to show what pedants they are in Bendigo.

Why does water go down the plughole in a clockwise direction?

Or anticlockwise, if one lives where it does? It is all to do with the rifling in the pipes. Pipes are made using plumb-lines, which are dropped into the protopipe to ascertain in which direction the natural magnetic force is, as it were, processing. Rifling is done in accordance with the direction indicated by the plumbline. Otherwise the bath would refill, you see? Incidentally, we also get the word 'plumbing' from the use of this device, which can also be used to ascertain whether an unborn child will be female or not, by dangling the line over the mother's frontage. It works less well when dangled over the father's frontage. **See SEXUAL PREFERENCES.**

A good try Doris, but you do not explain how one can determine 'clockwise' when one has a digital watch. Ed

What does 'ology' mean?

A fortune, if you can make up one of your own. Try working on 'nostrilology', 'oleology' or 'bumology'.

Why should 1 throw salt over my shoulder to avert a tragedy?

Because every right-minded person keeps his or her hot chips in his or her backpack. Throwing salt forwards, therefore, would not only fail to salinate the chips, it might blind somebody.

Why do things curve exponentially?

Because if they went in straight lines they would get to their destination too soon. You must remember that space is curved so it follows that things, being merely objects in space, must travel that way also.

Why do women call menstruation 'periods'?

Because they used to be a real nuisance when women wore period costumes.

Why does placing them under a pyramid sharpen razor blades?

It is perhaps more pertinent to ask why don't other objects become sharp when similarly disposed? It certainly doesn't work with briefcases, false teeth or y-fronts. No, the answer seems to lie in the particular shape of a razor blade. It has been postulated that the socalled 'twin edge' is in fact, when seen under a really good microscope, more of a pyramid in cross-section. Hard to visualise of course, but that's science for you. So only items with a polygonal cross-section actually communicate geometrically with the pyramid. Now, having aligned the sloping faces by putting the blade under the pyramid, there is an essential congruity of shape, which, as it were, flows along the lines, as would light if there were a light source under the pyramid. This flow is so rapid as to create heat and thus friction. The friction is what sharpens your blade.

Why does every cloud have a silver lining?

The price of gold is artificially inflated, so as to maximise several things which we won't go into here. As gold costs more than silver it is clearly out of contention in the lining business. Silver is cheaper and it matches better with the moonlight.

Why do dogs howl in moonlight?

They also howl in sunlight but cause less nuisance then. It is merely a matter of observer-error that suggests otherwise.

Why can't men pee sitting down?

A very interesting question, based on good observation. It is thought to be due to complex pressures occurring at a site along one of the meridians. Acupuncturists can enable the seated pee if it is considered desirable, or important to a man's sense of identity.

Why do people who don't believe in creationism say that Noah's Ark wouldn't be big enough for all the animals, if they don't believe in Noah Is Ark anyway?

This is known as the 'double helix' question, which twists everything. Clearly Noah's Ark existed, else why would there be so many expeditions looking for its remains in Turkey? Clearly, too, the doubters have failed to take into account the Creator's ability to miniaturise. Do they think they are the the only ones who could invent a microchip? Ponder on the elephant beetle. ■

Hell found in Russia. Official!

We are grateful to reader Blair Alldis of Tinana Qld, who brought his local newspaper, *The Chronicle*. to our attention. On May 13, a correspondent breathlessly reported a story he had heard that Russian, Finnish and Norwegian geologists had drilled a hole into the earth's crust in Siberia. The drill bit broke through into a hollow or cavern and after putting down heat sensors and audio equipment, they were surprised to find the heat registered 1100 degrees C and the microphones picked up human screams of pain. The Russians closed down the project and half the scientists went home to Finland and Norway and, it is alleged, many of them became Christians.

Not surprisingly, next day *The Chronicle* carried a somewhat tongue-in-cheek response from another correspondent, who suggested that the story was evidence of drilling being done by a hypodermic into an arm.

This drew a response from yet another correspondent who claimed that it was a true story, that he had a *"reprint from a Norwegian who was chief seismologist on the expedition"* and who had *"an interview printed in Norway's largest and most reputable newspaper."* This correspondent claimed extra verisimilitude for his story, because *"the facts of the drilling were broadcast from a California Radio Station"*, (capitals in original) . Apropos of nothing obvious, this letter then claimed *"Censors picked up the extreme heat at that depth....."* but made no reference to what the censors were doing there. Presumably this happened pre-Glasnost, when the censors were everywhere. This letter concluded with a truly fundamentalist fulmination *"Hell is no myth, it is a literal place, as the Bible states it is"*.

I seem to recall that this crackpot story has been traced to some postGlasnost Soviet version of *The National Inquirer*, but cannot locate the reference. I have also heard that our local creationist sect has published the story, but were quite sceptical, deciding that it was *probably* untrue. Can any of our readers enlighten us on either point?

Creationist factional brawl shock

We were reading a copy of *Prayer News of Creation Science Foundation Ltd* recently (readers seldom realise the sacrifices we editors make). Oddly it was marked April, even though we got it in late June - could it be that the creationists are trying to slow down time to make their absurd 'speed of light'calculations look better? Be that as it may, we were struck by two significant points. One was the creationists tendency to highlight the fact that an occasional supporter has a certain number of *earned* degrees and we can only suppose that this is to distinguish them from those creationists who acquire their qualifications from the backs of cornflakes packets.

Much more serious are the several notes contained in the newsletter, warning readers against *"individuals claiming to present 'Creation' ministry"* and advising them to *"enquire carefully as to whether such individuals have a bona fide link with Creation Science Foundation"*.

Now this may well present a problem for the creationists, who are showing signs of a factionalism, hitherto mainly associated with the Labor Party, but think what it will do to the Skeptics. As we will now have to deal with "genuine" Creation Scientists and "bogus" Creation Scientists, (or real pseudo-scientists and pseudo-pseudo-scientists), we are a little concerned as to how to distinguish between them. Normally we could solve this dilemma by looking at the evidence, but as neither side is likely to present any, we appeal to our readers for suggestions.

Unexpected event mystifies astrologers

The Sydney Morning Herald reported on June 13th that, such was the turmoil caused in India by the assassination of Mr Rajiv Ghandi, that even *'highly respected astrologers'* were unwilling to predict the result of the national election. Curiously, public opinion polls were also loathe to make predictions of the outcome. The pollsters used the reasonable excuse that public opinion was so volatile that any prediction was likely to be wrong by the time it was published. We have no idea what excuse the astrologers used, however, there have certainly been no reports of any planets changing their orbits. ■

GAIA

Environmentalism, Spirituality and Science

Phil Shannon

The rise of environmentalism has seen the resurgence of beliefs about the Earth as a living, whole organism, often involving an Earth spirit. 'Spaceship Earth' is seen as a remarkable, fragile, semi-miraculous orb of life pulsating away amidst the awesome cosmic nothingness. The most prominent theory about a living Earth is the Gaia' Hypothesis, first formulated around 1970 by James Lovelock, the English inventor and geochemist, and then developed by Lovelock and Lynn Margulis (Microbiology professor at the University of Massachusetts) during the 1980's. Lovelock has appeared, in Australia, on Robyn Williams' *Science Show* and on ABC TV, and Lovelock and Margulis contribute to many environmental and scientific conferences. *Simply Living* (one of the more glossy Green magazines) features Gaia in its latest issue.

Put simply, the Gaia Hypothesis postulates that the Earth's biosphere (that band of air, land and water which contains life) acts as a super-organism with the ability to regulate environmental conditions to sustain itself, in much the same way that the human body's homeostatic processes maintain the body's water content, temperature, etc at a relatively constant state (homeostasis) to keep the super-organism of the whole body alive. The Earth is one big body, according to Gaia, and all its parts, but crucially the living parts, function to keep it going. The "planet's homeostasis is maintained by active feedback processes operated automatically and unconsciously by the biota", says Lovelock. Singlecelled microbes are seen as crucial to global ecology. Higher life forms like homo sapiens are not as indispensable, indeed in some versions of Gaia, we are seen as a destructive virus.

This non-privileging of the human species is attractive to those environmentalists who are receptive to views which dethrone the world's most ubiquitous large mammal from centre stage of the world, and which introduce (I think, justifiably) some humility into an anthropocentric world which has pursued the desires of human society at the expense of other species and ecosystems (which are also our life-support systems).

Some environmentalists are uneasy with 'Gaia', however. Lovelock's view is that, compared to the robustness of Earth's regulatory processes, humans are largely inconsequential and Gaia/Earth can withstand the worst we can do to 'her'/it. Lovelock, who discovered the ozone-depleting effect of CFC's in the atmosphere, denied for 15 years that they could do any real damage (and opposed the phasing out of CFC's) because Gaia would patch up any ozone hole. Nuclear power and bombs can not even scratch Gaia, he maintains, supporting nuclear energy. For Lovelock, Nature, on a global scale, is not "exquisitely sensitive to the depredations of man", as Carl Sagan (astronomer and Margulis' ex-husband) believes. For these reasons many environmentalists stay at arms length from Gaia, which has thus tended to become the object of the attentions of those who are motivated by essentially spiritual Nature worship. A 'Gaia Synthesis' convention in Colorado in 1986 had no Lovelock or Margulis but much "geopsychology" (whatever that is), Pueblo Indian myth, "etheric" energy, dancing and rituals.

Even staid Canberra is not immune - "Gaia" is a "Womonspace" (sic) based on "the primordial Earth goddess", "the living presence of Earth", etc. Its habituees hold spiritual rituals "on the nights of the Full Light Moon and the Full Dark Moon", winter solstice celebrations, and so on. They run courses on numerology, astrology, etc (and all for a not unimpressive fee, of course).

What has the science of Gaia got to do with this New Age hokum? At one, simple, linguistic level, the name 'Gaia' was asking for such trouble. 'Gaia' was chosen by Lovelock on the suggestion of his childhood friend and classicist, William Golding that he name his theory after the ancient Greek goddess of the Earth. For New Agers, this invited the familiar process of attributing physical phenomena to a mystical source unknown to, and unknowable by, scientific enquiry, in this case attributing the control and regulation of Earth's biosphere to a conscious, intervening supernatural entity, an Earth Goddess. Lovelock and Margulis did not intend this interpretation. For Lovelock, 'Gaia' was simply an attractive shorthand, carrying more flair and metaphoric meaning than his original term of Biocybernetic Universal System Tendency (or BUST).

