

# the skeptic

VOLUME 23, NO1

AUTUMN, 2003

A JOURNAL OF FACT AND OPINION





# the Skeptic

Vol 23, No 1  
Autumn 2003

ISSN 0726-9897

## Editor

Barry Williams

## Contributing Editors

Tim Mendham  
Steve Roberts

## Technology Consultant

Richard Saunders

## Chief Investigator

Bob Nixon

## All correspondence to:

Australian Skeptics Inc  
PO Box 268  
Roseville NSW 2069  
Australia  
(ABN 90 613 095 379)

## Contact Details

Tel: (02) 9417 2071  
Fax: (02) 9417 7930  
e-mail: skeptics@kasm.com.au

## Web Pages

*Australian Skeptics*  
www.skeptics.com.au  
*No Answers in Genesis*

<http://home.austarnet.com.au/stear/default.htm>

*the Skeptic* is a journal of fact and opinion, published four times per year by Australian Skeptics Inc. Views and opinions expressed in articles and letters in *the Skeptic* are those of the authors, and are not necessarily those of Australian Skeptics Inc. Articles may be reprinted with permission and with due acknowledgement to *the Skeptic*.

## Editorial consultants:

Dr Stephen Basser (medicine)  
Dr Richard Gordon (medicine)  
Dr William Grey (philosophy)  
Prof Colin Groves (anthropology)  
Mr Martin Hadley (law)  
Dr Colin Keay (astronomy)  
Dr Mark Newbrook (linguistics)  
Dr Andrew Parle (physics)  
Prof Ian Plimer (geology)  
Dr James Popple (law/computer sci)  
Dr Alex Ritchie (palaeontology)  
Dr Steve Roberts (chemistry)  
Mr Roland Seidel (mathematics)

## Branch correspondents:

ACT: Mr Peter Barrett  
Darwin: Mr Simon Potter  
Gold Coast: Mr John Stear  
Hunter: Mr Michael Creech  
Qld: Dr Linda Shields  
SA: Mr Allan Lang  
Tas: Mr Fred Thornett  
Vic: Mr Grant Stevenson  
WA: Dr John Happs

# Contents

## Regulars

- 3 – Editorial — Fighting Back — *Barry Williams*
- 4 – Around the Traps — *Bunyip*
- 62 – Letters
- 68 – Notices
- 70 – Crossword

## Features

- 6 – Paranormal Beliefs among Science Students — *Martin Bridgstock*
- 11 – Did We Say That? — *Brian Baxter*
- 14 – Interview — A Man for all Ages — *Richard and Geoff Saunders*
- 18 – The Lead Balloon — Win Some, Lose Some — *Richard Lead*
- 21 – Should Christians support AiG?: More Evidence — *Ken Smith*
- 26 – Let Us Pray — *Kevin McDonald*
- 28 – Good Word: Twisted History — *Mark Newbrook*
- 33 – Prophet or Profit — *Karen Stollznow*
- 38 – Nutrition Myths — Water, Water Everywhere — *Glenn Cardwell*
- 40 – Exit The X-Files — *Tim Train*
- 42 – Review: True Grit — *Colin Groves*
- 44 – Review: Life of a Devil's Chaplain — *Helen Lawrence*
- 46 – Review: Mediocre Messages — *Mark Newbrook*
- 48 – News: Farewell Oh Good and Faithful Servant
- 49 – Review: Penn & Teller-ing it Like it Is — *Richard Saunders*
- 50 – Review: Out of the Mouths of Babes ... — *Gillian Brown*
- 51 – Review: Evolution of Religion — *Rob Hardy*
- 53 – News: Magnetic Pest Control Update — *Colin Keay*
- 53 – News: Dinner Meetings
- 54 – Forum: The Falacy of Doubling Your Chances by Changing
- 60 – Poesy: Predicted — *Jim Wilshire*
- 61 – Forum: Cults, Aliens and Hypocrisy

Cover art by Charles Rose of Cogency

## Skeptics around Australia

### New South Wales

Australian Skeptics Inc  
PO Box 268  
Roseville NSW 2069  
Tel: (02) 9417 2071  
Fax: (02) 9417 7930  
skeptics@kasm.com.au

### Hunter Skeptics

PO Box 166  
Waratah NSW 2298  
Tel: (02) 4968 9666  
Fax: (02) 4952 6442

### Victoria

Australian Skeptics (Vic) Inc  
GPO Box 5166AA  
Melbourne VIC 3001  
Tel: 1 800 666 996  
Fax: 03 9531 6705  
contact@skeptics.com.au

### ACT

Canberra Skeptics  
PO Box 555  
Civic Square ACT 2608  
act@skeptics.com.au

### Queensland

Australian Skeptics (Qld)  
PO Box 6454  
Fairfield Gardens QLD 4103  
Tel: (07) 3255 0499  
qskeptic@uq.net.au  
**Qskeptics eGroup**  
(to subscribe send blank message to:  
qskeptics-subscribe@yahoo.com)

### Gold Coast Skeptics

PO Box 8348  
GCMC Bundall QLD 4217  
Tel: (07) 5593 1882  
Fax: (08) 8272 5881  
LMDERRICK@bigpond.com

### South Australia

Skeptics SA  
PO Box 377  
Rundle Mall SA 5000  
Tel: (08) 8272 5881  
Fax: (08) 8272 5881  
laurie\_eddie@senet.com.au

### Western Australia

WA Skeptics  
22 Esperance Street  
East Victoria Park WA 6101  
Tel: (08) 9448 8458  
wa.skeptics@australiainmail.com

### Tasmania

Australian Skeptics in Tasmania  
PO Box 582  
North Hobart TAS 7000.  
Tel: (03) 6234 1458  
sharples@netspace.net.au

### Northern Territory

Darwin Skeptics  
PO Box 809  
Sanderson NT 0812  
Tel: (08) 8932 2194  
Fax: (08) 8932 7553  
dwnskeptic@ais.net.au

### Borderline Skeptics

PO Box 17  
Mitta Mitta VIC 3701  
Tel: (02) 6072 3632  
skeptics@wombatgully.com.au

# Fighting Back

As Australian Skeptics strives to bring some sort of rationality into the debate on so-called “alternative medicine”, we must expect many setbacks and some hard-won victories.

In the last issue we were upbeat in our expectations for the committee set up by the NSW Health Department to investigate the wilder claims made for fringe devices and therapies. Recent developments have tempered our enthusiasm a little, though we still have hopes that the committee will fulfil its intended role.

On the downside, two prominent Skeptics who had been told they would be advisors to the committee have now been informed by a senior Health Dept bureaucrat that they are not recognised as such. This is a particularly galling development, as Australian Skeptics, and particularly Cheryl Freeman, has been at the forefront in exposing the many fraudulent devices and treatments being peddled within the broad altmed sector. Every device and potion the Health Minister used in his press conference to underline the need for an advisory committee had been obtained by Cheryl, and we regard her treatment by the bureaucracy as little short of disgraceful.

Of further concern is the addition to the committee of a representative of the very industry under investigation. Normally this might be seen as a reasonable addition, but in these circumstances, where we have seen absolutely no evidence of this industry even beginning to regulate itself by exposing blatantly bogus devices, it is cause for grave concern that the investigation has been nobbled. We are, however, confident that Prof John Dwyer will ensure that the focus remains on the real issues.

But we can expect that those with a stake in promoting their crypto-religious beliefs to fight back. Witness the rage with which the establishment of

this committee was greeted within the altmed network. Petitions, circulated through “clinics” and health food shops, and on many web sites, claimed that the aim of the committee was to banish all forms of “natural” or “complimentary” medicine from the land. Though totally untrue — the real aims of the body are to seek out and banish dangerous modalities, and to hold the proponents of unsubstantiated claims to normal standards of accountability — these emotive tactics clearly struck a nerve in the wider community. No doubt political pressure has had some effect.

Using a favoured altmed technique, let me recount an anecdote of my own to illustrate my point. Shortly after the previous issue was published, I received a call from a man who identified himself as a medical practitioner, asking if we had examples of the homeopathic “vaccines” mentioned in our articles. When I admitted that we did, he wanted to know what research Australian Skeptics had carried out on the vaccines. I said that we had done none, as that was not our role, and that it was entirely the responsibility of the manufacturers to conduct that research *before* making claims for their efficacy.

From his approach, it soon became obvious that he was not only a medical practitioner (a fact I later confirmed from my own sources) but he was also a True Believer in many alternative therapies. His arrogant defence of the logically indefensible and his total unwillingness to concede any validity to my arguments, confirmed my view that I was dealing with a propagandist rather than a man of science. The discussion became quite acrimonious and as there seemed to be no good purpose served by continuing it, I concluded by asking him the location of his surgery. Suspicion evident in his voice he asked, “Why do you want to know?” To

which I replied, “Because if ever I get knocked down by a bus in your neighbourhood, I want to make sure I’m not taken to your practice.” Not a bad punch-line, I flatter myself, but hardly adding much to the intellectual tone of the debate. My plea is that I was provoked beyond reason.

Another sad straw in the wind concerns the uncritical treatment given by the media to altmed claims. In a recent ABC Radio news broadcast concerning the anthrax vaccination given to our service personnel, a spokeswoman for the Australian Vaccination Network was presented as an expert on such matters. Those of us who know the AVN as being both rabidly (and unscientifically) opposed to vaccination of any kind, and as the most strident propagandists opposing the Dwyer Committee, could only mourn the sad decline of investigative journalism on the national broadcaster.

More positively, a recent NSW Skeptics dinner meeting, at which Peter Bowditch demonstrated the many bogus devices we have collected, drew one of the largest audiences ever to one of our functions — and many of them were medical people. We intend to continue pursuing this theme in our functions throughout the year, with speakers addressing other manifestations of medical quackery.

There are many issues to which Skeptics address themselves — often they are the result of the public’s inability to understand scientific concepts, or their lack of critical thinking skills. Many of these misapprehensions are simply annoying examples of irrationality, offensive to our rational minds, but generally harmless in themselves.

That is not the case with quackery — for quackery can kill. The struggle will not be easy, but it is worthwhile.

*Barry Williams*

# Around the Traps

## Holy fencepost, Batman

It can't be all that often that the Bunyip finds himself singing from the same hymn-book (to coin an improbable metaphor) as members of the Catholic clergy, but in the matter of the "Virgin of Coogee" it seems to be close harmony all the way.

No one could possibly have missed the saga of the safety fence on a headland at the Sydney beachside suburb of Coogee which, when viewed from a certain angle and in a certain light, caused some people to declare that one of its posts bore a startling resemblance to the Virgin Mary. We'll leave aside just how these people knew that an illusion that (with a certain amount of licence) vaguely resembled a woman, in fact resembled the Virgin, given that no contemporary depictions of that lady are extant, such appears to be the nature of faith.

Regardless, the faithful (we assume they were mostly Catholics; it seems unlikely that Baptists or Buddhists would be inspired to the same degree) turned up in droves to worship the fence post and to adorn it with flowers, rosary beads and other tributes. Local shopkeepers were loud in their hosannas, while other residents, deprived of on-street parking spots, were noticeably less enthusiastic.

This apparition sparked much media interest, often of the credulous kind, and it also stimulated the imaginations of those pun-gentry who comprise the sub-editorial class. The pick of the crop was one in the *SMH* which headed the story "The fathers, the sun and the holy post". We wish we had thought of it first.

After a couple of weeks of this, vandals (not, we assert, staff members of *the Skeptic*) demolished the fencepost, to loud consternation among faithful and commercial (though not residen-

tial) circles. The local council then restored the fencepost, but it seems to have lost much of its magic as someone (unnamed) painted the post black. We have not heard any further reports since this occurred.

The first indication that the church and the Bunyip were in tune on the issue came when the parish priest, Father Denis Holm, supported by the hierarchy of his diocese, declared that it was an optical illusion. We could hardly have put it better ourselves.

## Gumtree or gum-pee

Inspired, no doubt, by the above visitation, a Melbourne reader of our web site, Ian Kerr, sent us the adjacent photograph of a tree he had taken from the Yarra Boulevard bridge in that fair city (Melway reference 44 J 12).

While it certainly does bear some resemblance to popular depictions of the Virgin, Barbaro, the better-half of our Chief Proofreader Steve Roberts, asserts that it bears an even more striking resemblance to a man relieving himself. We would hesitate to disagree with her (and most certainly Steve would not), so we are happy to leave it to readers to make up their own minds on this vital theological (or urological) question.



---

## It would make you weep

Meanwhile, on a similar front, the famous case of the “weeping” statue in a Perth church seems to have been partially resolved. As previously reported here, the (Catholic) Archbishop of Perth, Barry Hickey, commissioned an investigation into the allegedly miraculous events that caused the fibreglass statue of the Virgin to exude tears.

Now the investigators have released their report which states, *inter alia*: that the exudate was probably olive oil mixed with rose oil; that there were no internal reservoirs containing oil in the statue; that the statue ceased “weeping” while it was being investigated and while locked away in the care of the parish priest, but that it exhibited the phenomenon when left approachable by the public. The Archbishop declared that, while he makes no accusations of interference against anyone, the statue does not meet the criteria necessary for a miracle. It has been returned to its owners.

It seems that yet again the Bunyip and the Catholic Church are marching to a similar tune. The Bunyip has never been (apart from a two week period in early childhood, resulting from a misunderstanding) a member of the Catholic Church, but if this keeps up, and bearing in mind that a papal election is likely in the foreseeable future, smart money should get good odds with the bookies on the installation of Pope Bunyip I before the decade is out.

## Mea culpa

All right, it is confession time — we boobed and we got busted. Much as we’d like to blame a lapse of ~~mammary~~ memory, it is better for us to make a clean breast of matters so we can be welcomed back into the bosom of the family of honest folk.

In Vol 22:2 we quoted a story, reportedly from the *New England Journal of Medicine*, which claimed that research had shown that gazing at a female bosom had much the same beneficial effect on male health as a course of aerobic exercises. As a number of

subscribers, led by Skeptic of the Year, 2002, Paul Willis (we think he was engaging in a tit-for-tat exercise, as he was also nominated for a Bent Spoon in the same year) and from a subscriber named David at the CSIRO, Aitkenvale NQ, gleefully pointed out, no such report had appeared in *NEJM* and we had been victims of an Urban Legend. Sadly, we had udderly failed to check original sources. We are sincerely very sorry to have misled our loyal readers and have been wearing a hair bra ever since.

## Bum note

Undeterred by that, we now report on a story that has been doing the rounds of the net of late. It has been claimed that haemorrhoid sufferers are flocking to a church in Portugal in the belief they will be cured by exposing their afflictions to the statue of a local saint. Please note that we make absolutely no claims of veracity for this story, as we don’t want to make an arse of ourselves again.

## Report from the trenches

Thanks to Peter Bowditch for drawing our attention to this information released by the ACCC. It concerns consumer refunds for claimed health cures sold over the Internet:

*Victorian based Internet trader Mr Michael Desveaux will provide refunds to consumers who bought products via his website, Transformation 2012, based on false or misleading representations.*

*Products sold include O2xyrich Liquid Oxygen, Colloidal Copper, Colloidal Gold, SleepAweigh, Noni Juice, White Powder Gold and Etherium Gold, Olive Leaf Extract, Stevia, Peruvian Maca, Unique Water, Biosun Hopi Candle, and Colloidal Silver makers.*

more at

[http://203.6.251.7/accc.internet/digest/view\\_media.cfm](http://203.6.251.7/accc.internet/digest/view_media.cfm)

It’s nice to know the guardians of commercial probity are taking our complaints about quackery seriously.

## Feedback

We get some interesting feedback to items on our web site, some of it intelligent.

From a different category came the following message, under the subject heading “*ignerence*”

*You guys will only ever experience what you believe in and what you know!!! Life is a process of creation not discovery. Meditate on that and perhaps one day you’ll walk on water.*

Cat.

We think the title encapsulates the message rather neatly.

## Divine inspiration

We thank long-time subscriber, Dr Charlie Carter of Alice Springs for this vital information.

*Rhabdomancy. I encountered the word for the first time today, quoted from Joyce’s Ulysses, where it was used in its adjectival form, rhabdomantic. It sent me scurrying for the Concise Oxford. It means simply ‘the use of a divining rod for subterranean water or ore’*

*The word has the glorious ability to invest the ‘art of water divining’ with all the romantic silliness that it deserves. I commend it to you for future use when the subject comes up again in the Skeptic, as it undoubtedly will.*

## Bleeding obvious

And from another Territorian subscriber, Bill Constantine, a librarian with the NT Library and Information Service comes this note:

*I noticed a new book that has come onto the shelf of one of the libraries I look after. It comes from America but I think it should have application here too. I think its title says it all, The complete idiot’s guide to communicating with spirits.*

*Logically, it should sell lots of copies.*

**Bunyip**

# Paranormal Beliefs among Science Students

**A study at Griffith University  
brings both good and bad  
news for Skeptics**



*Martin Bridgstock is a Senior Lecturer in Science, Technology and Society at Griffith University. He was joint Skeptic of the Year in 1986 (with Dr Ken Smith), and is a Scientific and Technical Consultant to CSICOP.*

## **How widely held are paranormal beliefs?**

Skepticism exists to investigate paranormal claims, so inevitably the extent of beliefs in paranormal phenomena must be of vital concern. We need to know which beliefs are the most important; which claims the most widespread. Surveys of the general population in Australia and America give some guidance. Table 1 shows responses to surveys carried out by MORI in Australia in 1997 and by Gallup in America in 2001. In all, MORI asked about 12 paranormal items, while Gallup asked about 13<sup>1</sup>.

The table is complex, because the questions were asked in different ways. However, the similarities in belief are quite striking. They suggest – though they do not prove – that a substantial majority of both Americans and Australians espouse some sort of paranormal belief. The American study had asked identical questions in 1990, and found that reported belief in most items had risen in the intervening years.

One should be hesitant about reading too much into surveys of this kind, but several conclusions do seem to follow. The first one is fairly obvious. The paranormal is not some minor fringe activity in modern soci-

eties. In a very real sense it is the norm. Despite little support from education or the government, the paranormal commands assent from a majority of people, and its belief base may be expanding. In my view, we should count ourselves lucky that the paranormal is splintered into many different factions and beliefs, or it could acquire real and terrible power.

A second conclusion is this. If paranormal belief is massive and widespread, and if skeptical resources are limited, then it seems logical to develop a skeptical policy. That is, we need to decide which areas of the paranormal are most in need of critical scrutiny, and which are relatively harmless. We might decide, for example, that paranormal health is an important area, or that paranormal movements which directly attack science (such as creation 'science') need special attention.

As part of a skeptical policy, we might also decide that certain parts of the community should have a more highly-developed skeptical sense than others. For example, science is often thought to be under attack from the paranormal, from postmodernists and from others as well (eg Levitt 1999, Gross and Levitt 1994). We might expect that,

among science students in particular, skepticism about the paranormal is much more powerful than in the general community.

In fact, previous research on this topic is not reassuring (Goode 2001). It looks as if increasing education does reduce the incidence of some paranormal beliefs (such as creation 'science') but has no effect at all on others (such as ESP and UFOs). Therefore, we need to know about these beliefs among science students, as well as in other places.

Some research has been done on this topic. Marks and Kammann (1980), in New Zealand, reported that about 80% of their students believed in telepathy, while Gray (1985) found that 85% of his students believed in ESP and nearly 70% in UFOs and reincarnation. Gray also found that he could reduce belief in these topics by appropriate teaching, though the results were

fairly modest and tended to fade over time (Gray 1987).

An important and logical question is this: how do these unorthodox beliefs compare to the 'official' knowledge which students are supposed to be learning? The percentages believing in the paranormal may be of concern: coupled with a rejection of scientific knowledge, they could become alarming. This was the starting-point for the current study: to place paranormal beliefs among students in context by comparing them to scientifically-based beliefs.

### The survey.

I am convenor of a large course for first year students, titled Science, Technology and Society, at Griffith University. The majority of students taking this course will go on to study one of the major sciences, such as

chemistry, physics or biology. A substantial minority are enrolled in a pharmacy program, and there is a scattering of other students, such as one doing a commerce degree, and a few working in environmental science. About 230 people enrolled to do this course in 2002, and in July I administered a questionnaire about beliefs in the paranormal. For most students, this questionnaire was administered electronically: a total of 165 completed the form via computer. However, 23 students were not able to access the electronic form, and these completed paper questionnaires. The total response rate was 188 out of 230, or over 81%.<sup>2</sup> In no case did more than three students fail to complete any item.

In the questionnaire, I asked students about a range of paranormal phenomena. However, it seemed important to be able to compare their beliefs with scientific ones. Therefore, I included six other items. Four of these – I'll call them established scientific beliefs — described beliefs which are generally accepted to be verified scientifically. They are taught in universities and, in Kuhn's (1970) term can be regarded as paradigms. These are continental drift, evolution, the big bang origin of the universe and quantum physics. In each case the beliefs are scientifically accepted, but difficult for the non-specialist to envision. I also included two 'scientifically undecided' items: the Oort cloud and intelligent life on other worlds. In Table 2 the scientifically established beliefs are in bold type, the scientifically undecided ones are in italics. In the questionnaire, they were not distinguished in this way, and were mixed up with the paranormal beliefs.

This field of research is bedevilled by a lack of standard questions and measures. I used many of the Gallup formulations for the items, and also took three of the scientific items from the national Science Foundation survey of attitudes toward science (National Science Foundation 2002). Some items — such as the Oort cloud and quantum physics — I made up myself<sup>3</sup>.

**Table 1.**

**Belief in paranormal phenomena in Australia and the USA**

	Aust 1997	USA 2001
Belief in* ... (Australia/USA)		
Ghosts/Ghosts or spirits of dead people can come back in certain places and situations	40	38
Astrology/Astrology or that the position of the stars and planets can affect people's lives	28	28
Past lives/future lives* */reincarnation, that is, the rebirth of the soul in a new body after death	30/34	25
Alien visitors (ancient)/Extraterrestrial beings have visited earth at some time in the past	32	33
Mind Reading/Telepathy, or communication between minds w/out using the traditional 5 senses	36	36
Psychic healing/Psychic or spiritual healing or the power of the human mind to heal the body	68	54

Sources: Milne (1997); Shermer (2001)

\*The Australian questions went: "Do you believe in . . .". The American questions went: "For each of the following items I am going to read you, please tell me whether it is something you believe, in, something you're not sure about, or something you don't believe in. How about . . .?" The Australian survey asked 609 people over 16 by phone, the American survey asked 1012 people over 18 by phone.

\*\*Two separate questions were asked in the Australian survey.



**Table 2**  
**Ratings of Items on Percentage of Students Believing or Tending to Believe**

	Believe		Tend to Believe	
	%	N	%	N
<b>Continental drift - the continents have been moving their locations for millions of years and will continue to move in the future.</b>	<b>68.1</b>	<b>128</b>	<b>23.9</b>	<b>45</b>
<b>Evolution - human beings as we know them today developed from earlier species of animals.</b>	<b>58.8</b>	<b>105</b>	<b>25.5</b>	<b>48</b>
<i>There is intelligent life somewhere else in the universe.</i>	52.7	99	23.4	44
<b>At its basic, sub-atomic level, the universe is probabilistic and cannot be known completely.</b>	<b>29.8</b>	<b>56</b>	<b>26.6</b>	<b>50</b>
ESP or extrasensory perception.	22.3	42	39.9	75
<b>The big bang - the universe began with a huge explosion.</b>	<b>22.3</b>	<b>42</b>	<b>31.4</b>	<b>59</b>
Psychic or spiritual healing.	19.7	37	27.7	52
Telepathy or communication between minds without using the traditional senses.	19.1	36	33	62
Extraterrestrial beings have visited earth at some time in the past.	19.1	36	25.5	48
That houses can be haunted.	18.1	34	26.6	50
Ghosts or spirits of dead people can come back in certain places and situations.	17.6	33	34.6	65
Witches.	17.6	33	20.7	39
Clairvoyance or the power of the mind to know the past and predict the future.	17	32	27.7	52
Reincarnation, that is, the rebirth of the soul in a new body after death.	16.1	30	21.5	41
<i>Some comets come from the Oort cloud, which surrounds the Solar System.</i>	14.4	27	14.4	27
People can hear from or communicate mentally with someone who has died.	13.3	25	15.4	29
Creation - the world was created in six days, as described in the Book of Genesis.	12.2	23	9.6	18
UFOs are alien craft from another planet or star-system.	9	17	26.1	49
Astrology, or the position of the stars and planets can affect people's lives.	9	17	17	32
Channelling, or allowing a 'spirit-being' to temporarily assume control of a human body during a trance.	9	17	11.2	21

In the questionnaire, I asked the students to indicate whether they believed in each item, tended to believe, did not know or could not say, tended not to believe or did not believe. My aim was to assess how firmly beliefs were held. Clearly, a statement of belief is more of a commitment than a tendency to believe, and this leads to an important finding<sup>4</sup>.

Now, what would we expect to find from students' responses? If there were general acceptance of scientific knowledge, then the four items concerning established scientific beliefs should have a far higher belief rating than the rest. The two scientifically undecided items might receive, on the average, 'don't know' ratings, while the paranormal items would rate much lower.

What might we find if the scientific method were not accepted? This is more difficult to say, but one possibility is that all views — scientific or paranormal — would receive similar levels of endorsement. This is the fear of scientists such as Gross and Levitt (1994), with their concern that one belief is regarded as being as good as another.

**What did the results show?**

Table 2 displays the results of the survey, in order of belief. They fall between the two scenarios outlined above, though perhaps resembling the first one a little more. Of the four established scientific beliefs (bold type), all occupy positions in the top six, and three are in the top four. What is more, the other item in the top four is the existence of intelligent life elsewhere in the universe — one of the scientifically undecided items.

The percentages also give some comfort to advocates of a scientific viewpoint. Over two-thirds of the respondents believe in continental drift, and over a half in evolution. If you include the 'tend to believe' answers, over ninety percent of students accept continental drift, and over eighty percent accept evolution. All four scientifically established beliefs have a majority believing, or



---

tending to believe them. Compared to the paranormal beliefs, most of the scientifically established beliefs also seem to have 'harder' support, that is, they have a higher proportion of people 'believing' in them, rather than 'tending to believe'.

Things become a little more surprising when we look at the two scientifically undecided items. Well down the list, only one student in seven believes in the Oort cloud, and a similar number tends to believe. This is not quite as bad as it sounds, since only 5 students did not believe, or tended not to believe: a huge majority (68.6%) ticked the "don't know/can't say" box. This is a reasonable response since, as Raup (1999:19) has said "The Oort cloud has never been seen". Still, one wonders at this massive 'don't know' vote, when one sees that over half the students asserted a belief in intelligent life elsewhere in the universe, and more than three-quarters believed or tended to believe in it!

Why are these two 'scientifically undecided' items assessed so differently? One can only speculate. One possibility is that the evidence for intelligent life is much more compelling than that for the Oort cloud. My own view is that this is not true: there is no direct evidence for either. Another possibility is that most students have never heard of the Oort hypothesis, and so refrained from expressing an opinion. That does imply that they have different standards for the intelligent life hypothesis and the Oort hypothesis.

Thus far, the results look reasonably good for science. However, the responses to the paranormal items have some surprises. Some of them attract appreciable levels of support: over 60% reported believing, or tending to believe in ESP, and over a half in ghosts and telepathy. Support for most of the rest is at the level of a substantial minority. Creation 'science' attracts little support, but even so nearly one student in eight reports believing in six-day creation. This is disconcerting for me: as I survey a lecture class of perhaps 150 students, I know that fifteen to

twenty of them support six-day creation. I find myself looking along the rows, asking myself "Which ones?"

On the other hand, the levels of support are appreciably less than those found by Marks and Kammann and by Gray. Even for ESP, the most popular paranormal belief, these ratings are well short of the eighty-plus percentages recorded by these researchers. The popularity of creation 'science' is broadly in line with other studies in Australia (eg Price 1992), but well below that in American universities.

### Comparing results

How do these results compare with those of the polls in Table 1? The questions are asked in different ways, so comparisons are difficult. However, it seems clear that support for psychic healing is less, and that for astrology may be as well. Compared to the American survey, support for creationism is well down. A surprising result comes when American responses are compared on the scientific items (National Science Foundation 2002). Student responses to the big bang and continental drift are actually less supportive than those of American adults<sup>5</sup> and only a little higher for evolution.

The low levels of support for astrology and UFOs among the students quite surprised me. It is possible that some support for all the items is an artefact. The students had to complete this questionnaire as part of their course, and it is possible that some simply selected the first category in each answer to get through it as quickly as they could. However, since the least supported items attracted support of only 9%, this is the maximum size of this effect; it alters the size of the percentages, but not the conclusions. It is also worth pointing out some inconsistencies. For example, a total of 153 students believed, or tended to believe, in evolution and 41 believed or tended to believe in six day creation. However, only 188 students completed the questionnaire, and so at least six students must have said

they believed, or tended to believe, in both evolution and six-day creation! This seems logically impossible, and I suspect that the result is simply an artefact of a few students giving quick, unconsidered answers.

On balance, these results are mildly reassuring to the supporters of science. Among this class of science students, there was clear support for established scientific viewpoints. Support for the paranormal was somewhat lower than for many other studies. In addition, support for scientific viewpoints was often 'harder' — more definite — than support for paranormal beliefs. On the other hand, there is certainly a disturbingly luxuriant undergrowth of paranormal beliefs. In some cases a majority of the class believed, or tended to believe, in some paranormal phenomena.

To my mind, to tackle the paranormal better, Skeptics need several things. One is a clear policy: bearing in mind their levels of support, which beliefs are most in need of skeptical attention? Second, we need a generally accepted measure of paranormal beliefs: there is a babel of different questions and items, making comparisons between different studies almost impossible<sup>6</sup>. I propose to develop one, based loosely on the items trialled here. Finally, we need a better understanding of how paranormal beliefs fit into people's lives. It is not enough to point to logical errors which lead to paranormal ideas: we need to know why these beliefs appeal, and not others. Thus equipped, we might make the world a better place for skepticism.

### Notes.

1. Some of the other items are interesting. 41% of Australians believed in Aboriginal mystical powers, and 42% in angels. 41% of the Americans believed in possession by the devil, but only 15% believed in channelling. The Australian survey did not ask about creation 'science', but Gallup found 45% of Americans supported creation.

## Paranormal Beliefs

---

2. This is probably an underestimate of the response rate. Some students enrol and then take no further part in the course. Perhaps as many as 20 do this each year, reducing the student population to 210, and raising the response rate to nearly 90%
3. To avoid making a fool of myself, I checked the quantum physics item with a physicist.
4. Incidentally, the Science, Technology and Society Course has nothing directly to do with skepticism or the paranormal. Its content can be found by reading Bridgstock *et al* (1998). Therefore, the students had no 'skeptical cues' regarding the author's viewpoint.
5. Once again, the questions are different. 33% of American adults said it was true that the big bang took place, 79% said that continental drift was true, and 53% that human evolution took place. If you accept that believing is the same as saying something is true, then the comparable Australian student figures are 22%, 68% and 56%. Great caution is needed here.
6. The strongest candidate for a general instrument to measure paranormal beliefs is probably the scale developed by Tobacyk and Milford (1983). However, it has a number of problems. There is a statistical dispute about whether it measures seven dimensions of paranormal belief (Tobacyk and Milford 1983),

five (Lawrence, Roe and Williams 1995), four (Hartman 1999) or maybe just two (Lange, Irwin and Houran 2000). That's a lot of uncertainty! The questions ask about different types of paranormality in different ways, which mean that the answers cannot be compared. In addition, the scale contains no measure for astrology, and no direct measure of creationist belief. For these reasons, it does not seem very useful.

