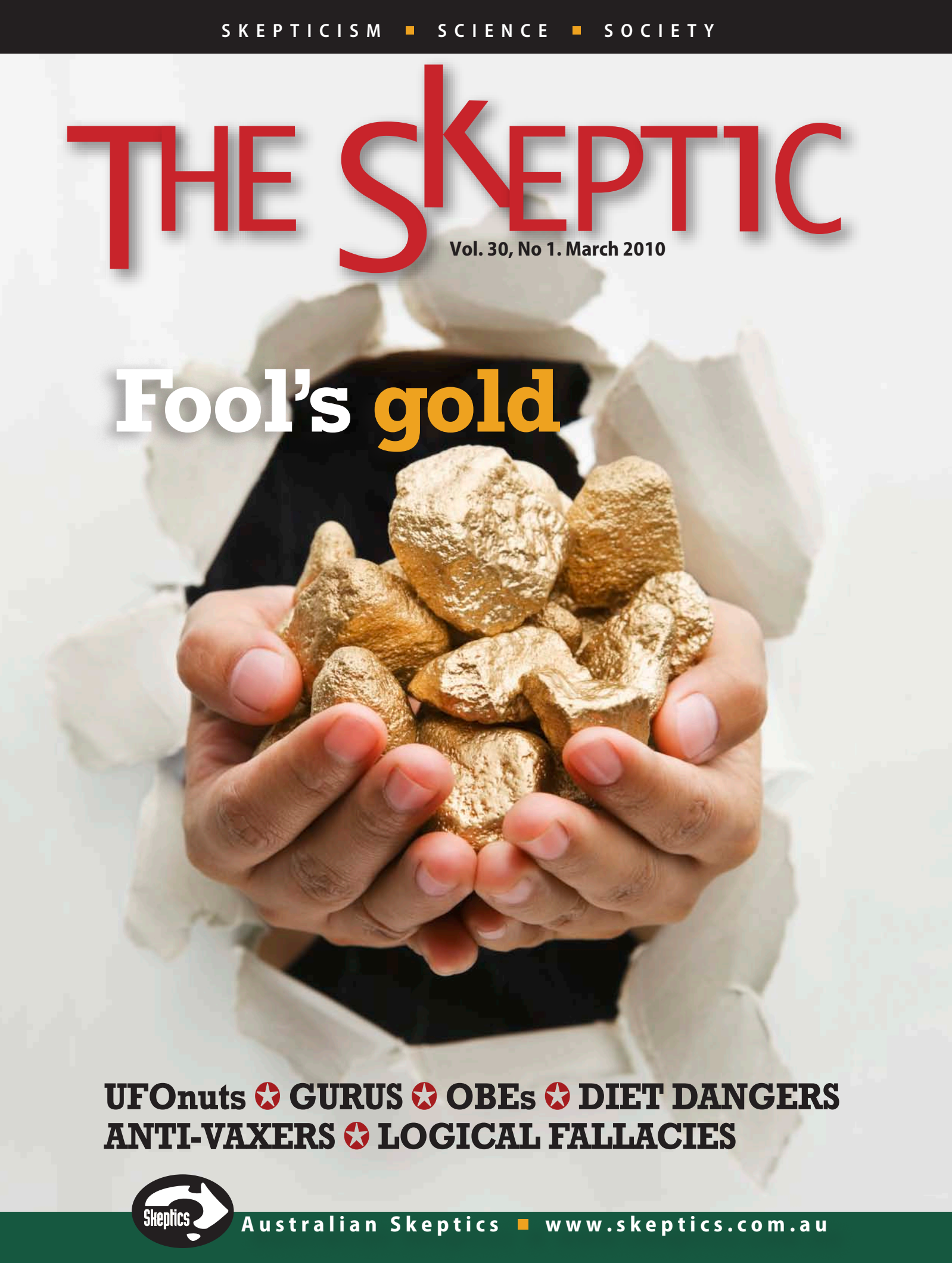
SKEPTICISM ■ SCIENCE ■ SOCIETY

THE SKEPTIC

Vol. 30, No 1. March 2010

Fool's gold



UFOnuts ✪ GURUS ✪ OBEs ✪ DIET DANGERS
ANTI-VAXERS ✪ LOGICAL FALLACIES

Australian Skeptics ■ www.skeptics.com.au

Skeptical Groups in Australia

Australian Skeptics Inc – *Eran Segev*
www.skeptics.com.au
PO Box 262, Roseville, NSW 2069
Tel: 02 8094 1894; Mob: 0432 713 195; Fax: (02) 8088 4735
president@skeptics.com.au

Sydney Skeptics in the Pub – 6pm first Thursday of each month at the Crown Hotel, corner of Goulburn & Elizabeth Streets in the city (meeting upstairs)

Dinner meetings are held on a regular basis in Chatswood
Next dinner: April 17 - guest speaker Robyn Williams, ABC Radio
Bookings from nsw@skeptics.com.au

Hunter Skeptics Inc – *John Turner*
Tel: (02) 4959 6286 johnafturner@westnet.com.au

We produce a 4-page e-newsletter six times a year; contact the newsletter editor (kevinmcdonald@hotkey.net.au) to add your email address to receive the e-newsletter.

Meetings are held upstairs at The Kent Hotel, Hamilton on the first Monday of each even-numbered month, commencing 7.30pm, with a guest speaker on an interesting topic.

Australian Skeptics (Vic) Inc – *Terry Kelly*
GPO Box 5166, Melbourne VIC 3001
Tel: 1 800 666 996 vic@skeptics.com.au

Skeptics' Café – Third Monday of every month, with guest speaker. La Notte, 140 Lygon St. Meal from 6pm, speaker at 8pm sharp.

April 19 – James Gilkerson: Science & politics of equine flu virus
May 17 - Vic Skeptics' 6th annual trivia night
More details on our web site www.skeptics.com.au/vic

Borderline Skeptics – *Russell Kelly*
PO Box 17, Mitta Mitta, Victoria 3701
Tel: (02) 6072 3632 skeptics@wombatgully.com.au

Meetings are held quarterly on second Tuesday at Albury/ Wodonga on pre-announced dates and venues.

Gold Coast Skeptics – *Lilian Derrick*
PO Box 8348, GCMC Bundall, QLD 9726
Tel: (07) 5593 1882; Fax: (07) 5593 2776
lderrick@bigpond.net.au
Contact Lilian to find out news of more events.

Queensland Skeptics Association Inc – *Bob Bruce*
PO Box 1388 Coorparoo DC 4151
Tel: (07) 3255 0499 Mob: 0419 778 308 qskeptic@uq.net.au

Hear Bob on 4BC Paranormal Panel - 9-10pm Tuesdays

Meeting with guest speaker on the last Monday of every month at the Red Brick Hotel, 81 Annerly Road, South Brisbane. Meal from 6pm, speaker at 7.30pm. See our web site for details: www.qldskeptics.com

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Canberra Skeptics – *Pierre Le Count*
PO Box 555, Civic Square, ACT 2608
Tel: (02) 6121 4483 act1@skeptics.com.au

Monthly talks usually take place at the Innovations Theatre at the ANU. Dates and topics are subject to change. For up-to-date details, visit our web site at: http://finch.customer.netspace.net.au/skeptics/

Skeptics SA – *Laurie Eddie*
52B Miller St Unley, SA 5061
Tel: (08) 8272 5881 laurieeddie@adam.com.au

Thinking and Drinking - Skeptics in the Pub, on the third Friday of every month. Contact nigeldk@adam.com.au
www.meetup.com/Thinking-and-Drinking-Skeptics-in-the-Pub/calendar/10205558 or http://tinyurl.com/loqdrt

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WA Skeptics – *Dr John Happs*
PO Box 466, Subiaco, WA 6904
Tel: (08) 9448 8458 info@undeceivingourselves.com

All meetings start at 7:30 pm at Grace Vaughan House, 227 Stubbs Terrace, Shenton Park

Further details of all our meetings and speakers are on our website at www.undeceivingourselves.com

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Australian Skeptics in Tasmania – *Leyon Parker*
PO Box 582, North Hobart TAS 7002
Tel: 03 6238 2834 BH, 0418 128713 parkerley@yahoo.com.au
Skeptics in the Pub - 2nd Thursday each month, 6.30pm, Prince of Wales Hotel, Battery Point

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Darwin Skeptics – *Brian de Kretser*
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Tel: (08) 8927 4533 brer23@swiftdsl.com.au

THE SKEPTIC

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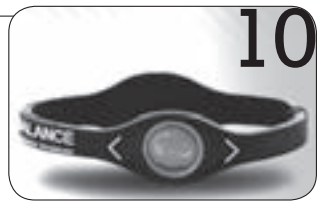

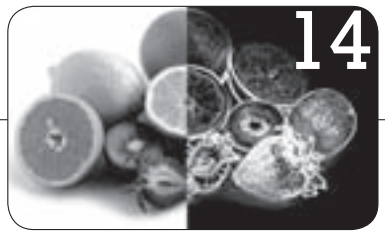

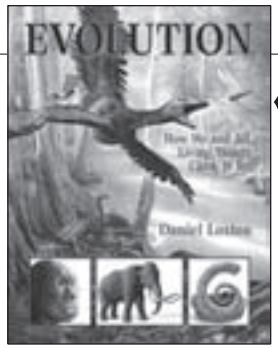

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It's remarkable …

As we enter our 30th year, you can probably excuse us if we indulge in a little navel gazing into the past, the present and the future..

Australian Skeptics is one of the three longest-lived skeptical groups in the world, and *The Skeptic* magazine is the second oldest skeptical publication. This is no mean achievement. Thirty years ago Mark Plummer and others in Melbourne established the first Skeptics committee (and some are still there!). This was followed quickly by the establishment of a NSW committee, headed up by Barry Williams, whom some of you may remember. Other groups followed across all states and territories. Much credit should also go to the plethora of enthusiastic and dedicated people who have and continue to volunteer their services and skills to ensure the continuation of the skeptical movement and its output.

At that time, some might have thought it would be a miracle if we would still be around in 30 years time. Those people were wrong, as are many who ascribe miraculous characteristics to varied events.

And that brings me to the present and the future.

The word "miracle" has been bandied around a lot lately. In Sydney there has been the case of miraculous weeping walls emanating through the spirit of a young man who died in a car crash. In Haiti, there has been the miracle of people dug out of the ruins of Port-au-Prince days after the earthquake hit. And of course there are the miracles attributed to the newly announced Saint Mary MacKillop.