Nevertheless, 'Gaia or BUST' aside, the substance of the hypothesis has lead many New Agers to make a quantum leap from science to mysticism. To help understand the content of Gaia theory and its basic principles of operation, Lovelock often uses a model of an imaginary planet called Daisyworld. Daisyworld supports life in the form of a black and white species of daisy. Early in the planet's life, and (like Earth) with a faint, weak sun, the black daisies on Daisyworld dominate as they are better at absorbing the sun's energy and using it for growth. The now black-coloured surface of the planet and the sun's warming, however, heats up the planet to a point where it becomes too hot for the black daisies, allowing the white daisies, which can reflect more of the sun's rays (their albedo effect) to grow and balance the black daisies, thus cooling the planet. This black/white, heat absorption/reflection process is the thermostat which maintains a suitable heat level for daisies (life) to flourish. No intention or conscious management of the environment by the daisies, or by a daisy deity, is involved in this pared-down Gaia model.

Our planet, claims Lovelock, is essentially a more complex Daisyworld. The crucial temperature regulator is carbon dioxide, the amount of which (approximately 300 ppm) in the atmosphere suits the needs of "all living matter on Earth, from whales to viruses, from oaks to algae" and is biologically controlled by all those living things. Lovelock suggests that this control by life is the best way to explain Earth's anomalous properties relative to the other planets in our solar system; namely how Earth's atmosphere can violate the rules of steady state chemistry and other physical and thermodynamic properties.

For example, on the basis of Earth's location between our dead planet neighbours Venus and Mars (40 million kms from Venus with its 477 degree average surface temperature, and 80 million kms from Mars with its surface temperature of -53 degrees), the Earth could be expected to have a surface temperature of about 300 degrees, whereas it is around 13 degrees, a temperature capable of supporting life. Furthermore, this temperature has been maintained over the billions of years of Earth's existence whilst the Sun has grown 30% hotter (enough to boil the water off the planet, as in Venus). Without life's intervention over 3.5 billion years, argues Lovelock, an environment hospitable to life would not exist.

The composition of Earth's atmosphere is also anomalous. It is far from chemical equilibrium. An active control mechanism, reasons Lovelock, must be keeping our atmosphere at 79% nitrogen, 21% oxygen, and 0.03% C02, when we should expect an atmosphere like Venus or Mars i.e. 2% nitrogen, 98% C02, and no oxygen (and therefore no ozone to protect cells from damaging UV radiation). Such a played-out chemical entropy has occurred on the dead planets because oxidising gases, such as oxygen and C02, which acquire electrons in chemical reactions, readily combine with reducing gases (eg hydrogen, methane and ammonia) which lose electrons. Venus and Mars now have atmospheres which contain only oxidising and neutral gases, Jupiter and Saturn only reducing gases. So, asks Lovelock, why does the Earth's atmosphere maintain disequilibrium? Something is working to keep it that way, he answers. That something, which no other planet has, is life.

The maintenance by life of these anomalies - the level of the Earth's temperature, its stability over time, and the chemical composition of the atmosphere - challenges the conventional view amongst earth scientists that life exists only on Earth simply because of cosmic and geological luck. This is the so-called 'Goldilocks' theory - Venus is too hot, Mars is too cold, but Earth is just right.

The Gaians, however, see a life-inspired order guiding the process of life's evolution on Earth. In their view, the first bacteria that frollicked in the ooze 3.5 billion years ago were unable to breathe oxygen and produced it as a poisonous waste. This toxic oxygen either combined with

minerals to form oxides, or escaped to the atmosphere where some of it formed ozone. Over a billion years or so, a new type of microbe evolved from their anaerobic cousins buried in the mud away from the oxygen and UV. With a protective ozone shield, these early algae, the blue-green cyanobacteria, developed photosynthesis to more efficiently convert the sun's energy to plant growth. They also produced much more oxygen which flooded the atmosphere around 2.5 billion years ago. The second evolutionary leap after photosynthesis came with organisms that developed respiration, the ability to breathe oxygen. About this time, atmospheric oxygen stabilised at 21%, enough to support a multitude of oxygen-breathing organisms but below the critical level for spontaneous combustion. Thus, life evolved, according to Gaia theory, not due to luck but in conditions that life itself maintained by cooperatively carrying out control functions such as ozone formation, oxygen stabilisation, and C02/greenhouse planet warming. Lovelock maintains that this early biological evolution from anaerobic microbes to photosynthesis to oxygen-breathing organisms was a collective reaction by life forms to a changing environment in a manner that ultimately transformed that environment. No decision was involved, however. No councils of microbes were formed to develop policy, no Earth Goddess snapped her fingers. This is where Gaia's critics disagree. They charge that the Gaia hypothesis is teleological ie it invokes a goal-oriented quality from manifestly non-conscious biota. It introduces a necessarily mystical quality beyond the normal functions of non-conscious life forms known to science. Humans are purposive and can consciously alter the environment, not so microbes, algae, trees and rocks. Lovelock's often casual use of the 'Gaia' metaphor doesn't help matters. He often sounds like he is imputing intent to a She Goddess or to the planet. On the other hand, true believers in a Mother Earth Goddess called Gaia really do believe in a Being astride and presiding over Earth pulling biological levers. Lynn Margulis, however, dissociates her scientific concept of Gaia from the supernatural one - "the religious overtones of Gaia make me sick!", she said about the New Age distortions of Gaian theory. Nevertheless, the critics argue that, the Gaia hypothesis cannot avoid intent. The critics claim to have simpler, non-teleological, purely geophysical explanations for the peculiar properties of Earth's biosphere. Most of these explanantions are based on the mechanical power of such abiological systems as plate tectonics, volcanoes and continental drift. They believe that non Gaian accounts can better explain, for example, Gaia's showpiece, the life-determined C02 thermostat. According to Gaia, C02 is regulated at 0.03%, keeping the Earth warm enough for life, mainly by trees and phytoplankton, tiny plant-like organisms in the oceans. A hotter world is a wetter one, more trees grow, more rain falls over land masses, washing more nutrients to the oceans to feed more plankton, with both the greater number of trees and plankton consuming more C02 and therefore cooling the Earth. The main alternative, inorganic, case to the Gaian/biological thermostat is the carbon-silicate cycle. The hotter and wetter the world, the more precipitation of C02 from the air in the form of dilute carbonic acid, which weathers the rocks by combining with silicate materials, the resulting carbon compounds flowing to the sea to rest as sedimentary rocks. The upside of this geochemical thermostat is explained by plate tectonics - the continental drift across the Earth's crust. This banging and grinding around carries the oceanic sea-floor carbon sediments to the margins of the continents as the sea floor spreads, the sediments sliding under the land masses and down towards the interior of the planet where they encounter rising temperature and pressure, the resulting reaction releasing C02 from the calcium carbonate which finally enters the atmosphere by way of mid-ocean ridges or volcanic eruptions, and warming up the Earth. On Mars, by contrast, this geological thermostat failed. As the C02 rained out of the Martian air, Mars, being further from the sun, cooled far enough so that all the water froze, and being too small a planet to provide enough internal heat to drive the mobile crusts via tectonics, the carbon has remained trapped. So Mars is cold, dry and dead, whilst Earth is warm, wet and alive, through cosmological and geological good fortune. Lovelock's counter-argument is that soil microbes, ie life, actually control the carbon-silicate cycle, speeding up the rock weathering by producing C02 as they decompose organic matter, thereby producing more carbonic acid and egging on the cycle. The microbes work faster as they get warmer and thus aid weathering and removal of C02, and therefore cooling the planet. Soil microbes are a sensor of temperature change. "Life is a geological force", argues Lovelock.Is this argument

indicative of an unbridgeable gap between the Gaians (the biologicals) and the geochemists and geophysicians (the abiologicals)? Or is there a basis for arguing that our planet's biosphere is regulated by a complex of both geological and biological mechanisms? There are three broad positions on this question - the Strong, Moderate and Weak versions of Gaia in which life respectively controls, modifies or merely influences the global environment. Strong Gaia argues that life is crucial in regulating the environment of our planet has cybernetically kept its cool (13 degrees instead of the 300 degrees predicted by planetary location) through the agency of life which has been controlling C02 levels for 3.5 billion years. Weak Gaia attributes some influence on the biosphere to life but no controlling role. Moderate Gaia holds that life is one factor modifying the environment, making it significantly less extreme. Life is important but not regulatory. Holders of this view recognise Gaia (even in its strong version) as a scientific hypothesis, capable of being tested, and with empirically testable predictive ability.

Gaia has come in from the eccentric fringe, it has left its spiritual dives. In 1988, at the prestigious biannual conference of the American Geophysical Union, the entire week was devoted to Gaia theory. Despite the cameo appearance of a certain Brother John from the San Francisco Institute of Immortalism, this gathering of the world's most eminent geophysicists, as *New Scientist* reported, "was, by common consent, the coming of age of Gaia as a subject for respectable scientific inquiry".

The supernatural appropriation of the scientific Gaia hypothesis by the New Age is illegitimate. Just as our bodies are made up of billions of living but non-conscious cells which, thanks to our body's evolution, respond automatically to environmental factors in a way that takes care of the whole body, so with the Earth no supra-natural being is required to\ guide the planet's biotic bits.

The genuine, and unresolved, question for the Gaia hypothesis is a purely scientific one - does planet modification occur biologically or geologically, or through some combination of both. Even if Gaia, like other intuitively attractive, operationally elegant, and wrong, theories, falls flat on its face, it will have had scientific value in bringing new insights into our understanding of the evolution of life on earth and the interplay of living organisms and their environment. Philosophically, too, it will have brought a needed self-effacement to an environmentally dangerous, because technologically powerful, self-centred species.

Of particular relevance to Skeptics in the Gaian tryst of science, environmentalism and spirituality, are the parallels between the embrace of Gaia by believers in a supernatural Earth Spirit and the tendency for believers in the paranormal to seek to justify their beliefs by an appeal to science (whether pseudoscience or a distortion of legitimate science). One similarity involves taking metaphor literally. To some, Gaia *means* an Earth Goddess. Similarly the heart of quantum physics, Heisenberg's Uncertainty Principle (which states that you can't have your subatomic cake [the measurement of the position of an electron or atom] and eat it too [measure its motion], or vice versa, and that thus describing its reality [a thing with both position and motion], is dependent on the observer), is often taken, by the paranormal set, to mean that all reality, not just atomic physics, is ultimately subjective, that all truth is relative. So if you believe in numerology, auras, ESP, various energies beyond the Fab Four (electromagnetism, gravity, the strong and weak nuclear forces) then these exist for you. Astrologers, in addition, appeal to quantum physics' demonstration of the apparent lack of causality in the sub-atomic world to argue that the astrological impact of the planets on human affairs can circumvent the need to demonstrate a mechanism of causation. Homeopathy, acupuncture and other 'healing' techniques attempt to elaborate a theoretical and applied science.