### References.

- Bridgstock, M. W., Burch, D. F., Forge, J. C., Laurent, J. and Lowe, I. (1998) *Science, Technology and Society: An Introduction*. Melbourne. Cambridge University Press.
- Goode, E. (2001) "Education, Scientific Knowledge and Belief in the Paranormal". *Skeptical Inquirer* 26, 1, 24-27.
- Gray, T. (1985): "Changing unsubstantiated belief: Testing the ignorance hypothesis". *Canadian Journal of Behavioural Science*. 17 (3) 263-270.
- Gray, T. (1987): "Educational Experience and Belief in the Paranormal". In F. Harrold and R. Eve (eds): *Cult Archaeology and Creationism*. Iowa City, University of Iowa Press: 21-23.
- Gross P. and Levitt N. (1994): *Higher Superstition*. Baltimore and London. Johns Hopkins University Press.
- Hartman, S. (1999): "Another view of the Paranormal Belief Scale". *The Journal of Parapsychology*. 63, 131-141).
- Kuhn, T. S. (1970): *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Lange, R., Irwin, H. J. and Houran, J. (2000) "Top-down purification of Tobacyk's Revised Paranormal Belief Scale". *Personality and Individual Differences*, 29, 131-156.
- Lawrence, T. (1995): "How many factors of paranormal belief are there? A critique of the Paranormal Belief Scale". *The Journal of Parapsychology*. 59, 3-25.
- Levitt N. (1999): *Prometheus Bedeviled*. New Brunswick. Rutgers University Press.
- Marks, David. and Kammann, Richard (1980) *The Psychology of the Psychic*. Buffalo, N.Y. Prometheus Books
- Milne S. (1997): "Into the Mystic". *The Bulletin*. March 4: 12-17.
- National Science Foundation. (2002) *Science and Technology: Public Attitudes and Public Understanding. Indicators 2002*. <http://www.nsf.gov/sbe/srs/seind02/c7/c7i.htm>
- Price, B. (1992): "AIB National Poll of First year Biology Students in Australian Universities". *the Skeptic*, Spring, 26-31
- Raup, D. M. (1999): *The Nemesis Affair*. New York and London. W. W. Norton.
- Shermer M. (2001): "Polls Show Paranormal Beliefs on the Rise, Evolution Belief on the Decline". *Skeptic* Volume 9, Number 1, 10-11.
- Tobacyk, J., Milford G. (1983): "Belief in paranormal phenomena: Assessment instrument development and implications for personality functioning". *Journal of Personality and Social Psychology* 61, 337-342.

**A full copy of the distributions will be sent to anyone requesting it: [M.Bridgstock@sct.gu.edu.au](mailto:M.Bridgstock@sct.gu.edu.au).**



---

# Skeptics National Convention

## August 22-24

## Canberra

---

# Did We Say That?

## Creationists farewell some old friends

**Push dogma masquerading as science and you run the risk of looking ridiculous – a cautionary tale.**

Imagine for a moment that you were the proud possessor of an infallible science textbook. Imagine further that you could contact the infallible author of this textbook at any time and receive guidance as to the book's correct interpretation. With a system like this in place, you'd be pretty right, wouldn't you? I mean, you wouldn't keep putting your foot in it, blundering along all over the place and having to post long lists of your egregious errors on your Internet site. Now would you?

Answers in Genesis (AiG), Australia's major creationist organisation, has such a textbook. It's called the Bible, and its omniscient author is readily contactable through the medium of prayer. Now, everyone knows that God wouldn't steer you wrong, so why does AiG need a webpage like [www.answersingenesis.org/home/area/faq/dont\\_use.asp](http://www.answersingenesis.org/home/area/faq/dont_use.asp)?

This page contains an ever-expanding list of creationist arguments which AiG feels have passed their use-by date. These are divided into arguments which 'should definitely not be used' (26 of these as at February 2003) and a further ten argu-

ments which 'are doubtful, hence inadvisable to use'.

AiG seems to think that its credentials as a respectable scientific research body are significantly improved by these admissions of past error. After all,

*[e]volutionists continually revise their theories because of new data, so it should not be surprising or distressing that some creationist scientific theories need to be revised too.*

Barley, Charlie! There is no comparison between the constant refining of established scientific theories and AiG's devastating attack on its own past. As will be seen, science may be pruning the roses but AiG is taking a chainsaw to its whole garden. With our list of ex-arguments in hand, let us revisit some creationist publications and conferences of earlier times and see if anything has been left standing.

### The rise and fall of moon dust

Until 1997, AiG was known as the Creation Science Foundation (CSF) and its flagship magazine was called

*Brian Baxter is a Melbourne-based writer and teacher who has made a study of aberrant religious sects. His image still does not show up on photographic film.*



*Ex Nihilo* (now entitled *Creation*). If we look through *Ex Nihilo* of February 1984 and chop out the bits dependent on abandoned arguments, this august journal looks like the puppies have been at it. Out goes the 'Ordovician Hammer Report', including a photo of the hammer found in 400 million year-old rock. According to AiG's current thinking, items such as 'gold chains found in coal' are henceforth to be treated with reserve, bordering on disdain. 'Moon dust' also got a run in this issue, although AiG was already beginning to back away from this argument. Its current position is that:

*For a long time, creationists claimed that the dust layer on the moon was too thin if dust had truly been falling on it for billions of years ... [But] early estimates [of dust thickness] were wrong ... So the dust layer thickness can't be used as proof of a young moon ...*

### Paluxy footprints

All references to '[o]riginal scientific research in Paluxy River in Texas reveal[ing] human footprints in the same rock stratum with dinosaur tracks' also have to go. Here, though, AiG wants to save something from the wreck:

*Some prominent creationist promoters of these tracks have long since withdrawn their support. Some of the allegedly human tracks may be artefacts of erosion of dinosaur tracks ...*

But they're not giving in without a fight:

*However there is much evidence that dinosaurs and humans co-existed.*

AiG now regards as officially 'doubtful' the proposition that the speed of light has decreased over time (c decay). In that case they will also have to turf out Andrew Snelling's blatant acceptance of Barry Setterfield's work in this area:

*That there is still a systematic pattern to the radiometric dates coincid-*

*ing with the observed sequence of rock units has been explained by Setterfield as due to the decay in the speed of light ...*

And before we leave the February 1984 issue, does AiG still seriously maintain that aboriginal Australians practise a large number of Jewish customs, retaining traditions of Creation, Noah's Flood and the Tower of Babel? Perhaps this offensive argument is one more that they could add to their list.

### Collapse of the canopy

None of the other *Ex Nihilos* I looked at fared much better than the previous example. The October 1984 edition featured recent dinosaur sightings in the Congo, now presumably relegated to Paluxy status. Paluxy itself was pushed to the limit by CSF luminary Ken Ham:

*[R]esearch by creationists such as Dr John Morris, Dr Clifford Wilson and Dr Carl Baugh has established that there are [human] footprints there that cannot be carvings.*

Oh dear. Not only has Paluxy gone, but so has Carl Baugh. AiG's position on Baugh is that '... he's well meaning but ... he unfortunately uses a lot of material that is not sound scientifically. So we advise against relying on any "evidence" he provides ...'

Back in 1984, Ken Ham's article burred happily on, telling us all about the aftermath of the deluge, when:

*... [t]he water canopy the Bible implies existed around the earth's atmosphere up to the time of Noah's Flood was gone.*

Sorry, Ken, but the 'water canopy' argument has now been classified as 'doubtful, hence inadvisable to use', which rather undermines your entire position. Ham proceeded to identify Job's 'Leviathan' as having been 'some form of fire-breathing dragon'; and asserted that '[i]t could even be true that the Loch Ness Monster (if Nessie really exists) is a variety of Plesiosaur'. Again, the plesiosaur is

persona non grata at the moment, with the dead one allegedly found near New Zealand (actually the decayed carcass of a basking shark) also on AiG's hit list.

After the required excisions, this issue of *Ex Nihilo* now resembles a piece of Swiss cheese. Perhaps we should toddle off to a creationist conference or two in the hope of discovering some 'infallible truths'.

### Light relief

We might skip the Creation Science Weekend held at Moss Vale in June 1983, centring as it did on the work of Barry Setterfield, now on the nose, but then the '[b]rilliant astronomer / physicist / full time Christian worker who is responsible for what is possibly the most sensational research discovery in the whole Bible / science field' ie, the slowing of the speed of light. Unfortunately, we'll also miss a showing of the film *Footprints in Stone*, set around the Paluxy River: a 'fast-moving documentary which shatters the widely-taught geologic table of evolution'.

Surely we'll have better luck at the CSF Summer Institute held in Melbourne during January 1985. John Mackay (shortly to become a CSF 'unperson'), kicked off proceedings by asking the question: can science investigate the past? Briefly, said Mackay, 'the answer is No'. Perhaps this is an infallible truth as it does not appear on AiG's dump-list, but the audience may as well have gone home after this, so replete was the conference with now-discarded creationist arguments. Clifford Wilson banged on about Paluxy, while Barry Setterfield told everyone about c decay and moon dust, '[a]nother pointer to a "young" creation.'

It's the same story with most creationist conference reports, dating right back to the 1970s. Most of these 'theories' are really more like 'wild surmises', in which a momentarily surprising observation is rapidly exaggerated out of all proportion to its significance. Audiences at these lectures and seminars wasted huge amounts of time and money

---

listening to pseudo-scientific ideas with very brief half-lives.

### Gish and the Second Law

A case in point is Dr Duane Gish's lecture tour of Australia in 1975. Gish was at that time Associate Director of the Institute for Creation Research in California and his visit was organised by the Evolution Protest Movement, a precursor of CSF/AiG. A key element of Gish's argument on this and many subsequent occasions was the Second Law of Thermodynamics:

*Gish maintains that ... evolution is less scientific than creation because it contradicts some of our best-established natural laws. If the particles-to-people evolution theory is true, matter must have the inherent ability to self-organise ... into even higher and higher levels of complexity ... [T]he Second Law of Thermodynamics, one of the basic laws of science, describes just the opposite tendency. All natural, spontaneously occurring processes result in a loss of order. The universal tendency is to go from the complex to the simple, from order to disorder. Evolution would require just the opposite.*

Creationist bodies elaborated the argument over the years, so that the Second Law was postulated as having begun to operate when Adam and Eve fell from grace in Eden. But guess what now appears on the AiG's 'Definitely Don't Use These Arguments' list?

*'The 2nd Law of Thermodynamics began at the Fall'. This law says that the entropy ('disorder') of the Universe increases over time, and some have thought that this was the result of the Curse [of God on Adam and his heirs ie humanity]. However, disorder isn't always harmful. An obvious example is digestion, breaking down large complex food molecules into their simple building blocks ... A less obvious example to laymen might be the sun heating the Earth ... Finally, all beneficial processes in the world, including the development from embryo to adult, increase the overall disorder of the*

*universe, showing that the Second Law is not inherently a curse.*

This concession cuts a swathe through the content of innumerable creationist lectures and conferences. Although the above is a variant on Gish's long-discredited argument, the creationist message has always been that: (a) there was nothing good about the Second Law, and that it involved inevitable decay; and (b) that its operation entirely precluded the process of evolution. AiG supporters cling fondly to their pet theories – a recent issue of *Creation* refers to readers 'pining' for their old moon-dust argument – and they'll be howling at the moon for this one.

Gish also regularly claimed that transitional forms proposed by evolutionary theory were 'non-existent, since gaps between the higher categories of plants and animals are systematic.' This situation directly supported creationist theory and contradicted evolution.

AiG is now backing away from such claims at the speed of light – or at least a decayed version of it. 'There are no transitional forms' is now defunct:

*Since there are candidates, even though they are highly dubious, ... [we should say] instead: 'While Darwin predicted that the fossil record would show numerous transitional fossils, even 140 years later, all we have are a handful of disputable examples.'*

From a historical point of view, and despite the qualifications attached to it, I would class this as a major retreat by AiG. Over recent years it has been most interesting to observe this group gradually incorporating the language of evolution into its ideology. It may come as a surprise to some Skeptics to learn that 'creationists accept natural selection as an important part of the Creation / Fall framework', that 'new species have been observed to form' and that in some situations 'beneficial mutations' do occur. Despite the spin which AiG imparts to statements like these, one wonders how much more ground they can yield

without attracting charges of apostasy from sterner souls within their movement.

### Conclusion

Since creationism is a pseudo-science, it should come as no surprise to learn that most of AiG's ideas are wrong. However, it is a little surprising to see the group carefully gathering its gaffes together and posting them on the Internet. Writing in the unrelated field of Holocaust Studies, Robert Jan van Pelt has drawn attention to the 'crazed positivism' of believers in the 'no Holocaust' theory:

*The assumption that the discovery of one little crack will bring the whole building down is the fundamental fallacy of Holocaust Denial.*

Creationists, too, seek little cracks in the structure of evolution, which ultimately form the basis of blooperlists like the one I have looked at here. Still, they shouldn't have to worry for too much longer. Harking back to 1986, we have it on the authority of Prof John Rendle-Short, former Chairman of CSF that:

*... [I]t is now clear that on the scientific level the theory of evolution is rapidly losing ground. Some non-creationists predict that it will be abandoned within 20 years.*

So that'd be three years to go then.

### References

- Creation*, various issues
- Ex Nihilo*, various issues, esp. February and October 1984
- Guttenplan, D. D. *The Holocaust on Trial* (Granta. 2001)
- Life, the Universe and Everything ...*, Supp. to *Creation Science Prayer News* April 1983
- New Life*, 14 August 1975, 17 January 1985, 6 February 1986



# A Man For All Ages

**A candid interview with one of Australia's best known and most distinguished earth scientists**



*Richard Saunders, an audio-video producer, is the President of Australian Skeptics, NSW; Geoff Saunders is a writer. Apart from having parents in common, they are otherwise unrelated.*

Michael Archer is Director of the Australian Museum and Professor of Biological Sciences at the University of New South Wales. His work in the field of palaeontology has profoundly changed our understanding of mammalian evolution in Australia.

Mike has long been a champion of the role of scepticism in scientific endeavour, and has been a prominent critic of creationism and other anti-scientific beliefs. He has won many scientific awards, including the 1990 Eureka Prize, but putting all these accolades in the shade was his winning of the 1998 Skeptic of the Year.

The Australian Museum has been hosting the Chinese Dinosaurs exhibition, partly sponsored by Australian Skeptics. Shortly after its opening, Mike Archer was interviewed for *the Skeptic* by Geoff and Richard Saunders.

We began by asking Mike about an amusing episode at the launch of the exhibition.

**Mike:** You heard about what Bob Carr did at the launch of the Chinese Dinosaurs exhibition? He said:

*I'm here to make a very important announcement. The Australian Museum has recovered DNA from*

*one of these Chinese dinosaurs and they're going to bring it back. I'm going to dedicate the Maroubra Rifle Range as the reserve for these creatures.*

He said it completely straight-faced and the press just kept on taking notes. Then he said,

*Mike here will tell you how we're going to do it. (Thank you very much, Premier!) However there is a serious problem. The size of the animals that you see around you in these galleries is not going to be good for the Maroubra vegetation, so while we're in there, we're going to take the genes for koala feet and put them into the dinosaurs so they'll all have big, grey, furry feet and they won't damage the vegetation.*

and the press is madly taking all this down. Anyway, we kept this thing going, throwing back and forth. In the end, somebody must have said to Carr that they're not in any doubt that what you're telling them is exactly what's going to happen. So he ended up putting up a piece of paper saying 'Joke, guys, joke!'

And they're still there looking at him to make sure it's a joke. But in the end the press realised that they'd been had and they were a



little reluctantly laughing at themselves. In fact, afterwards I went up to many of the reporters who were obviously confused and some of them said to me: 'You do have the DNA of these dinosaurs?' You know they still weren't ready to let it go.

### Thylacine project

**Richard:** Bob Carr is obviously a big supporter of science in general.

**M:** On the Thylacine project, he was actually heard to say to his support staff that this is the most exciting thing he has ever heard in the whole world.

So he was just blown away by it. And he did help; he donated some State money.

**R:** Without a doubt, if and when this is successful it will be the biggest story on the planet.

**M:** That's the interesting thing about it. As a member of the Museum Trust said recently: 'My God, just think what it would mean if this project actually works.' You're quite right, it is very hard to envision a project that would be more representative of the 21<sup>st</sup> century.

We've got Bob Lanza coming in from Advanced Cell Technology, the group from Boston that actually started to produce the first human clones. They have stopped the development of these things. He's the one who, on Discovery Channel documentaries, was saying he can't see why this project shouldn't succeed and why it couldn't be possible in the next 10 years. He's coming to Australia.

**Geoff:** He was the one who had the house by the lake?

**M:** Yes and he has a fossil collection in his house. He's fascinated with extinct animals. He said that the only thing that would have given him any hesitation is not the technicalities of doing the work but the

outcome – what we could do with it if we're successful. But in this case he's looking at filmed footage of the animals still pacing around the cage. It's clearly such a recent event that the place where you'd put the animal is its own environment. It's still

enough humans in the world anyway.

But the whole notion of maximising the global genome is relevant here. Here we have a whole family of mammals representing this unique big chunk of the Australian genome

that was snuffed out by human activity. To bring that back would be contributing in a major way to the conservation of genetic diversity on the planet, which is not the same thing as, say, bringing back something like a toolache wallaby

there, it's still waiting. He can't see any reason why we can't do it and he can equally see no reason why we shouldn't do it.

**R:** And obviously it would be far more significant than just cloning another living mammal. Mammals are already being cloned; what's the big deal? If it was a human the media would go crazy, of course.

**M:** And you think why would you clone another human? There are

or a crescent nail-tailed wallaby, both extinct, both our fault, but on the other hand, there are individuals of 52 other species of kangaroos. There's not the same imperative to bring back yet another kangaroo that there is to bring back the only representative of a whole family.

**R:** Is there another animal in that category like a thylacine; a single representative of a whole family? Nothing springs to mind instantly.

**M:** Yes, there is the numbat; and the bilby is also the last representative of an unique family. And there's the honey possum. So we have a number of these in Australia; in fact, you could probably roll off about half a dozen. The loss of the thylacine should lead to extra special attention to the welfare of these unique representatives of families.

**G:** A common argument put by the opponents of cloning is that the very fact that there are animals teetering on the brink of extinction is one reason not to try and clone extinct animals. It gives us an 'out'. We can say 'It's OK if species x becomes extinct today. We can clone it tomorrow'.

**M:** Well, there are two arguments, and one is exactly the opposite. If



## Man for all Ages

you listen to some zoologists at the moment their argument is that if a thing is teetering on the brink of extinction, you can forget it. Don't invest any money in it. Invest it in things that are more likely to pull back or able to be kept from the brink of extinction. So some people have a view that you invest in things that are fragile; others say you don't, because you're wasting your money because it's likely to tip over no matter what you chuck into it. But that's not the question you asked me. The question you asked me is, and it is an issue, aren't there some conservationists who say if this project is successful, and that's what they're worried about, then won't this send a signal to groups that are investing in conventional conservation programs that this is a waste of money?

The answer to that simple question is that:

1. we have no idea whether this project is going to succeed. So to put off any conventional conservation programs on the off-chance that this project succeeds, would be akin to madness; but,
2. even if it does succeed, the amount of resources, energy, effort, time it's going to take would in itself be probably 50-100-fold greater than the energy required to look after something that's still here and stop it teetering over that brink of extinction.

So, if anything, this is a flagship in favour of the importance of conventional conservation because we don't want to have to do all of this incredible amount of work to bring something back from extinction when we could do less work to keep it alive. So I don't see that as a valid argument against doing this and I think it's important to recognise that we're not putting it up as an alterna-

tive, even if some people might say that this is an additional conservation strategy in extreme situations. We wouldn't want to have to use it more than is absolutely essential.

**R:** *There are of course many other recently extinct animals throughout the world. The one that comes to mind, in the popular imagination, would be the woolly mammoth.*



*Mike Archer receives the Skeptics sponsorship cheque from Richard Lead, while Richard Saunders and his bony friend look on.*

**M:** Yeah, but there are several issues with the woolly mammoth. It's a fascinating project but I hate to say it's been gazumped by the thylacine project. We're way ahead getting extinct DNA to work but there are several reasons for this. One, the original effort to bring the mammoth back was going to focus on sperm, getting sperm out of the mammoth, and being able to hybridise with ordinary elephants and then gradually work your way through subtracting from your hybrid what was elephant and retaining what is mammoth.

The problem with that is nobody stopped to consider a little delicate fact about elephants, and that is that

when you think about all the natural history films you've seen of elephants, do you ever remember seeing a scrotum swinging in the breeze? The reason is that they don't have external scrotums – they have internal testes. I guess the reason is that elephants have evolved in semi-open forests and when you get such a massive animal backing its family jewels up against a tree by accident, it could have brought the elephant line to an abrupt halt.

So, they internalised the testicles and that means that mammoths will have had internal testicles. As they fell into the crevasses in the glaciers that ultimately froze them, it could have been weeks before the internal portion of the mammoth froze, so these testes would have been rotting away without any blood supply. The chances then of getting intact spermatozoa, I would think, would be close to zero.

Theoretically they could have gotten DNA out of the cells of the mammoth itself and this is more of a typical cloning project, so why couldn't they have done that? My understanding is they have tried and failed to find DNA and the possi-

ble explanation is that if the frozen tundra rose to minus 2 degrees Celsius, DNA would start to degrade. Almost certainly during the intervening millennia there have been cycles of warming and cooling. Very likely the mammoths that are accessible to us at the moment near the surface of the tundra have probably warmed up to that minus 2°C, which would have contributed to the loss of DNA. So, so far, no viable DNA's been recovered, in contrast to the thylacine project, and the sperm project seems to be dead in the scrotum.

**R:** *So once we have brought back extinct animals, what's the next frontier? Extinct plants?*



---

**M:** It's interesting isn't it? I haven't actually thought about it, but I'm sure the botanists could come up with a list of an enormous number of extinct plants that have been lost as a result of human activity. I know there was an example and it was an interesting one. I think it was lotus seeds, between 20 and 40 thousand-year-old, that had been found in Eurasia. These have been germinated in a laboratory by putting them into warm, wet mud – an ideal medium for them – and despite millennia of non-growth, they germinated and produced a lotus flower that nobody's ever seen before, with a different number of petals. So there undoubtedly is capacity here for what would technically be extinct plants to be resuscitated.

**R:** *It's interesting, though, because if they germinated anyway, they really weren't extinct, were they?*

**M:** Well, what is dead? When you think about these issues, you find somebody squashed on the road and they're technically dead – no brain activity, no pulse, a doctor comes along and certifies this person dead but then you go inside and you take a kidney and you put the kidney in someone else's body and it functions perfectly well – was the kidney dead? Was it resuscitated? Is it a Franken-kidney?

We accept that these situations are okay. Equally, you get this lotus situation where you'd have to say you'd expect a twenty thousand-year-old seed to be gone and, yet, occasionally they germinate. And equally, there's a professor from the University of California in Berkeley, who is extracting DNA from amber. The amber is 30 million years old and the DNA is appropriate to the organisms that he's pulling it out from. In particular, the case that impressed me was he withdrew material from inside an insect, clearly identifiable in amber as a fungus gnat (I've never even heard of a fungus gnat) and when he analysed what he withdrew, it included DNA, and when he sequenced the DNA, it was the DNA of fungus gnats.

So there's no doubt in his mind that he's got viable DNA that has been recovered from an animal that's 30 million years old in amber, raising all sorts of interesting possibilities. So are we really so confident that we know we can define as dead and alive.

**G:** *Have you had anybody object to the thylacine project on the grounds that they saw a thylacine in their backyard last week, therefore they're not extinct?*

**M:** My favourite adversary, Mick Mooney, used to argue this, and so did many people in Tasmania. In fact, when we did the documentary with Discovery Channel, Eric Guiler and I had fun over a couple of good bottles of red, thinking about the plot. We thought, well, if we succeed and produce the thylacine, and the girl – because our pickled pup is a girl – is released into the wild and two months later is pregnant, wouldn't that be the lovely way to end the movie?

But there are those people who say it's a colossal waste of time. Carl Bailey, who has written these wonderful books, called *Tiger Tales in Tasmania*, has collated the bushmen's memories of when they used to trap thylacines and what they were like. He's a true believer – he's convinced the thylacines are still out there. In fact he even tells me that he's occasionally been in parts of the bush where he has smelt them. I'm a skeptic. I believe that for an extraordinary claim, you need extraordinary evidence. I have said to Carl that I hope he's right, but I need more evidence than that to convince me they're out there and to stop us from trying this project. So we have a good-natured relationship. Carl thinks he's going to find it before we bring it back and I'm saying to him, if you do, can we borrow a bit of the tissue to assist us in bringing it back? So any rate, there's a bit of banter here.

**R:** *Well you really can't lose because if he succeeds, wouldn't that be tremendous.*

**M:** I'm not worried. I don't care how it's back in the world but, on the other hand, I'm a skeptic. Since 1936 there has not been as much as a skerrick of credible evidence. Eric Guiler claimed once that he had definite hair and he actually refused for a long time to let anyone examine this. When it was finally examined, it proved to be wombat hair. There have been no faeces that have the slightest sign of being thylacine.

Contrast that with the question of whether there are foxes in Tasmania. One of the clear and immediate evidences that turned up was a poo that had fox hair in it. Proof that they're there. And that's all we need – a single tiny fragment.

And then on a good day you can drive south from Launceston with your paper and pencil, and tick off the fauna of Tasmania from the squashed critters all the way down to Hobart. And you won't miss any species if you do this carefully enough. They're all over the road; they're all flat and it's a testimony to the abundance of wildlife in Tasmania. Where is the squashed thylacine?

When I asked this question years ago of people in Tasmania who were convinced they were there, the answer was so quick that it took my breath away. It was that Tasmanian devils have a predilection for thylacines and they run around the roads in the morning and eat all the carcasses. So by the time the time people are driving along the roads in the morning there are none to count. And I looked at these people when they told me this, and I've seen that look in the eyes of people I've talked to before and it's usually from creationists. This is a true believer of the worst kind, ready to dismiss any contradictory evidence. Anyway, at the end of the day, I'm a skeptic. I don't think there's any evidence that they're out there and therefore I think there is only rationality in trying to proceed with this project.

**Part 2 of this interview will be carried in the next issue.**





# Win Some, Lose Some

## Keeping a watchful skeptical eye on the commercial fringes



Richard Lead, accountant, bon vivant and raconteur, is a Living National Treasure(r) of the NSW Skeptics.

You can count on the fingers of a leper's hand the number of people made rich by allowing other people to invest their money for them. Sadly, those who have lost their life savings after trusting so-called investment professionals to invest their money for them are more common.

In December 2002 the Australian Securities and Investments Commission banned a Melbourne financial planner, Robert Street, and his company Making Dollars and Sense. It seems this chap allegedly 'borrowed' \$700,000 from some clients under false pretences. Ho hum – why should the Australian Skeptics take an interest in something so mundane? Well, it seems Street fell for the ubiquitous Nigerian-letter scam. There can't be even one reader of *the Skeptic* who hasn't received a letter, fax, or e-mail from a 'Government official' in Nigeria, offering to transfer tens of millions of dollars into the reader's Australian bank account. Imagine a licensed investment professional like Street, with his claimed Dollars and Sense, falling for it, and sending \$700,000 of clients' money to Nigeria to pay bribes and other fanciful fees to liberate the stolen mil-

lions from Nigeria. *The Skeptic* has featured the Nigerian-letter scam many times over the years, and we are still amazed when unsophisticated people fall for it, and incredulous when people who should know better become victims.

Amusingly, an Australian Government department received a Nigerian letter in January 2003. On its web site, the department humorously revealed it was offered a generous cut of \$440 million if it would forward its bank account details to a total stranger in Nigeria. The Government department is none other than the Australian Securities and Investments Commission!

### Bumbling Scamsters Update

In issue 22:2 this column featured a scam operated by Purple Harmony Plates Pty Limited and the company's directors, Neil Lyster and Helen Glover. Following a complaint lodged by Bob Bruce of the Queensland Skeptics, the Australian Competition and Consumer Commission prosecuted these clowns in the Federal Court.

To remind readers of the scam, the Purple Harmony Plate is a small piece of aluminium, worth a few cents from any hardware store. But

---

the false claims made by the company identified by the Federal Court included that the plate:

protected against electromagnetic radiation from computers, televisions, mobile telephones etc;

energised water and freed it from odour and chlorine;

lowered body stress and fatigue levels;

grouped together heavy metals and other impurities in water into larger molecules so that they could not be absorbed by the body;

helped strengthen the immune system;

increased general health;

accelerated healing;

reduced less severe aches and pains or niggly coughs and colds;

improve plant growth; and

ionised car fuel to allow a more complete fuel burn.

The Federal Court originally fined the company \$20,000 and the directors \$10,000 each, and ordered them to cease and desist with the scam. They did not do so, and were subsequently fined identical amounts for contempt of court. Each director received a one-month jail sentence, such sentence suspended on condition they took all steps necessary to transfer the domain name [www.purple-plates.com](http://www.purple-plates.com) to the ACCC and file with the Federal Court an affidavit of their assets.

As the ACCC reported in a media release dated 2 December 2002:

*Ms Glover now accepted the authority of the Federal Court and that her actions were in contempt of earlier orders. While she apologised unreservedly for her actions, she has belatedly apologised for her earlier attitude.*

But not Neil Lyster. He persisted with the notion that he had seceded from the Commonwealth of Australia and formed his own nation, and now calls himself His Excellency, Governor, Government of Commonwealth of Caledonia Australis, 20 Davis

Street, Principality of Caledonia, Kew, 3101, Australia. (I am not making this up.)

On 23 December 2002 the Federal Court ordered he undergo an assessment at the Victorian Institute of Forensic Mental Health. This is a statutory body established by the Parliament of Victoria under the *Mental Health Act 1986* and the *Crimes (Mental Impairment and Unfitness to be Tried) Act 1997* to provide in-patient and community services to mentally ill offenders in Victoria. As Justice Goldberg said,

*Mr Lyster is labouring under a delusion that he is the head of a non-existent state and that his conduct is beyond the reach of the laws of Australia.*

Lyster refused this assessment of his mental health, failed to sign documents transferring his domain name, and refused to lodge an affidavit of his assets. On 7 February 2003, the Federal Court ordered Lyster to be jailed for contempt. Well done to the ACCC.

At the time of writing, Lyster's other web page [www.principalityofcaledonia.com](http://www.principalityofcaledonia.com) is still operating. It will be worth a few minutes of readers' time to check out this site to get a feel of the loonies who share the planet with us. The site's links include a chilling one to TIMBIP (The International Martin Bryant Innocence Project). Not surprisingly, the foreign nation of Caledonia Australis is happy to accept payment in Australian dollars.

I doubt that we have heard the last of this bumbling clown.

### A Win for the Loonies

And now for an unhappy development. On 13 February 2003 the Administrative Appeals Tribunal reversed a decision of the Commissioner of Taxation. A group called Vibrational Individuation Programme Inc ("VIP") had applied to the Commissioner for deductible gift recipient status on the grounds that it is a Public Benevolent Institution.

VIP had previously held deductible gift recipient status, but following long-overdue legislative changes

enacted in 1999, all entities previously so entitled were required to apply to the Commissioner for an endorsement under the new provisions. The Commissioner refused VIP this endorsement. The reader will shortly see why!