The Oxford Dictionary gives three meanings for the word "miracle" - an extraordinary and welcome event attributed to a divine agency; a remarkable and very welcome occurrence; an outstanding example, specimen, or achievement.

In the rush of media coverage of many events, it's often hard to distinguish which meaning is being used. In Sister Mary MacKillop's case, it is obviously the first definition (but we won't go into here whether that's an accurate description of events). Using the "divine agency" interpretation in relation to such events as finding surviving people under the ruins in Haiti is logically problematic. If it is divine agency that saves a handful of people from the ruins, then surely it is also divine agency that sent the other 200,000 to their deaths. Apparently the Lord giveth with restraint and taketh away by the bucketload.

The other problem with divine agency in such cases is that it ignores – even denies – the efforts of masses of real life people working to create "outstanding achievements" using "remarkable" efforts with their bare hands, efforts and persistence. Thus the divine apparently looks down with disdain on the little people, being given credit for what he/she did not do. Unless, of course, you believe that the divine entity worked within the rescuers – they were the divine's instrument. But that just brings you back to divine powers and divine responsibility for the 'natural' disaster or cancer condition or fatal car crash in the first place.

So is *The Skeptic's* 30 years a miracle or merely remarkable?

We think it's neither. Rather it is logical and reasonable, in every sense of the word, as it fulfils (at least partially) a need for intelligent and sometimes humorous investigations of the paranormal and pseudoscience. And long may it do so – although we do wish it wasn't so necessary.

This writer has had association with the Skeptics and *The Skeptic* in some form or another for all of those 30 years. I look forward to another 30. And if I can achieve that, and do it well, then that would definitely be remarkable (or even a miracle). ■

- Tim Mendham, editor

THE SKEPTIC

ISSN 0726-9897
Quarterly Organ of
Australian Skeptics Inc
(ABN 90 613 095 379)

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The Skeptic is published four times per year by Australian Skeptics Inc.

Editorial submission deadlines
April 15, 2010
July 15 15, 2010
October, 2010
January 15, 2011

Around the traps...

Quo vadis homeopathy? A blow?

The UK's House of Commons Science & Technology Committee's Evidence Check report on homeopathy has struck a well-publicised blow to that particular branch of 'medicine'.

The Committee found that: "In our view, the systematic reviews and meta-analyses conclusively demonstrate that homeopathic products perform no better than placebos. The Government shares our interpretation of the evidence. We asked the [Health] Minister, Mike O'Brien, whether the Government had any credible evidence that homeopathy works beyond the placebo effect and he responded: 'the straight answer is no'."

The Committee said that it "concurred with the Government [expressed view on homeopathy] that the evidence base shows that homeopathy is not efficacious (that is, it does not work beyond the placebo effect) and that explanations for why homeopathy would work are scientifically implausible."

It concluded: "Given that the existing scientific literature showed no good evidence of efficacy, that further clinical trials of homeopathy could not be justified.

"In the Committee's view, homeopathy is a placebo treatment and the Government should have a policy on prescribing placebos. The Government is reluctant to address the appropriateness and ethics of prescribing placebos to patients, which usually relies on some degree of patient deception. Prescribing of placebos is not consistent with informed patient choice - which the Government claims is very important - as it means patients do not have all the information needed to make choice meaningful.

"Beyond ethical issues and the integrity of the doctor-patient relationship, prescribing pure placebos is bad medicine. Their effect is unreliable and unpredictable and cannot form the sole basis of any treatment on the NHS [National Health Service]."

The Committee concluded that the NHS should cease funding homeopathy. It also concludes that "the Medicines and Healthcare products Regulatory Agency (MHRA) should not allow homeopathic product labels to make medical claims without evidence of efficacy. As they are not medicines, homeopathic products should no longer be licensed by the MHRA."

One issue facing the S&T Committee was the size of the homoeopathic market. The committee's report says that, "according to the Society of Homeopaths, the NHS spends £4 million on homeopathy annually. It appears that these figures do not include maintenance and running costs of the homeopathic hospitals or the £20 million spent on refurbishing the Royal London Homeopathic Hospital between 2002 and 2005."

Across the Atlantic, the Minnesota Post (www.minnpost.com) quotes the Associated Press that almost 4 million Americans (two per cent of adults) spend an estimated $830 million on homeopathic products each year.

The chairman of the S&T Committee, Phil Willis MP, said: "This was a challenging inquiry which provoked strong reactions. We were seeking to determine whether the Government's policies on homeopathy are evidence based on current evidence. They are not.

"It sets an unfortunate precedent for the Department of Health to consider that the existence of a community which believes that homeopathy works is 'evidence' enough to continue spending public money on it. This also sends out a confused message, and has potentially harmful consequences. We await the Government's response to our report with interest."

The issuing of the report followed soon after the 'Ten23' demonstration, organised by the Merseyside Skeptics, outside of Boots chemists in the UK and designed to demonstrate that "Homeopathy, there's nothing to it".

Quo vadis AVN? A reprieve?

The future of the Australian [Anti] Vaccination Network is in flux.

For a while, Meryl Dorey, national president of the AVN, was warning (threatening?) her members that the AVN would fold and she would stand down as president unless additional funding to cover operations was produced immediately. [see story in Reports for background information]

At time of writing, Dorey has said the organisation had raised three-quarters of its goal, enough apparently to keep it going for another three years. This, she said, would "ensure that we can not only continue, but we can be a powerful defender of informed choice within the community". However, it is understood that the figure 'donated' was based on pledges, so that money has still to be collected, though the first to pledge $1000, V. Laffy, won a case of wine. The total raised has not been disclosed.

(Dorey said that Australian Skeptics had contacted the wine company to question their support for the AVN. True to form, she is wrong – no member of Australian Skeptics contacted the wine company. Dorey shoots from the lip once again.)

In a letter to subscribers issued on February 22, Dorey announced that the organisation's magazine, *Living Wisdom*, would in future only be published in digital format six times a year, with contents returning to its "core subject of vaccination". She also announced that the AVN would largely limit its telephone and email support to members, who constituted only 10-20 per cent of callers.

Most importantly, Dorey announced that she would be retiring as president of the organisation, though she would stand for election to its general committee.

An annual general meeting will be held in April, at which time a new president will take over, presuming someone has put in for the job.

Haiti's pact with the devil

The ABC reports that American televangelist Pat Robertson has blamed the devastating earthquake in Haiti on a pact between the impoverished nation's founders and the devil. Speaking on his television program The 700 Club, Robertson said the pact happened "a long time ago in Haiti".

"They were under the heel of the French, you know Napoleon III [sic] and whatever. And they got together and swore a pact to the devil," he said.

"They said 'We will serve you if you will get us free from the prince.' True story."

US belief figures

The US-based Pew Forum on Religion and Public Life issued the results of a survey in December that showed that nearly half of the US public (49 per cent) say they have had a religious or mystical experience, defined as a "moment of sudden religious insight or awakening". This is more than twice as high as a 1962 Gallup survey (22 per cent).

In total, upwards of six-in-ten adults (65 per cent) expressed belief in or report having experience with at least one of a range of diverse supernatural phenomena (belief in reincarnation, belief in spiritual energy located in physical things, belief in yoga as spiritual practice, belief in the 'evil eye', belief in astrology, having been in touch with the dead, consulting a psychic, or experiencing a ghostly encounter).

Twenty-four per cent said they believed in reincarnation and a similar number (23 per cent) believed in yoga as a spiritual practice. Similar numbers profess belief in elements of New Age spirituality, with 26 per cent saying they believe in spiritual energy located in physical things such as mountains, trees or crystals, and 25 per cent professing belief in astrology. Fewer people (16 per cent) believe in the 'evil eye' (that certain people can cast curses or spells that cause bad things to happen to someone).

Roughly three-in-ten Americans (29 per cent) say they have felt in touch with someone who has died. Nearly one-in-five say they have been in the presence of a ghost (18 per cent – double what it was in 1996), while 15 per cent say they have consulted a fortune teller or a psychic.

The survey was based on telephone interviews, conducted under the direction of Princeton Survey Research Associates International, among a nationwide sample of 4013 adults, 18 years of age or older.

Football feng shui

Former England cricketer Geoffrey Boycott has advised Manchester United striker Michael Owen to try 'feng shui' in order to rediscover his form and eventually boost his chances of securing a post among the final few who will travel to the 2010 World Cup. Boycott admitted that Owen hadn't actually responded to his suggestion. Boycott credits feng shui – sleeping in different rooms, facing different ways – as at least partially helping him fight cancer.

As of February 25, Owen's future in England's World Cup side looked very uncertain. But there have been reports of someone having moved the goalposts to give him improved energy flow. (joke!)

Most reliable psychics?

The Australian Psychics Association has published a magazine called the *2010 Australian Psychics Directory* listing "psychics all over Australia whom people can count upon for a reliable reading".

This is a very interesting claim, considering the track record of psychics when put to scientifically-based tests rather than anecdotal evidence – ie zilch. It is also a potential legal minefield if a psychic proves not to be so reliable.

The APA also announced its psychics of the year - but surely there were no surprises there.

Divining a bomb

The director of a British company, ATSC, that supplies bomb detectors to Iraq has been arrested on fraud charges, and the export of the devices has been banned, British government officials said in January.

Iraq's security forces have been relying on a device to detect bombs and weapons that the United States military and technical experts say is useless. The small hand-held wand, with a telescopic antenna on a swivel, is being used at hundreds of checkpoints in Iraq.

ATSC's promotional material claims that its device can find guns, ammunition, drugs, truffles, human bodies and even contraband ivory at distances up to a kilometer, underground, through walls, underwater or even from airplanes three miles high. The device works on "electrostatic magnetic ion attraction," ATSC says.

The Times of London quoted ATSC director Jim McCormick in November as saying that the device's technology was similar to that of dowsing or divining rods used to find water. "We have been dealing with doubters for 10 years," he said. "One of the problems we have is that the machine does look primitive. We are working on a new model that has flashing lights."

The Iraqi government has purchased more than 1500 of the devices, known as the ADE 651, at costs from $16,500 to $60,000 each. Nearly every police checkpoint, and many Iraqi military checkpoints, have one of the devices, which are now normally used in place of physical inspections of vehicles. ■

Homeopathetic responses

Tim Mendham on the reactions to the UK NHS decision

With the announcement that the UK's House of Commons Science & Technology Committee Evidence Check had recommended that the National Health Service should no longer fund homeopathic treatments and products, needless to say the UK homeopathic scene has come out in outrage and confusion as to why anyone would be so critical of homeopathy.