A second parallel between Gaia and the paranormal paradigm is that both leap to a supernatural conclusion to explain gaps in scientific knowledge. As our body of scientific knowledge has grown, it has, paradoxically, shown us how much we don't know (as Einstein and Newton amongst others have humbly recognised). This has allowed the emergence of a Pseudo Science of the Gaps to be proposed for any phenomena as yet inexplicable by current science. The science of the Gaia Hypothesis has shown us how much we don't know about Earth's history and the regulation of its atmosphere for and by its tenants. For those predisposed to supernatural explanations, Gaia as a god fills this gap (and in the process, not so much hurdling Occam's Razor as dodging it).

The third main parallel between Gaia and the New Age concerns the eclectic nature of the New Age which sweeps

up into its wizard's hat a plethora of ideas, some of which are nevertheless valuable. Ecological and natural lifestyle practices such as vegetarianism, for example, are often part of the New Age basket of goods but also enjoy a more reputable scientific pedigree.

As a member of the Vegetarian Society, I receive its national magazine, one which holds science and spirituality in uneasy tension. I have before me the current issue in which we are told of Thailand's annual vegetarian festival in which a fire-walking "medium performs fantastic and magical feats....He is able to pierce his cheeks with a sharp sword and to hit himself with heavy objects without feeling any pain. As the medium passes each house, firecrackers are thrown onto him in a gesture of respect" ('Perhaps if he hit himself with gelignite', I find myself thinking, during momentary ungracious lapses.)

Gaia, both as scientific theory and as environmental philosophy, is valuable in its own right - too valuable to be unjustly tainted by association with the New Age. Gaia might be right or wrong, but it is a scientific concept, strong enough to escape the smothering embrace of the New Age, and it will live or die by the scientific sword. ■

Coincidence Corner

Harry Edwards

What an uncommunicative lot you are! Everyone I speak to can relate a coincidence and I thought our latest innovation would have found us inundated. Instead we only have a couple, and this one from **Lesley McBurney** of **Chermside, Qld** is second hand.

"A parachutist, interviewed on *Wide World of Sport* (Channel 9), had just executed a second altitude jump from a balloon which was training for a flight over Everest. As he fell from 30,000 feet, he had to decide which farm to aim for. The one he chose happened to belong to the father-in-law of his first skydiving instructor."

M Avery of **Annandale, NSW,** sent us this proof of the Law of the Conservation of Hand Tools

"I once place a hammer on the boot lid of my car then promptly forgot about it, driving off to a friend's place a few kilometres away. After arriving, I discovered I had lost my hammer. As I drove home, I saw a hammer lying on the road and stopped to pick it up. It was a different hammer, one of much higher quality and almost new. I kept it to replace the one I had lost two hours earlier. I feel that this incident is a good example of coincidence, for I had not ever seen a hammer lying on the road before, nor have I since."

And one that happened to me on a visit to the ancient Mayan city of Chichen Itza. I joined the bus queue to return to my hotel. In front of me was a stranger with an Australian flag on his backpack.

"Hi, where are you from?" I asked

"Sydney" he replied.

"No big deal", I thought, "the odds are about one in five".

"What suburb?"

"Newport" he said.

"Hey, that's a coincidence, so am I. Whereabouts?"

"Nullaburra Road."

"Amazing! I live in Nullaburra Road too. What number?"

"Three" he replied, "It's a block of home units. Do you know it?"

"Know it?" I exclaimed, "I own it."

No doubt the more enquiring mind will wonder why I didn't know the fellow if he lived in the same building and was my tenant. The answer is that he moved in with a friend a couple of days after I left Australia for Mexico. And one from our esteemed President, who numbers among his many idiosyncracies, the ability to read while walking.

"I was walking home from work one afternoon, reading a biography of Giuseppe Verdi. I happened to be reading the chapter on how he came to write the opera *Aida*. On arriving home, I turned on my radio and, to my surprise, found that it was playing the *Grand March* from that very opera." Come on you Skeptics, don't put the burden on the Editors, let us have your coincidences. ■

FAITH HEALING

Healing in Suburbia

Ian Drysdale

Faith healing seems to be having something of a revival in Melbourne of late and the Skeptics have been in attendance at some of the venues where it is occurring.

One such event took place in Noble Park, in the eastern suburbs, publicity being covered by a letterbox leaflet which proclaimed *"Divine Healing - The Lame Walk - The Blind See.... featuring the video 'By His Stripes'"*. This is a reference to the stripes left by the lash on the back of Jesus before he was crucified.

The event was organised by "Revival Centres International", the group leader was Mr Robert Logan and included a 'guest Pastor' from Warnambool. The group numbered 19, including two Skeptics who had been attracted by the leaflet. Four of the people were young (under 20) and the remainder were mainly elderly, and evenly divided between males and females.

Arriving separately, the other Skeptic and myself were welcomed at the door of the small hall and, after we were seated, handed two hymn books. We appeared to be the only people who were strangers and a member of the regular congregation sat beside each of us and introduced himself. We sang half a dozen hymns (badly) from the books provided, each consisting of ten or twelve lines and accompanied by an electric guitar and the spirited clapping from the rest of the congregation.

We then heard the personal testimonials from those who had been healed through prayer (in tongues), laying on of hands and through reciting choruses. One elderly gentleman seemed to have healed everyone with whom he came into contact, whether they needed it or not.

A lady told how she had cured her brain tumour by reciting choruses to herself. Double vision and headaches had led her doctor to diagnose a tumour; several days of reciting choruses healed it, a fact supported by a CAT scan. Cries of *"Praise the Lord"* and *"Amen"* greeted this and other testimonies. Next came a New Zealand produced video, which catalogued six or seven "miracle" healings of gangrene, brain tumours, blindness, bad backs and drowning. It was a well presented and polished production and, while it did not condemn modern medicine it did suggest that it was not as useful as faith. One case told of a parent removing a child from a course of chemotherapy and praying in tongues for a cure. Needless to say, the film claimed the child then went on to become a school athletic champion. And so it went on.

I asked Mr Logan if a couple of paraplegic friends could be cured and allowed to walk again. He stated that they may be able to, if they could take God into their hearts with complete faith. He then described how his 17 year old daughter had been run over by a two tonne truck, crushing her pelvis flat. Doctors said she would be permanently disabled and would never have children. According to Mr Logan, while doctors were waiting for the swelling to disperse, prior to operating, prayer not only repaired the fractures but also returned the crushed bones to their natural shape. X-rays taken before and after were said to confirm this miracle. **(One is forced to speculate why such miracles are never reported in the medical journals. Ed)** The evening ended with a light supper and a pleasant chat. The congregation seemed to be remarkably articulate and intelligent for a group holding such irrational beliefs.

Around the time of the start of the Gulf War, another group was advertising faith healing sessions in the Melbourne papers, to take place in a school hall in Mentone.

If it had not been for the distressing spectacle of one young couple leaving three quarters of the way through the service, this meeting could easily have been mistaken for a humourous caricature of faith healing. Of the 15 in attendance, four or five were members of the organising group, three were Skeptics, one was a newspaper reporter and one was a man I recognised from several Skeptic/ Creationist debates. Possibly he was

checking out the competition in the irrational religion market. He left before the end, as did three of the five or six potential 'healees'.

After several hymns, the words of which were projected on a screen and accompanied by a portable organ, the preacher told how he had just returned from India, having spent several years as a street preacher and where he had learnt the healing he now practised. I must say that he had neither the tan nor the 'presence' that I would have associated with someone who had spent several years on the streets of India.

When people were invited to come forward, a young mother responded and asked that her small child be cured of asthma. Hands were laid on and a quiet prayer said, then a middle-aged gentleman also 'healed', at which point the meeting was opened to anyone who wanted to air their views.

This proved to be a mistake, as a young woman took up the offer with a vengeance. She made a spirited commentary on why the Iraqi Crisis (this was before the war) was caused by a mixture of static electricity and the lack of Christian values among the heathen Iraqis. One got the impression that she could have taken on the Iraqis single handed - and won. After some prompting from his wife, the preacher stepped in and thanked the woman for her contribution to the solution of the world's ills. Strangely, this group stopped advertising after this first attempt.

From these experiences, I must say that faith healing, while springing up frequently, is hardly in danger of becoming a mass movement. ■

Philospher's Lament

As a philosopher it often saddens me to survey the books which are regularly allocated to the sections of bookshops devoted to Philosophy. Since many New Age authors have appropriated (or misappropriated) the vocabulary of serious philosophical inquiry this misallocation is quite intelligible.

The appropriation of the vocabulary of philosophy has another unfortunate consequence. It brings legitimate fields of inquiry into disrepute. It distresses me in particular to see the word "metaphysical" repeatedly bracketed with "occult" and "New Age".

Metaphysics examines the fundamental assumptions which we employ when we set about trying to make sense of the world, and as such is a legitimate field of philosophical inquiry. Metaphysical assumptions underlie every serious (and indeed spurious) theoretical speculation, though when there is agreement little purpose may be served by dwelling on the metaphysical foundations of a particular field of enquiry. At times of disciplinary crisis however these basic assumptions characteristically become matters of concern.

Metaphysical claims are not empirically testable, and for this reason the subject has notoriously had its detractors. But the arguments marshalled by positivists (and others) to bury metaphysics have never been decisive. Generally, the supposition that metaphysics is meaningess turns out to be itself a framework assumption which is metaphysical in character. The verificationist claim that statements must be empirically testable in order to be meaningful, for example, is not itself a testable claim, and thus, if accepted, rules itself out as meaningless. And the great scourge of metaphysics, the methodological principle known as "Ockham's Razor" was itself the product of metaphysical inquiry.

Let it not be thought that I wish to defend all the garbage that goes under the heading "metaphysics". I don't. But metaphysics is a label for a robust area of inquiry which has persisted for more than two millennia and which continues to fascinate those with a particular disposition for abstract reflection. It is an honourable word which I would be loath to give up lightly to the charlatans and shysters.

(Dr) William Grey
Armidale NSW

Dr Grey's letter addresses a concern I have always had about the term "metaphysics" when used by the proponents of the paranormal.

To them it appears to mean, "that which I do not have to explain". I gain the impression that they would be equally happy with "metachemistry", "metabiology", "metageography" and "metaengineering", if these terms allowed them to put their wierd hypotheses beyond debate.

Ed

PARANORMAL CLAIMS

What if....?