A Public Benevolent Institution is legally defined as one which:

has as its main or predominant object, the relief of poverty, sickness, suffering, distress, misfortune, destitution or helplessness:

is carried on without purpose of private gain for particular persons;

is established for the benefit of a section or class of the public;

the relief is available without discrimination to every member of that section of the public which the organisation aims to benefit; and

the aid is given directly to those in need.

The Australian Skeptics, despite being a splendid organisation, is clearly not a Public Benevolent Institution under this definition, but you can send us your beer money if you like.

But what about VIP, and just what is vibrational individuation?

In late December 2000, a Federal Parliament report titled *Conviction with Passion, a Report into Freedom of Religion and Belief*, was prepared and tabled by a parliamentary committee. The report named a number of groups as religious cults, including VIP. It also named the Magnificat Meal Movement, and the Family (or Children of God), two groups well known to readers of *the Skeptic*.

In April 1999, South Australian Liberal Senator Grant Chapman alleged in Parliament a "bizarre food cult" had harmed more than 450 families. "Children born into the cult are fed the most bizarre food from birth and reports have come to my attention of undernourished underweight babies," Senator Chapman said. As reported in the *Herald/Sun* on April 24:

*Pregnant women are a key target of the South Australian-based group, which promotes an anti-medical*

## The Lead Balloon

*philosophy, including refusing ultrasound testing, immunisations and baby health checks.*

The Advertiser reported on April 23:

*Calling on Federal and State ministers to launch an investigation, Senator Chapman said the group had an anti-medical philosophy and advocated families break up if a follower's spouse resisted the program. And the organisers were making up to \$25,000 a month from their followers, Senator Chapman said in Parliament.*

VIP claims it is a "registered self-help group based on Christian principles." The objects in its Constitution include:

*To work together within a Christian framework to restore physical, mental and spiritual health and healing through correct nutrition*

*To participate in prayer for the highest good for the world at large.*

*To promote the principle of individuation by developing the conscious and the unconscious physical and spiritual aspects of an individual through learning to know, respect and accommodate one another by reconciling Man, God and the Living Universe and identifying with the Natural Law and Order of the Universe and fostering responsibility in and for all individuals.*

The Constitution states that membership is available to any person who has undergone a current nutrition test from a 'VIP Educator' and who pays a membership fee. A VIP Educator is a practitioner in 'Applied and Educational Kinesiology'. Applied kinesiology is one of the many branches of alternative medicine well known to sceptics, being a (claimed) method of identifying 'human energy fields' through muscle examination and then 'balancing' them with massage techniques.

Given the above, the following transcript from the Tribunal's decision is utterly chilling:

*On a daily average, one to two people suffering from a wide range of*

*physical and mental conditions visit the Centre in search of assistance. It seems that most callers have learnt of this facility by word of mouth. The types of conditions experienced by these visitors include such things as asthma, diabetes, autism, high blood pressure, alcoholism, multiple chemical sensitivity and behavioural problems.*

Despite VIP being a religious cult using non-scientific treatments, the Tribunal reversed the decision of the Commissioner and held VIP is a Public Benevolent Institution. The first part of the definition of Public Benevolent Institution states 'has as its main or predominant object, the relief of poverty, sickness, suffering, distress.....' Whether this object is achieved appears irrelevant.



*Demonstrating kinesiology to a US fan*

Donations of \$2 and more to VIP are now subsidised by you, the Australian taxpayer. Your generosity will do nothing to harm VIP's cash flows.

Let us hope the Commissioner appeals against this decision.

## Conventions

The Center For Inquiry – Florida held its inaugural Conference on February 7-9 at St Petersburg, with your correspondent an invited speaker. The theme was 'The Evolution of Humanism: Entering a New Epoch' and the delegates and speakers were a mixture of sceptics and Humanists. The schedule had a diverse range of topics, from secular ethics, the dangers of the Intelligent Design movement, sex education in schools, to a sobering presentation by Professor Paul Kurtz on 'the unmaking of America by the Evangelical Right.' And as he always does, magician Bob Steiner confounded us all with his sleight of hand tricks. CFI – Florida is the fourth Center established by CSICOP in the US. More are planned.

By a happy coincidence, the James Randi Educational Foundation chose the previous weekend for its convention in Fort Lauderdale, Florida. The prospect of a week off in Florida between conventions was not so disagreeable as to keep me away, and I was proud to represent the Australian Sceptics as a delegate to Randi's "The Amazing 2003 Meeting". This event was just outstanding, with Randi supported by magicians of the calibre of the famous Jerry Andrus (still performing at 85!), Jamy Swiss, and Andrew Harter. Sceptics such as Dr Michael Shermer (publisher of *Skeptic* magazine) and Bob Carroll (author of *The Skeptic's Dictionary*) strutted their stuff with outstanding presentations. I don't mind that we sceptics are heavily outnumbered when we have people such as these on our side. What made this Conference unforgettable for me was the interruption on the Saturday morning with the tragic news of the loss of the Space Shuttle. It was due to land only a few hundred miles away.

On a more cheerful note, the 5th World Convention of Sceptics is tentatively scheduled for Rome in September 2004. These conventions are pure brain food, although I doubt if Vibrational Individuation Programme Inc has it on its victims' diet.





## Should Christians Support Answers in Genesis?

# More Evidence

Further reasons why Christians should seriously doubt the credibility of creationists

Brian Baxter is to be congratulated on his excellent article in *the Skeptic* (22:4) about the origins and background of the modern creationist movement. But there was one significant omission from his article, and this is an attempt to fill in yet another aspect of the origin of creationism outside the mainstream of conservative Christian thought. I also suggest that people, both Christians and non-Christians, should read the Bible carefully for themselves, and not rely on creationist misrepresentations of what it contains.

The *Macquarie Dictionary* gives, as one meaning of guru, “an influential teacher or mentor”. There is no doubt that Henry M. Morris falls under this definition. Together with John C. Whitcomb he wrote *The Genesis Flood*, first published in 1961 and still in print in unrevised form, which was the book which started off the modern creationist movement. So here are some thoughts from the guru himself.

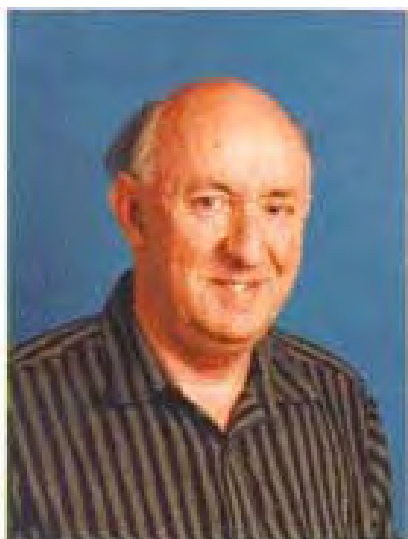
### First exposure

My first exposure to creationism came in 1966. I had taken up a position lecturing in maths at the University of Queensland the previous year. A Christian asked me what I thought about *The Genesis Flood*. “Sorry, I’ve never heard of it,” was my answer. He seemed a bit shocked that a Christian who was lecturing

in one of the departments in the Faculty of Science at the local university hadn’t heard about this great book. So he lent me his copy to read.

My first reaction was about the subtitle of the book, *The Biblical Record and its Scientific Implications*. I wondered whether the authors started from an interpretation of the Bible and then tried to draw some conclusions about science from that. When I started reading the book I was left in no doubt – that was just what they had done. But as I read on, a feeling of *deja vu* came over me. “This seems very much like one of the nutty ideas Martin Gardner wrote about”, I thought. “But I’m sure that he referred to only one author, not two. And I’m sure that he wrote before 1961, so it can’t be this book he was writing about.”

Digging out my copy of *Fads and Fallacies in the Name of Science* my memory of dates was correct – it was published in 1957. Turning to chapter 11, ‘Geology versus Genesis’, I read (again) about the ideas of one George McCready Price. From the brief description given by Gardner it seemed that Price’s ideas had much in common with those being put forward by Whitcomb and Morris. The Name Index in Whitcomb and Morris contained only four references to Price, and none of these referred to his book *The New Geology*. However they referred to Price in terms which indicated that his ideas were very congenial to them.



Ken Smith, a mathematician and a Baptist, was the co-editor of *Creationism: An Australian Perspective* published in 1986 by *Australian Skeptics*.

## More Information

---

When I returned the book to my friend I remarked that I couldn't say much about the geological ideas in it, since I hadn't studied geology. But I commented that there were some serious errors in other places. Was he aware, for example, that despite claims by Whitcomb and Morris that there were no pre-Cambrian fossils, some of the first discoveries of these had been made near Alice Springs? No? And was he aware that what Whitcomb and Morris wrote about the second law of thermodynamics was, even where it was correct, simply irrelevant to evolution? Could he give a concise definition of the second law? No? And what was written about possible changes in radioactive decay rates was simply nonsense. I didn't convince him that the work was of no value, but at least I sowed some doubts in his mind.

### Time passes

Matters rested there for some years, though I continued to make uncomplimentary remarks about Whitcomb and Morris from time to time. Then from 1984 several interesting things happened.

The Minister for Education in Queensland gave an answer, in response to a Dorothy Dix question in Parliament, about creation being taught in schools. This aroused the ire of the Dean of Science at the University of Queensland, and he wrote to the Minister. His letter was endorsed by the Board of the Faculty, which voted 80-1 in support – yes, there was one lone creationist on the Board. And the Minister's reply led to a public meeting early in 1985, and the subsequent production (in 1986) of *Creationism: An Australian Perspective*, [co-edited by Ken Smith and Martin Bridgstock. Ed] which you can now read for yourself on *The Great Skeptic CD* (see advertisement in this issue). But a very interesting creationist book was published in 1984.

### The genesis of modern creationism

Henry M. Morris was moved (inspired?) to publish a book recording some of the background to *The Gen-*

*esis Flood*. The result, *A History of Modern Creationism*, provides a great deal of insight into the creationist movement, not least of which is the infighting which has taken place between different creationist groups. And it casts the influence of George McCready Price in a rather different light.

The first thing I did when I bought a copy (yes, I do, on rare occasions, support creationism by actually buying some of their productions) was to have a look at the contents page. And there, in chapter III, entitled "Voices in the Wilderness", was a subheading "Price and the Seventh-Day Adventists". I turned to the relevant page, where Morris wrote with considerable enthusiasm about Price. To avoid charges of quoting out of context, I quote the first three paragraphs of this section.

*The most important creationist writer of the first half century, at least in my judgment, was a remarkable man by the name of George McCready Price (1870-1962). Many Christians today would take strong exception to this evaluation, both because of his six-day creationist, flood geology position and his religious denomination (Seventh-Day Adventist), which many mainline denominations, as well as inter-denominationalists, regard as an eccentric cult.*

*As a Baptist, I obviously disagree with Adventist eschatology, as well as Adventist concepts of revelation and soteriology; but I have learned to have sincere respect for their integrity, intelligence, scholarship, and strong commitment to the inerrancy of Scripture and many of the basic doctrines of Christianity. The very least, they are closer to the truth than the "liberals" among the "mainline" denominations. Although I never met George McCready Price, his tremendous breadth of knowledge in science and scripture, his careful logic, and his beautiful writing style made a profound impression on me when I first*

*began studying these great themes, back in the early 1940s.*

*I first encountered the name in one of Harry Rimmer's books (see the discussion of Rimmer later in this chapter) and thereupon looked up his book *The New Geology in the library at Rice Institute, where I was teaching at the time. This was in early 1943, and it was a life-changing experience for me. I eventually acquired and read most of his other books as well.**

Well, there you have it. Morris admits that his "life-changing experience", or, to use more familiar language, his "conversion", came through reading the writings of a Seventh-day Adventist. And his reading was not restricted to just one member of this group – Harry Rimmer was another Seventh-day Adventist. And just in case anyone suspects that I have been a bit selective in picking out this reference to Price, the Index of Names at the back of the book has Price cited 21 times – only Duane Gish, at 28 times, is cited more frequently. And various other people from the same sect are also referred to, including the founder, Ellen G. White, who is cited seven times.

In the 1970s the library at the University of Queensland received a donation of over 80,000 books from a retired Catholic priest. Among them was a copy of Price's *The New Geology*, and I have taken the opportunity to read it. It rapidly became clear that Price knew little about geology, even geology of the late 19<sup>th</sup> century, much less the geology of the 1920s. And Martin Gardner's criticisms are perfectly sound. So we now know where Morris got his peculiar ideas about a six-day creation and a world-wide (in the modern sense of the term) flood from – George McCready Price. And where did Price get his ideas from? From none other than Ellen G. White, the founder of Seventh-day Adventism. Morris seems to have no problems about following the teachings not only of the founder of an

---

“eccentric cult” (his words), but of a woman. I am sure that some of his Southern Baptist friends would be aghast if they knew the source of his creationist ideas, particularly since Morris disagrees with the soteriology of the group. I suspect that most readers of *the Skeptic* will not be familiar with this term. Consulting a dictionary of theology indicates that it is that branch of Christian theology which deals with salvation. If Morris has qualms about Seventh-day Adventist ideas about salvation, and is living in a country where such a high proportion of people claim to be “born-again”, shouldn’t he, in all honesty, stop pushing these ideas among other conservative Christian groups? But enough about the unusual origins of modern creationism.

### Other views

Brian Baxter also mentioned the way Answers in Genesis, and other creationist organisations, add to the words of the Bible, and so should be condemned by all thinking Christians. No doubt many creationists would class the Anglican Church among those labelled “liberal”, to use Morris’s words. Anglicans have a formal set of beliefs, laid down in the Articles of Religion. These are 39 in number, and the sixth carries the title “Of the Sufficiency of the holy Scriptures for Salvation”. The first sentence of this reads:

*Scripture containeth all things necessary to salvation: so that whatsoever is not read therein, nor may be proved thereby, is not to be required of any man, that it should be believed as an article of the Faith, or be thought requisite or necessary to salvation.*

So at least the Anglican Church, in contrast to many creationists, insists that nothing be added to the words of the Bible. But here again Henry M. Morris shows that not only does he disregard the various strictures about adding to the Bible, he can’t even read it correctly in the first place. If you have ever had the misfortune to be present when a creationist was lecturing the faith-

ful, you will almost certainly have heard him refer to animals reproducing after their kind, as stated in the first chapter of *Genesis*. In 1999 Morris put this down clearly in writing, but he had no idea what the Bible meant by “kind”, as I now explain.

### All kinds of kinds

One of the prominent creationist organisations in USA is the Institute for Creation Research, commonly known as ICR, founded by Morris in 1972 (you can read the whole story in chapter VIII of Morris’s *History*). This publishes a monthly article under the title *Impact*. This is also available on-line from their Web site, [www.icr.org](http://www.icr.org) and anyone interested in reading about developments in creationist ideas should have an occasional look at this. I emphasise “occasional”, since it is rare for something novel to appear – most of the articles contain the old things we are accustomed to read. The issue for June 1999 was written by Morris and bears the title “The Bible and/or Biology”. Again, to avoid possible charges of quoting out of context here are the complete 4<sup>th</sup> and 5<sup>th</sup> paragraphs.

*There is thus no conflict at all between the Bible and biological science. But “evolutionary biology” is another matter. It is a philosophy, not science, an attempt to explain the origin and developmental history of all life forms on a strictly naturalistic basis, without the intervention of divine creation.*

*The Bible is opposed to evolutionary biology in that sense. Ten times in its opening chapter it stresses that the various forms of created life were to reproduce only “after their kinds” (see Genesis 1:11, 12, 21, 24, 25). This restriction does not preclude “variation,” of course, since no two individuals of the same kind are ever exactly alike. Such “horizontal” recombinations, within the created kinds, are proper subjects of scientific study and so do not conflict with the Bible.*

Now it is true that the phrase “after his/their kind/s” occurs ten times in

the King James version of *Genesis* 1. But apart from verses 11 and 12 where it just possibly might be taken to refer to plants producing seed “after their kinds” the phrase is unrelated to reproduction. To show this, the phrase occurs five of the ten times in the two verses (24 and 25) about land creatures.

*24 And God said, Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind: and it was so.*

*25 And God made the beast of the earth after his kind, and cattle after their kind, and everything that creepeth upon the earth after his kind: and God saw that it was good.*

I’m sorry, Dr Morris, but I can’t see any words here that “stresses that the various forms of created life were to reproduce only ‘after their kinds’”, or anywhere else in *Genesis* 1, either. In fact, I can’t find a reference anywhere in this chapter to creatures of the land reproducing, whether “after their kinds” or in any other way. Sea creatures and birds are commanded to reproduce in verse 22 (but no reference there to “after their kinds”) and humans in verse 28. So what about the kangaroos and wombats? Where are they told to reproduce?

One cardinal point in interpreting any ancient document is to see how a word or phrase is used elsewhere in the document. And checking with one of the standard Hebrew lexicons, that by Brown, Driver and Briggs, turns up some very interesting facts about the Hebrew word “min” (pronounced like “mean”) which is translated “kinds”. So please bear with me for the next paragraph or two. And I ask the indulgence of any Hebrew scholars reading this, if they think I have simplified things too much.

### The importance of ‘min’

The word “min” never occurs in the Old Testament by itself – it always occurs with a preposition attached to the front of the word, and a suffix at the end to indicate the gender and number of the noun – his/her for the



## More Information

---

singular and their for the plural. The people responsible for translating the King James version ignored the feminine singular suffix and always translated it as “after his kind” – I think we can forgive this in an early 17<sup>th</sup> century publication. And in this form the combined word occurs 31 times – so what about the other 21 occurrences, over two-thirds of the total? Do these relate in any way to “reproducing only after their kinds”?

You won't be surprised to learn that the answer is an unqualified “No!” There is a single verse, *Ezekiel* 47:10, which refers to fishing in a river and reads, in part, “their fish shall be according to their kinds, as the fish of the great sea, exceedingly many.” So this verse clearly refers to the many different kinds of fish.

The other 20 occurrences are all in the first five books of the Bible. Three times in *Genesis* 6 and four times in *Genesis* 7, both referring to the kinds of animals Noah was to take on the Ark with him. Nine times in *Leviticus* 11 and four times in *Deuteronomy* 14, both of these chapters dealing with which “kinds” of animals were clean (and could be eaten) and which were unclean (and not to be eaten). To show that these have nothing to do with reproduction here are a couple of verses from *Leviticus* 11:

*21 Yet these may ye eat of every flying creeping thing that goeth upon all four, which have legs above their feet, to leap withal upon the earth;*

*22 Even these of them ye may eat; the locust after his kind, and the bald locust after his kind, and the beetle after his kind, and the grasshopper after his kind.*

I don't blame you if you have trouble trying to unscramble the meaning of those two verses. It just shows some of the problems which creationists conveniently overlook. Of course we don't have anything here relating to reproduction. But I wonder if our creationist friends have realised that here they have a solution to the long-standing problem of just what constitutes a “kind”? It would seem not

unreasonable for them to assume, from the words “the beetle after his kind”, that all beetles form one kind. So the order *Coleoptera*, despite the vast variety of organisms included within it, would seem to constitute one kind.

But wait a minute! Let us see what happens if we equate biblical “kinds” with the biological classification “order”. Primates also constitute an order. So since variation within a “kind” is permitted, then monkeys, apes and (let us whisper it) humans constitute one “kind”. So maybe it is true, after all, that humans and chimpanzees are descended from some common ancestor. Science has demonstrated that common ancestry, and the Bible does not, in fact, dispute it.

It seems that in these passages the most reasonable way of translating the ancient Hebrew would not be to attempt any sort of modern scientific classification of “kinds”, but simply to try putting ourselves into a pre-scientific culture. There are obviously all sorts of animals in the world around us. And this is how most modern translators have approached the task.

To illustrate this, verses 24 and 25 from two modern translations will be quoted, coming from what may be described as almost opposite ends of the theological spectrum. And they both date from before the upsurge of creationism in the late 1960s, so it cannot be charged that they were attempting to subvert the creationist message. Firstly, from the translation produced by the Jewish Publication Society in 1962.

*24 God said, “Let the earth bring forth every kind of living creature: cattle, creeping things, and wild beasts of every kind.” And it was so.*

*25 God made wild beasts of every kind and cattle of every kind, and all kinds of creeping things of the earth. And God saw that this was good.*

And then from the Catholic *Jerusalem Bible* of 1966.

*24 God said, ‘Let the earth produce every kind of living creature: cattle, reptiles, and every kind of wild beast’. And it was so.*

*25 God made every kind of wild beast, every kind of cattle, and every kind of land reptile. God saw that it was good.*

And these renderings, “every kind of”, make perfectly good sense in all the other passages where the Hebrew word “min” is used: God created every kind of tree bearing fruit with seed in it; Noah was told to take a pair (or seven pairs) of every kind of animal onto the ark; it was permissible to eat all kinds of beetles and all kinds of grasshoppers, and so on. And here is a little research project for readers: do the words “And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kinds,” in *Genesis* 1:21 imply that God used the process of spontaneous generation in making the sea creatures?

### Changing camps

And just in case anyone thinks that Henry M. Morris is being a bit extreme in pushing his views, and that there are plenty of conservative churches where he would be welcome, there is another revealing passage in his *History of Modern Creationism*.

Most people would accept that the Southern Baptists are a very conservative group. Morris was a member of a Southern Baptist church at the time *The Genesis Flood* was published in 1961. He presented a copy of the book to his pastor, hoping that he “could be won through the evidence given in the book, once it was published.” (*History*, p.162). His pastor turned out to be wiser than Morris expected, and preferred to accept what scientists wrote about geological matters. The reaction of Morris was to leave the church and set up his own church, joining the long list of other independent churches in USA. Now whatever you might think about the theology of the

---

Southern Baptists, isn't leaving them because the pastor refused to accept Seventh-day Adventist ideas a rather extreme step?

So if Morris can't manage to get along with some very conservative Christians, it comes as no surprise that scientists, Christian or non-Christian, find his writings to be of no value when it comes to matters of geology. And since he links these ideas so strongly to Christianity, it should also come as no surprise to Answers in Genesis and other creationist groups that non-Christian scientists are so confident in rejecting Christianity if they find it would force them to accept scientific impossibilities. This point has been well put by the Lutheran theologian Conrad Hyers. On page 26 of his book *The Meaning of Creation: Genesis and Modern Science* one paragraph starts with the following sentences:

*It may be true that scientism and evolutionism (not science and evolution) are among the causes of atheism and materialism. It is at least equally true that biblical literalism,*

*from its earlier flat-earth and geocentric forms to its recent young-earth and flood-geology forms, is one of the major causes of atheism and materialism. Many scientists and intellectuals have simply taken the literalists at their word and rejected biblical materials as being superseded or contradicted by modern science. Without having in hand a clear and persuasive alternative, they have concluded that it is nobler to be damned by the literalists than to dismiss the best testimony of research and reason. Intellectual integrity demands it.*

It is almost certainly asking too much to expect Henry M. Morris to show a bit of "intellectual integrity". But it would be nice if someone from Answers in Genesis could come out with a clear statement about whether or not they support Morris in (a) his wholesale adoption of the ideas of Ellen G. White, and (b) his misrepresentation of the words of the first chapter in *Genesis*. After all, doesn't adhering to the commandment about not bearing false

witness apply as much to making erroneous statements about the Bible as it does to concealing the truth about the real origins of creationism?

## References

- Baxter, Brian (2002) 'Should Christians Support Answers in Genesis?', *the Skeptic*, vol. 22, no. 4, 36-39
- Brown, Francis, Driver, S.R. And Briggs, Charles A. (1907; 1977 reprint) *A Hebrew and English Lexicon of the Old Testament* (Clarendon Press). "min" on page 568.
- Hyers, Conrad (1984) *The Meaning of Creation: Genesis and Modern Science* (John Knox Press)
- Gardner, Martin (1957) *Fads and Fallacies in the Name of Science* (Dover)
- Morris, Henry M. (1984) *A History of Modern Creationism* (Master Book Publishers)
- Morris, Henry M. (June 1999) 'The Bible and/or Biology', *Impact*, No. 312 (Institute for Creation Research)
- Whitcomb, John C. and Morris, Henry M. (1961) *The Genesis Flood: The Biblical Record and its Scientific Implications* (Presbyterian and Reformed Publishing Company)



---

# National Convention 2003

22-24 August

CSIRO Discovery Centre

Canberra

## Programme

**Friday afternoon 22 August - Young Skeptics**

**Friday Evening 22 August - Alternative Therapies Forum - "The good, the bad and the ugly"**

**Saturday 23 August - anything and everything**

**Sunday 24 August - everything and anything**

The Skeptics' Convention will be linked to The Australian Science Festival (Canberra) and National Science Week, (both 16 to 24 August)

For details see [www.skeptics.com.au](http://www.skeptics.com.au)

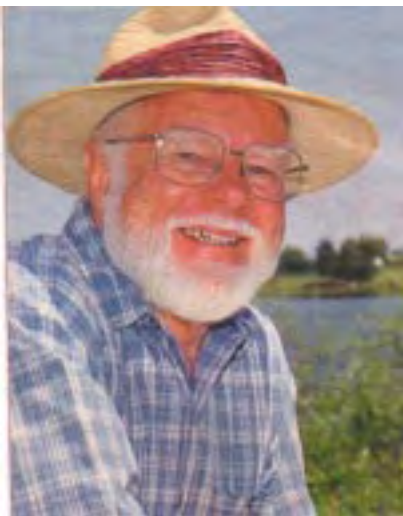
We are currently formulating the programme.

If you wish to be a speaker, please contact [act@skeptics.com.au](mailto:act@skeptics.com.au)

# Let Us Pray

## (FWIW\*)

### A Skeptical view of a perennial custom



Kevin McDonald, a retired science lecturer, is sceptical by nature but hopes he is tolerant of other people's views of the world. His main interest in retirement years lies in all aspects of natural history.

The front page of the *Newcastle Herald* of 29 November, 2002 boldly stated "Australians will be asked to pray for rain this weekend to help end the devastating effects of the drought..." Indeed, several newspapers have recently reported that "farmers will be praying for rain" since all else has apparently failed to bring any precipitation lately. Presumably, if rain falls subsequent to these prayers, God will be thanked and the effectiveness of prayer demonstrated. But there are problems: How much rain do we ask God to send? Not too much, please, we don't want a flood. And what about the timing? Do we want the rain immediately? If rain falls, say, three days after the prayers, was that rain still the result of the prayers? And what if rain doesn't fall for weeks after the prayers? Wasn't God listening? Weren't we good enough little vegemites? Should we have sacrificed a few goats, or even babies, as the Aztecs did?

Surely in a modern, well educated, enlightened, rational society we don't resort to witchcraft and superstition any longer? No wonder many people today reject religion when it resorts to such outmoded ideas as asking the fairy godmother to grant us our wishes. Praying for our particular wants is not only childish and selfish but flies in the face of present day knowledge as to how natural systems

function. The science of meteorology has made immense progress in recent times, but if God decides to answer our prayers on a day when the meteorologists confidently forecast no rain, then why bother trying to forecast the weather at all?

It evidently hasn't yet sunk in to our church leaders that Australia is a dry, arid country, with irregular episodes of droughts and floods. It seems we have yet to learn to adapt to the environmental reality of this ancient continent and stop wishing or praying that it were otherwise. It's interesting to note however that some churchmen in Australia have had severe qualms about praying for rain. Back in the late 1870s, when Victoria was in the grip of a severe drought, the then Bishop of Melbourne, Bishop Moorhouse, refused to issue a special prayer for rain, and instead became a strong supporter of irrigation (Jenny Keating's book: *The Drought Walked Through: a history of water shortage in Victoria*, p.45)

Another recent incidence of extremely ineffective praying was seen in the local press of my district when some people representing various faiths combined together in group prayer to ask God to stop the local council from approving the opening of a sex shop in the town. (Note that it was to be a shop selling products for sexual titillation, not a brothel!) Soon afterwards, the council approved the shop, subject to its discrete siting and the usual conditions for any business,

\* "For What It's Worth" in 'net- speak.

---

and even periodic inspections (by kinky officers presumably). Since the shop has opened, the issue has died away, and there does not appear to be any increase in local debauchery. The people in the prayer group had tried unsuccessfully to impose their (impeccable?) moral code and standard of behaviour on the rest of the community. They even took their appeal to God. However, many other people obviously welcomed the sex shop and reports are that it is trading well. Had the Council declined the application to establish the sex shop the prayer group would no doubt have taken the credit for stopping it. They probably would have given thanks in prayer to their God. But as it turns out, they now have a dilemma. Did their God actually approve of the sex shop? If not, why didn't He stop it going ahead? Problems here.

As a skeptic, I am extremely skeptical about prayer. I guess more than that: I am quite baffled by the notion of "God" as a kindly old gent (lady - fairy godmother?) sitting at His office in Heaven hearing all the countless prayers being offered by humans every day, and deciding which appeals He will grant and which He will not. The Christian sailor washed overboard in rough seas prays like mad to God as he gulps the sea water...minutes later, a boat appears and the sailor is plucked from the sea in the nick of time. The prayer was answered! Or was it just sheer luck that a boat was nearby, and someone spotted the drowning sailor?

Prayers seem to be a good deal more frequent when the chips are down. People who have led quite sinful lives seem to have no compunction about praying to God when things are really grim. Otherwise, God doesn't get a look-in; absolutely no contact when things are going smoothly. This is surely the God of Convenience. Christians often pray for the sick and dying. In many instances, the person was obviously going to die, but God was still being implored to intervene. The people praying simply could not accept that the person was going to die in the immediate future.

Thus praying is often plainly selfish. The person praying is asking for something that simply cannot be. It is an act of desperation. It reflects a simplistic view of the world. Of course, many religious people will say that prayer is a matter of faith, and is not to be analysed in a logical fashion. Their God will always be listening, and where appropriate, He will be intervening in the normal course of events. Most skeptics will find this hard to swallow.

Human civilisations have always had "gods". It was probably inevitable in early societies to invent gods in order to structure those societies. It is very handy to have a god or gods, because you then have someone to blame (or even someone to thank) other than a luckless fellow human according to the circumstances. Thus religions evolved and were quickly utilized as power bases by certain members of a particular society. This power then grew and ultimately became institutionalized. Religions as institutions still hold enormous power and influence on most societies today. Complex ceremonies have been devised, and actions such as praying have become formalized. An air of mystery has been imparted by chanting, singing hymns, and repeating set responses. The clergy are content to keep their parishioners in the dark by the trappings and mumbo-jumbo of their religion, such that the ordinary person will pay respect to their religious leaders, often out of fear that something awful might happen to them if they don't. Thus praying has become entrenched as a cultural stereotyped behaviour for many humans. And those humans who regard God as a "personal God" speak to him in prayer as if He is always listening.

Practically all theologians and many philosophers will disagree with what I have just written. That doesn't worry me. I know that countless books have been written by such people and I have no desire to enter into endless argument as to whether or not there is a God, or several gods. I only go by my own observations as an Australian living in an overwhelmingly secular society where obviously

many people think as I do. I don't doubt that many skeptics have views similar to mine. I am one of those people who have been educated in a secular society, and who have been introduced to the discoveries of modern science. These discoveries reveal a world which is indescribably complex, yet one which increasingly yields its "secrets". Thus astronomy reveals an infinitely complex universe and destroys the simplistic notions of astrology. Geology reveals the great age of the earth and the nature of such processes as volcanism, erosion, and the fossilization of earlier life forms. Biology reveals the drama and complexity of evolution, and modern discoveries in genetics, genome research and genetic engineering have removed much of the mystery of earlier biological knowledge. The list goes on... the explanations of forces by the science of physics, the unraveling of molecules by chemists...