Carol Boyce on the UK site Hpathy.com ("the world's leading homeopathy portal") says that "For reasons that will probably never be clear, at a time when the nation faces so many challenges, the UK government's parliamentary select Science and Technology committee decided to conduct an Evidence Check into homeopathy at the end of 2009." Which apparently means that nothing else should happen during hardened economic times.

Somewhat of an alarmist, Boyce titles her piece "First They Came for the Homeopaths ...", indicating that she sees this as only the start of a campaign against who knows what – the entire alternative medical profession perhaps.

The British Homeopathic Association's website has as its lead story on the home page the unfortunately mistimed "Healthcare for everyone - Did you know you can see a doctor trained in homeopathy on the NHS?" It adds elsewhere, however, that "the recommendations of the Science and Technology report published today fail to acknowledge the fact that research evidence for homeopathy does exist, and dismisses patient outcomes as placebo effect. ... The committee did not entertain evidence of effectiveness, which is actually what patients care most about."

The Society of Homeopaths, "the UK's largest regulator of homeopaths", roundly rejects the findings. Central to its concerns was a 'clarification' issued by Phil Willis MP, the Chair of the Committee, who said the inquiry was not into whether homeopathy works or not. "Nevertheless, what then followed was clearly an inquiry into whether homeopathy works or not," the Society says, which raises the question – why would you support anything without first knowing if it works?

The Homeopathic Medical Association, "established in 1985 [and which] represents qualified professional homeopaths and promotes homeopathy and homeopathic education", seems to have trouble loading its news pages, so it's hard to know what its reaction is. But its noticeboard is up-to-date on its coverage of the HMA's contribution to Homeopathy Awareness Week in June 2003.

The Alliance of Registered Homeopaths – UK (just how many homeopathic societies are there in the UK?) says: "We've just had the parliamentary expenses scandal, now it appears that taxpayers money has been used to convene a parliamentary special committee which has been subverted by known anti-homeopathy activists. ...Why weren't patients allowed a say in this enquiry? This is a sad day for patients, democracy, homeopathy and genuine scientific enquiry!"

Nonetheless, the Alliance managed to find a positive light: "There have been positive factors resulting from the 'evidence check'. Compiling the submissions has provided the profession with a golden opportunity to demonstrate the efficacy of homeopathy, both as a discrete system of medicine, and as part of an integrated approach to healthcare delivery." But apparently not demonstrating such efficacy enough to keep it on the NHS.

MEANWHILE, IN AUSTRALIA

The Australian Homeopathic Association had no statement of its own, just a link to the hpathy site (ie Boyce's article).

Homeopathy Australia, which seems to be a one-man operation, had nothing on the report, but it did have a handy graphic to show you the temperature in Brisbane, plus hints on how to beat the odds on baccarat, blackjack and roulette. (Obviously nothing if not multi-skilled).

Homeopathy Plus, another Australian site, actually tried to steal Homeopathy Australia's thunder (what little there is) by lodging the following on the latter's guest book: "Pretty sad guest book, isn't it? :) Our web site listed above is the third highest homeopathy site in the world ...". Nonetheless, it had nothing on the investigation apart from a reprint of the hpathy.com article (again), accompanied by a picture of a man's hand and hip, dressed obviously like a mugger, drawing a nasty looking knife out of his pocket. Blimey! That's really coming to get you!

In Australia, homeopathy is not subsidised by the Pharmaceutical Benefits Scheme, although many health insurance providers do cover homeopathy.

During this search for responses to the UK recommendation, we came across one rather disturbing site (and sight) - the Victorian government's *Better Health* site (www.betterhealth.vic.gov.au). This offers "health and medical information for consumers, quality assured by the Victorian government (Australia)". With this in mind, it is of concern that it gives information that paints a non-critical view of homeopathy, with the only caveats being "Scientists question how this highly diluted substance could retain a biological effect ..." and "There is no such thing as a 'homeopathic vaccine'. Homeopathic medicines are not based on specific antibody or germ-fighting cell formation." That's it – 34 words out of 1040. Nice to get government assurance, but not surprising seeing the page is "produced in consultation with and approved by the Australian Homeopathic Association".

Other topics on *Better Health* include: acupuncture (including "safety and legal issues"), asthma and complementary therapies; ayurveda; Chinese herbal medicine; general herbal medicine; kinesiology; and reflexology. The site does have a page devoted to "complementary medicines - tell your doctor" which outlines side effects and issues. That page is produced in consultation with and approved by the National Prescribing Service, funded by the Australian Department of Health & Ageing. ■

Five strikes you're OUT?

Tim Mendham looks at recent blows to the anti-vaccination movement - one hit after another to Wakefield and the AVN.

It hasn't been a good start to the year for the anti-vaccination movement. In five consecutive blows, a key piece of research for the movement and its main author have been decisively repudiated, two journals that published his findings have retracted the papers, he has resigned from a centre he founded and, most significantly for Australia, the leading anti-vaccination organisation in the country threatened to close its doors with the resignation of its leader.

While the edifice that is anti-vaccination might not yet have actually collapsed, there are serious cracks in the structure, enough for it to edge toward being condemned.

On January 28, after the lengthiest such case in its history, the leading anti-vaccination proponent Dr Andrew Wakefield was found by the UK General Medical Council to be "dishonest", "irresponsible" and guilty of putting children through painful and unnecessary tests.

The findings against Wakefield, one of the poster boys of the anti-vaccination movement, mean there is a strong possibility of his being struck off the medical register.

In 1998, *The Lancet* published a paper by Wakefield and others outlining research which suggested a link between the childhood MMR (measles-mumps-rubella) vaccine and autism. This finding was immediately picked up by anti-vaccination groups as evidence of the dangers of vaccination. That this research was not duplicated by others, and that most of the co-authors of the paper subsequently disassociated themselves from it, seemed to be of no consequence to the movement – the anti-vaxers' case, as far as they were concerned, was proved; end of story.

The upshot of the release of Wakefield's findings was a great deal of media coverage outlining the supposed dangers of MMR vaccine leading to autism in patients. What has been described as "panic" ensued, with vaccination rates immediately dropping in the UK. This lead to an increase in diseases that the MMR vaccination was designed to prevent. Vaccination rates have apparently still not fully recovered to the levels before the scare.

The next blow to Wakefield's reputation came from *The Lancet itself*. On January 2, the prestigious medical journal issued a full retraction of the paper, stating that "It has become clear that several elements of the 1998 paper by Wakefield et al are incorrect. ... Therefore we fully retract this paper from the published record."

> "The movement has suffered a serious blow, as Wakefield's 'research' underpinned much of its often hysterical argument."

True to form, the anti-vaccination movement came out in defence of Wakefield, describing him as a martyr to the cause, and Wakefield has been quoted as saying he had "no regrets" over his work. One correspondent on a forum described the GMC panel as "evil judges from the garden of Stalin". But it is without doubt that the movement has suffered a serious blow, as Wakefield's 'research' underpinned much of its often hysterical argument.

But with the demise of that 'scientific' foundation, on February 3 came another blow. Meryl Dorey, founder of the Australian Vaccination Network (more accurately the Anti-Vaccination Network) announced to her followers that "within the next 3-4 weeks I will tendering [sic] my resignation as President of this great organisation and moving on to the next stage of my personal development".

Dorey cited financial pressures and her need to "still have a life" as reasons for her resignation. She said that she hoped someone would step into the breach, offering enough money for her to continue in the job. (So much for her stated desire to return to being a mother and a wife for the benefit of her "children [who] have missed out on so much so I could run the AVN".) The alternative was that some equally fervent anti-vaxer would take over the AVN and continue her proselytising work.

She said she hoped her magazine, *Living Wisdom*, would be sold as part of a total asset sale. If not, its future would be uncertain, and may be closed. Those who have subscribed to the magazine will apparently just have to grin and bear it. As of February 25, however, the AVN was still spruiking subscriptions on its website.

Dorey's stark warning was that "If nobody comes forward to take on the role of President or if the funds are not provided to allow us to continue ... the AVN will be ceasing operations on or about the 28th of February."

She may, though, have a reprieve, with donations apparently coming in to the value of three-quarters of what was required to keep the AVN running for another three years. These are primarily pledges, so it remains to be seen if that situation is fulfilled. [See *Around the Traps* this issue for more detail on the AVN's financial viability and its leadership.]

The fourth blow to the movement came in mid-February, with the journal *NeuroToxicology* announcing it had withdrawn an article co-authored by Wakefield. Noted US anti-vaxers Jenny McCarthy and her partner and fellow

actor Jim Carrey had only just lauded this same article: "*NeuroToxicology*, a highly-respected medical journal, deserves great credit for courageously publishing the first phase of his vaccinated monkey story." They now say that Wakefield is "being discredited to prevent an historic study from being published". No comment about the journal's courage in withdrawing the article, however.

The fifth and latest blow was an announcement, again in mid-February, that Wakefield had resigned from Thoughtful House, the autism centre he had founded in Austin, Texas. Wakefield established the centre in 2005, at the same time as his research was coming under increasing scrutiny in the UK.

Initially, Thoughtful House stood behind Wakefield, despite the GMC's ruling. In a statement on its website it said it was "naturally disappointed by [the] report from the UK General Medical Council. ... A careful examination of the full record of the Council's inquiry will show that the charges made against Drs Wakefield [et al] are unfounded and unfair. We invite anyone to review the record, and to draw their own conclusions."

In later news reports, the clinic was quoted as saying that Wakefield had left voluntarily to avoid the controversy overshadowing the centre's work. "The needs of the children we serve must always come first. All of us at Thoughtful House are grateful to Dr Wakefield for the valuable work he has done here."

These statements following his resignation do not appear on the organisation's website, and are drawn here from news reports. However, the site does acknowledge in its FAQ section on Wakefield in response to the hypothetical question "Have Thoughtful House researchers found any link between the MMR vaccine and autism? - No such link has been established, but research into a possible connection is ongoing."

This saga will no doubt continue, perhaps with a new leader of the AVN, but the status of Wakefield as the movement's hero is unknown. ■

Meryl Dorey's spicy sources

From Dorey to the whale, Tom Sidwell thinks there's something fishy about the AVN's defence.

In a letter sent to her subscriber base on February 15 as part of a long defence of her own actions and that of her organisation, AVN president Meryl Dorey made a strange and somewhat incoherent reference to websites she is associated with: "They [critics] continually attribute things I haven't said to me. Saying that I believe in the Illuminati and Reptilian Aliens are just some of the most blatant examples of this. There are so many more it's not even funny. They have even gone so far as to follow links on articles I've sent to our email list and say that I support what is at that link even when I have sent an article - the links on that page are not under my control."