Barry Williams

Skeptics often lament that an in-depth knowledge of science is required to refute the claims made by proponents of extraordinary claims. In some cases, this may well be true (does the EPR Paradox allow for 'action at a distance' and thus legitimise the claims for psychokinesis?) but in general the majority of the claims that we non-scientist Skeptics come across can be tested by the application of common sense and the rules of logic. A useful rule of thumb is, "If it sounds like crap, it probably is".

One method a Skeptic can use to test the likely truth of a claim, without going to the trouble of setting up controlled, double blind tests, or any of the other rigorous methods used in testing a scientific hypothesis, is to make the assumption that the claim is true. Having made this assumption, we can make logical extrapolations based on it and see how the world that is allowed by our assumption agrees with the world in which we live. This is, of course, not an infallible test, many quantum claims, for instance, are certainly counter-intuitive and sound most peculiar to the lay Skeptic (and to not a few scientists too, I suspect), but it is a useful test for many everyday claims.

The following article will be the first in an occasional series in which I will apply this technique to a common paranormal claim. Here we will look at a world in which homeopathy is a fact.

Homeopathy was the eighteenth century invention of the German physician Samuel Hahnemann. Its fundamental tenets are that 'like cures like' and that 'infinitesimal doses of a substance are therapeutic', that is that small amounts of a substance, which produce similar symptoms to a disease, will rally the body's natural defences to combat the disease. In its time, before we had developed the germ theory of disease, it was a not unreasonable proposition but it can now be seen as an unscientific proposition, in some ways parallel to immunisation. Its failure lay in the fact that it sought to address a disease through its symptoms and not, as is the case with immunisation, through its causes.

The key to understanding homeopathic nostrums lies in the extreme dilution of the active agent. Homeopathy has it that the more dilute the substance, the more certain the cure. As an example, lmL of the active agent might be added to 10L of distilled water, the resultant mixture is then agitated and 1 mL of this dilute solution is added to a further 10L of water and so on, until the prescribed level of dilution is reached. It is obvious that, after a few dilutions, we reach a stage where it is statistically very improbable that any molecule of the active agent will be found in any dose of the 'medicine'. This is not a problem to the dedicated homeopath, as the cure comes not from the ingredient, but from some energetic 'memory' contained in the water and imprinted therein by the agitation during the dilution process. It is probably superfluous to say that there is not a great deal of evidence for this proposition, nor is there a body of evidence to suggest that homeopathy has had a great influence on the eradication of any major disease. However, that is not the purpose of this article. We are considering a world (H-world) in which homeopathy is true.

Let me be blunt, a world in which one of the fundamental tenets of homeopathy (the diluter the better) is true, is a world devoid of life. The problem for life lies, not in the homeopathically active ingredients, but in the water in which these ingredients are diluted. The water on our planet has been around for a long time and during that time it has had contact with every element, every compound, indeed every substance that exists on this earth. The fresh water we drink comes from rain, which comes from evaporation from the oceans. Oceans certainly get agitated, so the 'memory' of everything in them must be imprinted on the water molecules. Storms add a bit more agitation, so does hitting the ground and rushing down rivers and streams. Just consider a few of the substances whose 'vibrations' will be imprinted on inimical to health and well being or indeed to life itself. Plutonium, arsenic, radium, hydrogen cyanide, botulinus

toxin, cholera bacteria, mercury, carbon monoxide - the list is almost endless and very nasty. No matter what beneficial homeopathic agent was diluted with this water, its benefits would be surely outweighed by the nastiness already imprinted on the water.

Traces of these things probably do exist in the water we drink in our mundane world, but at a level that is regarded as safe and, if we are reasonably careful, they do not cause us any great harm. In H-world, they all exist in every drop of water we drink (or at least the 'memory' of them exists) and the more we try to purify the water, the more certain their inimical effects will be. There can be no 'safe level' at all in this world, unless perhaps it lies in huge doses. In fact, following the homeopathic reasoning, the more of anything one ingests the less harm it should do. The treatment we use to remove what we, in the non-homeopathic world, regard as the harmful bits, only serves to increase their potency in H-world.

Conversely, if the other homeopathic tenet (like cures like) is true, we should never get sick at all. For all of the reasons listed above, the ultimately dilute samples existing in our water, of every substance that can make us ill, should have rendered us immune to everything. Indeed, if the 'memory' of any substance survives, even when none of the substance itself remains, then why should we have need for homeopathic remedies at all? The 'memory' should be retained in the water molecules that make up so much of our bodies.

It would appear then, that the two fundamental beliefs of the homeopath would, if they were true, make for a very strange world indeed. I contend that our world does not at all resemble H-world, and for a homeopath to convince me otherwise, he would require to show much better evidence than currently exists and he would have to explain why my hypothetical H-world is wrong. ■

Readers are invited to submit their views, either as an article, or as ideas for incorporation into an article about other worlds in which a paranormal belief is true. You might consider, "If human beings were purposely designed to be the pinnacle of creation, what does this tell us about God's skills as a designer?" or "If people could bend metal, purely by the exercise of thought, what would this mean for national security or industry?".

A Remarkably Generous Offer

Following our total failure to find a firewalker who is willing to test his/her skills on a hot steel plate, Australian Skeptics is now anxious to hear from any 'psychic' who has the ability to accurately predict future events.

The 'psychic' we are seeking should be able to predict, with a reasonable degree of accuracy and specificity, the course of human history over the next few years. As evidence of his/her skills we will require documentary evidence that he/she specifically predicted the following events, with dates, before 1989.

* The collapse of the communist empire throughout Eastern Europe;
* The reunification of Germany;
* The dismantling of apartheid and the subsequent readmission of South Africa to world sporting competition;
* The election of a non-communist as President of the Russian Republic;
* The course of the Gulf War.

Many competent observers of the world scene, making no claims to psychic abilities, have predicted that these events will happen, but we are not aware of anyone who has predicted just how soon they would occur.

As it is often claimed that events cast their shadows before them and as these particular changes are among the most dramatic and unexpected events of this century, we have no doubt that we will be swamped with claims from those whose precognitive abilities could not have failed to have made them aware of them and we await their correspondence with keen anticipation.

Psychics who can prove that they have the ability to predict major world events accurately will be eligible to claim Australian Skeptics offered $20,000 and may be assured of our support in promoting their skills to the world. ■

Australian Skeptics
PO Box E324
St James NSW 2001

CHANNELLING

Galactic J Curve Shock

Our Special Extraterrestrial Economics Correspondent
Sir Jim R Wallaby

The federal Treasurer can forget about J-curves, balance of payments, terms of trade or anything else, the future for the Australian economy lies in a return to the barter system. At least, that is the message being promoted by a discarnate entity called Germane, channelled by Ms Lyssa Royal from California.

Apart from Germane, Ms Royal channels a host of entities from all manner of extraterrestrial domains and, if the tapes displayed for sale at her Sydney performances attest to the truth, all are expert in the sexual mores and manners of their diverse galactic realms.

What a pity then, that at Willoughby Town Hall on the night of July 5th, your intrepid correspondent, in the congenial company of that estimable prestidigitator Steve Walker, should be treated to a discourse on that most wearisome of topics, economics. Not that Germane exhibited any manifest grasp of the subject; his/her/its summary of its historical role in human affairs suggested that we terrestrials had passed from barter, through paper money to plastic credit and are now poised to enter a phase where we will trade items of value for items of similar value. If that is not a return to barter, then I will take up prognosticating for the *Financial Review*. In any case, this is not a guaranteed solution to all our problems but, according to Germane, it worked fine for the denizens of the Pleiades.

Ms Royal's entities, along with many other channelers, Ufologists and assorted ratbags, seem to be fixated with the goings on in this rather unlikely star cluster which, earthly astronomers estimate, contains new blue stars of some 20-50 million years of age - far too young for life to have evolved and certainly a region of space in which radiation levels would ensure an interesting rate of mutation (not to say sunburn) in its inhabitants. Other inhabited systems include Orion which, while it is a most impressive constellation when seen from Earth, actually consists of stars which are not in any way associated with each other. Among its most prominent stars are: Betelgeuse, a red supergiant variable star with a radius about 800 times that of the sun, 600 light years (ly) from us; Rigel, a blue/white supergiant star 800ly away; Bellatrix, a blue/white giant, about 400ly away; and the three stars which make up Orion's Belt, new blue giant stars between 1,500 and 1,600ly from Earth. None of these stars would appear to be particularly hospitable places for life or indeed for planets. When this was pointed out to Gerrnane, the response was that the beings referred to were not necessarily from this part of the galaxy, but were "Orion archetypes", whatever that might mean. (Stop laughing, this is Sirius.) One may be tempted to wonder what an "Earth archetype" would be like. I suspect the answer would be a beetle.

Question time elicited the sort of queries one has come to expect from those addicted to New Age "wisdom". The words appear to be English but the context makes it sound like a foreign language. Sample,

"How can I acknowledge the I while participating in the universal love?"

This is either a very profound question or a load of gibberish, with the smart money betting a shade of odds on the latter.

Germane's answers made even less sense and were liberally sprinkled with New Speak words like "balance", "polarity", "holistic" and "whole" plus the current jargon word of the functionally inarticulate, "basically".

Still, the tenor of Germane's message was that everything will come out all right, be it the economy, the ecology or our interpersonal relationships, and with not much effort being expended by us earthlings.

As is usual with these highly advanced entities, Germane's knowledge of simple physics is remarkable for its paucity. When I asked for the numerical value of

Hubble's constant or the rest mass of the neutrino (questions, the answers to which should surely have been known to a civilisation as advanced as the Extraterrestrial Union, of which he/she/it is allegedly a member) Germane waffled on about 'metaphysics'. My response was that there was nothing 'meta' about it at all, it was simple physics.

Germane did not reply immediately, but then exhibited a characteristically human response . After I had walked back to my seat and sat down, he/she/it came back with an answer that would have been very good if it had been uttered immediately after my questions, *"We do not wish to destroy your pleasure in finding the answers yourselves"*. Just like we earthlings, ETs seem to suffer from the delayed devastating riposte.

The crowning statement of the evening however, came in response to a question from someone on the subject of damage to our environment. Germane reassured us that we would solve the problem with the "ozone layer" before it caused the ice caps to melt. Now I am fairly certain that the ozone problem is caused by chlorine atoms reacting with and destroying ozone molecules, thus letting in more ultraviolet radiation to give us skin cancer and that the ice cap melting is a result of the greenhouse effect, caused by an excess of carbon dioxide in the atmosphere absorbing and re-reflecting a higher percentage of infra red radiation. But then of course, the laws of physics are probably different in the Pleiades. Or perhaps it could be that extraterrestrial entities know no more about science than do Californian channelers.