All this tells me that humans will continue to learn more about the world in which we live and will thus continue to lift the scales from human eyes as to how we can explain complex phenomena and be able to predict events with ever increasing accuracy. Thus "magic", "miracles" and "mysteries" have been unmasked for what they are: simply previously unexplained phenomena or sheer humbug. And so, for me anyway, prayer and praying is revealed as totally ineffective and simplistic. I have yet to see a single example or proof that praying has done anything to change the inevitability of various events in the lives of my fellow humans. I regret offending my religious friends, because many of them are fine people. But until I am convinced that "there is something in it" I will continue to claim that praying for "God" to intervene in the natural and predictable course of events is completely ineffective and a waste of time, time which often (but not always) could have been spent on doing something realistic and constructive.





# Twisted History

## Concocted history around the world

I have been having a very interesting email exchange with Rose-Marie Mukarutabana, a Rwandan thinker currently resident in the Ivory Coast who responded to Martin Doutre's attacks on me on his fringe 'Ancient Celtic New Zealand' site and copied her supportive comments to me. Among other things, she has taught me a great deal about a field hitherto altogether unknown to me, that of Rwandan historiography. This area of scholarship appears to be very seriously plagued by nationalistic and factional nonsense grounded partly in naïve acceptance of traditional myths; in a strife-torn society, this has major negative upshots.

In a similar vein, Lance Castles has drawn attention to non-standard histories produced in Indonesia, notably in Aceh where the history of European contact has been repeatedly rewritten over the years to suit factional political goals.

## Good or bad, round or spiky?

A Russian researcher called Valeri Belianine who has posted to the Fo-

rensic Linguistics web list has been developing a new sub-field called 'phonosemantics' (see [www.almex.net/psycholinguistics/soundform](http://www.almex.net/psycholinguistics/soundform)). It is based partly on the wholly legitimate and intriguing topic of 'sound-symbolism'. Although linguistic sounds are themselves essentially arbitrary, in a small minority of cases certain sounds do seem to have rather general semantic associations, either within a given language or even cross-linguistically. For instance, almost all listeners, whatever their first languages, agree that an object called *Eekeekee* will be spiky, whereas one called *Ooomoomoo* will be rounded.

Belianine's specific approach is based on the work of Charles Osgood (around 1960). He has applied this to Russian, and now sees further (if arguably dubious) applications: 'We may well hide our emotions, but still we can evaluate almost everything. What about the sounds of the English language? ... This method may be helpful in finding a proper name for your company, and building your future'. One is invited to participate in an experiment involving Likert-



*Mark Newbrook is a regular columnist on linguistics and related matters. He recently returned to live in the UK, where he will fill his time by explaining cricket to the natives.*

---

scale judgments, involving various phonemes and a range of opposed pairs of evaluative terms starting from 'good' and 'bad'. Some of the linguistic terminology used is informal and imprecise; in addition, certain phoneme clusters such as /gz/ in *exact* etc are included merely because they are typically spelled with a single letter. And unannounced assumptions are made about the accent used by the participant. There is also a methodological issue: apparently people's answers are completely different if they are in a different 'mood', but this is not factored into the analysis.

Some of these problems may reflect lack of expertise and some may involve deliberate popularisation, but one wonders where the project will go – other than commercially, that is! I have posted critical comments to the site; but, so far, the responses have been rather naive.

### Greeks, Mormons and extraterrestrials

The article on alien languages written by Gary Anthony and me generated a number of responses, including the inevitable incoherent rantings of some absolute nutters, but also a number of more interesting proposals, one of which may lead to contact with a very major figure on the 'pro-abduction' side. Watch this space for this and other possible developments!

Another set of comments involved Latter-Day Saints sources arguing for the veracity of the 'Reformed Egyptian' in their *Book Of Abraham* and other texts associated with *The Pearl Of Great Price* (all of this material can be downloaded free, if anyone is interested). The relevance is that the texts are read as referring to other inhabited planets. But 'Reformed Egyptian' is otherwise unknown. At the time when the early LDS leaders claimed that this was the language of the tablets which the Angel of the Lord lent them to be mystically translated, much less was known about Egyptian than is known today, but nothing learned since has confirmed LDS ideas on

this front. The small pieces of Egyptian text presented here which are genuine were already known at the time and have subsequently been interpreted in quite different terms. It is also fair to say that this particular view of extraterrestrials would be unlikely to appeal to non-Mormons!

Another comment relates to what appears to be a single Greek word (in Greek script) in the written material supposedly associated with the Roswell incident. However: if this item really was produced by aliens, they learned their Greek from an odd source, because the word includes a common spelling error grounded in the ignorance of many less-educated native speakers about the origin of the form (details on request).

### More from the Mormons

See [www.utlm.org/onlineresources/deseretalphabet.htm](http://www.utlm.org/onlineresources/deseretalphabet.htm) for the 'Deseret' alphabet, devised by early LDS thinkers for writing American English. For its day, before phoneme theory had been properly developed, it was not bad. On request I will send my critical comments on its less helpful features. By the way, it did not catch on at all, even among the Mormons themselves! Thanks to Stephen King for the reference.

### It's that guy again!

Jacques Guy is a world authority on mysterious languages and scripts who happens to live just across the road from Monash University. This has been very convenient for me, and I have liaised with him several times. His activities are heavily discussed in Andrew Robinson's excellent new book *Lost Languages*.

Jacques kindly agreed to help me look at dos Santos' material on deep-time links between Etruscan, Dravidian, Guanche etc. As I had expected, we agreed that the Brazilian writer (while more sophisticated than most such people) is badly astray in respect of the linguistic components of his case and almost certainly wrong in his criticisms of the way in which probability theory

is conventionally applied in this area (Guy is very proficient on this front).

Dos Santos predictably rejects this judgment but has not been able to provide persuasive reasons for this reaction. However, he has now proposed collaboration on a new proposal aimed at finding an approach to the issue of deep-time language relationships on which the three of us can agree. Neither of us really expects any joy from this enterprise, and at present we are both too busy; but we have said we may be able to consider dos Santos' proposal later. The teeming hordes of historical linguistics fans out there should watch this space!

### Polynesian in Crete, railway engines and other deeds of the Fells

Through Jacques Guy (see above) I obtained a CD containing the works of Barry Fell, the late hyper-diffusionist fringe epigraphist who casts a long shadow in both New Zealand and the USA. This included his decipherment of the Phaistos Disk (not again?!) as partly in Polynesian. The case is no better than usual.

On a lighter note, I was in NZ in October 2002 and visited the Fell Engine in its museum in Featherston (in the Wairarapa, north-east of Wellington). This is the only surviving railway engine of its type (they had cable-car-style grips which hugged a central third rail so as to enable them to pull huge loads over very steep hills such as the Rimutaka range between Wellington and Featherston), and was designed by a relative of BF (English-born, like BF himself). The Fells got around that part of NZ in numbers; just over Cook Strait in the South Island, other members of the family are identified as prominent late-C19/early-C20 local figures in Blenheim and Nelson. But read on...

### LaRouche and the Fells

Lyndon LaRouche's journal *21st-Century Science And Technology* printed my detailed letter critiquing their reliance on Barry Fell (though not the coda on their discussion of

Walsh and the Bradshaws). Predictably, Julian Fell tried to rebut my points in the same issue. I responded, but the journal declined to print any more on the subject.

Any non-linguist who reads this material should realise that JF says nothing that threatens my own points. BF's linguistic claims are rejected not because he had no qualifications in the subject (as JF suggests) but because most of his arguments simply do not hold up (he demonstrably had too little expertise). This applies especially to his methods in etymology and historical reconstruction.

It is misleading of JF to say that BF's methods in this area were applied to the decipherment of Mayan. Indeed, most Mayanists have no time for BF. Etymological information certainly was used, as it always is where it is available; but BF's particular approach to etymology was not, as it was already long superseded (not boldly innovative as his supporters claim) in that it was loose and demonstrably unreliable. This has been pointed out for various individual cases by Berresford Ellis and others. BF's specific 'findings' (still upheld here by JF), eg his interpretation of the Indus Valley Script as representing Sanskrit, his identification of Ogam script in the Americas, etc, are rightly rejected as unreliable or worse by virtually all those with the relevant expertise. As is acknowledged, BF did know many languages; but that is not the same thing at all as understanding linguistics.

There is a stark contrast here with, eg, Michael Ventris. Ventris demonstrated his expertise repeatedly, and the fact that it was mostly grounded in private study rather than in formal qualifications did not prevent his ideas – developed in cooperation with professional scholars – from being accepted. This occurred despite the fact that his main finding was a major surprise (contrary to what JF suggests).

In defending BF, JF makes the usual error of believing that the odds are strongly against chance linguis-

tic similarity. It is difficult to see how anyone who is familiar with the cross-linguistic evidence and with the recent work of Ringe and others on the statistics can adopt this stance. Even a casual examination of the data reveals a plethora of false cognates such as English *much* and Spanish *mucho*, German *haben* and Latin *habere*, etc, etc; but we can now demonstrate this point systematically. In general, professional historical linguists who are not active skeptics – even Nostraticists, who adopt less stringent criteria in identifying likely cognates – will not even trouble to discuss views such as JF's.

Until JF and other defenders of BF demonstrate genuine understanding of historical linguistics, and can rebut the mainstream objections to BF's methods (which appears unlikely), their position will not warrant or receive scholarly attention.

Near the end of his rejoinder, JF does make some accurate points about types of relationships between languages, but these are all very familiar and have already been incorporated into mainstream analyses.

### More mumbo-jumbo from Matlock

The self-proclaimed polymath and deep fringe writer Gene Matlock has produced another bombastic book, this time about Atlantis (which he locates in Mexico); he states that this is the last book on Atlantis that anyone will ever need to read! He also identifies himself as a professional linguist, a claim which is utterly misleading. See my review on Amazon.com of this crazy work, which again makes heavy use of lunatic philology. (Barnes & Noble will neither post a version of this review nor tell me why not!)

Matlock has various equally crazy web pages with our old friends at Viewzone ([www.viewzone.com](http://www.viewzone.com)). One recently-produced page ([gene.olmec.html](http://gene.olmec.html)) explains – with utterly incoherent discussions of background linguistic and anthropological theory and the histories of these disciplines – how the Olmecs came from Central Asia. At the end

of this document he invites 'non-diffusionists' and historical linguists to show him where he has gone wrong. Of course, I have already done this, but he does not understand – and presumably does not really want to. I wrote to him offering to explain his errors again as they apply in this specific case, but he ignored this offer – which must make one wonder about his sincerity.

Matlock churns books out at a rate of knots; his latest is another treatise on how we are all born with the one basic religion (his amalgam of Hinduism, Judaism and animism), which we cannot reject because it is encoded in our genes. Of course, he has to assume that atheists and believers in other religions are deluding themselves and others. But how could one be said to adhere to a religion while one's conscious views on the subject were utterly different?

### More talking in reverse...

Juan de Gennaro kindly provides the information (c/o Barry Williams) that another Reverse Speech-like phenomenon occurs in Argentina, specifically in Buenos Aires, where there is a variable feature known as *alverre* (*al revés*); certain Spanish words (mostly informal) are sometimes pronounced with the syllables (not the individual phonemes) in the reverse of their normal order. For example, *piso* ('floor') becomes *sopi*, and *cura* ('priest') becomes *racu*. Where this would create a word-form excluded by the structure of Spanish, an adjustment occurs, eg, *gil* ('fool') becomes *logi*, as initial /lg/ does not occur in Spanish.

Of course, Cockney 'backslang' is well known. A good example is *rofe* ('four'), often heard from market traders.

### ...and losing one's accent altogether!

Another item helpfully forwarded by Barry involves the 'Krieger Method' of losing one's accent! Their web blurb begins: 'Do you find others have a hard time understanding what you are trying to convey? Do you find the need to repeat yourself for others to understand you clearly?'

---

Do you feel embarrassed or less confident when talking to work colleagues? Do you wish to communicate your thoughts more effectively? Does your foreign accent simply get in the way?

Well, if any of this applies to you, fear not! The Krieger Method, an 'innovative teaching system' designed by one Andy Krieger, is 'designed to help you develop effective communication skills'; he got the idea while working with actors in Hollywood. Supposedly your accent can be made to 'simply disappear'! It is, of course, impossible to speak with no accent at all, but we can assume that after this treatment one will have a General American accent, perceived by most Americans as absence of an accent (just as a middle-of-the-road south-east England accent is perceived as absence of an accent in London). We are referred to a site at [www.nomoreaccent.com](http://www.nomoreaccent.com); but neither Barry nor I can bring anything up in a legible form, and the site now appears to be inoperative. If anyone has any more joy, please let us know!

### **New ways of writing – and thinking!**

Readers who took an interest in my comments on Interglish might also like to note that there are a number of interesting web sites dealing with different types of systems of symbols, especially invented systems. These are often intended to be more systematic, more logical and more 'in tune with reality' than existing languages or scripts, and thus to improve thought and communication. Some of these sites are collected under [www.symbols.net](http://www.symbols.net). Perhaps the best known of these systems is the Bliss Symbols, but there are many others: Emoticons, interNETLANG, Pictobabel, Phonetic Picture Writing, Signology, etc. Most (not all) of these proposals involve a language (existing or invented) and a closely associated script, presented as a coherent package.

These systems are all intriguing and some of them are quite sophisticated; some of the designers may

actually know enough linguistics for the task. But they are mostly based more closely on the developers' first languages (and thus less language-neutral) than their advocates realise. In other respects they are often based on partly *a priori* analyses of the world – like many earlier invented languages such as Wilkins' 'Real Character' and indeed Ior Bock's Rot/Van. Most such analyses are again more subjective and idiosyncratic than is acknowledged. And it does not really seem likely that any of these systems will 'catch on'. They are still worth looking at, though.

### **One talk?**

Ken Campbell has a (supposedly) even better idea for a pan-human second language. He became enthused about Neo-Melanesian/Tok Pisin, the English-based creole which is the main *lingua franca* and increasingly the main official language of Papua-New Guinea. Neo-Melanesian is the best known of a number of such creoles in the region, including Kriol, used by Queensland Aboriginal people with different language backgrounds. Given its largely English-derived vocabulary, straightforward phonology and highly systematic grammar, it would not be a bad choice. But some of the sociolinguistic objections to Interglish would also apply here. Creoles also have some unusual features arising out of their earlier status as pidgins (before they acquired native speakers and a full range of domains of use); some of these seem to make for ease of acquisition but not necessarily for regular use in more demanding genres (a key contrast seldom made by would-be reformers).

Like any other language, Neo-Melanesian also has its own quirks, especially as (simply because it is a creole) it continues to change more rapidly than a 'normal' language does (although not as quickly as it did when it was unofficial and unwritten); in the process, it becomes more and more flexible and sophisticated but less and less regular and

transparent. It also (inevitably) has its own cultural baggage, which would be largely irrelevant or confusing to some would-be users not living in the western Pacific. Campbell's enthusiasm is not wholly misdirected but perhaps exaggerated. His project is called Wol Wontok ('world common language').

### **Black Aphrodite backlash?**

In 1997, RA Strong and Bernard Macklin published – in Melbourne – an idiosyncratic but fairly scholarly revisionist book called *The Real Birth Of Aphrodite*, arguing (rather like Martin Bernal) for stronger links between Greece and Egypt (notably Akhenaten again!) than are generally accepted. Much of the evidence – which is not as strong as is claimed – involves alleged puns and other features of contact between the Egyptian and Greek languages.

I had the 1st edition of this book, but recently I came upon a re-issue of late 2000 with some additions and revisions. In the new preface, Macklin refers to a recent university course attacking 'fringe linguistics'. This may be the one which I myself ran at ALI in Melbourne a few months earlier; I know of no other. I did not specifically critique his book in that course (indeed, I am not sure who has); but I did mention Wallis Budge, the now rather dated Egyptologist who remains a fringe hero, and Macklin castigates the course in question for attacking Budge! He also tries to deflect criticism by asserting that puns and such have nothing to do with linguistics anyway; this suggests a limited understanding of the scope of the discipline. And, like many such writers, he explains rejection of his ideas in terms of stubborn conservatism, fear of loss of influence, etc. More specifically, he accuses mainstream linguists hostile to his views of staging cover-ups and of 'using others not directly as front men, having made an art of confusion and misdirection'. I have no idea what exactly is referred to here, and I may follow this up. Watch this space!



### Learn it fast!

'Mindtomind' ([www.subdyn.com](http://www.subdyn.com); see also ads in mags such as *New Dawn*) offer another of the now common schemes for learning new languages at vast speeds (among other mental feats). As usual, there are lots of laudatory testimonials but no reports of controlled studies. It would also be nice if a degree of linguistic expertise were displayed. But the site contains ludicrous descriptions of English as a 'logical, linear, Arabic language' (script and language confused again; loose and obscure use of terms; confusion with 'Arabic' numerals) and of Japanese as 'based on esoteric pictures and symbols' (this is wrongly conceptualised in at least three ways). Such comments do rather lessen one's confidence.

Of course, there have been many claims of this kind in the past. In 1818 Joseph Jacotot claimed that students can be effectively taught in languages which they do not know (on request I will provide a reference to a 1991 book on this case). And in mid-late C20 the multi-talented Michel Thomas claimed extensive success with a very individualistic approach to accelerated language learning. Etc, etc.

### Revision on the web 1: Sumer

There is still no shortage of revisionist web material, much of it focused on Sumer as usual. Another vaguely Sitchin-like site is [www.earth-history.com](http://www.earth-history.com), run by Geerts and Landry. This site gives a reasonably accurate account of the relevant myths themselves, so a warning about its overblown interpretations may be in order.

### Revision on the web 2: Japan and Korea

Japanese is the world's best-known 'isolated' language (no known genetic relatives); Korean is the next. And they are geographically close together and share some features which cannot be easily attributed to recent borrowing. A while ago I referred to a web-reviewer who re-

gards Japanese as an aberrant dialect of Korean. Not quite! But there may be a more distant relationship. And the two taken together may be more distantly related to Turkic and Uralic (including Finno-Ugric; whence some crazy rumours to the effect that Finnish and Japanese are similar which have come to my eager ears!). Some of the Japanese vocabulary looks Austronesian, and early input or influence from further south cannot be discounted, although it is not regarded as proven. Beyond this we reach the near-fringe and then the fringe proper (Smithana etc). Of late, Maher, Yoshiwara, Kawamoto and others have been promoting links with (guess!) Sumerian! They are more scholarly than Smithana but their work displays weaknesses of the usual kinds, notably reliance on general typological features which cannot identify genetic relationships reliably. More info on request!

### Revision on the web 3: It's all Turkish to me!

See [www.compmore.net/~tntr/tur1.html](http://www.compmore.net/~tntr/tur1.html) for an attempt by Polat Kaya (continued at [www.compmore.net/~tntr/tur2.html](http://www.compmore.net/~tntr/tur2.html)) to explain all languages as deliberately corrupted Turkish. This is similar to what the new republican Turkish government tried to do around 1930 for nationalist reasons ('Sun Language'), but has been developed much further. The proposal is parallel with Nyland's involving Basque (see my earlier comments), and I am tempted to put the two in contact! In general terms there is even less of a case on this front for Turkish, as it is not a mysterious isolated language of some antiquity like Basque but a member of a well-established family. But of course no such process has ever occurred at all.

### Revision on the web 4: Jim Bowles

I was approached by revisionist author Jim Bowles, who had seen a transcript of my ABC radio interview with Robyn Williams about Robert Temple's stories of ancient telescopes

and wanted my comments on his own theories about the achievements of ancient astronomers, Velikovskystyle catastrophes involving Jupiter and early human intercontinental diffusion. The usual unpersuasive stuff – but watch this space!

### The Quadrant exchange

*Quadrant* did not print my letter rebutting Gillin as they said they would. I am seeking an explanation.

### Watch these spaces too!

As well as further observations on some of the above, I hope to comment in due course on a number of other issues, notably:

- (a) Sullivan's diffusionist account of the Inca civilisation, as seen in a recently-broadcast television series;
- (b) Tenen's ideas about the geometric-cum-pictographic origins of the Hebrew script and implications for communicating with extra-terrestrials (Sullivan's site has links to Tenen, which has the effect of pushing his own material nearer to the fringe);
- (c) Alan Seath's forthcoming relatively sober diffusionist book on New Zealand (I still expect that the use of linguistic data will be unsatisfactory);
- (d) allegations about artefacts and written texts from a lost civilisation off Taiwan associated with the aboriginal 'Ketagalan' group (there is a book in Chinese by Ho Hsien Jung and Lin Sheng Yi; see [www.100megsfree4.com/farshores/ufo02tuf.htm](http://www.100megsfree4.com/farshores/ufo02tuf.htm) and also material in *New Dawn* etc).

More peripherally, I may have something to say about (e) claims by David Hockney and Philip Steadman about precocious optical inventions and their application in painting, reminiscent of Temple and his ancient telescopes, etc. (Incidentally, one writer in *New Dawn*, misunderstanding a jocular remark made by another commentator, believes that Temple is/was the Astronomer Royal!)



# Prophet or Profit?

**Our intrepid investigator  
again tests amateur  
health advice**



*Karen Stollznow, a postgraduate student in linguistics, is a regular investigator of dubious health claims for the Skeptic. Nevertheless she remains in robust good health.*

Ever wondered which 'health practitioners' alternative therapists perceive to be charlatans? The Medical Intuitives. These are also known as Health Intuitives, Medical Psychics, Diagnostic Psychics, Angel Oracle Readers, Angel Intuitive Practitioners and Medical Prophets. A psychic by any other name, these people claim to have a sixth sense, an ability to intuitively diagnose disease states in people, and to heal them. They assert that their 'intuition' is their sole diagnostic tool although most of their patients hasten to explain their symptoms and condition to the intuitive. This information affords predictable opportunities for exploitation.

Unlike the patients of a naturopath or homoeopath, who might be disillusioned with orthodox medicine or be seeking 'natural' alternatives, the patient of a medical intuitive is invariably vulnerable, desperate and distressed. Typically they are very ill people, with chronic or incurable diseases; cancer, multiple sclerosis, epilepsy, chronic fatigue syndrome or an unidentified illness. Were medical intuitives to have *bone fide* abilities they would certainly render redundant many branches of medicine, especially diagnostic medicine, such as pathology and radiology. As you

shall soon see, the diagnoses made by medical intuitives are typically insubstantial, vague and inaccurate, their ineffective advice phrased in New Age jargon with a religious slant and certainly no substitute for orthodox medical care.

## A Cayce in point

Probably the most infamous medical intuitive was American Edgar Cayce (1877-1945), the 'Elvis' of psychics. Cayce was revered for his predictions, some of Nostradamean proportions, although the work that has earned him posthumous veneration was his alleged ability as a psychic medical diagnostician. Known as 'the Sleeping Prophet', Cayce would reputedly lie in a mummified position, close his eyes and enter a trance-like state, whereupon he would make outrageous predictions, conduct imaginative past-life readings and perform dubious medical intuitive readings. Followers claim he gave 30 000 readings over the course of his life, some of which were made after the death of the patient in question, unbeknownst to Cayce. This says a great deal about his supposed intuitive abilities, or lack thereof. There is an international Edgar Cayce association, dedicated to the dissemination of his 'work': the Australian

branch is located on-line at [www.cayce.egympie.com.au](http://www.cayce.egympie.com.au).

Countless books of Cayce's remedies and legend exist, attesting to his continued popularity. Take heart though, some reputable skeptical authors, James Randi, Martin Gardner and Dale Beyerstein, have critically examined Cayce's approach and results. There is no evidence to substantiate the belief of Cayce's followers that the intuitive ever accurately diagnosed his patients, without prior information, nor any indication that his medical advice was efficacious. Cayce had an interest in homeopathy and naturopathy and this is reflected in his medical counsel. His 'enlightened' suggestions for treatment were frequently folk remedies, bizarre snake-oil tonics and recommendations for prayer and meditation. He recommended osteopathic treatment for schizophrenia, castor oil packs for epilepsy, crystals for depression and, as noted by Randi in *Flim-Flam!* "Beef broth was one of Cayce's favorite remedies for such diverse diseases as gout and leukemia." In the Cayce entry from *The Encyclopaedia of the Paranormal*, Beyerstein noted that in 1926 Cayce prescribed "the raw side of a freshly skinned rabbit, still warm with blood, fur side out, placed on the breast for cancer of that area".

### Seeking an answer

As belief in the practice of medical intuition continues today, I decided to investigate an Australian intuitive. There were plenty from which to choose. Hundreds of them advertise on-line and conduct their readings via the most dubious mediums (excuse the pun). Medical intuitives usually do phone readings although the very nature of the Internet has proved a fertile ground for these practitioners who claim to be able to perform their work "by distance". Anyone with a credit card can have an Internet reading via email, chat room, messenger or even real time video chat!

In my search for a subject I encountered one of Australia's most renowned medical intuitives, Glenys

Brown, [www.glenysbrown.com](http://www.glenysbrown.com). Brown labels herself as "respected international medical intuitive" and has appeared in a favourable, promotional light on such programs as *Sixty Minutes* and *A Current Affair*. Brown's fees are astronomical at \$275 for a "Comprehensive Medical Intuitive Profile" and \$115 for a subsequent "Health Review". A cursory perusal of Brown's testimonials shows that her medical counsel consists primarily of advice that patients "pray and meditate for healing". Needless to say, Brown could not fit me into her busy schedule for this magazine's deadline, given her full appointment book.

However, Brown owns and runs the College of Energy Medicine in Perth where students can attend workshops in Time Travel and Qigong, or undertake non-accredited courses to become a medical intuitive, at \$750 per semester. Brown offered her profuse apologies, an offer for a reduced fee reading at a future date and said she'd delight in my organisation for her of a "workshop in Armidale"! She didn't intuit that one accurately!

Intuitive Bob Jajko, founder of the New Vision School of Intuitive Sciences, [www.newvisionschool.com.au](http://www.newvisionschool.com.au), also offers courses to become a medical intuitive: "Medical Intuitive Skills", Parts I and II, for \$495 per course. Jajko recommends the benefits of the course for various alternative therapists and, amusingly, perceived benefits for Medical Practitioners, Nurses, Physiotherapists and Counsellors. I approached Jajko for a reading but he too was unavailable and slow in responding to my query. Here was his excuse for his tardiness, sent to me by email:

*Sorry for the delay in answering you, as you may be aware Mercury is in retrograde currently this causes many things to happen. One being electrical things break down, and yes my computer done just that.*

I certainly had many other medical intuitives to choose from. Australian medical intuitives include Rhonita (who also offers a service to

locate missing persons!), Barbara Novak, Leonie Hosey, Kim Lansdowne-Walker, Vianna Stibal, Jeurgen Schmidt, Wendy Monroe and Robyn Elizabeth Welch. (A subscriber nominated the latter, in conjunction with ABC Radio, for the 2002 Bent Spoon Award, following a breakfast radio program in which Welch gave dubious medical advice to talk-back callers.) Check [www.angelintuitive.com.au](http://www.angelintuitive.com.au) for an on-line directory of medical intuitives, specifically those who have attended a four-day course conducted by one Doreen Virtue, [www.hayhouse.com.au](http://www.hayhouse.com.au), at the cost of \$555.

### One approach

I felt it might be of interest to include the following website extracts from reports of readings conducted by South Australian intuitive, Kirana: [www.homepages.picknowl.com.au](http://www.homepages.picknowl.com.au). I suggest a visit to the intuitive's website to read the reports in their entirety; some of them are utterly surreal. The website describes Kirana's method as:

*Kirana works by tuning into the psycho-emotional and spiritual energy patterns within your body, as well as specifically checking your various body organs to intuit their overall health and vitality.*

Proponents of alternative therapies often claim that orthodox medicine is "band aid therapy", aiming to treat symptoms and neglecting to treat the cause of illness. In this report Kirana attempts to isolate the cause of a 4-year-old girl's ear problems (NB, the condition in this instance was relayed by the parents rather than diagnosed by Kirana's 'intuition'):

*Your daughter is hearing "unspoken" communications between you and your husband. There are things being "said" that are not being verbalised that your daughter is "hearing" and I sense this could be the cause of her ear problems.*

The report never specifies a disorder, listing vague 'ear problems' as

---

described by the parents anyway. Kirana does not offer advice for treating either the cause or the symptoms of the child's 'ear problems'.

Kirana's reports reveal a primitive belief in sympathetic medicine, that like affects like and disease invariably reflects lifestyle and psychological state. The reports frequently create a simplistic and irrational correlation between illness and attitude or behaviour, as shown in the following extract regarding a 55 year old female with bladder problems.

*Your bladder decided to stop working... you are pissed off and can't hold it anymore. But you are not a weak person, out of control. You have strength and keep your life together. So why make it harder for yourself with a dodgy bladder?... Who are you pissed off at? You can't hold it yourself, nor it seems can you direct it where it needs to go. So a lot of energy is wasted pissing about.*

Kirana then presents an analogy between the bladder condition and a leak in an inner tube. Kirana's solution to the problem is to visualise the act of repairing a tyre and then apply that same image to the patient's problem bladder.

He applies a literal interpretation to the case of a 55 year old woman with shingles, who happens to mention that the condition appears to be abating over time.

*I found it striking that you said the blisters were under your belt. Look at that expression, "under your belt". It means you've got it sorted. Whatever childhood hurts, emotional hurts, that this may be related to, have been dealt with.*

The following extract is taken from the report of a 40 year old male cancer patient.

*I sense the renal cancer is the result of him taking on things that aren't really to do with him. It doesn't feel his stuff. He has allowed himself to be imposed upon. I sense he will benefit by handing back any unwanted "stuff" to others. It is a time*

*for him to apologise to his body for having taken this foreign stuff on.*

Of course, this way of thinking places the onus of blame for illness upon the patient and relieves the practitioner of the onus to heal him. This also rationalises any failure to heal on the part of the intuitive – they can't fight the patient's 'will'. Kirana continues in this stream, padding the prognosis with ambiguous counsel and new age buzz words.

*I sense though that he doesn't want to triumph. The will to do so is just below the surface. His body wants to fight to heal. His mind though is directionless. There is like a fog or a cover in his mind which is preventing him from seeing his way clearly, and this could cause him to give up. He needn't be so concerned with externals but rather develop his inner vision and make peace with his heart and his "lot", his life, that way. The way for healing for him is to feel the pain in his heart. I sense relief and joy within easy reach for him, whether or not he recovers physically.*

Kirana commences every paragraph with "I sense" or "I am sensing" or "I feel that...". Would a patient tolerate that vagueness from their physician? Randi notes in *Flim-Flam!* that these hesitant "qualifying words [are] used to avoid positive declarations". Typically, the report includes a disclaimer that calls into question the \$120 spent on this appointment.

*I would recommend he pray for the repair of his body and to undertake any form of treatment, medical or alternative.*

Often, Kirana need not consult his intuition but merely reiterate doctors orders as shown by the following report of a 50 year old man with high triglyceride and cholesterol levels.

*I had to do some reading to find out some more about what triglycerides do and what cholesterol does. Of course, it can't hurt to take all the usual steps you've probably been advised to, like cutting down on*

*fatty foods, alcohol, sugars.... and exercising more.... and so on.*

### Now for the test

My on-line search for a medical intuitive led me to Nature's Inspirations, [www.naturesinspirations.com.au](http://www.naturesinspirations.com.au), an internet company offering New Age products and services; books, clothing, music, products for aromatherapy and tarot, distance healing reiki, medical intuitive readings and of course, domestic cleaning products. Nature's Inspirations is located in Morpeth in the Hunter Valley. Kylie Banerjee performs the medical intuitive readings at Nature's Inspirations for a fee of \$50 for a face-to-face consultation or \$40 for a distance reading.