Unfortunately for Dorey's defence, she does in fact keep some very strange company.

In August last year, Ken McLeod lodged a complaint with the NSW Health Care Complaints Commission in which he criticised the AVN and Meryl Dorey for, among other things, claiming that research suggests that the MMR vaccine causes autism and that vaccines in general suppress the immune system. In response, the AVN's reply - submitted by Dorey later that year - directly references fifteen articles to support these assertions. This is in a section of the response written solely by Dorey.

Having the temerity to go "so far as to follow links on articles I've sent to our email list", I followed up on those references to check out their bona fides.

Ten of the fifteen are said to be examples of articles "published in peer-reviewed journals", which hypothesise a vaccine-autism link. Of these ten, in fact only three do suggest a link. Of those three, two are published in fringe, ultra-conservative, non-peer-reviewed journals noted for espousing absurd conspiracy theories. The third is co-authored by Andrew Wakefield – without a conflict of interest statement.

The other five articles are meant to "demonstrate [that] vaccines are indeed immune-suppressive", however none actually support this conclusion.

Two of these five articles are misreferenced. The title of one has been changed to appear to suggest that vaccines suppress the immune system, and the other has the abbreviated form of the journal title incorrectly expanded.

Googling the two incorrect phrases as they appear in Dorey's reply leads to five sites. One is a vaccine conspiracy blog in Spanish. Two other sites (each promoting hundreds of alternative modalities) have the erroneous references in a shared list of "vaccine and allergy citations'. There are only two sites which list all five articles under the designation of proof of immune suppression by vaccines. These sites are www.whale.to and http://vaccinetruth.org.

For those not familiar with whale.to, it is a jack-of-all-conspiracies site that would have you believe that HIV does not cause AIDS, polio's true cause is DDT, measles is a vitamin A deficiency, as well as the usual conspiracies about aspartame, fluoridation, 9-11 and UFOs. Perhaps most bizarre is the belief that "deadly orgone radiation" - a mythical form of radiation, visible to 'energy psychics', which "hurts people" and "destroys the atmosphere's health" - is emitted by cell phone towers and chemtrails, but can be neutralised by 'orgonite', a mixture of metal shavings and fibreglass resin.

Both whale.to and vaccinetruth.org claim vaccines cause autism, shaken baby syndrome, SIDS and Gulf War syndrome, with the usual misquoted and fabricated 'information' on ingredients such as thimerosal, squalene and aluminium.

The fact that these sites list the same five references as Dorey's HCCC response, with the same errors of attribution and title, makes one ask what source Meryl Dorey uncritically copied and pasted her references from. It also indicates a fairly cavalier attitude to undertaking her own research. And it also questions whether she does in fact keep some very strange company indeed. ■

A Matter of Balance

Richard Saunders finds some amazing inventions at Mind Body Wallet and puts them to the test.

Left "The Quantum Pendant ... produces scalar energy that helps to enhance the body's biofield." More red flags than a red flag factory!

In November 2009, a group of Australian Skeptics and friends headed for the Festival of Mind Body Spirit in Sydney. An overview of this adventure can be seen in the previous issue of *The Skeptic*. Over the years, I have come to expect the unexpected at these events. Although much of what is on show is old hat, sometimes something stands out for one reason or another.

This time it was the stand of a company called FusionExcel (http://fusionexcel.com/) which sells a nice looking pendant to wear around the neck. According to the company's web site: "Quantum Pendant is made from natural minerals that are fused and structurally bonded together at a molecular level. It produces scalar energy that helps to enhance the body's biofield."

More red flags than a red flag factory. Putting aside the nonsense of scalar energy and the body's biofield, just what is FusionExcel selling? In other words, what is the hook that would convince someone to part with $266 for a black pendant about the size of a poker chip? The answer is something that has been bobbing around since the 1970s - body balance and flexibility tricks.

These tricks consist of 'testing' one's balance by applying a slight downward force on an extended arm. The subject, who is also standing on one foot, normally tips off balance as the force is directed slightly away from the body and hence the centre of gravity. Now the same test is done again, only this time the subject is given the pendant (or, as we'll soon see, a hologram). As if by magic, the subject not only does not tip over, but it seems they are now anchored with an amazing new sense of balance. No matter how hard the force is applied, the subject remains upright.

How is this stunning feat achieved? As you may have guessed, it's nothing to do with the pendant which is only a prop, it's all to do with the how the force is applied to the extended arm and this time the force is downward and very much towards the body. However, the casual observer usually does not notice this change in the direction of the force and so the trick carries quite an impact. So subtle is the technique that even the subject of the tests is unaware of the difference and is easily convinced they have suddenly acquired a new sense of balance.

Other similar tests use the same principal of directing force away from and then towards the body. To cap off the demonstrations, the subject is asked to swing their arm slowly back around the body as far as it will go. Then once the pendant is introduced, the subject finds to their amazement that their arm swings even further. Again, it's not the pendant, it's just the body flexing and re-flexing. But the effect can seem astonishing.

"Power Balance ... When the hologram comes into contact with your body's energy field ..." etc etc etc.

This is all very well and fine and something skeptics around the world have seen many times. What made the Quantum Pendant stand out were the supplementary claims given by the FusionExcel representatives. The pendant could also turn tap water into sun block. Yes ... it might take a moment for the gravity of this claim to sink in ... a plastic pendant, (made from lava?) if placed under a bottle of tap water for 15 minutes gives that water the power of a sun block if rubbed on the skin. Indeed, one of the representatives told us she used it on her grandchildren as she does not trust the chemicals in real sun block.

Needless to say I and the other skeptics were somewhat dumbstruck at this claim, but not for long. I allowed myself the luxury of lecturing these people and demanding they stop making this outrageous and totally irresponsible claim. Australian Skeptics are now considering our next step as this claim ranks among the worst we have encountered.

A search of videos on YouTube showed more of FusionExcel and the body tests. Once you know the tricks it's relatively easy to spot what is going on. Little did I know all this extra research would come in very handy in a matter of weeks.

In early December 2009, *Today Tonight* on Channel 7 ran a story from Adelaide on the amazing results achieved by using the Power Balance wristband (at only $60) with embedded hologram. To quote from their web site: "How does it work? Most everything has a frequency

Richard Saunders demonstrates the amazing abilities of the Power Balance wristband and the Quantum Pendant ... only without the wristband or the pendant. In fact, he uses his own pendant, made from ceramics, with the words "Science Saves Lives" written on it.

inherent to it. Some frequencies react positively with your body and others negatively. When the hologram comes into contact with your body's energy field, it allows your body to interact with the natural, beneficial frequency stored within the hologram. This results in improved energy flow throughout your body."

What really caught my attention upon watching the story on *Today Tonight* was that Power Balance used exactly the same tests as FusionExcel, only this time it was the hologram in the wrist band that gave one the 'power'. I wrote to *Today Tonight* offering my services in any follow up to the story but, as luck would have it, they contacted me via Skeptic Laurie Eddie in Adelaide. After a chat with reporter Frank Pangallo, it was agreed that I be flown to Adelaide to test the Power Balance on behalf of Australian Skeptics. Also flown in was Tom O'Dowd who has the Australian rights for the Power Balance bracelet.

> "The ideomotor effect is the phenomenon of the body fooling the owner. It is well-documented and powerful."

The Adelaide tests were as simple as I could make them. We had six volunteers line up with only one, chosen by the roll of a dice, having the hologram hidden about their person. Tom was unaware as to who had the hologram (as was I) so his task was to use the body 'tests' to find out. If the hologram performed as claimed, this should have been a walk in the park. Unfortunately for Tom, he did not pick the right person on any of the five tests we performed. At every step (and this point cannot be overstated) Tom was asked if he was happy with the conditions. Tom reported his approval.

I found Tom O'Dowd to be friendly and very keen to show me how well Power Balance worked. I have no doubt that he really does believe the product works even though it failed a very simple test. Why? We look to water diviners for the answer.

Australian Skeptics has been testing the claims of water diviners since James Randi travelled here 30 years ago. What is well known to us is something called the 'ideomotor action' or effect. This, simply put, is the phenomenon of the body fooling the owner. When the diviner's rod moves, the diviner is unaware that they are tilting their own hands. When proponents of something like Power Balance are demonstrating the product, they too are unaware of the subtle change they apply to their subject to make them tip or not. Sound far-fetched? The ideomotor action is well-documented and very powerful.

It is also possible to misuse these body tests or tricks once you know what you are doing. On a recent trip to the USA, I was able to give amazing demonstrations to total strangers on the incredible power of a pendant I now carry. The pendant is made from ceramics and has the words 'Science Saves Lives' written on it.

A video exploring and explaining the body 'tests' used by these and other companies is currently being produced by Australian Skeptics. ■

RESOURCES

- For more information on the ideomotor action see: http://en.wikipedia.org/wiki/Ideomotor_effect
- For the video of the *Today Tonight* tests, see: www.skeptics.com.au/publications/videos
- For skeptical Ceramic Jewellery see: www.surlyramics.com/Surlyramics/Surly_Ramics.html

The many ways Nigerians die

Leo Igwe reports on the lack of critical thinking in Africa - with dire consequences.

The Nigerian author Ben Okri, in his book *A Way of Being Free*, said: "There are many ways to die, and not all of them have to do with extinction. A lot of them have to do with living. Living many lies. Living without asking questions. Living in the cave of your own prejudices. Living the life imposed on you, the dreams and codes of your ancestors." I quite agree with him.

The author did not make specific reference to any nation, race or continent. But any time I read this piece, it seems to me as if he is addressing Africans. Because I think Africans are dying in so many ways, in ways that many of them do not know. And some of them who know, do not care. Or they think that the situation is too bad to make a change.

Africans are dying but have not gone into extinction, and may not in the foreseeable future. So Africans are dying while they are living. Sounds like a contradiction? No, not at all. As Ben Okri said, dying in this case has to do with living. Africans are dying because Africans are living many lies. Africans are living without asking questions. Africans are living in the cave of their own prejudices. Africans are living the life imposed on them by others. I would like to explain this further.

Africans are dying because most people in Africa are living false lives. People are afraid of being themselves, of living their own lives, and of asserting their own uniqueness and originality. Many people are living under illusions and deceptions. The real tragedy is that over the years, these lies and illusions have been institutionalised and normalised to the extent that no one dares change them or challenge them. They have become a way of life. Many people are unwilling to tell the truths, face the truths and live the truths about themselves.