Reflecting on the visit of Lyssa Royal and her team of galactic intelligences, some things remain in my mind. Uniquely in my experience, Lyssa's entities spoke with the voice of the channeler, which is exactly what one should expect in the real world. This, however, is not the norm. Most channeled 'entities' seem to adopt funny accents, a fact quite frequently raised by Skeptics as evidence of the dubious validity of the phenomenon. This striving for authenticity did, in this instance, detract from the drama of the performance, which was remarkably boring but I guess you can't have everything.

At the performance Steve and I attended, the total audience numbered 27, of whom at least four were involved in selling tickets and guiding the faithful to their seats.

A rather scathing article by Peter Wilmoth in the Melbourne *Age* stated that Ms Royal's performance in that city attracted 23 hardy souls.

The cost of hiring the Willoughby Town Hall auditorium is in excess of $500 per night, so at $25 per ticket, the Federal Treasurer can take comfort from the fact that, unlike some previous channelers, Ms Royal is unlikely to add to the nation's balance of payments problem by any substantial amount.

After the performance, we were invited to stay and have a few words with Ms Royal and her manager, Steve Davis, billed in some of the publicity as "a former Senator from Arizona". Mr Davis, who bore a striking resemblance to Howard Keel's portrayal of Buffalo Bill in the 1950s musical hit, *Calamity Jane,* sought to flatter the attendant Skeptics by announcing that we were the "right type of sceptics", ones who knew their subject and who were polite. In accord with this amicable spirit, we took the opportunity to warn them that at their next venue, Melbourne, they would run into the Provisional Wing of the Skeptics, a group who rarely took prisoners.

Exhibiting commendable restraint, we forebore the opportunity to avail ourselves of any of the vast selection of audio tapes, bearing such illuminating titles as *"Sexuality in Pleiadian Society"* and *"ET & Economic Transformation"*, on display. A real bargain at $19.30 these, no doubt profound, works seemed not to enthuse the remainder of the audience to any great degree either and the several hundred copies on offer had not substantially diminished in number at the conclusion of the evening.

It appears that the channelling phenomenon is rapidly running out of steam in Australia and is adding the aspect of non-profit to its previous non-prophet status.

Finally, leaflets handed out at the meeting advertised the *"1991 Channelling Conference on Crete"* from October 18-27, 1991. For the sum of $4,799 Australians can attend a function billed as *"over 20 of the world's most famous international channels...in one of the world's greatest mythical sites"*.

The final word must go to Steve Walker who mused, *"Why, if you have all these channels together, don't you hold your meeting on the Channel Islands?"*

As was the case with so many of the questions asked at this meeting, there was no answer to that. ■

FORUM

Christianity and Humanism

David Quinn, Graham Preston, Alistair Barros, P M Galvin

Christians and their adversaries tend to expend tremendous energy hurling brickbats at one another, and precious little time is spent seeking out common ground. We think we are safe in assuming that most of the readers of your magazine would not bridle at being labelled "Humanist". (A broad label we admit.) While we believe that Christianity and the various Atheistic Humanisms are ultimately irreconcilable, we also believe that common positions can be shared, and common goals striven for by the proponents of each world-view.

Permit us to make a somewhat tentative attempt in this letter to suggest ways in which the Christian can stand shoulder to shoulder with the Humanist on various issues. (Hopefully there are some at least, among the readers of this magazine who are be willing to do likewise in return.)

Religions of various hues, (not just Christianity), are prone to several terrible corruptions. Two are outlined below.

1. It is arguable whether ritualism and symbolism have a place in the worship of God. Time and again the rituals and symbols tend to become not a means to an end, (i.e. a more loving relationship with the Father), but an end in themselves. This has been witnessed throughout Christian history, and indeed so pervasive and dominant were these props, paraphernalia and base superstitions by the 16th Century, that they led in part to the Reformation. In our own age and culture, this degenerative tendency can be found in the various manifestations of the New Age movement for example. It can still be found within Christianity itself where we can still find people judging their righteousness by how often they read the Bible, attend Church, say various rote prayers etc.

This debased form of religion has horrified right-thinking people throughout the centuries. However, it has dismayed Christian and Humanist alike. Therefore, when the Humanist condemns ritualism and superstition for reducing the dignity of Man, he will find the Christian by his side, even when the Christian must take to task those who are apparently his brothers and sister.

2. Christianity, (as with most other religions), is at its heart a balance of love and law (i.e. the moral law). It is the Christian belief that love and law enhance one another. Love without law tends towards moral relativism. Law without love is hard, unforgiving, rigid, and very often destructive. It is this corruption of religion which has, more than virtually any other single factor, led to the wholesale rejection of, and antipathy towards religion which appears to have reached a peak in our culture in the latter half of this century. It is the attitude of the bigot, the ideologue, the self-righteous, the destroyer. It is the mindset of the individual who is attracted to religion, but who has never really been touched by the love of God. Side by side with saints have marched hosts of such individuals. Although still to be found in Christianity, with the decline of religion in the West, it is now more widespread elsewhere. It is an attitude found to varying degrees in all the secular ideologies; Marxism, Feminism, Nazism, Socialism, and so on. Had Lenin, Trotsky, Stalin etc been born in the 1 7th Century rather than the 19th Century they would probably have found their way into the Dominicans or the Jesuits. **(Actually, Stalin was a seminarian in his early life. Ed.)** The Christian and the Humanist can most certainly find common cause wherever this mindset is to be found, whether it be in the classical religions or in modern secular religions, (including Humanism, which can be fearfully intolerant of classical religion).

The Christian claims to be a follower of Jesus Christ, the incarnation among us of God. His views on the above matters are therefore more than a little worthy of note. Even the most cursory reading of the Gospels reveals him to be a man who was vigorously opposed to, and vociferously condemned ritual as an end in itself, and more particularly a rigid

adherence to a law made intolerable by an absence of love. These twin attitudes were embodied in the Pharisees. It was these attitudes, and Jesus' opposition to them which led in large part to his execution.

So when the Humanist condemns the bigot, the ideologue, the charlatan etc, he finds himself shoulder to shoulder not only with individual Christians, but also with Jesus himself. Indeed, it has often been the case throughout Western history that the light of Christ has been held aloft not by those who have been ostensibly Christian, but by those who were (or are) ostensibly non-Christian, or even anti-Christian.

That Christianity has a great deal to atone for is undoubted. Equally undoubted is Christianity's debt to Secular Humanism. Often the Christian has hindered the coming of God's Kingdom, (we define this term here in as broad a sense as possible, rather than in its strict theological sense), while the Humanist has advanced it. If there be any doubt that between Christian and Humanist there can be at least a partial meeting of minds, we need look no further than the example of Erasmus. Erasmus is a wonderful example of a man who shared a great deal in common with secular Humanists. A love of humanity for its own sake, an emphasis on reason and scholarship, a dislike of aspects of Scholasticism, ritualism, undue clericalism etc. At the same time he was a man who was devoted to Jesus.

The hostility of *The Skeptic* to the corruptions of religion discussed above is warranted. As Christians, we share it with you. But often the hostility slips over into the intolerant and the irrational. Within these pages contributors have called for the virtual eradication of Christianity from the face of the Earth. (Such intolerance would only be found amongst the most fundamentalist Christians today. It is an attitude which is itself a secular form of Fundamentalism.) The Humanist might be non-Christian for intellectual reasons, but to be so fearsomely hostile to all forms of religion betrays a lack of understanding of what religion is truly about, and is to be bracketed with the attitude of the most narrow minded and over zealous cleric. It is very difficult to see why anyone would want to eradicate all traces of a religion that has given rise to Francis of Assisi, Vincent de Paul, Erasmus, More, Newman, Mother Theresa, and many, many more.

In the UK there exists a society called "Atheists for Christ". (John Mortimer for example is a member.) The mentality that would join such a group is obviously far removed from that which is often displayed within these pages. (All too often it is a sneering mentality.)

By all means try to demonstrate the intellectual deficiencies of Christianity, oppose its corruptions, reject it as untrue. But if there is to be any cooperation at all between Christian and Humanist, a little more John Mortimer and a little less Phillip Adams would not go astray. It would also be most welcome if the tendency to throw the Christian baby out with the dirty bathwater diminished somewhat.

However, more welcome than anything else would be an attempt by contributors to *The Skeptic* to themselves suggest areas in which Christian and Humanist can find common cause. We have barely scratched the surface.

Finally, we hope the editor will open the pages to a lively discussion of the relative strengths and weaknesses of Christianity and its most basic and radical alternative, Materialism. (A discussion of that philosophy's epistemological, metaphysical, and moral weaknesses is very much in order. We may even revisit the dreaded "Mechanistic/Moralistic" debate. (Barry willing of course). This has not yet been properly debated we feel.)

Your thoughts, fellow Skeptics. ■

CRYONICS

Baby, it's Cold in Here

Harry Edwards

Cryonics is the business of freezing the human body after death in liquid nitrogen, in the hope that at sometime in the future it may be able to be reanimated and the cause of the person's death reversed. I use the term 'business' advisedly, for until the miracle of resurrection becomes a technical possibility, those who opt for cryopreservation are simply paying indefinite storage fees for their cadavers and dividends to the directors of the interment company.

Currently operating in the USA is the Alcor Company of Riverside, California, which charges US$100,000 for a full body preservation, $35,000 for a head freezing and $900 per year maintenance fee. Another company in the field went bankrupt, leaving their clients aspersions for life after death to evaporate like frost in the desert sun, after the power was switched off. It should be noted that a company's obligation is only to preserve the body, having no liability to conduct bio-medical research, nor to stand the costs of surgery, medication or rehabilitation, following successful revival.

While the arguments in favour of cryonic suspension, or the doubts raised by sceptics, can be succinctly summarised, like the idea of a creator god, or the ethics of voluntary euthanasia, they tend to be both subjective and futile. As with the post-Darwin spiritualists, who sought scientific support for their beliefs, the proponents of cryonic suspension gamble heavily on future technical developments. Nevertheless, it must be conceded that many of today's frustrating technological limitations will probably, in time, be recorded as historical discoveries.

One principle technical objection to cryonics is that the process of freezing tends to rupture cell walls, thus damaging the body far too extensively for revivication. Cryonics supporters are quick to counter by describing theoretical technologies - genetic research and nanotechnology (the use of microrobots) among them, that may make cryonics a more feasible prospect but, for the moment, these are purely speculative ideas, more suited to the pages of science fiction, than real prospects for serious application.