*In a Medical Intuitive Reading, the practitioner describes for their client the nature of their physical diseases as well as the energetic dysfunctions within their body. Based on the information received from your energy field, including the chakras, recommendations can be made for treating the condition on both a physical & spiritual level.*

My reading was to be conducted 'by distance' and the results sent to me by email – our entire correspondence was via email. But what information did Banerjee require to conduct the reading? A competent 'psychic' can elicit information and arrive at plausible assumptions based on the scantiest details. Any information is ammunition for the intuitive. I was asked to provide my full name, city, state and country of residence. Banerjee claimed that these details were required as she needed to "tune into the right person" as "someone else in the world may exist with the same name". Of course, as it is possible that in highly populated cities multiple individuals may share a common name, this negates Banerjee's reasoning. She also asked for my age, which may drop hints of a predictable state of health. It might be assumed that although younger people are generally more robust than older people, a young person approaching an intuiti-



tive suggests they have a specific medical concern.

I was asked to name my occupation. Armed with this knowledge, a reader could presume many things about their subject, including interests, education and their state of health. Many occupations have associated health risks. An intuitive with lateral thinking skills could 'intuit' that a miner has respiratory problems or that a sportsperson has a particular injury. I was also asked for a recent photograph, "to tune into your energy", which doubtlessly imparts further superficial information. Lastly, I was invited to list any symptoms or conditions from which I suffer! I did not address this point in my response. However, I am certain that ill and desperate patients would freely reveal precise details of their medical concerns, thereby doing the very job of the intuitive – detecting the condition.

My hour long appointment was scheduled for 6pm, Thursday 23rd January, 2003. I was advised to "sit down and relax" during my reading, which I did. Over the course of the hour I experienced some pain from a growing wisdom tooth on the right side, at the back of my bottom row of teeth. This pain has been intermittent and I have been assured by a dentist that there is sufficient room for my wisdom teeth to grow and that extraction is unnecessary. I guess you could say I'm teething. This provided me with a basis with which to test Banerjee's intuitive abilities.

### Readings

Banerjee promptly emailed me a transcript of her reading. (It would be interesting to compare my transcript with that of Banerjee's other clients, to see if there is any repetition of reportage, suggesting stock responses.) The lengthy transcript consisted of four separate readings, an 'Angel Reading', a 'Crystal Reading', a 'Chakra Reading' and a 'Medical Reading'. This extraneous, voluminous information gives the impression that the intuitive is giving great value for money.

The Angel Reading, performed with tarot-like 'Angel Cards', presented a lot of irrelevant or obvious statements and gibberish, such as, "this card indicates that you are ready to receive new friendships with people who mirror your interests and ambitions". Who isn't?

In the 'Crystal Reading', each card "represents one of your chakras and shows which crystal will assist you in that particular region at this time." This information, irrelevant to the reading I had requested, acts as filler for the reading and benefits only the crystal purveyors.

7th chakra: Zincite (Creation)

6th chakra: Rhodochrosite (child within)

5th chakra: Fluorite (self discipline)

4th Chakra: Sunstone (leadership)

3rd chakra: Tiger eye (balance)

2nd chakra: Black tourmaline (purification)

1st chakra: Kunzite & hiddenite (joy & gratitude)

The reading appears to be nothing more than a random association of various crystals with the alleged chakras (energy points) of the body. Next was the 'Chakra Reading', a typical psychic reading that alleges the existence of 'chakras' and explained the supposed chakras' relationship to various body parts and their state of health. As this reading was superfluous and mirrored the medical intuitive reading I have decided to omit the 600 word Chakra transcript.

### Medical reading

The final reading, the only one I had actually requested, was the medical reading. I have reproduced the reading below, in its entirety, with notes. Banerjee began with the following note:

*Please note that what follows is from images or messages I received through for you, read it and then read it again, it also closely fits in with your chakra reading. Also know that it also doesn't indicate a disease in that region, it merely means that there is an imbalance in*

*that region, and that there could be physical symptoms from lack of energy flow now or in the future.*

The inevitable psychic disclaimer, these words pardon the intuitive for an inaccurate reading, rationalising any failure with the disprovable statement that the reading may reflect potential illness, rather than current illness. Of course, should I heed Banerjee's advice, I might avert the disease I was probably never to suffer from anyway.

*There is a reddish colour around the left side of your chest area, indicating possible infection in this region, red is also associated with the 2nd chakra.*

**Miss.** I am not currently experiencing a respiratory infection. Banerjee states that a 'reddish' aura in this region of the body indicates "possible infection". She does not explain what this "reddish colour" might otherwise mean, should her initial diagnosis be inaccurate. Banerjee's hit and miss report is replete with noncommittal terms – "possible" and "may" and emotive precursors such as "I feel that..."

*In your left side (head, sinus area) it feels really stuffy, it could mean that you have been thinking too much but also could mean a stuffiness, congestion possible recent or chance of infection in this region (sinuses etc). I'm also feeling that your immune system is running a little low, the heat chakra is where the thymus gland is which protects us from infection, with your heart chakra running a little low you could be susceptible to a lowered immune system and possible infection. The message for you to increase your intake of green leafy vegetables.*

**Miss.** Banerjee allowed herself several interpretations within this one diagnosis, the 'stuffiness' she felt in my left side could indicate sinusitis or that I have been indulging in "thinking too much". She detected that the 'stuffiness' is on the left side of my sinus area. However, sinusitis typically affects the entire sinus region, rather than the pain being

---

lateralised. Furthermore, sinusitis was a safe guess, with its prevalence at this time of year. As for Banerjee's general comment that my immune system is 'low', this is another safe guess as any given person might be sick from cold, influenza or a myriad of other infections several times per year. Furthermore, having just enjoyed the Christmas and New Year holidays in quick succession, we've all been prone to overindulgence. As my own health stands, I am not currently suffering any infection, sinusitis or otherwise. Banerjee rounds this up with a simplified bit of nutritional advice, "increase your intake of green leafy vegetables".

*Also in addition to the head area / mental process area / ears (where we listen,) there are a lot of people talking to you, possibly about their problems, I feel that you are doing a lot of listening and not a lot of talking, you also might be experiencing a few problems in getting out the exact right words you want to say. Sometimes you find it difficult to communicate.*

I would agree that I am a good listener, flattery will get a psychic anywhere. However, I must protest at Banerjee's comments regarding my communication skills. As a PhD student in Linguistics, Skeptics Investigator, a narrator with the Royal Blind Society and the Australian Listening Library and a DJ with a Saturday night slot on a community radio station, communication is my gig. **Miss. Big, big miss.**

*I'm also feeling that there is too much mental energy & not enough relaxing / chilling out, there seems to be a lot of mental chatter, like you are constantly thinking and not quietening your mind. This can lead to physical symptoms, lowered immunity. Try yoga, meditation, walking in nature.*

**Miss.** A clever guess though. Any student will invariably suffer moments of stress. Here Banerjee's logic overrules her 'intuitive' abilities. A stock response for student patients?

*I had an image of the contraceptive*

*pill when I was in your 2nd chakra region (reproductive area). It showed me that you may be or might in the future take the pill for medical reasons more so than contraceptive ones. A message came through for you on this, that there are alternative approaches you can take for this, and you will be able to have children in the future. Also as I looked deeper in this area, actually inside your Fallopian tubes, I saw bits floating around in there, it was similar to how endometriosis looks, but it could be indicative of various conditions (even a heavy period) But all in all, there does seem to be something going on in this reproductive 2nd chakra region, it may be now or a possibility in the future, but also know that you have the power and the innate self healing abilities to combat anything that gets thrown your way, so it is important to address these low areas of energy.*

**Hit and miss.** Banerjee suggests that I am suffering from a gynaecological disorder, specifically endometriosis, or that I may develop this at some point in the future. Interestingly, I underwent a laparoscopy in October 1999 for suspected endometriosis, after haemorrhaging from my navel. This exploratory surgery discounted endometriosis and although the irregular bleeding could not be accounted for, this has never happened since, nor have I ever suffered any resultant pain. Endometriosis sufferers would, no doubt, attest to the strong, tell-tale pain associated with this illness. They would also debate the benefits of mere 'self-healing' to cure this chronic condition. And to completely lay out my most private details, I have never taken the contraceptive pill or suffered heavy periods. Banerjee made a wily guess though, the Endometriosis Association of Victoria states that this illness is the second most common gynaecological condition and that it affects 1 in 4 women.

Finally, Banerjee offers medical advice for the illnesses she had diagnosed by 'intuition'.

*Here are a few suggestions that could help you:*

- meditation, yoga
- using the crystals in your crystal cards for that particular region.
- increasing nutritional intake.
- increasing self love

Not a very efficacious remedy for a supposed chest infection, sinusitis and endometriosis! Finally, the big plug.

*Read more on energy medicine, the more you know the more you can help yourself, one of the best books is the Barbara Brennan book, Healing Hands, which is available from the website [www.naturesinspirations.com.au](http://www.naturesinspirations.com.au) along with books, videos and cds on meditation, healing, yoga and the like.*

I could not attest that Banerjee's reading is an accurate analysis of my current state of health. The endometriosis reference came close but can be dismissed as a 'miss' as surgery discounted this, years ago. Should Banerjee personally count this as a 'hit', that she had 'intuited' this as a health concern in the past, I could counter this with the fact that she didn't intuit my chronic tonsillitis of this year past, and my recent tonsillectomy. Nor did Banerjee detect the wisdom tooth pain I felt during the reading. Banerjee did not offer or conduct any 'absent healing' nor did she offer any tangible medical advice. Her reading was full of surmise and irrelevant information. To answer the question posed by the title of this article, a medical intuitive is no prophet with paranormal abilities to diagnose and heal people but, with their obscene promises and prices – they make a nice profit out of misery and sickness.

Then again, perhaps I am being too hard on Banerjee. Maybe she was just having a bad reading day. After all, Mercury is in retrograde.



# Water, Water Everywhere

The first in a series that probes popular myths about nutrition

## You must drink 6-8 glasses of water a day

I've heard it many times, and no doubt you have too – you should drink 6-8 glasses of water each day. If this statement is based on human physiology then it is flawed from the start. Why 6-8 glasses? What authority is making that claim? Let's investigate.

### The urine theory

I originally thought that the claim was based on the physiology text books which state that the average human produces 1500 mL of urine each day. If a glass is 200-250 mL, then that makes 6-8 glasses of urine a day. It makes logical sense that you should drink enough water to replace urine losses, but this may not be as logical as it seems. Apart from urine there are other daily water losses from the body via the skin (500 mL, more if you sweat through exercise or hot conditions), exhalation (350 mL) and in faeces (150 mL). Does that mean you need more than 8 glasses of water a day?

My US colleagues suspect that it all started when the National Academy of Sciences in the US said in its 1945 Recommended Dietary Allowances "A suitable allowance of water for adults is 2.5 litres daily.... Most of this quantity is contained in pre-

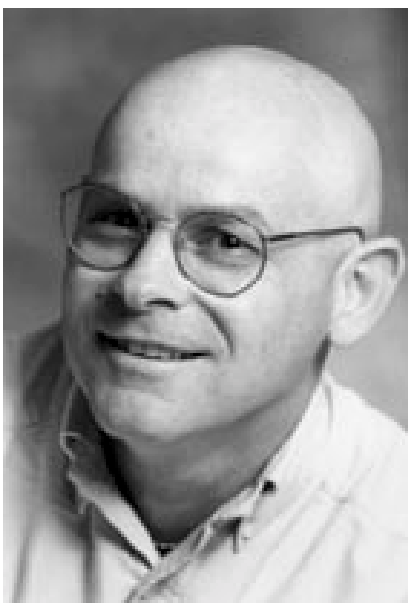
pared foods." The importance of that last sentence is under-estimated.

## Water is not the only source of water

A lot of the 'solid' foods you eat contain appreciable amounts of water (see table). Vegetables and fruit are around 90% water, as are milk, fruit juice and soft drinks. Cooked meats and fish are over 50% water and breads are about one third water. So, a meat and salad sandwich will provide around 160 mL of water. Add a piece of fruit and a 300 mL flavoured milk you will have over 500 mL of water; ie, water is not the only source of water in your diet.

Professor Don Robertson, physiologist from the University of WA, responding to the 6-8 glasses debate, said "Humans, like all other organisms, have sophisticated automatic control systems for regulating water intake and loss without any need for conscious intervention of the sort advocated by recent propaganda campaigns".

He did make it clear that thirst is not a good indication of fluid needs in exercising and working under hot conditions. Under those conditions it is wise to try and drink at the rate of one litre per hour to minimise your risk of dehydration. Under most other conditions, your thirst response works wonderfully well, as



*Glenn Cardwell is a professional dietitian from Perth, who specialises in sport dietetics, though not diuretics.*

you would expect after years of human evolution, mostly in a hot environment. (A reminder here that there is no evidence to my knowledge that humans engaged in fun runs, marathons or iron man competitions during evolution – you might have chased game for a few hundred metres before saying “Stuff it! I’ll wait for a slower wild pig”).

### Any harm in 8 glasses of water a day?

Generally, no. You might be going to the loo a lot on a cool day, but you may also be reducing your risk of bladder cancer according to a Harvard School of Public Health study of 48 000 men. Those who drank 6 cups of water a day had half the risk compared to men who drank only one cup. It is speculated that the extra fluid helps dilute any carcinogens in the bladder.

There have been cases of water intoxication, but only after drinking far more than eight glasses. Because it is counter-intuitive, a story about three US military recruits dying from drinking too much water got a wee bit of attention in July last year. It is thought that over-zealous instructors, not wanting a heat stroke/dehydration victim under their command, pushed the drinking of water to the limit.

In 1999, a 19 year old Air Force recruit collapsed during a 10 km walk. Doctors say it was hyponatraemia (low blood sodium) and heat stroke. In 2000, a 20 year old Army recruit drank over 12 litres of water in a 2-4 hour period. She lost consciousness and died from swelling in the brain and lungs from hyponatraemia. Then in March 2002, a 19 year old Marine died from drinking too much water during a 42 km march. (It is partly for this reason that sports drinks contain sodium at 20-40 mg per 100 mL to assist the replacement of sodium lost in sweat. If only water and not sodium is replaced during long periods of sweating, the concentration of plasma sodium can become dangerously low).

Dr Heinz Valtin, Dept Physiology, Dartmouth Medical School, New

Hampshire USA, cites two possible cases of hyponatraemia due to excess water intake after taking the recreational drug Ecstasy. Both deaths were 16 yr old girls. Valtin speculates that Ecstasy may have stimulated secretion of endogenous anti-diuretic hormone, which prevents the excretion of the copious amounts of water they drank.

### Change the colour of your urine

Sports Dietitians often state that light yellow or pale urine is an indicator of good hydration. Does it follow that dark urine means dehydration? Not always. The first pee of the day is usually darker due to concentrated urine and does not indicate dehydration. Of course, some readers might not see pale urine too often if they regularly take a vitamin supplement. The B group vitamins can turn urine quite iridescent orange so that the stream looks like a laser sword out of Star Wars. If you do take a multi-vitamin I suggest you take a low dose version so that not quite so much goes down the loo.

Dr Valtin, in his brilliant article on human water requirements, explains that some people see a ‘moderately yellow’ urine and assume that they are dehydrated because they hear that they should pass ‘clear’ urine. This is rarely the case if you pass 1500 mL urine daily. “Therefore, the warning that dark urine reflects dehydration is alarmist and false in most instances”, says Valtin, referring to the average person.

My advice is that people check both the frequency of peeing as well as the colour. If the pee is yellow but they are going to the loo 5-6+ times a day then they are probably well hydrated. If they go many hours without a pee then they need to drink more. If they pass only a small amount of urine then they need to drink more no matter what the colour.

Workers in hot environments will often see a ‘pee colour chart’ in the toilets. The idea of judging the colour of the urine is to alert workers that they may need more fluid, especially if they then realise it’s 3.30 pm and this is their first pee since breakfast.

### My tip

You should drink as much fluid as you need to keep hydrated. In most cases, this is the amount of fluid that will produce light yellow to pale urine about 5-6 times a day. On a hot day that might be three litres or more; on a cool winter’s day that might be only four cups of tea, with your food providing the rest of your fluid needs. That’s right, even tea and coffee are fluid sources to the body. The colour of your urine is only part of the picture, but it might be the part that gets you to look at the rest of the picture, ie volume and frequency.

### Water content of some foods

Bread, 1 slice	10 mL
Milk, 200 mL	180 mL
Yogurt, 200 g	160 mL
Cheddar cheese, 30g	10 mL
Ham 100 g	70 mL
Chicken 100 g	50 mL
Egg, boiled, 50 g	35 mL
Fruit salad, 200 g	170 mL
Fruit juice, 200 mL	185 mL
Soft drink, 200 mL	185 mL
Baked beans, 100 g	75 mL
Tomato, 100 g	93 mL
Potato salad, 100 g	75 mL
Broccoli, 100 g	90 mL
Apple 150 g	130 mL
Avocado, 100 g	73 mL
Breakfast cereal, 100 g	5 mL
Peanuts, 100 g raw	5 mL
Vegetable oil, 1 Tabsp	0 mL

### References:

- Valtin H. *Am J Physiology* 2002; 283: R993-R1004
- Military Medicine* 2002; 167: 432-434
- Robertson D. *Health & Medicine* p8. *West Australian* 11 Dec 2002





# Exit *The X-files*

## Noting, but not lamenting, a disappearance

### The End - at last

*The X-Files*, the show which has done more than any other recent television program to repopularise the UFO myth, came to an end this year. And whatever you may have thought about the production quality, there's no doubt that the producers had hit on an original idea.

Although, broadly speaking, *The X-Files* could be described as part of the thriller/horror/fantasy genre, the storylines were not exactly like any that had come before. Usually, a thriller is based around the conflict between the supernatural world and the human world, following a standard plot structure:

1) **Discovery:** A person dies, seemingly by supernatural means. A member of the family witnesses this, or discovers the death shortly afterwards.

2) **The Chase:** A group of detectives/scientists are told about the incident, and start gathering information about it.

3) **Apprehension:** The detectives/scientists capture the supernatural agency and neutralise the threat.

This plot line works well, and it has been used by many famous writers and directors, including Alfred Hitchcock and (more recently) Joss

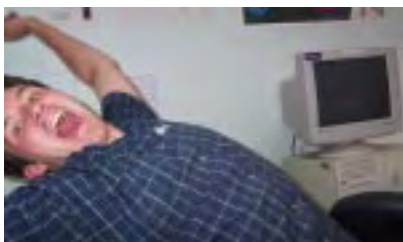
Wheeldon. The makers of *The X-Files*, however, tried something completely different, and I would suggest, not as effective. They seemed to have worked on three related assumptions:

1) that the basic element of a thriller is fear; and

2) since we are most afraid about what is mysterious – ie, what we don't know; then

3) the best way to invoke fear is to confuse your viewers, and to question their ability to know anything.

These three assumptions are questionable, to say the least. Many classic works of horror work because they graphically present this horror before the audience. In Edgar Allen Poe's short story *The Masque of the Red Death*, for instance, Poe uses vivid sensual details, bright colours, strong images with powerful symbolic meanings, and a near hysterical narrator to describe a decadent aristocratic society caught in the grip of plague. It is one of the most terrifying and effective stories I have ever read. And in fact, although 'mystery' is a proper element of many horror stories, it can only ever work if the 'mystery' – the thing that is unknown – presents a clear, distinct, known threat to the charac-



*Tim Train would be chuffed if fewer puns were made about his name than in a previous issue. We are delighted to comply with his expressed wish.*

---

ters. This is something the makers of *The X-files* often seemed to forget.

### Aliens abductions, crackpot conspiracies

The producers sought to confuse their audience, and they did this in the earlier years by popularising modern mythologies about ghosts, vampires, and alien abductions. The two stars of the program were Gillian Anderson (playing the sceptical agent Dana Scully) and David Duchovny (playing the believer, Fox Mulder). The standard tactic of the writers was to begin the program with a mystery, to follow it with a riddle, to wind it up with an enigma, and to close it with an incomprehensibility. Scully would offer sceptical, scientific-sounding explanations during the course of the program, but would end up being baffled by the unfolding events. The supernatural explanation always won out; and just in case the viewers were unconvinced, the producers would usually finish the program with a graphic depiction of the same supernatural event.

But the masterstroke of the producers was to create a conspiracy theory and to incorporate it into the plot. Conspiracy theories, of course, are used by kooks and crackpots when they want to be able to prove a theory after all the evidence for that theory has been discredited: a good conspiracy theory says that the real evidence is hidden, and that it is in fact proven by the lack of evidence for it.

In particular, the makers of *The X-Files* used conspiracy theories about Roswell, Project 51, the US Government, the US Military, the FBI, and Alien Abduction as major elements of their plot; and in those stories where no 'supernatural' explanation was given for an event, the possibility for a supernatural explanation was usually held out by the judicious use of a conspiracy theory.

Of course, in using common folk-myths such as alien abductions, the makers weren't being very creative – but they were being clever. By

putting these myths on television, by expanding on them and by making them seem real through the use of special effects, I think the makers intended to play on the trust of their viewers, breaking down the barriers between entertainment and reality, between fiction and fact. They intimated that the conspiracy theories, tales of alien abduction, and so forth, that crop up in the news occasionally might actually be true. Remember that in other thrillers, a standard plot line is used, partly because it helps to maintain a distance between the viewer and the program. A plot-line usually reminds us that what we are watching is a fictional creation, not a news report or a current affairs show.

In *The X-Files*, the use of 'conspiracy-theory' as a plot device is also questionable because writers and directors normally aim at simplicity of plot. If a plot becomes too complex, it confuses both viewer and scriptwriter.

### Imitations and parodies

Despite the fact that it probably had a large budget, the production values of *The X-Files* were uniformly bad. In every scene, the faces of the characters were obscured by darkness, mist, fog, and shadows (it looked like the characters were forever stumbling through a bad imitation of a French impressionist landscape); turgid 'mood music' was played throughout; and the plot never developed, advanced, or surprised – how could it, being mired in so many mysteries and enigmas and conspiracies?

And though the show was unquestionably bad, it is surprising that it has attracted so few parodies. (The only parody I can recall was on *The Simpsons*, which is hardly surprising, when you consider that the show had already parodied every other facet of American culture.) In fact, it has usually been imitated, not parodied. Shows like *Millennium*, *Mysterious Ways* and *Freaky Links* are aimed at the *X-Files* audience, though none of them seems to have

attained the cult status of the original show. I don't know how popular any of these programs are, but I suspect that producers are fond of the genre because they can be easily classified and sold to their viewers as part of a 'post-*X-Files*' genre. Probably the popularity of *The X-files* itself was never that great – but it has gained an audience by endorsing the ridiculous views of UFO nuts and Roswell freaks. In fifty years time, they might well be the only people who remember *The X-Files*.

### A genuine mystery

It's worth looking, for a second, at a genuinely well-made thriller/horror series to see just what the viewers of *The X-Files* are missing out on. That show is *Buffy the Vampire Slayer*, which is fairly clearly set in a different world from ours. In spite of this fact, all the characters are well-conceived, with motives and intents and personalities; the scripts are witty and amusing, the music and lighting is used thoughtfully, and the plot always manages to be surprising – drawing from a number of different genres (a recent episode was made in a 1950s 'musical' style). And, often enough, it can be genuinely frightening, but it doesn't rely on mystery and conspiracy to have an effect, but rather on good plotting, good acting, suspense and surprise.

Anyway, the show which popularised conspiracy and mystery over suspense and surprise has gone, but one final mystery still remains. Why do the television networks prize badly made programs like *The X-files* over well made programs like *Buffy the Vampire Slayer* and *Farscape*, relegating the latter to late-night time slots or using them as end-of-the-year fillers?



# True Grit

A fresh look at an often overlooked scientist

***Dart: Scientist and Man of Grit*, Frances Wheelhouse and Kathaleen S. Smithford 2001. Sydney: Transpareon Press. xvii + 361 pp. ISBN 0 908021 275.**

Who was Dart, that the Skeptics should be interested in him? And “man of grit”? John Wayne made a film about grit, but it was not about a scientist as far as we can recall.

Raymond Arthur Dart (1893-1988) was a remarkable scientist who changed the way we view our origins. He discovered something; he was not just in the right place at the right time, but it was his insight into his discovery that made him remarkable, and it was his insistence on his insight, in the face of criticism so unfair that it amounted to prejudice, that makes him a “man of grit”. What he discovered was our ancestor *Australopithecus*; his insight was to interpret it correctly, even though he had such unsatisfactory material. How it changed the way we view our origins was that it fingered Africa – not Asia, and especially, not Europe as everyone had assumed – as the place where we evolved, and that it utterly refuted the then dominant view that our pride and joy, our huge brain, was what got us started on the road to humanity.

Oh, and Dart was Australian. He was born in a suburb of Brisbane during a massive flood – Noah’s attempt to pre-empt his destiny, perhaps – and as soon as he was born the midwife had to float him and his mother out of the upstairs window on a mattress, to where the neigh-

bours were waiting with a rowboat. He was raised in a religious atmosphere and wanted to go to Sydney to study medicine so that he could become a medical missionary in China. But first, at his father’s insistence, he went to Queensland University to take a degree in science – and there, in 1911, he discovered evolution, and his eyes were opened. He did go on to study medicine at Sydney University (where his contemporaries included H.V. Evatt and another ardent socialist, V.Gordon Childe, who was later to become the world’s leading archaeologist), but now his missionary zeal was in quite a different direction.

In late 1918 he joined the army and was shipped off to Britain, just too late to become cannon fodder in France, but giving him the opportunity to apply for – and obtain – the post of Senior Demonstrator in Anatomy at University College, London. Here the Professor, newly appointed, was Sir Grafton Elliot Smith, another Australian and another Sydney University medical graduate, whose lecture on the evolution of the human brain four years earlier, during a British Association for the Advancement of Science meeting in Sydney, had thrilled and entranced Dart and his fellow students.

But it didn’t last long. In 1922 the Chair in Anatomy, at the University of the Witwatersrand, in Johannesburg, fell vacant; what sort of a back-handed compliment was it when Elliot Smith put forward Dart’s name to fill the vacancy? An unwill-



Colin Groves, one of the original Skeptics, is a professor in the School of Anthropology and Archaeology at ANU.

ing Dart was bundled off to the colonies. And stuck it out. But there were compensations, as he soon discovered: fossils. The manager of lime works at Taung sent him boxloads of fossils, some still embedded in stone blocks: mostly, skulls of extinct species of baboons, but one was the partial skull and natural brain cast of an infant ape, or... or what?

Dart's description of *Australopithecus africanus*, an ape-human intermediate, made the prestigious journal *Nature* in 1925, but there endorphins stopped and the grit started, because *Nature* then published a series of four critical rebuttals; they were so carping, so illogical, that today, 80 years later, we can only wonder how anyone could take them seriously, but they were from Britain's four leading evolutionary anatomists, and that was that. And, alas, one of the four was Elliot Smith.

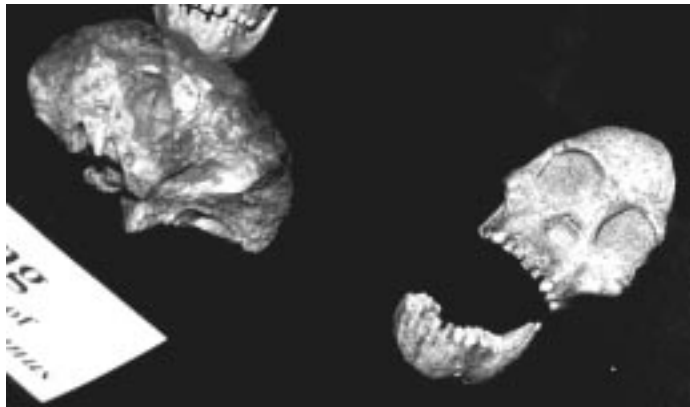
But one person did think that Dart was right. Robert Broom, a strictly religious Scot, like Dart had been medically trained, and like him was interested more in evolution than in curing people. In far-off Glasgow in the 1890s he had heard that interesting fossils were being discovered in the Wombeyan Caves, New South Wales, and he wanted to be a part of that, so he obtained a post as a country doctor in Taralga, near Goulburn, and handed out nostrums across a desk covered with part-prepared skeletons of extinct marsupials. Then he heard that even more exciting fossils were to be had in the Karroo in South Africa, and headed out that way, where he discovered mammal-like reptiles and documented the origin of mammals. Then he read



Raymond Dart with skull of the Taung child

about *Australopithecus* and travelled north to Dart's lab where he marched in unannounced and fell on his knees before the child of Taung.

Broom's discoveries of adult australopithecines, and lots of them, and all parts of their skeletons – in the 1930s and 1940s – finally vindicated Dart.



Taung skulls

After another leading British anatomist, Sir Wilfred Le Gros Clark, made a trip to South Africa to see the material, and published a long paper on it in 1947, no professional any longer doubted their significance. Oh, there was one demurrer: an anatomist of dogmatic opinions, and a history of never, ever modifying any of them. A man of enormous ego, who came to wield overwhelming influence in the Brit-

ish scientific establishment – Sir Solly (later Lord) Zuckerman. He had given it as his opinion that the australopithecines were “merely” fossil apes, and nothing that Le Gros Clark or anyone else said was going to influence him; certainly not the original specimens, which he refused to go and see when he was on a visit to South Africa. Zuckerman held dogmatically to his anti-australopithecine stance, a fact which matters a great deal to creationists, though the fact that he was utterly, utterly alone in this view (as in so many of his other views) is entirely lost on

them.

No, I haven't made your reading of the book redundant. There's plenty more to Dart's life. The book is largely by Frances Wheelhouse; Kay Smithford's main role is to supply her excited reminiscences of the visit of the man, who was already her idol, to her father's farm in the 1930s. But Frances Wheelhouse tries to get into Dart's mind, so that the reader can experience how it was for him at the time. In particular she knows the places where Dart was and, since she is herself in her late 70s, the times when he was there, and she has herself been inspired by his story. There is a breathlessness to her style as she experiences the excitements, the disappointments, the adventures and at times the drudgery, along with Dart and his family', and that's quite right. Because the man whose life she is sharing with us is one of the men who changed the way we think of ourselves.





# Life of a Devil's Chaplain

Looking at the man behind the legend

***Darwin*; Adrian Desmond and James Moore, Michael Joseph, London, 1991, 677 pages.**

My interest in Charles Darwin, the man, quickened when I read Desmond and Moore's enlightening biography. My grandmother remembered Cousin Charles coming to see her father when she was about seven, perched in an apple tree at their Yorkshire parsonage. The apocryphal exchange went: "How many have you eaten?" "About fourteen, I think" and his heartfelt cry: "Oh for the days when I could eat fourteen apples!"

To some extent, Darwin has been portrayed by biographers as a weak-willed hypochondriac in a constant state of unreadiness, just waiting for fate in the shape of Alfred Wallace to overtake him. I have always regretted this slur on my hyper-famous ancestor, so imagine my delight when I came across Desmond and Moore's 1991 *Darwin*, rather incongruously in an antiquarian bookshop in Hobart! It carries a recommendation from *The Times Literary Supplement*: "Intellectual dynamite... and certainly one of the most important books in the history of science published during the past decade."

Adrian Desmond is a palaeontologist and honorary research fellow at London University, and James Moore is a social historian with

qualifications encompassing science, religion and post-Darwinian history. These authors, using recently discovered diary material, have portrayed a resolute, courageous young man whose underlying worries were very much a product of the gut wrenching times he lived in. This is verbatim vintage Darwin.