Since independence, most countries in Africa have not made significant progress because Africans have been living in the paradise of lies - lies about why they fought for independence and opposed colonial rule; lies about why they want democracy and self-government. African economies have been in tatters because Africans and their leaders have been living many lies about their ability to manage their resources and about whom to hold responsible - erstwhile colonalists or our homegrown dictators and inept politicians - for the mismanagement and underdevelopment in the region.

Africans are dying because most people have refused to ask questions about themselves, about the policies, programs, institutions and ideologies that guide and govern their lives. Many people in Africa have refrained from critically examining their cultures, religions and traditions even when there is an obvious need for critical evaluation and revision. Instead, people prefer holding onto already made answers and solutions, even when these answers no longer answer their questions. And these solutions no longer solve their problems. Many Africans are afraid of asking questions because they think when they do so, they will die or they will lose the little privilege they enjoy - not knowing that the real death or loss is in not asking questions, in swallowing everything hook, line and sinker. So Africans are dying because in most communities virtue lies not in critical inquiry or examined life but in a life of dogma, blind faith and conformism.

Africans are dying because, over the years, the people have transformed the continent into a cave of prejudices and misconceptions. And these include prejudices about themselves and others. Prejudices about what they have and want and what others have and want. Prejudices about anybody or anything new or different, any lifestyle new or different from what they know and what they are used to. Africans continue to judge themselves using the biases and misjudgement of those who do not see anything good or noble in them, or those who are out to exploit them. Africans are dying because their prejudices cannot allow them to think and to reason clearly. Their biases cannot allow them to know their value and understand the worth of what they have and how to relate what they have and what they want with what others have and want. Prejudices cannot allow Africans to harness their talents and fully realise their potentials and promises. Instead the continent continues to waste most of its talents, and fritter away the little resources they have And these are resources they lay claim to as a result of the value placed on them by those who want the resources, not by those who own them.

Africans are dying because most people are not living their own lives. People are living others' lives, alien lives and fake lives. Africans are living lives imposed on them by their fathers and forefathers. Many people do not strive to realise their own dreams, but those of their ancestors.

Hence Africa is mired in the past. People look back to the ancient days with nostalgia and to the future with despair. People oppose any initiative that will mark a radical departure from the past. They denounce any dream that is not in line with the dream of our ancestors. Africans are dying because they are living lives imposed on them by prophets, imams, gurus and *marabus*, pastors, bishops, sheikhs and *sangomas*; lives sanctioned and sanctified by outdated holy books particularly the *Bible* and the *Koran*.

Africans are dying due to lack of foresight, insight and thoughtfulness. ■

The Finnish line

Pertti Laine reports on the Finns' sceptical activity – and some issues seem horribly familiar.

Last year, Skepsis ry (the Finnish Skeptics) gave our annual Flim Flam Prize to the Finnish Inoculation Info Society. By coincidence, similar prizes were given in Australia, Netherlands and Sweden, also to advocates of anti-vaccine propaganda.

Before swine flu media hype started, our anti-vaccine movement was not so famous at all. They just distributed their propaganda on the web, mixed pseudoscience and science as much as it served their purposes, sharing the same soap about vaccines causing autism and suggesting mostly homeopathy books. Then, they were suddenly giving their expert statements on Finnish media, especially on TV and radio.

We have various individuals and websites who spread the usual extreme tales, such as that vaccination is a part of the international conspiracy to eliminate most of mankind and implant microchips in the population. One of these proponents is Dr Luukanen who was interviewed as the "former Finland Health Minister" in a news video distributed all over the Internet. Dr Rauni-Leena Luukanen Kilde was never a health minister of anything. She hasn't been able to practise in the medical field since a car accident in 1986. Since then, she has been best known for her 'secret service' contacts and paranormal-related books.

Paranormal phenomena are regular parts of the Finnish media reality. International and domestic reality TV shows provide the paranormal in or out of context, such as astrology in the Big Brother show. Our media have a tendency to create a reality. Media approval implies that ideas like anti-vaccine opinions or that there are some phenomena that human senses cannot detect should be taken seriously within sections of the community.

Our larger publishers can't tell the difference between science and pseudoscience or they actually don't care, particularly if a pseudoscientific book is on sale, such as like Robert Young's *The Alkaline Diet* –pure flim-flam. When that happens, we can at least approach public libraries, asking if they could move those homeopathic books somewhere away from medical section shelves. Sometimes it even works!

We have highly-educated creationists, even some university professors, claiming "God did it" and arguing that the theory of evolution theory should be presented more critically in our public schools. They write letters to newspapers, discrediting evolution in various ways, backing each other up with their professorial titles. In particular, they like to confront naturalistic methods of science, using Thomas Nagel (an atheist philosopher, as they gladly point out) to 'prove' their arguments. They preach that 'intelligent design' has nothing to do with religion, but when you see them speaking to their own audiences on religious TV and radio channels, you do understand how their scientific truth is made up. Fortunately, none of them teach biology.

We have continuous increases in natural medicine, fasting, meditation, reflexology, pills and doctrines based on the use of alternative therapies. And there are doctors who have reverted to homeopathic medicine. Not to mention an imposter, who treated cancer by giving anthelminitics, which were intended for animals.

Finally the Finnish Parliament has woken up; they are currently enacting legislation to put the unlimited forms of medical quackery under better control.

Likewise, there is a steady stream of new quack products coming onto the market. The latest is smart 'Power Balance' holograms that help you increase your sport performance. And yes, these really are selling in sport shops and supermarkets! Anyway, these have to be a better product than those magnetic bracelets, because our NHL hockey star for the Anaheim team, Teemu Selänne, is using it! It is at least light, if we can say something good about this nonsense. Earlier these kinds of products were sold in 'esoteric' shops. Is this a new quack phenomenon sweeping the super markets? Hopefully not, but our Consumer Agency has been quiet so far. [See Richard Saunders' report this issue on exactly the same sort of product being sold in Australia.]

According to the Finnish Science Barometer 2007 study of the Finns' attitude towards science, almost 50 per cent of the respondents believed that so called 'nature healers' have some mystical knowledge and skills that are unknown to medical science. However, 26 per cent of Finns do not believe in homeopathy at all. Surprisingly, telepathy divided the population fairly: one-third denies it totally, others believe it more or less.

As we are not cynics but skeptics, we are continually seeking real paranormal phenomena. Anybody in Finland who can produce one under satisfactory observing conditions has a chance to receive €10,000. We have a few candidates each year who honestly believe their skills. The most popular trick is using divining rods to prospect for water. Surprisingly our experiments show every time that their results are no better than chance. Unfortunately, we are not having any better success with telepathy and telekinesis.

I bet you that Skeptics organisations all over the world have the same problems to fight for. Although our association was originally founded for scientific research of paranormal phenomena, such phenomena seem to be so rare and shy that we have to concentrate on generally pseudoscientific topics.

Anyway, I am happy that UFOs have almost forgotten us and they don't kidnap people here in Finland at the moment! ■

About the author

Pertti Laine is chairman of Skepsis ry – The Finnish Skeptics.

Sweet Reason

Is added fructose a poison? Chris Forbes-Ewan assesses the controversial claims in the book, *Sweet Poison*.

In 1970 the greatest chemist of the 20th Century, Linus Pauling, surprised nutritionists and doctors throughout the world by claiming that megadoses of vitamin C would prevent or cure the common cold. As a result, millions of people started megadosing on vitamin C at the first sign of a cough or sniffle. Many also took large doses as a preventive measure.

Despite dozens of studies conducted to try to confirm Pauling's belief, there is no evidence that vitamin C has the claimed effects. The most recent Cochrane review (2007) concludes that "regular ingestion of vitamin C has no effect on common cold incidence in the ordinary population. It reduced the duration and severity of common cold symptoms slightly, although the magnitude of the effect was so small its clinical usefulness is doubtful."

Perhaps Pauling should have confined his advice to matters relating to chemistry, his area of expertise.

But even if Pauling strayed out of his field of science, at least he was a scientist and had an understanding of the scientific method. Some people go much further, setting themselves up as experts in a field that is wholly unrelated to their area of expertise.

In July 2009, David Gillespie - who is a lawyer, not a nutritionist or scientist of any kind - presented a program on *Ockham's Razor* (ABC Radio National) in which he squarely laid the blame for the obesity epidemic and many of the major chronic diseases afflicting developed nations on fructose, a type of sugar that occurs naturally in fruits and honey and that constitutes one half of sucrose, the scientific term for "sugar" (the other half of sucrose is glucose). He also stated that added fructose in the diet is a poison at any dose. 'Added' fructose implies fructose that is not a naturally-occurring component of fruit. Added sugars are also known as 'free sugars'.

Gillespie claimed it is a "miracle ... that we are not all dead in the face of the incessant fructose doping" and we can "be absolutely certain that fructose is a killer of epidemic proportions". He also stated that "Every day that fructose remains a part of our diet is a death sentence for thousands of Australians" and finished his program by calling on regulatory authorities to "immediately ban added fructose as a food".

I have been a professional nutritionist with the Defence Science and Technology Organisation (DSTO) for nearly 25 years, and I was rather concerned when I heard this program. Why didn't I know these 'facts'? What should be done to reverse this appalling situation?

"Mistakes reveal Gillespie has litle understanding of the basic scientific concepts he claims to have mastered"

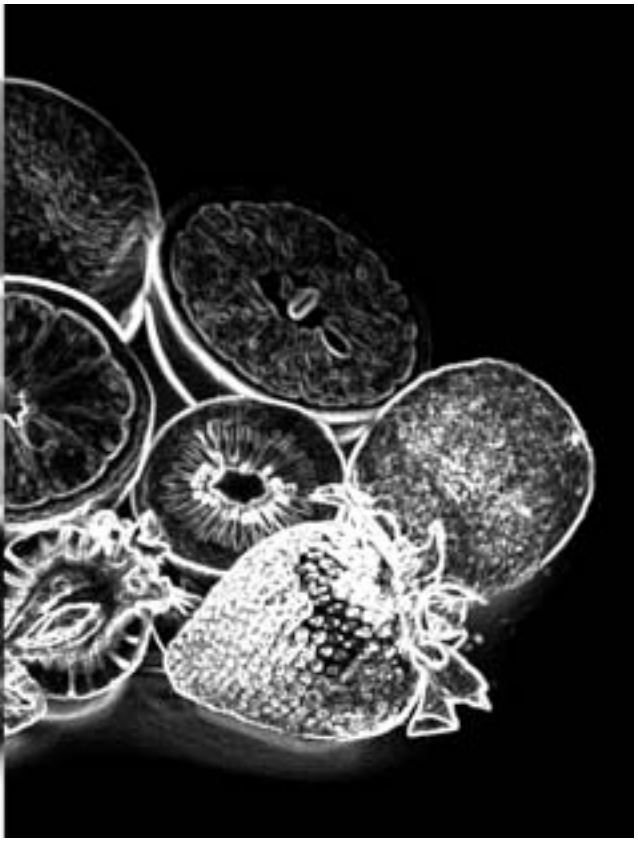
My first action was to read *Sweet Poison*, the book by Gillespie on which his radio program was based. Being first and foremost a scientist (and also a sceptic) I thought it prudent to check some of Gillespie's claims. The first claim that seemed worth checking involved a fructose-feeding study conducted in 1985 in which four participants suffered severe heart-related conditions. According to Gillespie, fructose was identified by the authors as almost certainly (with a probability greater than 99.99 per cent) the cause of the severe heart problems.