Moral and ethical questions associated with revivication abound and even the desirability of returning to this world at some indeterminate future time has its detractors. The idea of immortality, extension of life or transmigration has always had wide appeal and indeed, in some societies it has almost universal acceptance. But what are the implications of being 'born again' into, the unfamiliar surroundings of an alien society, say one hundred years hence? Friends and relations long gone and even one's great great grandchildren mouldering in their graves.

You arrive naked (or at least out of fashion), destitute, unable to contribute or compete in a society which might well regard you as a prehistoric freak to be displayed, quizzed, poked and prodded . An adult with the capabilities of a new born baby, unable to speak, walk or comprehend? Even assuming that the brain cells did not deteriorate, it is highly unlikely that any of the memories, functions of electrochemical activity, would survive intact. Perhaps they can be stored on a computer, but that also is science fiction and not existing fact. Nor does being 'reborn' guarantee acquisition of perfect mental and physical health. The cause of death may be merely incidental to an affliction or infirmity from which you suffered prior to death, as in the case of an arthritic or diabetic who dies from drowning or electric shock.

Would revivication be the prerogative of the rich and what sort of world would one come back to? A Utopia free of disease and poverty, a society where standing room is at a premium or an anarchic society with the survivors struggling to exist in the radioactive dust of a nuclear winter? There are innumerable future 'scenarios ' that we can guess at, many of them very unpleasant indeed and, almost certainly, all of them wide of the mark. One's chances of being revived in any of them, or of one's body even surviving, is limited. And what of those who believe in an immortal soul which departs on death, they should ponder on the thought of life sans their spiritual counterpart. Would it return? Or reincarnationists, whose essence would be inhabiting another body? Very serious metaphysical questions these.

While objective pronouncements on the subject of cryonics are well nigh impossible, the opinion of this layman is that, while fear of death is a powerful motivator, faith in the future of cryonics as a saviour is misplaced. Personally, after consideration of the prospects, I suggest that the old axiom " you'd be better off dead" holds good. To Marta Sandberg , whose letter (Vol 11, No 1) prompted this reverie, I advise that, rather than take a very long odds punt on a dubious proposition, you should accept the inevitability of death and enjoy to the fullest your sojourn on this ball of mud. ■

Matters for Debate

Harry Edwards

A question which frequently bedevils the dedicated sceptic is just how does one go about promoting the cause of critical thinking. This issue was addressed by Ritva Voutila (*Letters* Vol 11, No2), in which she concluded that "by acquiring better skills in debating with pseudo-believers, sceptics would greatly enlarge their scope of influence". While I make no claims of being a master debater, I founded, and for the past eight years have presided over, the Manly-Warringah Debating Society, the primary purpose of which is to encourage people to think and to effectively enunciate their thoughts.

Having enlisted Tim Mendham and Barry Williams into the Society, it has virtually become a forum for the exposition of sceptical views yet, when it comes to debating with the followers of the New Age and of various charismatic religions, the old adage "faith is blind" is very well demonstrated. Our debates are publicised in the local press and it is noticeable that then audience numbers are considerably enhanced when the topic pits sceptics against believers and that the increased numbers come largely from the ranks of the believers. And here is the disturbing thing; to convince believers to just suspend their judgment and to even for a moment imagine that the tenets of their belief may not be true is a virtual impossibility, as the following examples may illustrate.

In the first such debate, on the topic "That there is nothing in the paranormal", I took the part of the sceptic and I introduced my opponent Barry Williams as "the distinguished British parapsychologist , Sir Angus McSporran". Now I am prepared to believe that some misguided individuals might consider Barry to be distinguished, but anybody who has heard him speak would find it extremely difficult to believe that he was British. Yet this did not phase the audience who had come to hear their prejudices confirmed by someone famous. To say that Barry's case was a little over the top is akin to saying that World War II was a minor skirmish. He harangued the audience, ignored the rules of debate, contradicted himself, was totally inconsistent, told blatant lies and quoted such notable parapsychological authorities as Black and Decker, Sir David Jones and Dr Grace Brothers. I responded with reasoned argument, pointing out the inconsistencies in Barry's case and utterly demolished his propositions. At the end we took a vote and not only did Barry win by some 35-4, he was even approached by some members of the audience seeking private 'readings'. Even Barry's subsequent confession that he was in fact a sceptic and that his arguments had been nonsense, did not seem to dampen the ardour of his fans.

Some weeks later, Barry and I joined forces in a debate on the topic "That Jesus Heals Today". Our opponents were two young evangelists, one of whom claimed to be able to perform miracles. It was agreed beforehand that anecdotal evidence of healing was not acceptable and that medical evidence would be tendered to show the condition of a patient, before and after a miracle 'cure'. Despite this, our opponents filled their time with anecdotes of miracle cures they had witnessed in other parts of the world. The message was simple, "Sickness - Jesus - Cure". The audience had no difficulty in following this implausible correlation, though we sceptics found the argument to be less than persuasive. Then came the irrefutable evidence. Two X-ray plates were produced, purporting to show a human skull before and after the disappearance of a large tumour. We accepted them pro-forma and then, from the back of the hall strode a man, dramatically proclaiming that the X-ray photographs were of his head and that Jesus had removed the tumour. As he approached the front, the baldness which denotes chemotherapy and the recently healed surgical scar on his head was plain for all to see. The vote? Jesus 60, Skeptics 2.

In these and other cases, adjudicators awarded the sceptics higher marks for debating technique, our arguments were shown to be better, yet our chance of convincing true believers was precisely nil. Still, I do not suggest that we should give up the attempt. When the sound and the fury died down, perhaps in someone the seed of critical enquiry had been sown. ■

LETTERS

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

Economic Forces

Richard Buchhorn (Vol 10, No 4) nominated belief in the benefits of a number of economic "forces" (for want of a better word) as "quasireligious" and worthy of examination by Skeptics. I took this to mean that he thought claims were being made for those forces which were not supported by proof, in much the same way as claims for the effectiveness of prayer seem not to be supported by unequivocal examples of success.

Rafe Champion, in reply (Vol 11, No 1), has dismissed Richard Buchhorn's call to the Skeptics and instead, has invited him to re-examine his ideas about economics. That re-examination is intended, presumably, to lead Richard Buchhorn to the true understanding already attained by Rafe Champion himself: that there is no voodooism in the right sort of economic theory.

Unfortunately Rafe Champion does not provide actual proof of his own economic beliefs, which might clinch the argument, but he does make a couple of points which could be added to Richard Buchhorn's re-examination. Firstly he claims that if resources are priced at replacement cost the quest for profit will promote efficient use. Has this been done successfully somewhere? Secondly he claims that our central wage-fixing system has produced unemployment, inflation and low productivity. Has it? It is my impression that there are countries without central wage-fixing which have also experienced all those ills. One correlation seems a pretty weak base from which to deduce causality.

A last question to you, sir: if Rafe Champion proves the efficacy of the "free-market forces" will he be eligible for the Skeptics prize for proof of the supernatural?

John Warren
Mangrove Mountain NSW

No, and if we get much more correspondence about economics, I may well resign and start writing for the *Financial Review*, where the pay is better.

Moon Planting

Professor Gregson has raised a number of concerns about my analysis of days to germination in the study of radishes.

Each point on the graph of days to germination against dates in October was the mean of germination times for 14 replicate plants. If these means are accepted as reliable estimates of germination time, which I question below, the non-parametric approach of Prof Gregson, ie the Wilcoxon test on deviations from a linear lower bound, could be an acceptable alternative approach to compare **Good** and **Bad** germination times. In such an approach, the placement of the lower bound would be subjective, but may not greatly affect the conclusion drawn.

However, I must disagree with Prof Gregson on his comments on the removal of outliers and the inappropriateness of the Anova model. In the event, only four outliers for days to germination were removed. They were clearly aberrant values, being two to six days greater than the next highest germination time for their planting dates. Even so, failure to remove them would not have greatly changed the form of the germination time graph. Given mean germination times derived from germination data, including or excluding the outliers, there is nothing to suggest an Anova approach is "hopelessly inappropriate" as claimed.

There are reasons far more compelling than the form of data analysis to question whether any valid conclusion on germination time can be drawn from this study. Germination was only observed daily, with days to germination typically 2 or 3 days, so that means were derived from 14 values which usually contained few distinct values, the potential errors involved in such measurement are great enough to question the validity of any inferences drawn from any analysis, however I attempted to recover some information. A log transform of individual germination times or a Behrens Fisher test, after removing the covariate trend may be theoretically

correct but would not assist, given the nature of the data. Clearly, as Professor Gregson pointed out, the experiment has low power with only five Good values, and any discussion on the relative positions of Good or Bad, or the variability of either around the overall trend, must be conducted with great caution. My general conclusion on germination times was that the effect of moon phases and associated zodiac signs was an open question, a conclusion Professor Gregson agrees with. However, this should be attributed to the nature of the measurements taken, rather than inappropriate or incompletely published analyses.

Warren J Miller
Canberra ACT

Evangelistic Skeptics?

What an astonishing article, titled *'From the President'*, Barry Williams wrote in the last issue of the Skeptic.

He asked *'Why do we still have astrologers, occultists, creationists and others who worship ignorance and who reject responsibility?'* Now whether that is what such people actually do is arguable, but whatever the case, what concern should it be to him?

It would be fair to assume that sceptics see one of the 'objectives' in human life, if not the 'objective', is to be happy. So, if the astrologers should be happy being astrologers then why not leave them alone? But of course the sceptic will say that astrology is not TRUE, hence the need to expose such foolishness and set the astrologer and their dupes free from their ignorance. But it must be asked is there any proof - scientific proof of course - that sceptics are happier people than astrologers (or creationists for that matter)! And is there any way of knowing that astrologers will enjoy life more if they find out that their beliefs are a load of bunk? Maybe, if they stay as they are they will go just as happily to their meaningless graves as might the most rabid sceptic go to his meaningless grave. Remember the proverb, 'Ignorance is bliss'?

It seems amazing that *the Skeptic* appears to have such evangelistic zeal for wanting to change other people's beliefs without having established that people want to change, need to change or would appreciate having their beliefs changed. Does Barry go around wearing T–shirts captioned *'I'm on a Mission from Matter'!'?*

At least when people with Christian convictions go around seeking to help people understand their perception of truth, they believe that accepting or rejecting such truth has enormous consequences both now and after death.

But to a sceptical materialist, believing what they regard as truth is surely no big deal, especially in any ultimate sense, so long as people are happy now. Right?

By the way Barry, what did you mean when you referred to the *'human spirit'* and *'the dark parts of the human psyche'* in the same article?

Graham Preston
Annerley QLD

Barry Williams responds:
The fundamental premise of Mr Preston's letter, that life is meaningless unless one subscribes to the idea of some sort of supernatural entity, is false. Indeed, his whole letter contains more false premises than a giant movie set.