The authors describe the turbulent political climate in Darwin's student days, due to social unrest and the rise against corruption and nepotism in the Anglican Church. Anglicans set the creationist tone and were totally intolerant of any whiff of "transmutation" of species. By the second half of the nineteenth century public opinion had swung towards unfettered scientific inquiry, and the public was eager for such a revolutionary theory, although the psychosomatic effect on Charles was to afflict him unmercifully.

Early on, Darwin became proficient in all the major sciences and when he was chosen to take part in the exploratory voyage of the *Beagle*, he added more skills, going to expert artisans to learn the practical techniques he would need. This catholicity stood him in good stead when he was looking for unassailable proof for the mechanism of evolution.

The authors recount Darwin's early life sympathetically. Like many school leavers he was not at all sure



*Helen Lawrence is an author, anthropologist and musician from Tasmania. She also makes a fine cup of tea.*

about his choice of profession and having found medicine not to his liking, saw a country parsonage as comfortably unexciting. It is brought to our attention that this makes his decision to throw it all up for acute discomfort and uncertainty all the more amazing. In South America he carried pistols to use at need on warlike Indians, revolutionaries, pumas or anacondas. He rode with gauchos, slept rough, ate foetal puma with relish, crossed the Andes twice and walked to the headwaters of the Santa Cruz River pulling whaleboats upstream, turn about with the ratings.

During his five-year voyage, the rich panorama of nature became his passion. His discovery of the extraordinary sex life of barnacles was a milestone. After that it was pigeons and orchids – all grist to Darwin's mill which ground extremely small. His failure to publish his far reaching *Origin of Species* for so long has been marked down to timidity. It is well explained that although he lived with fear of public opprobrium, of not being able to answer all his scientist critics and of the effects of consanguinity in his own family, he was never in any doubt that life evolved from simpler forms. Darwin did however mute the inclusion of *H.sapiens* in his first disclosures. Royal Society scientists were well aware of the uncomfortable similarities between humans and apes, but since many of them were clergy, the inferences were studiously ignored. An interesting aspect revealed is that when Darwin was made Secretary of the Geological Society in London, he realised he was living a lie. In his official capacity he felt constrained to toe the party line, while in his private life he had proof that evolution was the true answer to life on earth. His tacit deception preyed on his mind but did not shift his convictions.

Darwin was certainly nonplussed when Wallace appeared out of nowhere with an identical theory. The authors do not underrate Wallace nor exonerate Darwin. They relate how he encouraged the shy Wallace,

didn't always agree with him, poked fun at his dabbling in spiritualism, and was persuaded to share the limelight. Charles Darwin was a recluse but he was not shy. The book gives many glimpses of his boisterous and at times subtle sense of humour.

All sorts of answers have been given as to why he was so hesitant to publish, including his wife's reputed dismay. But we read that Emma was a dissenter herself, a Unitarian who attended Anglican services but refused to say the creed. In a quoted passage, she is seen to hold a torch for Harriet Martineau, an eccentric radical, a feminist and a member of the Darwin coterie in London. Ironically, Martineau put her finger on the one weakness in the *Origin* – where Darwin speaks of original life being "created". It was enough to offend atheists but he had many deists enthralled. American authors JL Brooks and Arnold C Brackman have raised the issue that Darwin may have plagiarised Wallace. It is clear from Desmond and Moore that he did not need to, as he was the

man who worked out the sexual selection clue, giving due recognition of Haeckel's contribution, and this underpins the whole evolutionary process. Besides, Darwin valued "honour" very high; to plunder another man's work was not in his character. The clarity of his arguments taken step by step in *The Origin of Species* and *The Descent of Man* speak volumes, and the authors drive home this comprehensive element in his genius.

Fairly late in the book (when many authors fall off) Desmond and Moore throw the spotlight on the intriguing chapter, 'What would a chimpanzee say?' Thereafter we see Darwin's triumphant vindication, trumpeted by the ferocious Thomas Huxley. The sparring with brilliant anatomist Richard Owen over the ape-human connection finally broke over Charles' head after much diplomacy and tact on his part. Owen's views were to colour hominid fossil discoveries for years to come, but that is another story. I couldn't put this book down.



australian skeptics  
proudly announce...  
a new teacher - friendly  
site on the web:

[www.skeptics.com.au/features/teachers.htm](http://www.skeptics.com.au/features/teachers.htm)

providing  
ideas  
activities  
resources  
support  
for **CRITICAL THINKING**  
In **YOUR** classroom

# Mediocre Messages

How to talk alien  
(or even French)

***Atlantis' Messages / Messages de l'Atlantide*; Jean Louis Pagé. Les Editions Zepheon / Zepheon Press inc, Laval, Quebec pp xiii + 253**

Like many other amateur epigraphers, Pagé believes that he has deciphered the Phaistos Disk, that enigmatic object found in Crete in 1908 and regarded as unique (no similar object has ever been recognised as genuine). In this bilingual book, Pagé links this and other 'decipherments' with his own version of the 'Orion' theory of the Giza Pyramids, the prophecies of Cayce and Nostradamus, the origins of astrology, and most centrally the historical reality of Plato's Atlantis. Indeed, he proposes his own version of what is now a very familiar hyper-diffusionist analysis of early history, identifying Atlantis as the common source of world civilisation. Pagé locates it in the Arctic and attributes its destruction to a sudden polar shift in 9792 BCE. He also posits extraterrestrial intervention in the origins of human civilisation, believing that this event is overtly presented in an Aztec calendar disk (re-analysed by him).

It should not be necessary to point out that no one has ever shown that Atlantis even *probably* existed, in any location at all. Making such an

assumption is altogether illegitimate; the onus is clearly upon anyone making such proposals to justify them. However, Pagé simply introduces Atlantis as real (the only controversy is about its location) and repeatedly treats it as a genuine society which interacted with known ancient cultures on all continents.

And of course many of Pagé's ideas are not at all novel but are very familiar indeed to skeptical surveyors of non-standard accounts of early history. As usual, there are obvious counter-arguments and the supporting evidence is inadequate. In fact, Pagé's work would not warrant serious review were it not for the salience of its specifically linguistic elements.

## Linguistic elements

However, even the linguistic elements do not really invite scholarly attention, because Pagé typically gives no evidence or argumentation in support of his readings of the various scripts and texts (and he treats non-linguistic/general symbols and concepts similarly; where he does offer any evidence for his claims it is typically quite inadequate). Neither does he explain the processes by which he arrived at his 'decipherments'. He simply presents his translations symbol by symbol and



Mark Newbrook is a linguist and regular columnist for the Skeptic

---

then text by text, inviting readers to accept them but giving them no reason to accept them or to prefer them to other 'decipherments' – or indeed to the 'null' hypothesis that no decipherment yet exists. He regards many of the symbols as pictographic and in correspondence he states in defence of his approach that they 'speak for themselves'. This is obviously utterly naïve.

In addition, there are no proper references to scholarly papers or research reports where these are clearly needed. And some of the referencing which is present is impossibly loose. For instance, at one point Pagé simply says 'History states that...' and proceeds to report non-standard claims about Atlantis.

The book cannot, therefore, be treated as a serious contribution to the discussion of these issues, and it will be ignored by scholars who are not themselves active skeptics. It is strange that Pagé identifies his approach as 'scientific'.

### Ignoring the known

A second major problem with Pagé's book involves the fact that he does not adequately take into consideration mainstream academic knowledge and analyses of the objects in question. For instance, he ignores most of the mainstream academic literature on the Phaistos Disk. It is true that few genuine scholars have attempted decipherments of the Disk, but this is for the good reason that cryptological considerations suggest (as Robinson points out) that as long as it remains isolated and its language unidentified it probably cannot be deciphered – a point which Pagé fails to confront. In any case, there is plenty of discussion of the Disk by mainstream scholars, which should form the background to any new discussion, even by a writer who rejects much of this scholarly tradition. Furthermore, in his theorising about Orion and the Pyramids, Pagé ignores the mainstream literature and the formidable objections to such theories raised by academic Egyptologists – and even by writers such as Lawton & Ogilvie-Herald, whose

own treatment, while skeptical, arguably concedes too much to the fringe. In addition, his bibliography contains too few recent mainstream works (it is also too heavily slanted towards material in French).

Even the non-standard literature on the Disk and the other texts in question is only selectively covered here. As noted, Pagé does not compare his 'decipherments' with those of other amateurs. He refers mainly to those fringe or near-fringe figures, such as Slosman and Hapgood, whose ideas can be invoked in support of his own. Furthermore, he treats these sources as far more reliable than they are.

Pagé reports in correspondence that the decision to omit argumentation and references to other work on the Disk was made by his editor on the basis of advice from 'experts'. But this decision was again utterly naïve and is obviously totally unacceptable. Pagé should have refused to accept it. If this caused the editor to abandon the project, he should have sought publication elsewhere.

### There are amateurs and amateurs

Pagé himself is an amateur. He has a long-standing interest in archaeology and has studied a number of the relevant languages (though see below). But he has never studied historical or general linguistics, or epigraphics – which are all highly relevant here and are technical disciplines requiring much expertise.

Ventris, the decipherer of Linear B, was also an amateur. But he repeatedly demonstrated his expertise with detailed explanations of his analysis and reasoning, and the fact that it was mostly grounded in private study rather than in formal qualifications did not prevent him from being heard. Professional academics like Chadwick were eager to work with him, and his decipherment was accepted by most because it was well supported with evidence and argument. Even those who rejected it did not reject it because Ventris was an amateur but because of genuine doubts.

### Major weaknesses

Pagé's approach displays various major weaknesses which are a consequence of his own lack of expertise. For instance, his analysis of the text of the Disk naturally assumes grammatical structures, but he does not make any explicit comment on these, treating the text as a series of unconstrued words. Indeed, it is not even clear which (known or reconstructed) language(s) Pagé thinks these texts represent. He does not propose any phonological forms (pronunciations) at all.

In addition, Pagé's treatment of the Phaistos Disk script as essentially logographic or ideographic (one symbol per morpheme/word or semantic idea) is itself implausible (though he is by no means the first to suggest this). The high ratio (around 5:1) of symbol-token to symbol-type on the Disk, the actual and predicted overall totals of types, and the division of the text into groups of around four symbols each, all suggest strongly that the script is a smallish syllabary or just possibly a large alphabet (that is, an essentially phonemic script). The onus is upon anyone making an alternative proposal to overturn these points. It must further be noted that – for obvious reasons – no true script is substantially ideographic rather than logographic; but because of Pagé's failure to deal with linguistic specifics his interpretations inevitably incline towards ideographic.

Pagé's analysis also implies that characters may be read differently depending on their orientation. He seems to believe that this is a novel proposal. But in fact such matters are always considered by scholarly decipherers. In the first instance such cases will be treated as distinct characters, until it is shown that orientation does not matter in the case in question. Pagé further interprets symbols as having different values depending on preceding or following symbols; but any such claims must be very well supported indeed, since if they are accepted without suitable controls the proposed decipherment rapidly ceases to



## Mediocre Message

---

be empirically testable (especially with a short text). No such support is offered.

### Linking to other tongues

Pagé tries to link the Disk with Cree. But Cree is an Algonkian language, demonstrably related to the other Algonkian languages. Contrary to Pagé's claims, it cannot be (closely) related to ancient languages of the Old World. The Cree writing system (a syllabary-cum-alphabet) was demonstrably invented by Evans in 1840-46 on the basis of shorthand, the Cherokee script and other scripts known to him; it cannot be related to ancient scripts. Pagé's conceptualisation of the system as logographic or even ideographic is confused and inaccurate. He is thus unjustified in linking Cree script and the Disk script as he interprets the latter (as logographic).

Simple symbols, short words etc with similar senses can easily resemble each other by chance. The likelihood of this is much higher than most commentators imagine when they first consider the issue. And indeed it has to be shown that a high enough proportion of the meanings

in two or more systems is indeed shared, before one can even consider the statistical likelihood of similar forms being genuinely shared/linked. In general, Pagé does not achieve – or seriously attempt – even the former. (Here it is symbols which are at stake rather than words, since Pagé, as noted, does not identify phonological forms.)

Pagé's account of Egyptian hieroglyphs is inaccurate in both general and specific terms. He seems to regard the script as essentially logographic, but in fact it was predominantly phonological; and his specific symbols are erroneous.

### Grand delusion

It is not surprising that Pagé's material is non-standard in approach and unpersuasive. But it is more surprising that he felt justified in regarding himself as qualified to write such a book, reporting his theories as if they were undeniable facts – or likening himself to Champollion and Ventris, as he does.

I will not try to comment at length outside my own field; but the astronomical and geophysical aspects of

Pagé's case clearly require much more careful treatment.

Like many such writers, Pagé thinks of himself as a serious threat to the intellectual establishment – a bold iconoclast who will give 'orthodox' scholars nightmares. However, it is vanishingly rare for amateurs without even a privately acquired knowledge of the relevant disciplines to innovate successfully in technical domains; and in fact scholars will find nothing to unsettle them here.

Conservatism is naturally a real – and not altogether unwelcome – force in the scientific mainstream. But, where there really is genuinely good evidence, scholars are generally quick to accept new ideas and are not embarrassed by this process. However, all such radical revisions must be justified in strong terms. The more radical they are, the greater will be the mass of well-established information that must be weighed against them in assessing their plausibility and the prospects for their adoption. In this case, I see no such prospects. Unless Pagé can justify his proposals, they will obtain no support from those who understand the disciplines in question.



---

# Farewell, Oh Good and Faithful Servant

More than 30 years after its launch, it appears that the Pioneer 10 spacecraft sent its last signal to Earth on 22 January, 2003. According to NASA Engineers, its radioactive isotope power source has now decayed beyond the capacity to produce a signal.

Launched on 2 March, 1972, Pioneer 10 was designed to reach Jupiter, a feat it achieved on 3 December, 1973. It was the first spacecraft to obtain close-up images of Jupiter and also charted the planet's radiation belts and its magnetic field.

It continued on its journey, telemetering valuable information back to Earth, until last year, when its signals became very weak.

It carries a gold plaque, designed by Carl Sagan, that describes what we look like, where we are, and also contains a number of other earthly artefacts.

In 1983, Pioneer 10 became the first human-made object to exceed the orbital distance of Pluto.

At last contact, Pioneer 10 was 12.2 billion kilometres from Earth, at which distance it takes more than

11 hours and 20 minutes for its radio signal, travelling at the speed of light, to reach the Earth.

Pioneer 10 will continue to coast into interstellar space, heading towards the star Aldebaran, about 68 light-years away. It will take Pioneer 10 more than two million years to reach it.

Not at all bad for a craft that was designed to last 21 months, using technology that was current in the early 1970s, and with less computing power than most of us have in our microwave ovens.



# Penn & Teller-ing it like it is

During the last month, the internet (well, the parts I visit) has been buzzing with the news of a new show by US magicians, Penn & Teller. The show is called *Penn & Teller: Bullshit!* and promised to be a no-holds-barred approach to investigating and debunking much of the tired old drivel we in the Skeptics deal with day after day.

Through my internet contacts in the US, I was able to download a video file of the first episode a few days after the show was first broadcast. Although I was dying to view it, I waited a day or so until I was in the company of some other members of the NSW committee. (Any excuse for a BBQ.)

The show starts with Penn (Jilette – the one who does all the talking) leaning over a head stone. “Harry, can you believe it? The same bullshit you so thoroughly debunked almost a century ago is continuing and even enjoying a resurgence. See, anyone can talk to the dead! Getting



Richard Saunders gives his verdict on a new show that calls a spade a &\*\$%#@\* shovel!

an answer, that’s the hard part.” The grave is that of Harry Houdini.

What followed was 25 minutes of some of the most amazing TV I’ve ever seen. Amazing because Penn & Teller really let fly in their attack on



*Penn & Teller*

the current fad of people who claim to talk to the dead. The tricks are exposed; the boot is firmly placed up the backside of many popular TV psychics. Did you know that most of the “dead talker” TV shows require those who participate to sign a contract that they will not discuss their appearance with the media or anyone else? Well they do.

Penn describes how these people screw with the most precious thing you have of your dead relatives and friends.... your memories. The real memories you have are desecrated with the song and dance of the psychics and their bag of cold-reading tricks.

I must warn that the show does contain some profanity. Penn explains that to call someone a liar, cheat or quack, could land you in court. However, to say someone is full of shit (and much worse...) is OK! This might work in the US, but

I wonder what our laws would make of it? If you find strong language hard to take, you might have trouble enjoying this show; I was somewhat torn as I normally don’t approve of this sort of thing for its own sake. However, the point is made and the language does serve a purpose. Much worse is heard everyday in the school yard, even when I were a lad!

The small group of Skeptics who saw the show were so impressed, they watched it again and applauded!

I suspect the whole series will be available on DVD sometime in the future from “Showtime”, the US cable channel producing the show. I have also heard that it might be shown in Australia on Foxtel, but have yet to confirm this. Those of you with cable, please keep an eye out. Upcoming episodes deal with Alternative Medicine, Alien Abductions, Environmental Hysteria, Bottled Water, Feng Shui, Creationism, Ouija Boards, Sex Appliances, Self-Help Gurus, Diets & Food, Second-Hand Smoke, ESP and the End of the World.

Penn & Teller are known for their irreverent approach to performing and are currently appearing in Las Vegas. They have toured extensively, released two books of magic tricks and pranks (*Cruel Tricks for Dear Friends* and *How to Play with your Food*), and made a feature film (*Penn & Teller Get Killed*) as well as shorter video works (*The Invisible Thread* and *Cruel Tricks for Dear Friends*). They have appeared frequently on *Late Show with David Letterman*.



# Out of the Mouths of Babes and Cartoonists

In many ways *South Park* is not the most witty and intelligent TV series America has ever produced (actually it probably is). With all the toilet humour, dumb plotlines and repetitive jokes that get dull after awhile, people were beginning to lose interest in this show. However, one particular episode caught many people's eye, particularly those of the Skeptics. This episode was Season 6, Episode 15, titled 'The Biggest Douche In The Universe'.

Guest starring a cartoon form of John Edward (and might I add they got those stupid T-shirts he wears down to a tee), this episode gets right into the nitty-gritty of people that claim they have a psychic gift, and believe they can contact the afterlife.

The plot starts off with Cartman, one of the South Park gang, being rushed off to hospital because he'd recently drunk his friend Kenny's soul, thinking it was chocolate milk mix. Stan and Kyle, Cartman's other friends, along with the school chef, who's like an adviser for the children, go to the hospital to see



Cartman, and Chef suggests taking Cartman to see John Edward.

So the three boys go off to give this psychic a shot. Straight away, it becomes noticeable to all of them, except Kyle, that John Edward not all he's cracked up to be. Kyle, however, gets fooled by Edward's tactics, and goes off to a Jewish school, thinking that's what his deceased grandmother told him to do. Cartman, his mother and Chef go off to Scotland to see Chef's parents, thinking that they might be able to help. So Stan is now stuck, because he has to bring Kyle back to Colorado so he can get on with his life. His only option is to crack down on John Edward, and prove to everyone, but especially Kyle, that he is nothing but a humungous douche.

There were a couple of things about the episode that struck me as interesting. One such thing was that very little exaggeration was necessary. Many of the things John Edward said or did, as well as the audiences' reactions, were perfectly genuine. Here's a sample of the episode script:



Gillian Brown (l) is a 13 year-old Junior Skeptic who numbers a Skeptics Seretary and a Skeptic X-Word winner among her ancestors. SkeptoBear (r) likes porridge.

**Woman:** *My Harry died last year! Erupts in tears*

**John Edward:** *Oh OK OK. I'm getting all kinds of readings today, woo!*

*Audience laughs.*

**JE:** *Okay now Harry. He's telling me... oh well, he's saying that you two used to... do things.*

**W:** *sobs and nods.*

**JE:** *And those things involved... stuff?*

**W:** *The things did involve stuff yes!*

**Audience:** *WOAH! Much clapping of hands.*

Quite sad I know, but it's most people's genuine reaction to John Edward's readings, which are just as ridiculous. It's all true, all of it. Even the part where John Edward threatens Stan by telling him that if he doesn't leave, he was going to go upstairs, lock himself up in his panic room and call the police is probably something he really does, being the douche that he is.

Another interesting point about the episode was something that South Park is really quite famous for. A lot of TV shows today might talk about an issue in society, but they won't actually say what they think about the issue, because they would be sued. It is against the law to say that somebody like John Edward could possibly be fake, or cheating on anybody in society. However, the creators of South Park, obviously being afraid of nobody, come out and say, right through the mouth of 9-year-old Stan Marsh, exactly what they think about John Edward:

**Continued P 52 ...**



# The Evolution of Religion

A new look at the interaction between science and religion

***Darwin's Cathedral: Evolution, Religion, and the Nature of Society*; David Sloan Wilson (University of Chicago Press)**

If you have an opinion about religion, or belong to a religion, most people disagree with you; there is not a majority religion in the world. And surely not all religions can be factually correct, since there are fundamental disagreements between them. So, how is it that all those other, incorrect religions exist and seem to help their members and their societies? There must be something they offer beyond a factual representation of gods and the cosmos (and when it comes down to it, if you belong to a religion, yours must be offering something more as well). If religions do help their members and societies, then perhaps they are beneficial in a long term and evolutionary way, and maybe such evolutionary influences should be acknowledged and studied. This is what David Sloan Wilson convincingly declares he has done in *Darwin's Cathedral*:

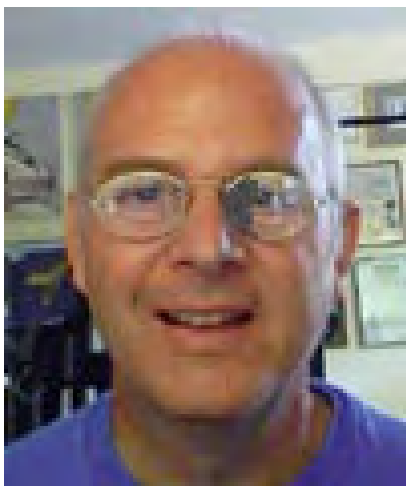
*I will attempt to study religious groups the way I and other evolutionary biologists routinely study guppies, trees, bacteria, and the rest of life on earth, with the intention of making progress that even a reasonable skeptic must acknowledge.*

There is enormous disdain toward evolution within some religious groups, but not, of course, between scientists. There is a good deal of contention about religious matters in general, especially in our times when fanaticism has made itself especially

plain. To Wilson's credit, he has written carefully about both scientific and religious issues, and readers with an interest in either field will find that he has covered both fairly.

His coverage of the science involved begins with an interesting history of "the wrong turn" evolutionary theory took fifty years ago, when it deliberately ignored the influence of group selection. The idea was that evolutionary change was manifest in the individual, and that natural selection could not influence social groups except by influencing individuals; it was almost forbidden to imagine a society as a larger organism. The examples of various social insects, and ideas about such things as altruism, have now largely been accepted into evolutionary theory. In fact, religious believers have often compared themselves to a beehive, signifying cooperation and a sort of egalitarian ideal to which religions aspire. Especially if one accepts that there is for our species not only an inheritance of genes, but also an inheritance of culture, evolutionary influence by and upon religious groups, especially in light of the examples Wilson discusses, now seems obvious.

For instance, in the first century CE, there were many tiny Jewish sects competing among themselves for followers, and competing with other beliefs within the Roman Empire. Christians may feel that their own sect emerged triumphant simply because their belief was true, but such an assertion cannot be scientifically assessed. What might be assessed is a particular group's characteristics in evolutionary favour. A



Rob Hardy is a psychiatrist practising in the USA and is a regular reviewer for the Skeptic



## Evolution of Religion

population changes due to gains and losses from births, deaths, and in the case of religion, conversion and apostasy.

Early Christianity may be seen to have distinctive social features. It promoted proselytisation, unlike mainstream Judaism. It promoted fertility and it especially had no bias against nurturing female infants. The contemporary Roman society was extremely male-dominated, so much so that families were often viewed as unattractive encumbrances for males, and female infanticide was practised often enough to force a decline in Roman population, even in non-plague years. The early church was attractive to women and involved them in its functions, especially in comparison with the contemporary Judaism, Roman religions, and the later Christian church.

Early Christianity supported a sort of welfare state sustaining the whole at the cost of those who could contribute; even Emperor Julian wrote, "The impious Galileans support not only their poor, but ours as well; everyone can see that our people lack aid from us."

Wilson points out that religions succeed when their teachings influence adherents to participate in a smoothly functioning society. It will not do for skeptics to insist that, say, the miracles of Moses were untrustworthy folklore just as was the miraculous appearance of inscribed golden plates to Joseph Smith. The "hocus-pocus" behind at least some religions must be fictional, but that in no way lessens their intimate connection with reality, since they motivate behaviours that are adaptive in the real world.

Wilson writes that "...the so-called irrational features of religion can be studied respectfully as potential adaptations in their own right rather than as idiot relatives of rational thought." He is himself an atheist ("but a nice atheist," he insists), but throughout his book he shows great respect and even admiration for the practical realism that improves behavioural adaptiveness. The practical adaptations improve a religion's stay-

ing power because they provide an in-group stability. There is a significant problem, of course, in dealing with other groups; it is not at all uncommon for a religion to teach that murdering those who believe in other religions is different from murdering those inside one's own religion. There is a degree of amorality shown in such competition, but no different from the amorality that governs the strivings of ferns, sparrows, and lions.

Wilson's many examples are fascinating. The 16th-century Calvinists in Geneva were rapidly able to adapt and change their circumstances by imposing a new catechism on Geneva. It included rules of conduct that applied to members of the laity, government, and clergy alike, and "reform-minded people from all over Europe flocked to Geneva to learn and export the secrets of its success." The coercive measures taken to achieve such control may have been Calvinism's dark side, but as an adaptation to fitness, the system worked. There is a temple system in Bali dedicated to the water goddess essential for the prosperity of the rice crops; "those who do not follow her laws may not possess her rice terraces." The religious system encompasses eminently practical procedures for promoting fair water use and even for pest control.

Religious morality is shown to build upon the principles of the famously successful computer strategy Tit-for-Tat. Jostling for acceptance as one of the gospels, that of Thomas was not put into the New Testament; it encouraged introspection rather than conformation to a harmonious group.

The examples are easy to take, but *Darwin's Cathedral* is not light reading. Although Wilson wanted to write a book for readers of all backgrounds, he has not "dumbed down" the material for a popular audience," and admits that there is serious intellectual work to be done in getting through these pages. There is valuable and clear writing here, however, and a new way of looking at religion which may become a standard in scientific evaluation.

## ...Babes- continued from p 52

Stan opens a door, and John Edward is standing there.

**John Edward:** *So you think you can talk to dead people better than me huh?*

**Stan:** *No I don't think either of us can.*

**J E:** *They told me your show is getting better ratings than mine, that you're saying I'm a fraud on your show. You'd better not call me a liar, or a fake, or a douche again, or else I'll sue you, for slander!*

**S:** *I'm saying this to you, John Edward. You are a liar, you are a fake, and you are the biggest douche ever.*

The creators must have some really good lawyers, but this is excellent. Nobody else has dared say what creators Trey Parker and Matt Stone have said, but it's just what had to be said. It also helps us in Australia realise that many Americans are on our side, and think John Edward is really, really stupid.

I have been a big fan of *South Park* from the start. (Being only 10 years old when it started, this isn't really a good thing.) However in the later series, it seemed as though the creators were running out of ideas. This episode however, which has been indicated in my research as being the last episode of the sixth series, seems to me as though it has the potential to bring *South Park* back into the spotlight, because of the message being sent out to millions of people. I thoroughly enjoyed it, but something struck me afterwards: Are we now having to resort to TV shows like this, to make people out there realize that John Edward really is just trying to fool us all? This episode of *South Park* was broadcast in Australia on 17 February on SBS and is sure to be repeated. It is a must see for all Skeptics out there, and it also has a few very amusing side plots. Enjoy it and take heed of the messages it tells you.

# Magnetic Pest Control Update

In the first issue of *the Skeptic* for 1999 (19:1) I detailed a critical examination of the "Pest Free" device claimed to control many kinds of household pests, including cockroaches. Four years earlier, as a result of serious doubts raised about the device by myself and a colleague, Dr Fred Menk, we were threatened with legal action by a prominent legal firm acting for the proprietor of Pest Free P/L. The entire schemozzle up to 1999 is related in my *Skeptic* article.

Later that year (1999) the Australian Competition and Consumer Commission announced an investigation of Pest Free. Nothing further was heard until November last year (2002) when the ACCC instituted proceedings against Pest Free in the Federal Court, alleging misleading conduct in its advertisements and promotional material, including its web-site.

The ACCC alleges that Pest Free is in breach of sections 52 and 53(c) of the *Trade Practices Act 1974* in respect of eleven claims for which they have no reasonable basis. An example is Pest Free's advertised claim that their device will "eliminate cockroaches, mice, rats and other noxious or destructive insects and vermin all day every day continuously into the future."

The ACCC list does not include another Pest Free claim that can be readily refuted. It is that their device's magnetic influence extends through all of the electrical wiring in a house. Not so. The device's very minor magnetic fluctuations are present only in the direct wiring from the Pest Free device to the electrical meter box and the wiring to the external electrical supply. Contrary to Pest Free advertisements, no other house wiring car-

ries the small fluctuating current consumed by the device and so cannot experience the minor magnetic effects produced by those fluctuations.

To see details of the eleven misleading representations upon which the ACCC is basing its case go to their website at [www.accc.gov](http://www.accc.gov) and search in the Recent Actions page for "Pest Free" (be sure to include the inverted commas). This page will also disclose the six court orders sought by the ACCC. One of those orders requires refunds to consumers, which could run to many millions of dollars. The case was listed for a directions hearing on 2002 December 6. At the time of writing these words the ACCC site has not yet reported the outcome of that hearing.

Since the hearing, another twist to the saga has emerged. In January this year (2003) Senator Tierney (Liberal, NSW) announced that Pest Free P/L had been awarded an Export Marketing Development Grant of A\$42,336. See [www.nsw.liberal.org.au/senatortierney/](http://www.nsw.liberal.org.au/senatortierney/) for details. Of four grants announced, Pest Free's was the second largest.

Dr Menk and I wrote a joint letter to Senator Tierney on January 21, asking if either he or the Federal Department involved was aware of the ACCC proceedings that had been instituted last December. To minimise the inevitable duck-shoving (our taxpayer funds are providing this largesse to Pest Free) we have sent a copy of our letter to Dr Craig Emerson, Opposition Spokesperson on Trade.

No response yet, but we'll keep you posted.

Colin Keay



## Dinner Meeting

On February 22, the NSW Skeptics held a hugely successful Dinner Meeting. An audience of over 150 heard Peter Bowditch describing and demonstrating just some of the gadgets and therapies being perpetrated by the alternative health industry.

We intend to follow-up this theme in the April meeting at which our speaker

**A/Prof Jill Gordon**

**Head, Department of Medical Education**

**University of Sydney**

will discuss

### **Skepticism and psychotherapy**

Different forms of psychotherapy have flourished since the time of Sigmund Freud but do they really work?

Two major developments in medicine in the latter half of the 20th century have come up with radically different insights that are relevant to psychotherapy. One development is brain imaging (CT, MRI, PET etc). Brain imaging makes it possible to examine changes in brain activity and to map brain function. The other development is the capacity to "crunch" numbers from population studies.

These developments are known as evidence-based medicine or EBM. EBM can help to clarify whether psychotherapy works, what kinds of psychotherapy works and how the various "brand names" line up against other treatments including drugs and surgery.