I read the 1985 paper, and was surprised to find that the authors made no such claim. The discussion includes more than one reference to a "lack of relationship between the onset of the abnormalities and the type of dietary carbohydrate". With fructose eliminated as a possible culprit, the authors speculate that low copper intake may have triggered the heart problems.

By this stage I had become very sceptical of Gillespie's claims. I decided to check another key claim - that as a result of the 1985 study no further fructose-feeding trials were conducted on humans. Following this moratorium, Gillespie claims, the only fructose-feeding studies that were subsequently conducted involved rats, so most of the evidence he discusses in Sweet Poison is based on rat studies, not on human studies.

I carried out a *PubMed* search of the scientific literature and found 19 studies involving purposefully feeding humans with high levels of fructose that had been conducted between 1985 and 2008, the year of publication of Sweet Poison. I also found that 12 of these papers reported either positive or, at worst, neutral health effects attributable to high intakes of fructose. In his book, Gillespie neglects to mention these human studies, whose results did not consistently support his idea that fructose is dangerous to human health.

In addition to a gross misinterpret-



ation of a key paper and omission of mention of all human studies conducted after 1985, I also found factual errors (or at least dubious claims) in *Sweet Poison*. As one example, Gillespie states that "by the year 2000 ... almost 20 per cent of the average person's daily calorie intake was coming from fructose". He also claims that the average intake of fructose in Australia is about two-thirds of the average intake in the United States.

A literature search revealed that fructose intake in the United States is estimated to be in the range 8-10 per cent of total daily energy intake. If Gillespie is correct in his estimation that Australian intake is about two-thirds that of US intake, then fructose would account for about 6-7 per cent of our total energy intake, not the "almost 20 per cent" claimed by Gillespie.

He also claims (with no supporting evidence) that Australians eat about 30 per cent more than they did three decades ago. This, he states, is because fructose does not satisfy hunger; as a result, people are eating more than they need to maintain body weight, hence the obesity epidemic.

I asked one of Australia's leading nutritionists, Dr Rosemary Stanton, for her opinion about this. Rosemary could find no evidence in support of the claim. Although there is data showing a 13 per cent increase in energy intake among 7-15 year-olds, according to Rosemary there is no evidence for an increase among adults, let alone one of 30 per cent.

Albert Einstein jokingly remarked that "If the facts don't fit the theory, change the facts." I wonder if David Gillespie took Einstein seriously!

Gillespie's advice is sometimes orthodox. As examples, he recommends eating two serves of fruit per day and says that physical activity is critical for general health. However, he immediately follows this with: "Don't exercise if your dominant purpose is to lose weight: let a lack of fructose do that instead." This does not fit with the advice of health authorities throughout the world. Physical activity is considered an integral component of any program aimed at regaining and maintaining control of body weight.

I also found errors in definitions of some of the units used in *Sweet Poison*, including one schoolboy howler. According to Gillespie: "The metric equivalent of the calorie is a joule, and calculated using Einstein's famous equation $E=mc^2$ …". This would be true and relevant only if our stomachs contained fully functional nuclear reactors! Although mistakes of this kind are hardly likely to adversely affect anyone's health, they reveal that Gillespie has little understanding of the basic scientific concepts he claims to have mastered, and on which he then pontificates.

In January 2010 I presented an *Ockham's Razor* program in which I mentioned some of the problems I had identified with the content of Gillespie's book. Perhaps unsurprisingly, Gillespie took great exception to my program, and wrote a blog entry about it on his website: www.raisin-hell.com

In his blog entry, titled *Attack of the Chocolatier*, Gillespie reiterates many of the false arguments he espouses in *Sweet Poison* and his *Ockham's Razor* program. He also introduces new errors by claiming that I am a 'chocolatier' (ie chocolate-maker) and that I may have undisclosed ties with Nestlé (from which it might be inferred that I am defending fructose because I am a stooge of the sugar industry). In a comment on his blog, I make it clear that I am not (and never have been) a chocolatier, and that I have no ties whatsoever with Nestlé.

In another comment on his blog I am criticised by one Gillespie supporter for playing the "tedious I am a scientist and you are not card". In my reply I point out that Gillespie has adopted a legal - not a scientific - approach. Moreover, he appears to have appointed himself 'counsellor for the prosecution', whereas a scientist should objectively weigh the evidence for and against dietary fructose before coming to a conclusion.

In Lewis Carroll's *Alice in Wonderland*, the Queen of Hearts decides that the sequence of events in a trial should be "sentence first - verdict afterwards". Gillespie's approach could be seen as a variation on this theme: "verdict first - trial afterwards". It seems that early in his investigation of the possible causes of obesity Gillespie settled on fructose as the culprit. He appears to have then searched the scientific literature for any evidence that supported his conclusion. Unfortunately, he has ignored (or distorted) the evidence that doesn't suit his case.

Does David Gillespie's botched case for the prosecution mean that high fructose intake is not guilty of the crime of causing obesity and many major chronic diseases? Not at all. The prosecutor in the 1995 murder trial of OJ Simpson failed to prove beyond reasonable doubt that Simpson was guilty of the murder of his wife (Nicole Simpson) and her friend Ronald Goldman. This didn't necessarily mean that Simpson was not responsible for causing their deaths. In fact, in a later civil trial he was found liable for their deaths on the balance of probabilities.

Although the case against fructose may not be quite as strong as the civil case against OJ Simpson, there is a body of evidence that could be considered

Sweet Reason

Continued...

to constitute a *prima facie* case against fructose when it is consumed by sedentary people in large quantities.

But if I were the presiding judge in the criminal trial of fructose, based on the weakness of Gillespie's case for the prosecution I would declare a mistrial and immediately release fructose as a 'free' sugar (so to speak).

Robert Lustig, who is a well-known nutritionist, has compiled a much better case against fructose. (A video of a presentation by Lustig is available at www.youtube.com/watch?v=dBnniua6-oM).

Although I believe Lustig may include some exaggeration (perhaps even hyperbole), unlike Gillespie he at least presents a science-based argument that high intakes of added fructose are likely harmful to health in sedentary people (while acknowledging that physical activity protects against the ravages of excessive dietary fructose).

You may be wondering why a Defence Nutritionist is showing such interest in Gillespie's ideas. The reason is straightforward - on the recommendation of DSTO, the ration packs used by the Australian Defence Force (ADF) provide relatively large quantities of sucrose and foods containing added sugars. This is to ensure that ADF members (and those members who subsist on ration packs are usually anything but sedentary) have access to plenty of 'instant energy' to fuel their vigorous physical activity and mental performance. If Gillespie's claim - that added fructose (and therefore sucrose) is a poison at any dose regardless of physical activity level - is not challenged, then DSTO could be accused of poisoning every ADF member who has ever eaten a ration pack.

It might be argued that Gillespie has written a silly but largely harmless book. How much harm can come to someone who simply eliminates sweet foods (other than two serves of fruit) from their daily diet? My position is that his advice is not only unsupported by science, but is potentially harmful. As I mention in a comment on his blog in relation to overcoming obesity: "So if I base my daily diet around bacon and eggs, hash browns, pies, sausage rolls, pizza, fish and chips, potato crisps and beer (and, of course, two pieces of fruit), while lying on the couch watching TV, my … weight will look after itself, is that right?

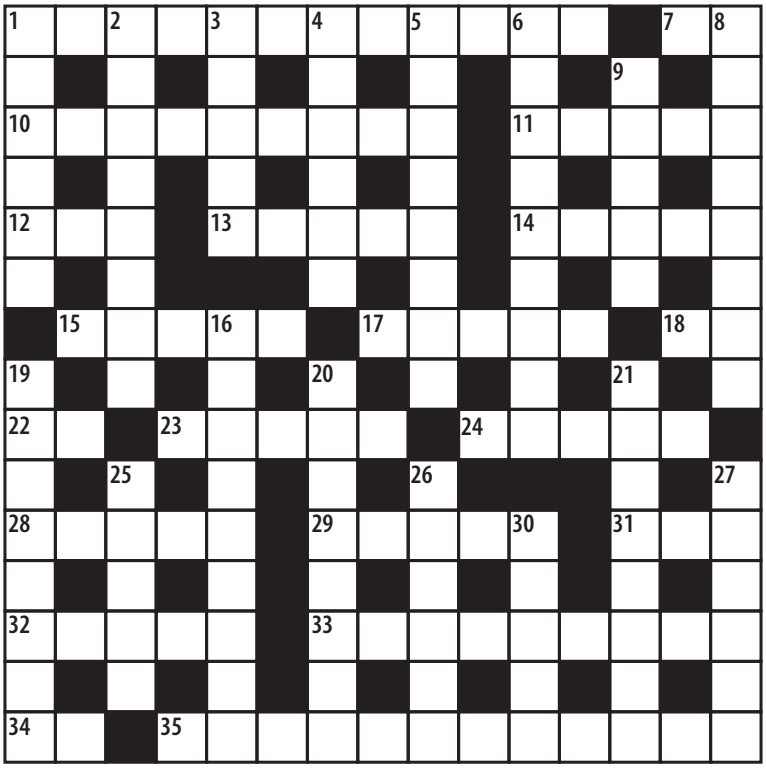
"I don't think so! Unlike the dietary guidelines of the National Health and Medical Research Council, David doesn't address the importance of eating a wide variety of nutritious foods, limiting salt intake, moderating fat consumption, limiting alcohol intake and so on."

In the trial of added fructose as a poison at any dose, the defence rests its case, M'lud. ■

About the author:
Chris Forbes-Ewan is Defence Scientist (Nutrition) with the Defence Science and Technology Organisation.

Brain testers

CRYPTIC CROSSWORD no 5



Tim Mendham + Steve Roberts

CODE PUZZLE

This one is a transposition, with no filler; the dots are spaces.