Yes, I did ask the rhetorical question, *"Why do we still have...."*, before confessing that I did not know the answer. Unlike the adherents of various belief systems who hold that they, and they alone, are privy to **THE TRUTH,** Skeptics find no embarrassment in admitting that they do not know all the answers. We are quite content to suspend judgement until there is sufficient evidence to enable us to make an intelligent decision on any matter, while reserving the right to treat obviously nonsensical claims for what they are. Which is why we expose the absurdity of the claims of creationists, astrologers and others. They offer us no sensible reason to believe their claims, and in areas where their claims can be tested, they are invariably found to be false One does not need to know the exact composition of the moon to decry the green cheese hypothesis.

I suppose that most people, be they sceptic, astrologer, creationist or multiple axe murderer, would see happiness as an important objective in life. Indeed, isn't the concept enshrined in that noble proclamation of human aspirations, the American *Declaration of Independence*, which demands the right to *'life, liberty and the pursuit of happiness'?* I find that call persuasive and because liberty is also important to me, I do not seek to 'convert' astrologers and creationists (although I might seek to stop the axe-murderer). I am 'happy' for them to

believe anything they care to, but that does not mean that I, or any other sceptic, will allow their unsubstantiated claims to go unchallenged when they seek to promote them in public forums.

I can understand why those who foster irrational beliefs, entirely unsupported by either evidence or rational thought, would accept *'Ignorance is bliss'* as a proverb, but I am more attracted to the quotation in its complete form, *'Where ignorance is bliss, 'tis folly to be wise'*. I can easily imagine a circumstance in which the apostles of ignorance and superstition controlled every facet of life and where it would be folly indeed to be wise. In fact, I don't have to imagine it. History is full of examples, Galileo being only the most obvious of many. Not to mention the states around the world today, controlled by religious fundamentalists of various stripes, in which the quotation would be singularly apposite.

On the other hand, the world in which I prefer to live, and I suspect this would apply equally to most people whatever their religious views, is one in which we strive for knowledge about how the world actually works, and in which we seek to apply the fruits of that knowledge for our betterment .

Prayer, or the position of the planets at someone's birth, had nothing to do with the eradication of smallpox, or the development of the transistor. Immunisation has saved more lives than crystals or faith healing ever have, or are ever likely to.

In the material world, ignorance, far from being blissful, is dangerous. In the world of the spirit, in which everyone is entitled to make their own choice, ignorance may be acceptable and I would be surprised if a great many people make their commitment to any particular religious or spiritual system after in depth studies of all the available alternatives. Nor is there is any evidence to suggest that the adherents of any particular religious dogma are either happier or more fulfilled than the adherents of any other.

On a more trivial note, I rarely wear T–shirts outside the privacy of my own home, but if I was inclined to this form of propaganda, mine would read *'Don't Believe - Think'*, which seems to me to sum up what being a sceptic means.

As to what I meant by various words, I rely on another quotation, (the word) *"means what I choose it to mean, neither more nor less"* . So said Humpty Dumpty in *Alice Through the Looking Glass* and I believe that most of our readers would accept that definition.

Sceptical Bard

Niall Brawley (Vol 11, No 1) says Shakespeare's Owaine Glendwr - Hotspur exchange in Henry IV:
(...G: *"I can call spirits from the vasty deep."* H: *"Why so can I, or so can any man; but will they come when you do call for them?"*...) exemplifies scepticism and mumbo jumbo.

I suggest there is much more in this for the sceptic, as the author had conjured another interpretive level upon the scene, presenting Owain as a creator and destroyer of unrealities (god/s and devils/s), an overview Shakespeare uses in many of his plays. Far distanced is this objectivity from god/s and devil/s when one reads *"such is the stuff as dreams are made on and our little life is rounded with a sleep"* (The Tempest).

In Mr Brawley's opinion, Hotspur seems to be the sceptic, but so too is Glendwr, who in reality, like Shakespeare, did not necessarily believe gods, devils, spirits *et al* to be real. This higher level enhances the understanding of the exchanges and also places them in the cultural continuity of the Elizabethan era, which drew heavily on myth, particularly the Arthurian inspiration.

Consider those times - partly Welsh Henry Tudor, after winning at Bosworth, marched from Wales to claim the crown, with the Arthurian emblem, the Red Dragon, flying. This was the banner of the mythical Arthur and of the real Arthur who defeated the Saxons at Badon. A good propagandist, Henry named his eldest son Arthur after the "Once and Future King".

Matters of myth and reality have always been abused expedients in power systems, either military, religious, political or other. Henry's granddaughter Elizabeth I was surrounded by Arthurian plays, eg *The Faerie Queen*. Her astrologer, John Dee, devised her as ruler of North America because Arthur's subjects were there before the Spaniards. The Celt nation of Britons regarded legendary Arthur as king of Britain, France, Germany and Dacia.

Like Elizabeth, Shakespeare grew up with the same constant theatrical

interpolations of myth into reality. *Cymbeline* and *Lear* draw upon Arthurian legend. When presenting Henry against Richard III, Henry is shown as the historical general, Arthur (the Briton) against the Anglo Saxons.

Glendwr, the hero of Wales, declares that he can summon the spirits and when Hotspur replies that he can also, but will they come, Glendwr could have replied, with Celtic levity *"Why not? Are they the stuff of dreams?"*. This inference shows Glendwr to be the sceptic and Hotspur the dupe. Glendwr was in his own castle inventing fire and brimstone for visitors who had come to divide territory, while his . . enemles were saying:

Falstaff: *"He of Wales that gave Amaimon the bastinado and made Lucifer cuckold and swore the devil his true liegeman, upon the cross of a Welsh hook."*

Poins: *"What a plague him?"*

Fal: *"O, Glendower, Owen, Owen."*

See how you invent a pox upon the enemy. Consider:

"Black pagans, Turks and Saracens" (Richard II)

or, on the positive side:

"He's not in Hell, he's in Arthur's bosom." (Henry V)

then, in the same scene, the author in a moment of contrived levity, writes as if dismissing all the mud:

"Trust none; for oaths are straws, mens' faiths are water cakes".

But let us return to wars and bombs. Robert Oppenheimer, as soon as the first atomic bomb exploded exclaimed (in Sanscrit) *"I am the destroyer of worlds"*. As suddenly, the myth of Rudra the Deadly Lightning and Shiva the Destroyer and Re-creator of Worlds was real and it was a lovely day for a blitzkrieg. The generals muttered through their tears *"Poetic death"*.

Sceptics should be wary of military, religious, political, econocratic or media power usurpation as it has been played out in the unreal stage theatre, or staged in the real theatre of war (or the economy with its insidious weapons), for the cunning and crafty are quick to fuse and confuse the real with the unreal to lock up minds and emotions in ignorance and fix society into an hierarchy, which must not understand, reason, create or apply sceptical inquiry. Scepticism is a vaccine for such coercion. Scepticism, as a tool within the creative process, is part of the reason why we are not overrun by econocrats, by media moguls, by religious zealots or by totalitarians. A *"Handbook for Skeptics"* which includes a 'facts Q & A, and an expose of fakes would sell like hot cakes and war artists could return to their mistresses and models.

Owen Shaw
Gulgong NSW

Lateral Thinking

I am a subscriber to your journal and am interested in critical thinking, practical logic, the psychology of reasoning and, as an unrepentant positivist, particularly enjoy seeing pseudoscience exposed. Can your readers help me as follows:

Recently, after years of procrastination, I finally got around to reading one of Edward de Bono's books on creative thinking – *Lateral Thinking*. This author claims to have a powerful method of teaching innovative and creative thinking. Can readers tell me where the efficiency of his method has been put to the test by psychologists, particularly those specialising in cognition and education and what were the results? Or has this "self help" book been ignored by the scientific community, like so many others on the market and not of proven value? The author himself does not offer much support for his own ideas, despite his emphasis on their practicality. I will also offer a few comments.

His theoretical terms are largely non-scientific and definitions of key terms are vague, do not clarify and therefore allow him to say anything, as long as it is not testable. For instance, he states *"mind is passive"*, which does not tell us a thing. In consecutive sentences he tells us that *"by pattern (a key term) is meant the arrangement of information on the memory surface that is mind"*, *"A pattern is a repeatable sequence of neural activity."* and *"In practice a pattern is any repeatable concept, idea, thought, image."* The use of the phrase *"neural activity"* of course gives his statement a scientific air. His language shifts illogically from the metaphysical to the physical, e g he refers to *"mind events"* as behaviour. His 'psychology' exists in splendid isolation: my edition of his book has no references to relevant work done by others, be they supportive or contrary.

I have met a few people who have recommended "lateral thinking", but

not a shred of evidence was offered for its efficacy - not even anecdotal. I have seen it recommended in management courses, which makes me wonder about the reliability of such courses. To me, most of this book comes across as obscurantism and pseudoscience.

J Snowden
Tarrigindi QLD

Libran Librarians

I feel sure that you will share my delight in knowing that proper scientific principles are being applied to the process of personnel selection.

My informant, a staff member of the Fitzroy Municipal Library, tells me that, in order to get a job on the Library staff, it is necessary to have a "star sign" which will be compatible with all the other people there. My informant also made a couple of other salty comments pertaining to this process - they are best left unprinted.

I can see the day when Personnel Consultants all over Australia have specially trained astrologers, teacup readers, palmists and Old Uncle Tom Cobleigh and all, heavily involved.

I can hardly wait

Geoff Schmidt
North Fitzroy VIC

Utopia?

There was a rewrite of *Matthew 16:14-17* doing the rounds a few years ago:

And Jesus said to them, "Who do you say that I am?"
And Simon Peter replied, "You are the eschatalogical manifestation of the ground of our being; the Kerigma in which we find the ultimate meaning of our interpersonal relationships."
And Jesus said, "WHAT?"

I suspect he would have reacted similarly to John Fitzgerald's definition (Vol 11, No 1).

He didn't live long enough to do what Karl Marx did in his later years: declare that he was not a Marxist.

So let us view sceptically claims made by the disciples of Jesus, Marx, Milton Friedman *et al.* as to what they really said/meant; claims of fidelity of certain institutions/systems/structures to their prescriptions and proscriptions, and of their potential to cure the problems of humankind. And let us be equally sceptical about critics who see gurus and their "isms" as the embodiment and source of all evil.

Let's try some syncretism: while I enjoy some of the fruits of technological development, I do not want to do so at the expense of denying them to others, or wrecking the ecology. I am fascinated by the extent to which Aboriginal people of this land achieved an environmentally sensitive, egalitarian, advertisement-free, full employment, non–competitive society without any central planning.