These two developments pose a serious threat to quackery and as such, they are of special interest to Skeptics.

Meeting details are in the Notice on page 68 of this issue and on an insert in NSW subscribers' copies of the magazine.



# The Fallacy of Doubling Your Chance by Changing

## A further look at a knotty mathematical problem

To those of you who have since 1998 been following Roland Seidel's and related articles in *the Skeptic* regarding Monty Hall's three doors problem, in particular those who think that you double your chance of winning the prize by changing, I have this to say: Think again!

The following is the said problem, quoted from page 30 of 18:2 (1998):

*Game show players, you have three doors to choose from, one hides the prize. You choose a door. The host says, "just before we open that door I will show you one of the others", (opens a door showing no prize), "do you want to change your choice?" Is there any advantage in changing?*

And Mr Seidel's solution, from page 47 of 18:3 (1998), is as follows:

*Given that the host will always show an empty door, the other two are the one I begin with and the one I change to. I either start with the prize and change to empty or start empty and change to the prize. When I change, my original chance of winning becomes my chance of losing and vice versa. Since I clearly have a  $2/3$  chance of losing if I don't change, I clearly have a  $2/3$  chance of winning if I do change.*

Mr Seidel takes great delight in the number of people who believe that there's no advantage in changing. For example, on p 20 of 22:4 he writes:

*It sounds like there's no advantage. It feels like there's no advantage. Just about everyone (including Mathematicians, Magicians, Gamblers and Crown Prosecutors) who look at this agree there's no advantage. But there is! You double your chances of winning.*

Well, I say that Mr Seidel is wrong. You do not necessarily double your chance of winning the prize by changing, and there may be no advantage in doing so. Mr Seidel's error is that his solution addresses the wrong problem, which may be stated as follows:

*Game show players, you have three doors to choose from, one hides the prize. You will randomly choose a door. The host will then open one of the other two doors (showing no prize) and give you the option to change your choice. Is there any advantage in deciding, prior to the game, that you'll change when the time comes?*

The probability of you winning the prize by changing in this case is indeed  $2/3$ . This probability may also be called the *unconditional* probability of winning the prize by changing, meaning before the game has begun and given no information about what happens during the game.

In contrast, the probability required by the original problem is the *conditional* probability of winning the prize by changing, meaning just after being given the option to



Borek Puza is a Lecturer in Statistics at Australian National University, School of Finance and Applied Statistics.

change and given the events that have occurred prior to that point (namely, that you initially chose a particular door, and that your host opened one of the other two, without thereby showing the prize, and gave you the option to change).

It so happens that this conditional probability cannot be determined from the information given, and could be any number from 0 to 1. Thus it is impossible to say whether or not you should change. Only if certain additional assumptions are made can a useful recommendation be provided.

For example, suppose that your host had decided to open an empty door and give you the option to change only if your initial choice turned out to be correct (in an attempt to trick you away from the prize), and to otherwise simply open your initially chosen door with the statement "Bad luck!" If this is so, you'd be a fool to change, for your chance of winning the prize by doing so is zero.

To this it will immediately be countered that your host *had* to open an empty door and give you the option to change. After all, Mr Seidel says so in his solution.

But then, why wasn't this very important information included in the problem?! A good skeptic would certainly not make that assumption. Upon being given the option to change, she would immediately suspect that the host might be trying to trick her away from the prize and that he might have decided not to give her the option to change in the event of her initial choice being incorrect.

But even with the said assumption, the conditional probability of you winning the prize by changing cannot be determined exactly. However, it can in that case be shown to be at least 50%, implying that you should change, after all. But it should then be kept in mind that changing might be no better or worse than not changing. To see how this is possible, see Appendix A.

Now suppose that your host had also decided to mentally flip a coin if faced with a choice of two doors to

open. Then the conditional probability of you winning the prize by changing works out to be exactly 2/3. To see why, see Appendix B.

From this it might appear that Mr Seidel was essentially right after all, his only error being to omit from the problem two very important pieces of information. But this is not so, because the conditional probability 2/3 just mentioned and the unconditional probability 2/3 as obtained by Mr Seidel are in reference to two very different problems.

Now there are many other assumptions we could entertain, each leading to a particular value, or range of values, for the conditional probability of you winning the prize by changing. For a general and mathematically rigorous solution, which formalises the logic in Appendices A and B, the reader is referred to Appendix C. See also Appendix D for a formal version of Mr Seidel's basically correct solution to the wrong problem. Finally, see also Appendix E for some frequently asked questions.

I hope this article has clarified some of the issues involved in Monty Hall's three doors problem. Mr Seidel's solution to the original problem is in fact equivalent to F1, the first of six false solutions to the problem (in its original form involving goats) as discussed in Morgan *et al.* (1991). The reader is referred to that paper for further details, including a history of the problem, and we close with a quote therefrom:

*F1 is immediately appealing, and we found its advocates quite reluctant to capitulate. F1's beauty as a false solution is that it is a true statement! It just does not solve the problem at hand. F1 is a solution to the unconditional problem.... The distinction between the conditional and unconditional situations here seems to confound many, from whence much of the pedagogic and entertainment value is derived.*

## Appendix A:

### Solution where changing makes no difference

Suppose that the prize was hidden randomly, you chose a door randomly, and the host was definitely going to open an empty door and give you the option to change. Then let the door you initially chose be labelled 1, let the door opened by your host be labelled 3 and let the other door be labelled 2.

Now suppose that the host had decided to open door 3 if presented with a choice of doors 1 and 3 or doors 2 and 3, and door 1 if presented with a choice of doors 1 and 2. Let's not worry about why this might be so, but simply accept it as a possibility which is not inconsistent with the information in the problem.

To figure out the chance of you winning the prize by changing in this case, let's do a mental experiment (which you may also wish to conduct for real if you have time). Suppose that we play the game 900 times and you always change.

Then of the 300-odd times that the prize is behind door 1, you'll pick door 1 initially about 100 times, and in all of these 100-odd cases your host will open door 3 (since we have assumed that he has a preference for door 3) and you will not win the prize (because you'll be changing to door 2).

Also, of the 300-odd times that the prize is behind door 1, you'll pick door 2 initially about 100 times, and in all of these 100-odd cases your host will open door 3 (he'll have no choice) and you will win the prize (because you'll be changing to door 1).

From these and similar observations we obtain the following tree diagram showing approximate frequencies for all possible outcomes of the experiment:

total:	prize in:	initial pick:	host opens:	win prize:
	/	1 (100)	3 (100 = a)	(0 = c)
/	1 (300) -	2 (100)	3 (100)	(100)
	\	3 (100)	2 (100)	(100)
	/	1 (100)	3 (100 = b)	(100 = d)
(900)-	2 (300) -	2 (100)	3 (100)	(0)
	\	3 (100)	1 (100)	(100)
	/	1 (100)	2 (100)	(100)
\	3 (300)	2 (100)	1 (100)	(100)
	\	3 (100)	1 (100)	(0)



We see that the number of times you pick door 1 initially and your host opens door 3 is  $a + b = 100 + 100 = 200$ , and of these the number of times you win the prize by changing is  $c + d = 0 + 100 = 100$ . It follows that the conditional probability you'll win the prize by changing is  $100/200 = 50\%$ .

**Appendix B:**

**Solution where you double your chance by changing**

Suppose that the host had to open an empty door and give you the option to change and had also decided to mentally flip a coin to decide which door to open if confronted with a choice. Then the tree diagram in Appendix A becomes:

total:	prize in:	initial pick:	host opens:	win prize:
	/	1 (100)	- 2 (50)	(0)
		\	3 (50 = a)	(0 = c)
/	1 (300)-	2 (100)	3 (100)	(100)
	\	3 (100)	2 (100)	(100)
	/	1 (100)	3 (100 = b)	(100 = d)
(900) - 2 (300) -	2 (100) -	2 (100)	1 (50)	(0)
	\	3 (100)	3 (50)	(0)
	/	1 (100)	1 (100)	(100)
\	3 (300) -	2 (100)	2 (100)	(100)
	\	3 (100) -	1 (100)	(100)
		\	1 (50)	(0)
		\	2 (50)	(0)

We see that the conditional probability you'll win the prize by changing is  $(c + d)/(a + b) = (0 + 100)/(50 + 100) = 2/3$ .

**Appendix C:**

**General solution to the problem**

The following is a formal and general solution to the three doors problem as given at the top of this article. Readers who are unfamiliar with basic probability theory should first spend a few hours studying the first chapter on probability in an elementary statistics textbook, such as Chapter 2 of Wackerly *et al.* (2002).

- As before, let the three doors be numbered as follows:
- door 1 = the door you initially chose
- door 3 = the door opened by your host
- door 2 = the other door (the one you may change to).

Then define the following events:

- A = "The prize is behind door 1"
- B = "The prize is behind door 2"
- C = "The prize is behind door 3"
- I = "You initially choose door 1"
- O = "After your initial choice, the host opens door 3, showing no prize, and gives you the option of changing your choice to door 2."

We wish to find the probability of you winning the prize by changing, namely the conditional probability that the prize is behind door 2, given that you initially choose door 1 and given that the host then opens door 3 showing it to be empty and gives you the option of changing to door 2.

This probability can also be written  $P(B | IO)$ .

Now observe that  $P(B | IO) = P(BIO) / P(IO)$  (by the definition of conditional probability), where:

$$P(IO) = P(AIO) + P(BIO) + P(CIO) \text{ (by the law of total probability)}$$

$$P(AIO) = P(A)P(I|A)P(O|AI) \text{ (by the multiplicative law of probability)}$$

$$P(BIO) = P(B)P(I|B)P(O|BI)P(CIO) = 0 \text{ (since O is impossible if C occurs).}$$

Putting all this together, we find that the conditional probability of you winning the prize by changing is given generally by:

$$P(B | IO) = \frac{P(B)P(I|B)P(O|BI)}{P(A)P(I|A)P(O|AI) + P(B)P(I|B)P(O|BI)}$$

This expression involves six unknown component probabilities (ie,  $P(B)$ ,  $P(I|B)$ , etc.), each of which could be anything from 0 to 1, subject to the constraint

$$P(IO) = P(A)P(I|A)P(O|AI) +$$

$$P(B)P(I|B)P(O|BI) > 0,$$

since both I and O did in fact occur.

It follows that without further information the conditional probability of you winning the prize by chang-

ing is unknown and could be anything from 0 to 1. The following are some examples which illustrate this point.

If the host had decided to open a door and give you the option to change only if your initial choice turned out to be correct (to try and trick you away from the prize), then  $P(O|BI) = 0$ . Therefore  $P(B|IO) = 0$ , implying you should not change.

Conversely, if your host had decided to open a door and give you the option to change only if your initial choice turned out to be incorrect (so as to help you), then  $P(O|AI) = 0$ . Therefore  $P(B|IO) = 1$ , implying that you should change.

If we assume (reasonably) that the hiding of the prize and your initial pick occurred randomly and independently, then

$$P(A) = P(B) = P(I|A) = P(I|B) = 1/3, \text{ and the required probability reduces to}$$

$$P(B|IO) = P(O|BI) / (P(O|AI) + P(O|BI)).$$

This, however, is still an unknown number from 0 to 1.

If we also assume that your host had to open an empty door and give you the option to change, then  $P(O|BI) = 1$ , so that  $P(B|IO) = 1 / (P(O|AI) + 1)$ . This is an unknown number from  $1/(1+1) = 0.5$  to  $1/(0+1) = 1$ . Therefore you should change, although your chance of winning the prize may not actually be improved by doing so (since  $P(B|IO) = 0.5$  if  $P(O|AI) = 1$  as in Appendix A).

If we further assume that your host had decided to mentally flip a coin in the event of being faced with a choice of two doors to open (as in Appendix B), then  $P(O|AI) = 0.5$ . Therefore

$$P(B|IO) = 1 / (0.5 + 1) = 2/3, \text{ and you double your chance of winning the prize by changing.}$$

**Appendix D:**

**Solution to the wrong problem**

The following is a formal solution to the wrong problem, as defined earlier. First let:

$$W = \text{"You win the prize by changing"}$$

R = "Your initial choice is correct (right)"

N = "Your initial choice is incorrect (not right)".

Then, by the law of total probability, the unconditional probability that you'll win the prize by changing is  $P(W) = P(R)P(W | R) + P(N)P(W | N) = (1/3)*0 + (2/3)*1 = 2/3$ .

### Appendix E:

#### Frequently asked questions

#### Question 1

Can you put the argument in Appendix A another way?

#### Answer

Visualize the three doors on the game show stage, with the numbers 1, 2 and 3 painted on them, from left to right. We will assume that the prize is hidden randomly, you pick a door randomly, and your host then opens one of the other two doors without thereby revealing the prize and gives you the option to change.

We will also suppose that the host prefers to open door 3 (the right door) and not to open door 2 (the middle door) if he has a choice of two doors to open. Thus, for example, if your initial choice is door 2 and correct, your host will definitely open door 3 (not door 1). Note that the host's door-opening preferences are not specified in the three doors problem and we must therefore make some assumptions regarding them. Those assumptions could be based on past experience. For example, we may have seen the game played many times but not once with the host having a choice and choosing to open the middle door.

We will next label each possible outcome of the game by a string of three numbers and one letter, as follows.

Suppose that the prize is behind door 2, you choose door 1, and your host opens door 3 (as he must). Then you win the prize by changing, and so we'll label that outcome 213W.

Likewise, suppose the prize is behind door 2, you choose door 2, and your host opens door 3 (since he prefers to open door 3). Then you don't win the prize by changing, ie,

you lose. So we'll label that outcome 223L.

There are nine such outcomes in total, all equally likely:

113L	123W	132W
213W	223L	231W
312W	321W	331L.

Now suppose that your initial choice is door 1 and your host opens door 3. What is then the probability that changing will win you the prize?

We need to look for those outcomes where the second and third numbers are 1 and 3 respectively. We see that there are two such outcomes, 113L and 213W, and exactly one of them implies a win (213W). Hence your chance of winning the prize by changing is 1/2.

This is the result in Appendix A. The scenario therein (and here) shows how it might come about that changing makes no difference to your chance of winning. That is, if the host's strategy is as stated, if you initially chose the left door, and if your host then opened the right door, then your chance of winning the prize by changing is 50%.

#### Question 2

In Question 1, why isn't the required probability simply 2/3, since six of the nine possibilities listed imply a win (W) and three imply a loss (L)?

#### Answer

The probability 2/3 just referred to is the *unconditional* probability of you winning the prize by changing. This means that if you decide, prior to the game, that you will change when the time comes, then your chance of winning the prize is 2/3.

But that is not what is required. The three doors problem makes it clear that you have already chosen a door and your host has already opened one of the other two. Since your decision whether or not to change is taking place after those events, we must condition on them. This means that we must narrow our focus on the outcomes of the game which are consistent with those events. That was the approach taken in Question 1, leading to the *conditional* probability 50%.

#### Question 3

In the context of Question 1, what is the probability of you winning the prize by changing if your initial choice is door 1 and the host opens door 2?

#### Answer

If that is the situation we must look for those outcomes where the second and third numbers are 1 and 2. There is only one such outcome, 312W, and it implies a win. Hence the conditional probability of you winning the prize by changing in this case is 100%.

#### Question 4

Can you illustrate by way of a simple analogy what is wrong with Mr Seidel's solution?

#### Answer

Consider the following problem.

*You are at a party and your host invites you to play a game. You will toss a coin. If tails come up you will toss the coin again. Then if the coin shows heads you will win \$100.*

(a) *What is the probability you will win \$100?*

(b) *Tails come up on the first toss. What is the probability you will win \$100?*

The solution to this problem is as follows.

(a) *You will win \$100 if heads come up straightaway, or if tails come up followed by heads. The probabilities of these two events are 1/2 and 1/4. So the (unconditional) probability you will win \$100 is  $1/2 + 1/4 = 3/4$ .*

(b) *If tails come up initially, there is a 1/2 chance that heads will come on the second toss. So the (conditional) probability you will win \$100 is 1/2.*

If you were to answer 3/4 to (b) here you would be making the same type of error as Mr Seidel when he says that your chance of winning the prize by changing is 2/3. In both cases the error lies in working out an unconditional probability when a conditional probability is called for. The original three doors problem is like (b) here and the "wrong problem" is like (a).

**Question 5**

Can you give a practical example of the equation in Appendix C?

**Answer**

You have been in the game show audience for a long time, taking notes. The host hides the prize behind the left door 50% of the time and behind the middle door 35% of the time. The host always opens an empty door other than the initially chosen one and always offers the option to change. 75% of the time that the left door is chosen correctly, the host opens the right door. The host's body language allows you to guess where the prize is 40% of the time (wherever it may be).

You have finally been invited to come up on stage and play the game. The prize is hidden and you choose the left door. The host then opens the right door, shows it to be empty, and gives you the option to change. What should you do?

By Appendix C the probability that changing will win you the prize is:

$$\begin{aligned}
 P(B | I O) &= \frac{P(B)P(I | B)P(O | B I)}{P(A)P(I | A)P(O | A D) + P(B)P(I | B)P(O | B I)} \\
 &= \frac{0.35 * 0.3 * 1}{0.5 * 0.4 * 0.75 + 0.35 * 0.3 * 1} \\
 &= 7/17 = 41.2\%.
 \end{aligned}$$

So it is best for you to stay with the left door.

**Note**

We have assumed that you let your initial choice be influenced solely by the host's body language, and that you were equally likely to choose either of the two wrong doors (i.e., each with probability 30%). But what if you had decided to definitely choose the left door (your best bet)? In that case we must replace 0.3 and 0.4 in our equation with 1. The 41.2% figure thereby changes to  $14/29 = 48.3\%$ . Alternatively, what if you had in the heat of the moment simply picked a door at random? Then we must replace 0.3 and 0.4 with 1/3, and 41.2% changes to

**Probability Can Be An Enigma**

At the recent annual conference in Melbourne, Roland Seidel introduced a problem in probability that is very deceptive. Roland did not have time to fully develop the mathematical argument so I will attempt to present a proof that might help the non mathematicians.

The problem is a quiz contestant is presented with three closed doors. Behind one of the doors is a prize and behind the other two doors nothing. The contestant makes a choice of one door but before the door is opened the quiz compere looks behind the other two doors and then opens one of them showing no prize. The compere then offers the contestant the opportunity to change his choice of door before opening it.

The question is will the contestant improve his chance of winning the prize by changing his selection to the other door. Intuitively, most people say no but in fact the contestant doubles his chance of winning by changing his selected door.

Let us review the strategies and I now quote a mathematical friend Dr L. Armour as I believe his explanation cannot be improved:

Strategy A: Don't change your door selection when given the

option of doing so.

Strategy B: Change your door selection when given the option of doing so.

48.3% again. In all three cases, our advice is the same: you should not change.

**References**

Morgan, J. P., Chaganty, N. R., Dahiya, R. C., and Doviak, M. J. (1991). Let's make a deal: The player's dilemma. *The American Statistician*, 45, 284-287.  
 Wackerly, D. D., Mendenhall, W., and Scheaffer, R. L. (2002). *Mathematical Statistics with Applications*, 6th ed. New York: Duxbury.

**Probability of winning using Strategy A**

Since your selection does not change when given the option to change, the probability of winning is the probability that the correct (i.e. prize concealing) door is chosen at the outset. Since only one of the three doors is the correct one, this probability is 1/3.

**Probability of winning using Strategy B**

If you originally choose the correct door you will lose because changing your selection means you will then choose one or other of the wrong doors.

If you originally choose an incorrect door then you must win because under the rules of the game the compere opens the other wrong door leaving you to choose none other than the correct door so the probability of winning is the probability of initially choosing a wrong door since two doors out of three are wrong doors the probability is 2/3. Strategy B has twice the chance of winning".

Now where do we all go wrong? We confuse the above game with a different one where the compere, instead of peeking behind the doors, just makes a random selection of one of the remaining doors. If the compere opens the door on the prize then the game is over but if the compere opens a door exposing no prize then it is a fifty fifty chance that the contestant's first selection was correct and there is no gain in the long run of changing his choice.

Robert A. Backhouse  
 Closeburn QLD

**Door Psychology**

Roland Seidel's description (22:4) of the general initial reaction to the Three Doors Paradox (Monty Hall dilemma) is not surprising, as its solution is quite counterintuitive. However, the persistence of this reaction, and its assuagement by resort to empirical means (try it out 1000 times and see how the numbers come up) is surprising.

---

I am not a mathematician, but I did do a few logic units at uni 25 years ago, and I believe the following represents a fairly brief straightforward explanation of the paradox:

The two alternative strategies for comparison are:

- a) Choose a door and stick with it;
- b) Choose a door and move to the remaining closed door.

If strategy a) is followed there is one chance in three of choosing the correct door. (The game show host's behaviour meantime is irrelevant.)

If strategy (b) is followed there are two possible outcomes:

- (i) There is one chance in three that the initial choice was correct, in which case the host opens either of the 'goat' doors, and we move to the other 'goat' door, and lose. One chance in three of losing out.
- (ii) There are two chances in three that the initial choice was incorrect (there are 2 'goat' doors), in which case the host opens only the other goat door, we move to the remaining correct door, and win! Two chances in three of winning.

Why is this so counterintuitive? It seems we give insufficient weight to the fact that two times in three (ie, whenever an incorrect door is initially selected) the game show host will selectively open only the remaining losing door, thereby narrowing the field. One time in three (when the correct door is initially selected) he improves our odds from 1/3 to 1/2. (by 1/6, from 2/6 to 3/6). Two times in three he improves our odds from 1/3 to 1/1 (by 4/6, from 2/6 to 6/6.) But we don't know at the time which of these is occurring.

So the second possibility (a 100% chance of moving to the correct door) happens only two thirds of the time.

I must admit, even though this explains the logic, it still doesn't feel right. Thank heavens we don't rely on intuition most of the time. Or do we?

*Gary Bakker  
Launceston TAS*

## The Doors Never Close.

Those damn goats just keep running up and down Monty Hall kicking in the doors and giving us no rest. And each time it reappears I find it reinforcing the view that the first thing we should be sceptical of is our own brains. My brain initially recoiled from the proposition that you double your chances and used every sophisticated trick and neurotransmitter to persuade me not to accept it – and then, after finally accepting the fact, it now feeds me superciliousness telling me it is simple and can't understand why others have trouble.

Robert Backhouse is in the after camp and offers an explanation I find elegant and 100% persuasive (but that's where I am). Borek Puza is in the before camp and copping the sophisticated assault of an unpersuaded brain. The facts are, it is not simple, it is deceptive and has seduced even the greats like Erdos; and you do double your chances by switching, the most persuasive evidence of which must be the real trials that have always confirmed and never disconfirmed the case.

I'm confident the key to it is that the host is a non-random entity and Borek clearly has some sense of this by considering the intentions of the host by giving him a preference for door 3. Unfortunately this leads to selecting the lines in his Appendix A table to give 100/200=50% when in the last column there are clearly six wins to three losses. There's also brain swindle stuff happening with redefinition of terms, appeals to authority and deflection into complexity that will give Borek trouble and possibly insist on further defence, until eventually reason prevails over intuition and human wins over brain once again.

I'm also confident there's some message in this that can help us understand the experience of the believer, the faithful, of whom we are inclined to despair. Just as Susan Blackmore described the benefit of Tibetan Meditation deriving from disassembling the model of self (rather than meeting the divine),

this thing has a curious parallel with epiphany or revelation in the dramatic difference in attitude before and after. But here also, there is nothing divine, just the facts, man, and the resistance of the brain to resiling from intuition.

*Roland Seidel  
Selby VIC*

## Response to Backhouse, Bakker and Seidel

I have carefully read the articles on the three doors problem by Robert Backhouse, Gary Bakker and Roland Seidel in this issue of the Skeptic, and the following is my response.

Bakker repeats in his own words (and with some errors) Seidel's correct working for the solution to the "wrong problem" (as defined in my article). He believes that changing doubles your chance of winning the prize.

Backhouse does too, but to his credit also shows some understanding of the distinction between the *conditional* and *unconditional* probabilities involved (which is the key point in my article). The 50% chance that he comes up with in his last paragraph is in fact the conditional probability of a contestant winning the prize by changing,  $P(B | I O)$ , under the assumptions

$$P(A) = P(B) = P(I | A) = P(I | B) = 1/3$$

$$\text{and} \\ P(O | I A) = P(O | I B) = 1/2 \\ \text{(see Appendix C).}$$

The host's strategy here is to open one of the two remaining doors by a random selection, even if that means revealing the prize and ending the game so that the contestant does not get the option to change. This scenario provides another example of how changing might make no difference to your chance of winning the prize (see Appendix A).

I disagree with Backhouse's statement that where we all go wrong is to confuse the game with the above scenario. Firstly, I think that most



people who believe there is no gain by changing are not even aware of that scenario, either consciously or otherwise. Their belief is based on a much simpler argument. And secondly, that scenario leads to a solution which is actually correct.

Seidel's article contains only one reference to my arguments, namely that "there are clearly six wins to three losses" in the last column of my Appendix A table. But this merely shows that Seidel is thinking of the unconditional probability of a contestant winning the prize by changing (required for the "wrong problem") and does not accept that the original problem requires a conditional probability.

The same point holds regarding Seidel's mention of "the real trials that have always confirmed and never disconfirmed the case." The trials he refers to, such as those described on pages 32-34 of 18:4 (1998), simply illustrate that, given certain assumptions, the unconditional probability of a contestant winning the prize by changing is 2/3. But, as I have said, this is not what is required.

The approach involving trials just mentioned is in fact equivalent to

F3, the third of the six false solutions discussed in Morgan *et al.* (1991). The following is a quote from that article:

*Several people, frustrated by contradictory arguments or failing to believe their arguments wrong, suggested schemes like F3 to settle the issue....*

*It is so appealing because it models F1. This is a correct simulation for the unconditional problem, but not for the conditional problem. The correct simulation for the conditional problem is of course to examine only those trials where door 3 is opened by the host. The modeling of conditional probabilities can be a difficult concept for the novice, for whom the careful thinking through of this situation can be of considerable benefit.*

My Appendices A and B provide examples of the "correct simulation for the conditional problem." I recommend that the unconvinced reader carefully study those appendices and, if necessary, carry out the two experiments described therein.

Why is the three doors problem so interesting? Generally, people can see that, given certain assumptions, the unconditional probability of you

winning the prize by changing is not 1/2 but 2/3. At the same time, their intuition tells them (correctly) that the problem instead requires a conditional probability, which moreover cannot be determined from the information provided. But being untrained in probability, they do not actually think in terms of "conditional" and "unconditional." Hence they confuse the two and end up amazed that the probability required seems to be 2/3. But this mismatch produces a nagging feeling that something's wrong, which is why Bakker writes "... it still doesn't feel right." And some people then deal with that nagging feeling by clinging to the 2/3 result, which gives them a certain peace of mind but at the expense of some intellectual honesty.

But somehow that does not seem like the ideal note to end on. I will therefore conclude my discussion on the three doors problem with the best response that I have heard to date (thank you, Smilla):

*You should change to the door opened by your host, because that way you can't be disappointed.*

Borek Puza  
Canberra

---

## Poesy

# Predicted

Nostradamus wrote predictions in a roundabout way,  
open to interpretation for us to work out what they say,  
prophetic engineering is the interpreter's art,  
to carefully shape meaning he claims the words impart.

The predictors are predictable, they say one will die,  
but they'll never be specific, they'll never even try,  
to stipulate the meaning of all the words they speak,  
for they haven't seen the future, or even had a peek.

It would have to be planned if the future could be seen,  
so there's no free will, do you see now what I mean,  
you'd have to be conforming, to some great plan,  
and if you think this is planned, try harder if you can.

Nobody knows what happens, until it's been and done,  
and if you think that fortune teller, is the chosen one,  
to peer into the future, and see your fate outlined,  
your choice is locked away, your mind is too confined.

A clever man will tell you, things he aught not know,  
pieces of your past, which for him are all on show,  
with telltale signs that a fortune teller reads,  
and he grows a tree of ideas, from subtle little seeds.

To hoodwink the hopeful with an insight for the best,  
by faking away decisions, leaving alternatives at rest,  
and telling you what to do to make his words come true,  
looking into your future, which is actually up to you.

Jim Wilshire

# Cults, Aliens and Hypocrisy

The doctrines of the Raelian 'cult' seem to be providing light comic relief for the media, as the world looks more and more likely to descend into war.

A war that is causing, and is caused by, rising religious and political tensions. Tensions that are – at least partially – caused by an intolerance of divergent belief systems.

And yet, here we are, pointing and laughing at the serious beliefs of others. It would appear we are not very fast learners.

What I find hard to understand is the hypocrisy of columnists and talkback hosts who generally preach understanding and equality, but are quite happy to banter about this 'weird cult'. Rev Dr Giles Fraser of *The Guardian* (UK) refers to the Raelians as 'nutty' and their beliefs as 'rubbish'. Howard Kurtz of *The Washington Post* (USA) calls them 'wacky', while Chris Johnston of *The Age* (Australia) referred to them as 'bizarre'.

Surely any religious belief deserves equal treatment; imagine the outcry in Australia if somebody wrote a column ridiculing Christianity, or the beliefs of Australian Aborigines.

There is a long-standing academic debate over the definition of 'religion'. Academics cannot agree, but most attempts include some or all of the following: a structured belief system, a supernatural being, a text, a following, and an afterlife.

So, in the light of this, let's look at the Raelians:

They have a highly organised belief

system that includes a history of humankind, a life philosophy, a structured morality, rituals, and a suggested direction for humankind.

Instead of a 'supernatural being', they propose aliens. The possibility of the existence of extraterrestrial life forms is accepted by a diverse range of people; from Christians to Hindus to atheists. The latest figures in America show that 44% of people believe that they exist.

Their prescribed text, *The Message Given by Extra-Terrestrials*, is complex and well written. It is researched and, unlike the ancient texts used by the major religions, it is referenced. What's more, the Raelians actually offer evidence supporting their belief, and claim to 'educate' rather than convert – coerced conversion is a trademark of major world religions, as well as cults and sects.

They claim a worldwide following of more than 55 000. This is a small number compared with Islam (1.3 billion) or Christianity (2 billion) – but there were originally only twelve disciples.

An afterlife; well, the Raelians claim that, with advanced cloning techniques, humans can expand their lifetimes tenfold. They also foresee a future without human rights abuses, without war. They are non-violent and encourage questioning and creativity.

I don't believe the Raelians; I don't believe aliens have ever visited the Earth; I don't believe that they

spoke to a journalist on a mountain. I think human cloning is possible but that personality transference probably is not.

However, I also lack belief that Christ was the son of God, or that Muhammad is God's messenger, or that Vishnu suffered from an excess of arms. Furthermore, I do not believe in unicorns, dragons, or hobbits. I discovered scepticism at a young age, and learned to distinguish between the amazing world of my fantasy novels, and real life. This once led to some confusion when I accidentally wandered into a dwarf convention, but has generally put me in good stead.

Despite my scepticism, I think every system of belief deserves the same regard as every other. Go ahead, debunk the Raelians. But be consistent, and apply the same criteria to other religions.

I think that the beliefs of the Raelians are no more or less credible than those espoused at my local churches every Sunday. I think the current media portrayal of them as a 'bizarre cult' is based on a bias against that which is outside our own sphere of knowledge. The leaders' tales of human cloning, and public discussion of the ethics of this, are media fodder enough. Leave their belief system out of it, unless you are willing to apply the same standards of judgement to every other religion.