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TRIVIA QUIZ

1. **The Carolingian emperor Louis the Pious, despite having such a brilliant name, had a pretty rotten life what with factional fighting and chronic illnesses, but what finally killed him off?**

2. **A poll was taken among Russian soldiers in 1944. Stalin came out as the Most Popular Person, but who came second?**

3. **Which character in Shakespeare talks the most?**

Answers on page 55

ACROSS

1. Monk's shaving implement is as simple as possible. (7,5)
7. Yours truly stuck in Maine. (2)
10. It's the priesthood, dude ... or one of them. (9)
11. Cards? Thanks, but it's garbage. (5)
12. The fate of a man whose wife was assaulted? (3)
13. Bodies of water even if no bodies found in waters. (5)
14. Isn't it great how the French can tell a story? (5)
15. And now, the ad is near, and so we close the final curtain. (5)
17. Of mine, monsieur devil. (5)
18. That fellow is a little gas. (2)
22. You who are old should almost agree. (2)
23. A pose so disrupted by storyteller. (5)
24. I laugh about a dry spell! I confuse the hardy! I confront the multi-headed monster! (5)
28. The Spanish Scandinavian? So cute. (5)
29. Cry for help from lispers or a cry to god? (5)
31. It's time to hit me with your billiard stick. (3)
32. You get used to finding it in an eastern ruin. (5)
33. You are unaware of the outside broadcast at first because of the 54 promissory notes. (9)
34. No, slang is not appropriate. (2)
35. Is Daisy corny or is that just what she does? (12)

DOWN

1. Commander of the religious group? It's a secret. (6)
2. Lose trek of the man who created the para-psychological chair. (8)
3. What's the angle on a seraph? (5)
4. A chum's sort of spicy. (6)
5. I heard that Ms Moorhead might die for the lamb of god? (5,3)
6. Hallucinatory experience is corporeally external. (3,2,4)
8. Sex meter used at the edges. (8)
9. Question the soft dress promotion to an imperial honour. (5)
16. Little Edward haunted by zombies. (3,6)
19. Supercharge the Titanic chap. (8)
20. Alien ship for Conradian wharfie. (8)
21. Ham actor can't see with this. (8)
25. Has a bad time with a chook? (5)
26. Rectory wrecked by lore. (6)
27. Devil in a footy jumper. (6)
30. Who let the dogs loose? It's chaos! (5))

Out of Body Out of Mind

Pinocchio, self-mutilation, having someone else's limbs and feeling presences – our sense of body is a strange and wonderful thing. Marcello Costa investigates how the mind creates many of our mysteries.

How wonderful it is to be able to move my fingers whenever I want, to feel that the fingers are mine and that, while I am writing this article, all of my body appears to follow my will. I look at the world from inside me, I am aware of where I am in space. I easily recognise peoples and places. I can speak to myself without uttering words, but I can distinguish clearly this inner speech from that of other people speaking. This is a remarkable and powerful deep feeling of being a single self, able to reflect on who I am.

There are moments when we may have uncanny illusions of being somewhere else, or having already seen something that we experience for the first time, or making a gesture we did not really intend. Extraordinary experiences of this kind are more common than realised. They can occur in normal people or are revealed dramatically in some abnormal conditions. These 'illusions' are a window on the way in which the brain works and neuroscience is beginning to explain their neural bases.

When a blindfolded participant taps the nose of another person while somebody else taps the blindfolded person's nose in synchrony, the blinded subject feels its nose growing. This is known as the Pinocchio illusion, from the famous children's story by the Italian author Collodi of the wooden living puppet Pinocchio, with his nose growing as he tells lies. This simple test reveals that perception of our own body can be altered with no obvious physical change.

Conversely, a limb may have been amputated but the subject still feels it as being there. This 'phantom limb' illusion is due to the normal voluntary motor signals from the brain looping back to within the brain itself, replacing the signals that normally would have come from the intact limb. Our own body-image can be felt to detach from the physical body, and take on a phantom existence.

The subjective image of our body emerges from the convergence of multiple senses, the visual system, the balance system, and the sense of body position and movement (proprioception), in a particular part of the brain near the angular gyrus.

This strongly suggests that the brain continuously checks and compares the sensory signals from the body with the motor signals, building a strong sense of 'embodiment', ie of a self localised within one's bodily borders as if the body fits like a glove.

On the other hand, the concept of 'disembodiment' is used to describe situations in which people feel they have an abnormal body. This may lead to abnormal behaviour including an overwhelming desire to amputate one or more healthy limbs or other parts of the body (body integrity identity disorder, also known as amputee

identity disorder). Disturbances of body image may well be responsible for numerous and diverse problems of many adolescents and adults.

Vilayanur Ramachandran, a neuroscientist at the University of California, has been a master in exploring peculiar cases of deficits and what these tell us about the nature of self awareness and awareness of the world (Ramachandran, 1998, 2004).

OUT-OF-BODY, OTHER BODIES AND NOT-MY-BODY

The most extreme experience of disembodiment is the 'out-of-body' experience (Cardena et al, 2000). Some individuals report feelings of being outside their own body, hovering above it and seeing themselves from above. These experiences are often associated with near-death experiences or a variety of neurological disorders. Such bizarre out-of-body experience can be elicited by electrical stimulation of an area in the lateral parts of the cortex, the angular gyrus, in patients evaluated for epilepsy surgery (Blanke et al 2002).

This strongly suggests this kind of anomalous experiences may be due to malfunctioning of the normal 'embodiment' process.

Some patients, usually left-side hemiplegics who have suffered from a stroke, will experience a disassociation with their paralysed limbs (anosognosia). For example, some may be convinced that their paralysed leg is not really theirs but belongs to a stranger. They will maintain that their real leg has disappeared, and will even attempt to kick their own leg out of bed. This abnormal feeling is often due to lesions on the right side of the parietal cortex.

Recently neuroscientists used simple methods for inducing feelings of out-of-body experiences in healthy volunteers. Two teams of cognitive neuroscientists, led by Bigna Lenggenhager and Olaf Blanke, both of the Swiss Federal Institute of Technology in Lausanne (Blanke et al. 2002) and by Henrik Ehrsson of the Karolinska Institute in Stockholm, Sweden (Ehrsson, 2007), independently used head-mounted video displays to give people a different perspective on their own bodies. Each team also drew upon the sense of touch to enhance the illusion. People in both experiments reported feelings of dissociation from their bodies. Ehrsson, referring to his own experience after the experiments, said that he really felt that he was sitting in a different place in the room and was looking at this thing in front of him that looks like himself and he knew was himself but it didn't feel like himself. These experiments highlight the potential of modifying deep personal experiences by 'virtual realities'.

"The Cotard syndrome represents the ultimate extreme feeling of disembodiment, that of being dead."

Even the mysterious and odd feeling of a mysterious 'presence' felt by some individuals next to or behind them, often attributed to some paranormal phenomenon, is likely to be due to abnormal activation of the brain process normally involved in giving us the feeling of being within the boundaries of our body.

Olaf Blanke's team found that electrical stimulation of a patient's angular gyrus elicited the weird sensation that another person was lying beneath her on the bed. The figure felt like a 'shadow' that did not speak or move (Arzy et al, 2006). These spooky feelings of foreign presence nearby is probably an exaggeration of normal functions of great survival value, as being aware of dangers. What was a field of purely mystical experiences is becoming the subject of fascinating scientific exploration of human experiences.

The Cotard syndrome represents the ultimate extreme feeling of disembodiment, that of being dead, when probably all the senses become disconnected from the emotional centres (Ramachandran, 2004). A more localised disconnection between the 'fusiform face area', a region of the cortex involved in face perception, and the amygdala (almond-shaped) which is involved in the emotional responses to familiar faces, results in a syndrome called Capgrass. Patients feel that even family members may be alien impostors, as they do not recognise them emotionally (Ramachandran, 2004).

This sense of bodily experience can be extended to habitual tool or prosthesis use that effectively extends the body's area of influence. It is likely that this illusion of extended body space has been instrumental for tool making in human cultures. This has profound implications for designing complex machinery to extend manual skills taking into account the remarkable ability of the brain to build a 'personal' space with an extended self.

AWARENESS OF BEING IN THE WORLD, HERE AND NOW

When everything works well and we feel that our body fits like a glove, we then feel part of a surrounding world. We feel that we are 'here and now'. This feeling also involves an extraordinary integration of external sensory experiences combined together in the brain to give us the sense of being in a 'real' world.

But what happens if the brain makes up some sensory experiences? These are called hallucinations. Hallucinations can be defined as any perceptual experience in the absence of external stimuli and must be sufficiently compelling to be considered a true perception. There are many different conditions that can create hallucinations, including the psychedelic drugs of the hippie culture. LSD, like most such drugs, abnormally activates the neurochemical processes in the brain involved in the building of a realistic experience. It simulates the action of the endogenous transmitter serotonin. Its powerful action not only produces rich visual hallucinations but can also disrupt the very fabric of the experience of time and space. The ease

Out of Body Out of Mind

Continued...

with which our experience of reality can be disrupted by merely changing a tiny chemical in the brain suggests that the normal functioning of the brain nerve cells weaves the very experience of reality, usually in a way that is consistent with what is out there. Disruption of such processes is likely to result in 'abnormal' experiences such as happens in schizophrenia and other mental disorders or as a result of other 'psychotropic' drugs.