Kenneth Liberman (*Understanding Interaction in Central Australia*, RKP, 1985) is but one observer of significant values and processes which sustain that society and which persist to varying degrees throughout this land.

Before him, the 19th Century missionary Gunther perceptively observed that their "*peculiar form of government admitting of no distinction of rank, but allowing each man a share in their consultations and decisions as to any questions arising among them, stamps a feeling of independence and even haughtiness, with an appearance of dignity on the character of the men* (and women RB) *rarely to be met among other, differently governed natives* (and others RB). *As they have no titles for distinction, nor a proper name for a chief, so they have neither a word in their language to signify a servant... no man has an idea of serving another. This idea of their own dignity and importance is carried so far that they hesitate long before they apply the term 'Mr' to any European, even though they know full well the distinction we make (between master and servant)*".

We are indeed fortunate to live in the land of a people who have demonstrated the possibility of achieving such egalitarianism. If we could free ourselves from the shackles of inherited colonial prejudices and take the trouble to establish an appropriate relationship, we might well learn from the how to make progress in that direction.

Richard Buchhorn
West End QLD

Vitamin C! Sinister or Dexterous?

I would like to make a few comments on *the Skeptic's* new cover. The glossy paper is quite nice, although probably more expensive. I very much liked the use of a different colour for each issue, and I hope you will stick to that convention. Overall, provided you continue to use a different colour each issue, I am satisfied with the new cover.

I must take issue with Anthony Wheeler's claim that *"vitamin C is always the same vitamin C"* (Vol 11, No 1 page 26). In fact, this is not so. Vitamin C, Iike many complex organic chemicals, exists in two mirror-image forms: L-Ascorbic acid and D-Ascorbic acid. Both forms have an identical chemical structure, but not an identical physical structure. (Fig 1)

The only way to convert the L form to the D form (or vice versa) is by physically removing the $CHOHCH_20H$ group and hydrogen atom and swapping them over. (Science Fiction fans will also recognise one other theoretical method: rotating the molecule through the fourth space dimension.) These two mirror-image forms are known as enantiomers. When vitamin C is created by purely chemical means, the ascorbic acid made is 50% L-Ascorbic acid and 50% D-Ascorbic acid. However, when vitamin C is created using biological means, only the L-Ascorbic acid is created. The same holds for many other biological compounds. For example, all naturally occurring DNA is a left-handed spiral. The situation is made more complicated when it is realised that the $CHOHCH_20H$ group also exists in two mirror-image forms. (Fig 2)

Whether a chemical is L or D can make a great difference to its chemical behaviour in living creatures. For instance, Xnicotine is twice as toxic as DXnicotine. Nicotine synthesised in the laboratory is a 50/50 mix of the L and D forms, while nicotine in tobacco is 100% L-nicotine. It has been claimed that D-Thalidomide is perfectly safe, while L-Thalidomide is an active and powerful mutagen. If memory serves me right, D-Ascorbic acid passes out of the body without any effect, beneficial or harmful.

So before scoffing at the claim that natural vitamins are better for you than synthetic vitamins, you must discover whether the synthetic vitamin in question is purely the L form, or a 50/50 mix.

Steven D'Aprano
Plenty VIC

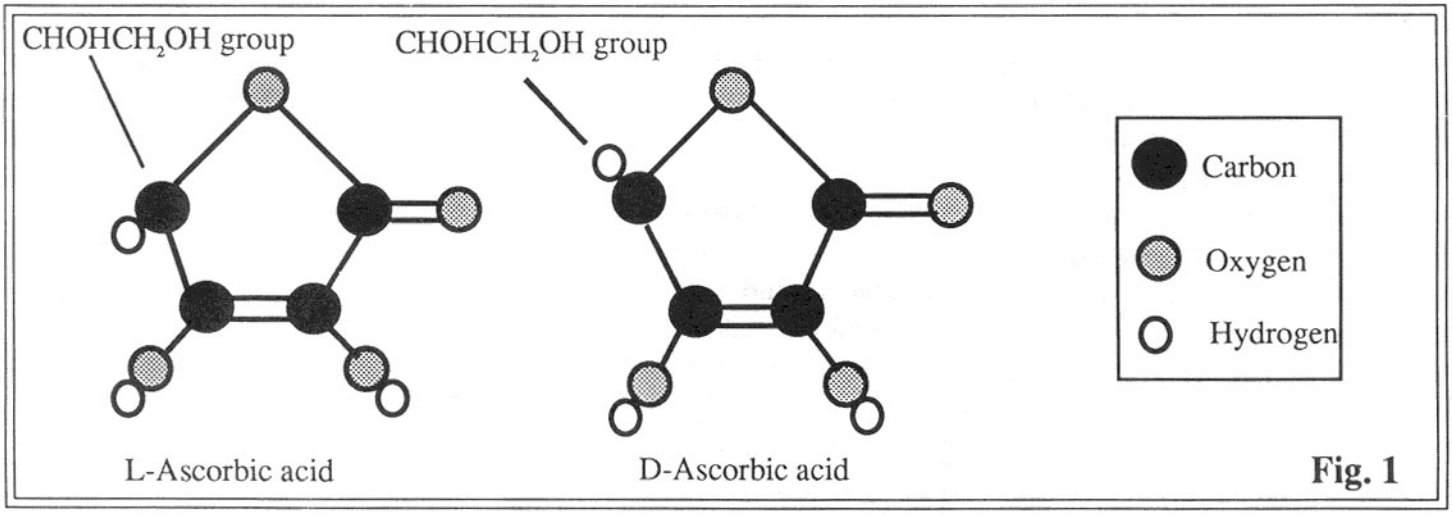


Fig. 1

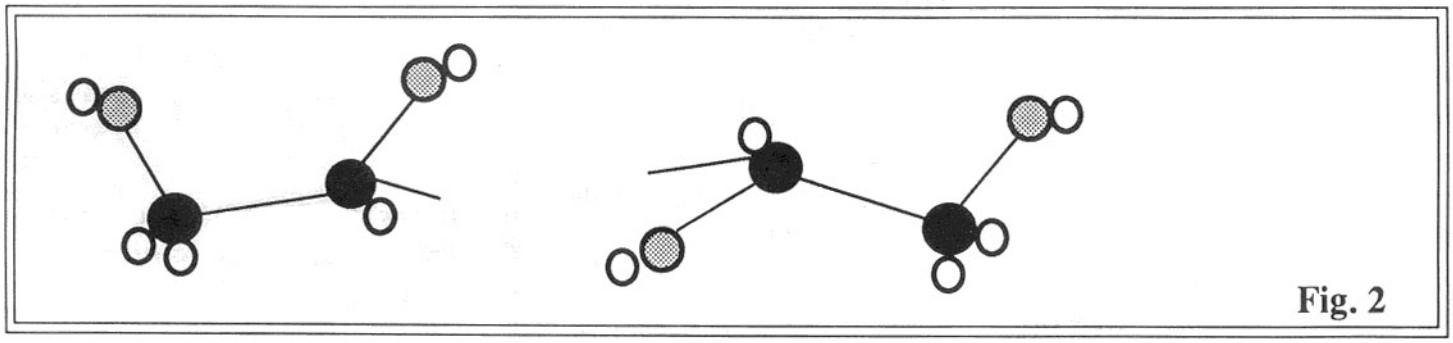


Fig. 2

Skeptical Bard II

Your *Shakespeare the Seer* article (Vol 10, No 4) omitted a classic monologue on astrology from King Lear. The tone is very current.

Edmund. *This is the excellent foppery of the world, that we are sick in fortune, often the surfeits of our own behaviour, we make guilty of our disasters the sun, the moon, and stars; as if we were villains on necessity; fools by heavenly compulsion; knaves, thieves, and treachers by spherical predominance; drunkards, liars and, adulterers by an enforced obedience of planetary influence; and all that we are evil in, by a divine thrusting on. An admirable evasion of whoremaster man to lay his goatish disposition on the charge of a star. My father compounded with my mother under the Dragon's Tail, and my nativity was under Ursa Major, so that it follows that I am rough and lecherous. Fut! I should have been thatl am, had the maidenliest star in the firmament twinkled on my bastardising.*

Shakespeare knew everything, but he was not the only great sceptic from history. How about these quotations from English biologist, T H Huxley (1825-95).

Great is humbug, and it will prevail, unless the people who do not like it will hit hard. The beast has no brains, but you can knock the heart out of him.

and

The improver of natural knowledge absolutely refuses to acknowledge authority as such. For him, scepticism is the highest of duties, blind faith the one unpardonable sin.

(On Natural Knowledge, 1866)

Or, quoting Goethe:

An Active Scepticism is that which increasingly strives to overcome itself, and by well directed Research to attain a kind of Conditional Certainty.

(Rattlesnake Diary, 1848)

Perhaps we should consider making him our patron saint.

Brian Miller
Kensington SA

I rather lean towards H L Mencken who said:

Faith may be defined briefly as an illogical belief in the occurrence of the improbable.

and:

We must respect the other fellow's religion, but only in the sense and to the extent that we respect his theory that his wife is beautiful and his children smart

and the one that informs the editorial policy of this journal;

One horse laugh is worth ten thousand syllogisms.

Ed

Contributors of articles to *the Skeptic* should include a brief biography to allow them to be correctly identified in the "Authors" column. Those who fail to do so run the risk of relying on the idiosyncratic inventiveness of the Editors. Contributions should be typed, printed or on a computer disc whenever possible. Handwritten letters or short articles are acceptable, but a multi-page hand-writen article will need to be extremely interesting to be considered for publication.

About our Authors

Ian Drysdale is a member of the Victorian Skeptics committee and spends a lot of time being "healed", with no noticeable effect on his health.

Harry Edwards is National Secretary of Australian Skeptics and has no plans to freeze his head although he has been invited to go boil it a few times.

Dr Richard Gordon is a memberof the National Committee, a GP and did not write the "Doctor Books".

Doris Leadbetter lives in Bendigo, which probably explains her sense of humour.

Tim Mendham is a man of parts, some of which are in working order.

Phil Shannon describes himself as a humble public servant, of which there is no other living example. He has a long standing interest in the environment.

Dr Ken Smith is a Senior Lecturer in the Department of Mathematics at Queensland University. He is coeditor of *Creationism An Australian Perspective* and is a Life Member of Australian Skeptics.

Sir Jim R Wallaby is to economics what Dame Joan Sutherland is to rugby league.

Barry Williams needs no introduction and is hardly worth meeting anyway.