Tory Shepherd  
Adelaide SA

---

# Letters

---

## Solution in the solution

Lorenzo Ravize  
Ventura CA USA

You will likely be pleased to note that the E.P. Foster Library here, for some obscure reason, maintains a subscription to your magazine. Your efforts to enlighten at least a candle's worth have gotten this far. However, to the point.

The [2002] Bent Spoon Award winners are in the wrong business. The process that they use to dilute the pathogens to a ratio of one part in  $10^{400}$  might (and must) be used to generate mere water better than what science calls chemically pure. They could licence out their technology to the water-poor, oil-rich Middle-East for desalination of sea water and reap a Midas' dream of rewards. Equally, they could do the same for China, relieving that country of the necessity of building the most extensive water relocation project the world has ever contemplated\* and double their reward.

The only problem I can foresee is that, in scaling up the effort, they might compromise the level of purity they have accomplished in their usual products. I hope you can convince them that one part in  $10^{80}$  is sufficient to convert salty into potable water. Also tell them that I retain 0.1 of 1 percent intellectual property rights for having come up with the idea.

Removing tongue from cheek, *New Scientist* (1 Jan, 03) gives an estimate of  $10^{87}$  nucleons in the Universe. Cosmologists say this is roughly 10% of what is needed to make the observable Universe, so maybe there are  $10^{88}$  things out there. If these assholes were really diluting something to one part

in  $10^{400}$ , they would be sub-molecular, sub-atomic, sub-nuclear, sub-quarkian, sub-anything-we-have-a-name-for; in the words of James Joyce, kmria\*\*.

\* As reported in *Harpers*, a project to pipe water from southern to northern China just for drinking purposes, is the most ambitious engineering project ever contemplated by mankind. The cost estimates would bankrupt China, let alone the real costs.

\*\**Ulysses*.

## Skeptics a cheerless lot?

Kevin McDonald  
Balickera NSW

I read in the *Sunday Telegraph* of 26 January, 2003, in the article: "Flood of challengers for sceptics' money" that the author (Tim the Yowie Man) regards The Skeptics as "an organisation of serial party-poopers and chronic non-believers". As a member of The Skeptics I regret that there is such a view of us. Far from being a cheerless lot of "party-poopers", I find that my fellow skeptics (both those who are members, and non-member friends who are sceptical by inclination) are a rather light-hearted, good-humoured bunch of people who sometimes enjoy a good laugh at the apparently endless supply of humans whose gullibility knows no bounds.

We skeptics continue to be amazed that in a supposedly enlightened world that there are still large numbers of "flat-earth" people who earnestly believe in UFOs, astrology, water divining, numerology, palmistry, crystal-power, channelling, and so on (the list is endless). Indeed one way we can

hold on to our sanity in such a crazy world is to have a good chuckle at their naiveté. Otherwise we would be subject to bouts of "skeptical rage" ("anti-irrational rage?"), and inflict significant injuries upon persons and property when beset by their gullibility and illogical thinking.

The Yowie Man's outburst seems to imply that some people actually want to be deceived, or at least entertained, by charlatans, water-diviners and other tricksters. The ubiquity of The Stars (astrology) columns in daily newspapers and magazines seems to attest to a public thirst for doses of utter nonsense. People flock to Psychic Expos, or readily part with their money for the "personal guidance" offered by Scientologists (who recently allegedly snared the heir to the Packer millions).

So we Skeptics have to tolerate much of the anti-intellectual pap which goes on in present society. However, there are times when we are justified in getting really angry, such as when we see examples of people falling for "alternative" medicine (= quackery), or financial scams (such as the Nigerian letters), or people who can often least afford it, parting with their money at Psychic Expos or Channelling Sessions (such as those currently making John Edward laugh all the way to the bank) or purchasing bogus electronic devices which purport to rid houses of cockroaches.

Apart from such times when we understandably get rather hot under the collar, we are, I venture to say, a good deal less serious, intense and foreboding than the religious zealots who continue (without luck) to prophesy the end of the world, or seek to convince people that the world was created in six days in 4004BC. We continue to

---

insist upon seeing the evidence when such people as currently the Raelians make their outrageous claims. Otherwise we get on with life as reasonable people, enjoying a good joke and a glass of red as much as anyone else, and (hopefully) recognizing that our own foibles may not be those of others, but make us just as interesting and individual as the next person. Indeed, my acquaintance with fellow skeptics leads me to assert that we are remarkably tolerant of loony-bins when we could be justified in seeking to have them locked up to minimise their irrational, devious and repressive impact upon the more gullible members of society.

## Ancestors

John Gibbs  
Gold Coast

I find myself confronted with a paradox, the answer to which I am hoping that your readers – my fellow Skeptics – will be able to provide.

We are told that as a matter of historical fact a diagram of the world's population would resemble a pyramid with a small population in the past growing rapidly in recent generations. Actually, I have read on more than one occasion that there are more people alive today than have ever previously existed, adding together all past generations. If this is the case, the diagram would look more like a trumpet than a pyramid.

Whatever – the historical/anthropological consensus undoubtedly is that not long ago there were very few people around compared with today and there are several obvious reasons, such as lower death rates due to medical improvements, which make this quite understandable; but does it correspond to actual experience?

To create any given individual takes, obviously, two people, namely a mother and a father. It took four people to produce those two, eight to produce those four, and as we go back in time, we seem to require an increas-

ingly large number of people to produce just one individual today. I have done a rough calculation and assuming that my ancestors started breeding at the age of 25 (it was probably somewhat earlier in the past) then it took something in excess of one million people in the middle of the 15th century to produce me today. It seems that there must be some fallacy in this argument somewhere. Any suggestions?

## Response

John, one thing springs immediately to mind. Your argument assumes that everyone is an only child with a discrete and unique line of ancestors, ie your parents had only one child and their parents had only one, and so on back to the primordial slime. Clearly this is not true. If you cared to trace your entire lineage back into history, the further back you went the more cases you would find of common ancestors on more than one thread of your line, ie at the stage where you would expect to find 64 ancestors, you might find you had only 60; at 128 there might only be 106, etc (these figures are purely guesses, but are probably in the correct general area). In the not too distant past most people lived, reproduced and died in a fairly restricted geographical locality, so inter-marriage with people with some common ancestry with oneself was almost certainly the norm (I refuse to make any Tasmanian jokes here).

Once, in a spirit of whimsy and to expose some creationist argument for the sophistry it was, I calculated (using your misapprehension) that in about 1300 I should have had more ancestors than the then population of the Earth. **Ed**

## The Word

AY Brown  
Wagga Wagga NSW

I delight in reading your publication, which combines sweet rigorous thought with a wonderful leavening of

humour and relentlessness in pursuing charlatans and exposing seriously deluded ratbags.

Until I discovered *the Skeptic* I was totally reliant on my instinctive “bullshit detector” in dealing with the world. Now I learn from others with whom I can identify. I would liken it to having a vast mineral (read BS) deposit buried all around me, with occasional outcrops above the surface which I have identified, but now a bulldozer (a Skeptic D10) is removing the overburden to expose the mother lode.

I wish to tell you of an evening (dinner and wine) I spent in the company of members of my extended family who, unlike little old free-thinking me, are all Latin Mass Catholics. Several, I have discovered, are also creationists. Also present, as is so often the case, was a priest of their acquaintance. A sombre chap and I just couldn't resist entertaining myself a little as he pontificated on that by which he lives. Needless to say, everyone else present was horrified by my showing “disrespect”.

This good, humourless man had spent several years in Rome and he knew his stuff; but I modestly claim to have given him a run for his money. In my experience, if someone is put under sufficient pressure in a one-on-one discussion, the most surprising statements will often result.

At about 2.00am, long after everyone else had left the table, he lost his cool and declared that the apparent biblical inconsistencies, to which I had drawn his attention, were explained by the fact that parts of the Bible are poetry and must be viewed as such.

Neither he, nor any other priest of my acquaintance who may agree with his contention, has been able to tell me where I might acquire the knowledge as to which parts are poetry and which the word of God.

I wonder how many books the Catholic Church has published in its long history? One would think that this would be a key piece of information in assisting the faithful in coming closer to their god, wouldn't you agree?

By the way, I was born in 1938; a long time to wait to find *the Skeptic!*



*Ah, 1938 – a vintage year which saw the emergence of some of the world's most distinguished thinkers. As for coming closer to God, I suspect that that would undermine the authority of the priesthood a bit too much to be acceptable to the church. Ed*

### Knowing more

Mark Newbrook  
Wirral UK

PL Riley (22:4, p 72) contributes to misunderstanding rather than clearing it up. He is right about the etymology of the prefix 'a' in the word atheism. But, as Barry Williams points out, he is mistaken about the meaning of the term gnosis in this context. In fact, gnosticism was not belief in gods (though gnostics would normally believe in at least one god) but rather a set of much more specific belief-systems involving esoteric knowledge.

Perhaps in part through confounding etymology with meaning, Riley also offers other strange and confused definitions. Contrary to his claims, those who normally identify and are identified as atheists do have a relevant belief: the belief that (very probably, at least) there is no god. Such a negative belief is indeed more difficult to prove than a positive belief that something does exist, and this particular negative belief (or indeed negative beliefs in general) may even be thought (by some) not to require proof; but it is still a belief.

People who have no particular belief in this area are not atheists but agnostics of one type. There are several types of agnostic, and thus several definitions of the term agnosticism. But all of them involve uncertainty as to the existence of any god, and none of them is related to the word gnosticism; indeed, agnostic has never meant 'without gnosticism'.

Again contrary to Riley's claims, it is reasonable for those who normally identify and are identified as agnostics to say in answer to the question 'Is there is a god?' that they do not know (for whatever reason). This is not

necessarily an evasion. We do not know whether or not there are other intelligent species in the Galaxy, but by stating this we are not evading that question. A genuine agnostic cannot honestly answer 'Yes' or 'No' to the question about the existence of a god. (Even some atheists, including me, could reasonably say that we do not know whether or not there is a god.)

### Knowing the truth

Jack Hamm  
Mudgee, NSW

The discussion of scientism going on in *the Skeptic* is a good example of how easy it is to lose sight of the original cause of a dispute.

In 22:1, p 45 James Gerrand was reviewing the book *Dawkins vs. Gould & Survival of the Fittest* by Kim Sterelny. Gerrand said in his review:

*The differences between Dawkins and Gould also relate to their different attitudes to science. For Dawkins science is the one great vehicle for producing knowledge of the world around us. Gould however believes some important questions are beyond science's scope, particularly science is irrelevant to moral claims - science and religion are concerned with independent domains.*

Gerrand then says later in his review:

*However, Sterelny is remiss in not pointing out that science's conclusion is that morals are not absolute truths but are what are accepted by the community as being for the best in the current state of their society. Morals need to change as society changes...*

In 22:2, p65, Mark Newbrook, writing under the heading "Metaethics", which he defined as "the nature and status of moral statements", appears to object to the idea of science ever being able to establish ethical truths. He is probably correct. It was Newbrook who introduced the terms "Metaethics" and "Scientistic" into the debate. My wife is an ardent crossword puzzler and her copy of the seventh

edition of the *Concise Oxford English Dictionary (COED)*, reprinted in 1984, contains the word "scientism" between the words "scientific" and "scientist". It defines the meaning as:

*method or doctrine (deemed) characteristic of scientists; so scientistic.*

Unfortunately it does not elaborate further on the meaning of the word. The *COED* does not contain the word "Metaethics". It does however define "meta" as a prefix meaning "sense of change or position ....". Far be it from me to argue with an expert in linguistics such as Mark, but, using that sense of the word it would seem that, to some extent, a scientistic view of metaethics is possible.

In 22:3, p66, Gerrand objected to Newbrook's objection, stating "Scientists and Skeptics deny there is any realm outside the scrutiny of science ...". He then goes on to accuse Newbrook of introducing esoteric words which he was unable to find in his version of *OED*. Maybe he should buy a later version of the *OED* than the one he presently owns. I side with Newbrook in saying that there are certainly areas of enquiry in which science is of little help. To arrive at that conclusion one only needs to consider the question of which of the world's many religions is the one and only true religion. My own view is that none of them are. How could science support or refute that view?

In 22:4, p71, Newbrook amplified his original objection to Gerrand's original statement and Michael O'Rourke took up the debate. He, O'Rourke, offered a source for the meaning of the word "scientism" and went on to define a number of types of scientism. I am grateful to him for telling us of a website where we can investigate the subject further. However I feel uncomfortable with his example:

*We must acknowledge the possibility that poetry contains the truest of all statements, that history and economics offer the next best kinds of knowledge, and that the findings of the physical sciences occupy the base rank.*

Having spent all of my working life in the fields of engineering design and construction I would prefer to rely on

science, rather than poetry, history or economics, to tell me what appropriate materials and stress values to use in my designs. It was not Neil Armstrong's poetic words on stepping on to the moon that got him there, but the combined efforts of many scientists and engineers using knowledge acquired by scientific means. Were there any poets, historians or economists contributing to the success of the venture? I doubt it.

Whilst on the topic of words and their meanings, Here I go losing sight of the original subject. I wish to correct our esteemed Editor. At the conclusion of P.L.Riley's letter "The importance of 'a'" (22:4, p72) our editor says that *Gnosis* is the Greek word for knowledge. Whilst he is correct in saying this he appears to be trying to demolish Riley's explanation of the differences between atheists and agnostics. Riley is partially correct in his penultimate sentence. Turning to our trusty *COED* we find:

*gnosis* (n-) n. (pl. ~es pr. ez). *Knowledge of spiritual mysteries. [f. Gk gnosis knowledge (as prec.)]*

Thus our Editor is partly correct. Then we find:

*gnostic* (n-) a. & n. 1. a. *relating to knowledge, cognitive; having esoteric spiritual knowledge; (G-) of the Gnostics, occult, mystic.* 2. n. (G-; usu. in pl.) *Christian heretic of 1st to 3rd c. claiming gnosis; ....*

We then refer to:

*agnostic* n. & a. (adherent) *of the view that nothing is known, or likely to be known, of the existence of God or of anything beyond material phenomena; hence -ism* (3.) n. [f. A- 7 + *GNOSTIC*]

From this it is evident that when an agnostic is asked "Do you believe in God" he/she should reply "There is no way to prove or disprove the existence of God therefore I am unable to answer your question with a yes or a no", rather than say "I don't know".

Which brings us nicely back to the original debate concerning whether Dawkin's or Gould's view of science is correct. Gould appears to be the one with the correct view.

Dictionaries can be good fun. I hope

your readers will find the above quite eudemonic.

### Gnot so sure

*Bruce Ronning  
Flynn ACT*

I wish to comment about an article, "Musings of an Agnostic" (22:3). The article described and debunked some of the Cartesian arguments for the existence of God, such as 'God is perfect. Non-existence would be less than perfect so God must exist'. I congratulate the author, Ben Morphet, on the well written and entertaining debunking of this and other arguments, however I wish to take him to task on one aspect of the piece. The author continually refers to himself as an "agnostic", and by the context of the statements makes it clear that he intends to mean one who has no firm conviction on the existence or non existence of a god. Furthermore his references to atheists clearly indicate his understanding that these are persons who are firmly of the belief that there is no god(s). I concede that these are the popularly accepted definitions of these terms ie, basically a scale of belief with atheism at one end, theism at the other and agnosticism in between; however many atheists (myself included) would argue whether they are the correct definitions.

- An atheist is simply one who does not believe in god. Atheism need not imply an active disbelief (more like "antitheism" although there are also conflicting definitions of this)
- An agnostic is one who believes that the existence or non-existence of god(s) is ultimately unknowable.
- A person can be both atheist and agnostic.

This is all rather academic of course. I comment more for interest than in protest. Keep up the good work! There is a detailed explanation of the inconsistent definitions of atheism at [www.religioustolerance.org/atheist4.htm](http://www.religioustolerance.org/atheist4.htm) (really good site).

### Γνωσις

*Lorraine Delaney  
Ettalong Beach NSW*

You are indeed correct in your concluding response to "The importance of 'a'" (22:4 p72).

Γνωσις (gnosis ... noun) does indeed mean "knowledge", not belief, which would be πιστος (pistos) and unbelief απιστος (apistos). Θεος (theos) means god αθεος, (atheos) means no god; γνωσις gnosis (noun) means knowledge, αγνωσις (verb) means "I don't know" or "no knowledge".

The alpha 'α' is privative and means no/not/un, so "I don't know" is the correct response for an agnostic to make should an enquiry be made about his/her belief.

Oh! I could constrain myself no longer !

*Thanks Lorraine. Informative as always and I hope I got the type faces right. Eδ*

### Scientism

*Daniel Stewart  
Gympie QLD*

Despite the protests of Mark Newbrook and Michael O'Rourke (22:4, p.71), James Gerrand is correct to assert that there is no realm outside the scrutiny of science (22:3, p.66). The supporting evidence of any argument, thesis, doctrine, or ethic can be critically scrutinized.

Gerrand does not claim that science will develop the correct moral laws. He does say that "ethical truths" can be scrutinized. Science is about developing theories based on evidence and assessing the evidence for such theories. The ideal evidence is seen as being derived from experiments. Evidence can also come in the form of careful observation, scrutiny of previous data, and the logic of supporting arguments. Theories also need to be internally logical.

Numerous experiments have been carried out testing how people behave in regard to ethical principles. One classic by Milgram in 1963 demonstrated that people followed the principle of obedience to authority over the physical well-being of another.

Morals can be critiqued in terms of evolution (what would be good for the survival of the species), ecology (what would be good for the survival of the surrounding environment), the beliefs of the community generally or a subgroup, or whether the morals are internally consistent. Scientific methodology cannot decide which ethical principles we should follow, but it can ensure we use sound evidence and good logic.

Even an area like theology must include a careful and systematic sifting of the appropriate evidence. As a parish minister I used to give evidence to support what I preached. If people made dubious claims, like “the Bible is the word of God”, it was my duty to seek out the evidence (Biblical and otherwise) to support or oppose the claim. I did not mind if people disagreed with me, as long as it was for the right reasons, that is, logical reasons based on appropriate evidence. Unfortunately people preferred to hold to their long held and comfortable beliefs rather than be challenged with unsettling evidence.

### Inappropriate conclusion

*Eran Segev  
Ryde, NSW*

A search for some information to debunk some myth led me back to the *Skeptic* from autumn 2002 (22:1), and I stumbled upon Karen Stollznow's article about a self proclaimed NLP therapist. I won't comment on the content of the article, but I feel I must point out that the way Karen summarised her experiences with the 'healer' is inappropriate, especially in this magazine. In the last paragraph but one she says:

*On the basis of my appointment with*

*Mr Young, I can quite confidently dismiss the efficacy of his 'therapy' for treating any condition with any success whatsoever.*

I can only imagine how we would all respond to a claim by a visitor to a psychic reader that “based on my experience, I can quite confidently confirm that Ms Smith is able to tell the future by communicating with deceased relatives.”

Anecdotes are nice, but are not PROOF. Proper test conditions are something we should require of ourselves just as much as we require them of others.

*We suggest that Karen was simply expressing her lack of confidence in the claims made for the therapy, not claiming she had proved that it did not work.*

**Ed**

### Insuring quackery

*Andrew Naunton  
South Spreyton TAS*

Are there any moves within the Skeptics to push the healthcare funds to examine the claims they allow for the natural therapies, homeopathy, iridology, etc – the usual airy fairy crap, yet not pay up for things like gym memberships, etc? The papers this week said that the funds were rationalising on these areas and concentrating on things which have a direct benefit to health!

So clearly they must know more than we do; gyms and exercise really are a waste of time and don't help with core strength and flexibility, and don't help injury or disease. Meanwhile, iridology, etc are the way to go.

I'm an Ambulance Paramedic – looks like we really should talk to the health funds about throwing out all that rubbish we carry – oxygen, drugs, defibrillators, etc, and try therapeutic touch or similar.

I bet the Gov't would love it too – probably cheaper!!!

### A brickbat

*Marc Walters  
Edgeworth NSW*

I feel prompted to write something about Barry Williams' (otherwise excellent) Editorial, in the Summer issue (22:4). I have concerns about part of page 5 third column, under the “Conspiracy” subheading.

Before I start, I'll declare now that I have absolutely no ties, nor dealings, with the alternative/unorthodox medicine industry, nor any “new-age” organisations or anything in a similar vein.

The first paragraph appears to deride the alternative medicine industry (referred to from now on as “altmed”) claims that medical trials are beyond their financial means. It quotes a survey that estimated that \$2.3 billion was spent on alternative medicines and therapies in 2000 – four times that spent on prescribed pharmaceuticals. It then sums up by asking “So, who is the Big Business in this equation?”

I suspect that by using the above equation based on non-prescribed altmed products versus prescribed medical products that altmed should be referred to as “big business”. But a quite different conclusion could be made by using a sensible equation that includes such arguments as profits, investment, economies of scale, size, number, distribution and ownership of businesses, patient visits, repeat purchases, supply chain, product types, etc.

Mr Williams' revelation, whilst interesting and entertaining, is irrelevant and shows only that the Australian public will purchase any old rubbish if it is well packaged. Regarding the general altmed claim regarding trials, Mr Williams' observation “a trifle hollow in light of a recent survey...” is an inappropriate use of Professor MacLennan's findings, and in no way refutes the altmed claim.

From my own non-biased and skeptical viewpoint, and taking into account what I know about both industries (and business in general), I can

---

only conclude that the altmed claim that “they just can’t afford the trials” is valid and probably correct. Mr Williams’ conclusion that the claim is incorrect (based on one survey of consumer purchasing) is nonsensical and smacks of the same ridiculous reasoning that some of the developers of these alternative “healing” devices use as evidence of efficacy.

Aside from that one single nitpick, I found the rest of Barry Williams’ editorial and, indeed, the entire Summer 2002 issue very interesting, informative and enjoyable, and look forward to catching up on other issues.

## Response

Barry Williams

I might have been a little infelicitous in the choice of words I used in this example, but in mitigation I plead frustration with the wholly (holistically?) irrational approach used by the altmed sector in any discussion of the issues.

The point I sought to make was that we hear a consistent message from the altmed industry that “they” (meaning “us”, the taxpayers) should spend money investigating claims made for various altmed nostrums. In so doing, they are seeking to move the onus of proving efficacy for their treatments from the claimant to the user. This is the opposite of what happens in normal practice, as it applies to the pharmaceutical industry.

Certainly, the pharmaceutical industry is not beyond criticism and its methods of doing business can sometimes be seen as skirting, or even breaching, the ethical boundaries. But business practices are not the point at issue in this debate; the issue is the efficacy of the end product.

In this case the claims made for pharmaceuticals can, at least, be supported by proper scientific research, which can (and does) cost a lot of money. Before the product is offered for sale it must pass standards set by various regulatory authorities. *Then* the taxpayers (as opposed to end users) might be asked to foot some of the

bill, as governments make political decisions about such matters as pharmaceutical benefits schemes and the like. By and large, such schemes do not pay out for failed research

The altmed industry works in a different way; for them “research” is usually replaced by such ephemera as “anecdote” and “antiquity”. What they appear to want is for the taxpayer (or user) not only to pay for the end product, but also for such research as will show that the stuff works in the first place. My point is that, with annual sales in excess of \$2 billion, there really should be some provision made for them to do their own research.

However, your other point is well taken. With little interest being shown by regulators and with a largely uncritical media giving *carte blanche* to unsubstantiated claims, the Australian public has shown a remarkable willingness to purchase well packaged snake oil. And unless altmed is required to comply with the same standards as the legitimate industry, there is no reason to suppose they will stop.

## A bouquet

Hugh Mason  
Annandale NSW

You were kind and thoughtful enough to offer several possible reasons for my failure to renew my subscription. Well yes, all of the above. However. I was prompted to investigate further and browsed through my stack of past copies.

I came across interesting and lively writing immediately. Ian Plimer’s account of the many vagaries in the planet’s temperature got me in immediately. I had meant to read this story months back and had started to read it but for some reason of the moment I had set it aside.

Instead, I remembered that I had sometimes found articles lambasting really stupid views about the world to be indulgent, overwritten and a bit tedious. But on checking I was unable to find any example. So I can only say it was a fantasy visited upon me by a

malevolent anti gravitational force drawn directly from the Dark Matter. To go into my theory any further would be tediously self-indulgent.

## Correction

Tim Train  
Raymond Terrace

Two small clarifications to my article on Ern Malley in the summer issue of *the Skeptic*:

The passage beginning: ‘Harris informed the magistrate...’ and ending ‘the magistrate could only suggest rape...’ comes from Peter Coleman’s book *Obscenity, Blasphemy and Sedition*. The passage beginning: ‘The Ern Malley affair was the century’s greatest literary hoax...’ and ending ‘Malley’s poems hold up to this day, eclipsing anything produced by any of the story’s main protagonists in propria persona...’ comes from an internet essay by David Lehman, published on [www.jacketmagazine.com/17](http://www.jacketmagazine.com/17)).

The passages were originally italicised, but I suspect that these changes were lost when I emailed them through to the Skeptics office. (Although it could be that Barry is getting back at me for including that anecdote about the Gwen Harwood sonnet with the anti-editorial message hidden within!)

## Information sought

Michael Vnuk  
Newmarket, Qld

Tim Costello at the 2002 Skeptics Convention, as reported in the last *Skeptic* (p17), said that Australia has 21% of the world’s poker machines. I’ve heard conflicting reports about the correctness of this figure. Can anyone enlighten me?





# Eureka!

## More rewards for outstanding science!

A record \$210,000 will be awarded to outstanding Australian science in the 2003 Australian Museum Eureka Prizes, Australia's most comprehensive national science awards. A further \$30,000 has been added to the 2003 series, which consists of an unprecedented 21 prizes.

New prizes in 2003 are for inspiring science (sponsored by the British Council), for innovative grains research that improves the environmental sustainability of growing introduced grains (sponsored by the Grains Research and Development Corporation), and for outstanding interdisciplinary scientific research

(sponsored by the Royal Societies of Australia).

These join 18 established prizes, including the Australian Skeptics Prize for Critical Thinking, to reward outstanding science across the categories of education, industry and innovation, research and science communication.

'The prestigious Eureka Prizes are a unique cooperative partnership between the Federal Government, the NSW State Government and a range of institutions, organisations, companies and individuals' said Professor Mike Archer, Director of the Australian Museum. 'The 2003 series is supported by an impressive 28

sponsors in partnership with the Australian Museum.'

The Eureka Prizes reward excellence in Australian science and science communication and raise the profile of science in the community. They provide a highly effective vehicle to profile achievements of Australian scientists, including female scientists who have a low profile. Candidates can either enter themselves or be nominated by others.

Entries in most prizes close Friday 16 May 2003, with winners to be announced at a gala award dinner at Fox Studios on 12 August 2003 to launch National Science Week.

Full details and entry forms are available from the Australian Museum's website at [www.amonline.net.au/eureka](http://www.amonline.net.au/eureka) or from [eureka@austmus.gov.au](mailto:eureka@austmus.gov.au).

---

## NSW Skeptics Dinner Meeting

**Saturday, April 12**

**The Chatswood Club**

**7.00 for 7.30**

**\$35.00**

**Skepticism and psychotherapy**

**A/Prof Jill Gordon**

**Head, Department of Medical Education**

**Faculty of Medicine**

**University of Sydney**

**Details in News Column, page 53 and in the insert in this issue.**

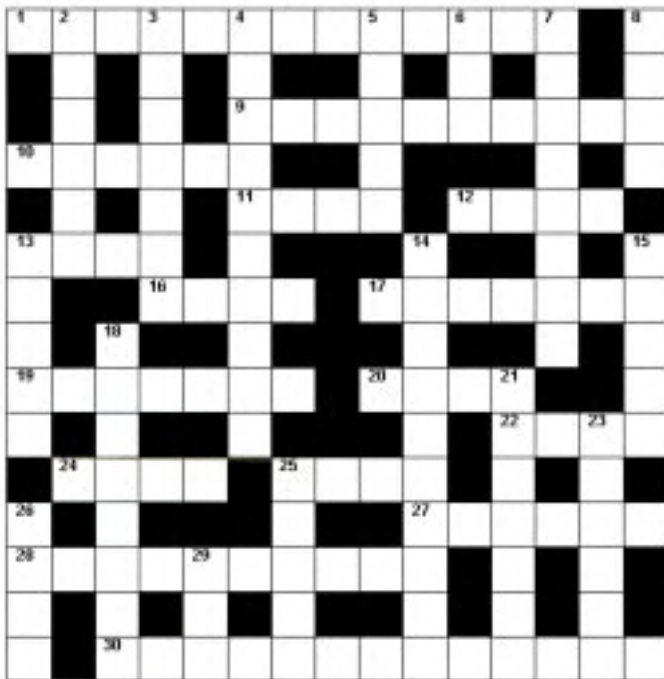
---



## Competition

### Skeptic Crossword No 16

(Compiled by Geoff Saunders)



Return to Skeptic Xword  
PO Box 268, Roseville 2069

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Entries will not be opened until May 10. The first correct entry opened will receive a book by Richard Dawkins.

We apologise to those avid crosswordophiles among our readership for our failure to supply their favourite fetish in the previous two issues. We are still working on the computer incompatibility that led to this impasse, but we now have a brand new compiler, Geoff Saunders, to add to our armoury. His brand of fiendish complexity might differ in some ways from those of Tim Mendham, hitherto our chief torturer, and we hope to use the skills of both of them in the future.

Meanwhile, have fun with the latest puzzle.

### Across

1. Altruists and I sip brew for Victorian spooky scamsters. (13)
9. Basic stuff, as Doyle's creation is wont to say. (10)
10. Go roll about with Melbourne's would-be tower builder. (6)
11. Make sure you've a long one when taking snaps of Nessie. (4)
12. Jupiter moon's thanks a trifle. (4)
13. Radio Bob a textile tinter? (4)
16. Add an 's' for Mel's corny concoction. (4)
17. Nazi nasties surround frequently, but the result becomes gentler. (7)
19. Closest relative of English is a cow of a language - or perhaps an ox tongue? (7)
20. Ibn Saud loses an Aussie dollar. In the resulting confusion, a book is identified. (4)
22. A roc transforms into largest dolphin. (4)
24. Dutch sailor sounds capable. (4)
25. The Memphis streaker and I find ourselves in African country. (4)
27. Big Ted (behind US loo) is a latter-day 1 ac. (6)
28. Noun man knew, without energy, he'd end up as a John Doe. (7, 3)
30. ING follows a French usury? It's really rather dull. (13)

### Down

2. Post office at Gallic airport not doing well. (4)
3. Sometimes they're holy, sometimes seen in the hair - some times on the road. (7)
4. Go to hell, Ian! Without Elle, in confusion - but he's a divine student. (10)
5. Andean critters lose fifty and get Yeti's spiritual advisors. (5)
6. Sulphur a French local star? (3)
7. Migration of celebrities? Maybe in the distant future. (8)
8. A yam goes down the wrong way for meso-American. (4)
13. First foot mixes with dirt to waft along. (5)
14. 26 ac runs into a way to understand the natural world. You can bet he doesn't have a bad one. (10)
15. Oats I mix up for ancient Roman port. (5)
18. But Tim, UK discord is evident in faraway 26 ac. (8)
21. Terrible row in cosy abode. That's the way! (3', 4)
23. Can you believe it? Revheads produce French opera! (6)
25. Bloke and the 'visitor' could paint a bit. (5)
26. Gold sun-god supposedly seen by some. (4)
29. Leading old boys' institute keeps kimonos modest. (3)

---

## Changing your domestic arrangements?

### Don't forget to let us know your new address.

(No, we don't want to know the gory details of your marriage, divorce, etc.)

---