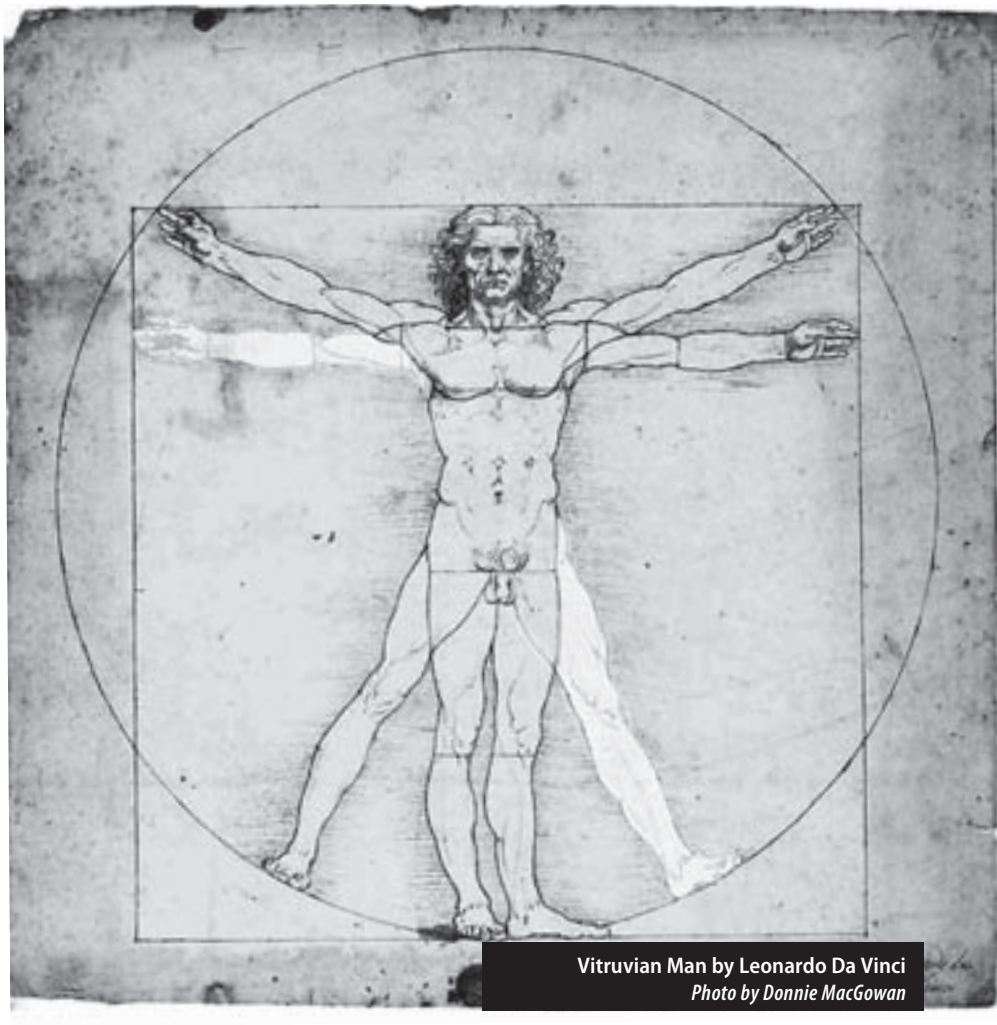
Lesions of some parts of the right parietal cortex, caused by some neurological disorders, lead to strange behaviour. Patients do not appear to be aware of any object in the external world on the left of their visual field, despite not being blind. This 'spatial neglect', discovered by Italian neurologists a few decades ago, opened a new perspective in the understanding that it is the brain that 'constructs', in a very crafty way, our experience of what is out there.

What happens if there is some cross-wiring between the different sensory components? The result is a mixing up of experiences, with sound being felt like colours and perhaps, vice versa, shapes and colours felt as sound. Synesthesia, the term used to describe this odd situation, is a relatively common condition, probably due to the excess growth of neural connections between different parts of the brain. Small changes in the expression of the genes involved in the normal wiring of the growing brain are probably responsible for this. Increased creativity and perceptive imagination may be the positive side of synesthesia.

However, as the human brain evolved, there must be a delicate balance between experiencing just enough of what is there and enriching the experience too much.

For survival, the brain must be able to establish quickly if what is out there is similar or different from what has been experienced before. This is an ongoing process of checking and comparing memory events against new experiences. The part of the brain involved in this delicate process is the hippocampus (seahorse-shaped part of the cortex). Dr Tonegawa of the Picower Institute at MIT genetically modified in mice some mechanism of communication between neurons involved in the process by which animals know where they are (McHugh et al, 2007). The result was an impairment in distinguishing between two similar but not identical environments. This process may be the basis of the phenomenon of *déjà vu* - from the French "already seen" (or lived) - that is experienced by a majority of normal individuals in some moments of their lives. The sense of having seen something that has already been seen is a small shift in the ability to distinguish what is new and what is familiar.

The feeling of some individuals that they can predict the future is probably a similar small step further and reveals the subtle ongoing processes that bind us to a safe here and now. The mysticism about reincarnation and past life experiences may reflect similar processes.



Vitruvian Man by Leonardo Da Vinci
Photo by Donnie MacGowan

BEING IN CONTROL

The most ingrained feeling of being a self is that of being in control of our own actions.

Awareness of moving involves predicting the consequences in planning movements using ongoing sensory information. We are aware of the movements we intend to make rather than those we actually make. We are just ahead of time when we move, as the feedback is too slow to give us the appropriate awareness. Tampering with this brain process leads to feelings of either not being in control, or delusions of control.

The bizarre feeling that one's hand takes on a mind of its own is known as the 'alien hand syndrome'. This occurs in cases where a person has had the two

hemispheres of their brain surgically separated, a procedure sometimes used to relieve the symptoms of extreme cases of epilepsy. It also occurs in some cases after other brain surgery, strokes or infections. The inability to distinguish self- and externally-produced actions is reported by many psychiatric patients. These probably have disorders of those areas of the medial motor frontal region of the brain and parietal lobe where the integration of 'agency' is built. An alien hand feeling can be elicited in normal people by hypnosis and by some clever laboratory manipulation of visual and touch stimuli. Accounts of 'alien abductions' are most likely to represent the extreme examples of such an illusion.

Hearing voices as coming from other beings is a common hallucination in schizophrenic patients and is probably due to misattribution of inner speech. In many ancient cultures the experience of auditory verbal hallucinations or 'hearing voices' was considered a message from the gods or other spiritual entities (Jaynes, 1976).

A lot of popular and religious cultures have taken these phenomena as evidence of the separation of a soul from the body. More natural explanations, on the basis of neural circuits of the brain and their interconnections, are beginning to replace such supernatural explanations.

CONCLUSIONS

The extraordinary experiences mentioned above represent a window into the hidden working of the brain. We, as individual persons, are made up in a continuous fashion by the interaction between our brain, body and environment, binding these different threads of experience into one. The early interest of philosophers such as Sartre, Husserl, Heidegger, Merleau-Ponty and others in the field of subjectivity and self-awareness begins to become a legitimate subject of investigations by neuroscientists.

It takes about half a second for neural activity to generate a conscious experience (Libet, 2004). During this time, millions of signals in parallel spread in the networks of neurons. Bringing together all this into one unified state, associated with the strong experience of being a unified in-control self, is one of the most dramatic events in biology, and one that happens continuously in every human as result of ongoing interaction of our organism, brain and body in a life-long dance with the environment.

However, given the easy of tampering with the self, this raises all sorts of questions, such as how can we be sure that we are capable of making free decisions? Are we automatons without free will? A decision on the answers to such issues could be pursued in future discussion. ■

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The last flight of Frederick

The disappearance of Frederick Valentich has seen a myriad of suggestions as to what really happened. In part two of his review, Geoff Cowan looks at some of them, including his own.

In the previous issue of *The Skeptic* (29:4, page 26), I presented a summary of what is known about the disappearance of Frederick Valentich, often cited as Australia's most famous 'UFO' case. In this final part, I will look at the investigation of the incident, the theories put forward, and my own analysis and theory as to what really happened. As a young 15-year-old teenager, I was shocked to see on the October 22, 1978, front page of every Sydney newspaper, this young instructor who taught me my aviation ground subjects. And as a young (trainee) skeptic, I was amazed that the papers stated that Valentich was "taken" by a UFO.

THE INVESTIGATION

In all instances where an aircraft has an accident or a fatality occurs, an investigation by Commonwealth authorities is instigated. In 1978, this responsibility fell to the Federal Department of Transport. The investigation was referenced as Aircraft Accident Investigations Summary Report Ref No V116/783/1047 and conducted under the authority of the Air Navigation Regulations[1].

The report, delivered on April 27, 1982 - three-and-a-half years after the disappearance of Valentich - found that no reason could be determined for the loss of the aircraft.

The RAAF did not investigate the matter, as it considered it in the area of aircraft accident and not a UFO. Interestingly, Bill Chalker[2] stated that he was told by an RAAF Intelligence Officer that the incident was caused by pilot error.

THE CONSPIRACY MILL

This author has no doubt that the conspiracy mill started within days of the first reports of the loss of the aircraft. Initial reports in daily papers, from my own memory, indicated that the aircraft was taken or collided with a UFO. All entries on the internet simply state that Valentich was either abducted by aliens or killed as a result of the actions of a UFO. One must also remember that the late seventies was a period of high paranormal interest. The USAF's investigation into UFO sightings, Project Sign (1947-48) and Project Blue Book (1952-70), established an environment for interest in and investigation of sightings, so UFO incidents that occurred in Australia would have been widely followed.

Additionally, it is alleged that the area of Bass Strait had a large number of UFO sightings that night. Again, official records do not support this and the only record appears to be from the UFO websites.

Having stated this, in my research for this article I tended to find that information on the Valentich incident was either restated or plagiarised and that the 90 articles that I read all addressed the same theme and the same information with little additional evidence or information. But they all seemed to say one thing: that Valentich was either taken by aliens or collided with a UFO.

Apart from normal reporting of the incident in mainstream media, no other official or investigative reporting of the matter has been cited outside of UFO websites or related organisations. That is because none exists!

It seems that the only people interested in this incident are the UFO fraternity. After 30 years, it appears

Valentich

Part 2: What caused it?

that the Valentich incident is the main compulsion that keeps UFO 'research' in Australia moving. With this in mind, none of the articles are even prepared to consider the fact that Valentich may have made an error or that an engine malfunction occurred.

This seems to be the main critical error in the reporting of this incident - that no genuine attempt has been made to consider the possibility of other factors in this matter.

I could conclude from this that perhaps the incident was an unfortunate accident but, in the circumstances of a transcript of a radio transmission indicating the possible involvement of another party, the situation does become murky. In fact, to be honest and to be an open sceptic and to analyse this incident rationally, the radio transmission cannot be ignored.

" The late seventies was a period of high paranormal interest. UFO incidents in Australia would have been widely followed."

Three UFO investigators who have spent large amount of resources on the investigation of this incident are Australians Bill Chalker, Paul Norman and US-based NASA scientist Dr Richard Haines.

Chalker is well-known in UFO and paranormal circles thanks to his lectures and books on Australian UFO incidents. He has written extensively on the Valentich incident and is widely referenced in regards to the matter. Chalker gives the impression that he is connected to the Defence Force and RAAF Intelligence, but I would think that this is simply as a result of Freedom of Information requests and his ability to access files in the normal manner open to any citizen. I find his writing non-academic and must admit that his work is often criticised by other UFO investigators and writers. One particular theme of Chalker's work is the continual reference to the secrecy of information held by the Australian government.

On the other hand, Norman from the Victorian UFO Research Society and Haines wrote an article in 2000[3] purporting to show new evidence and a new conclusion in regard to the Valentich affair. The new evidence is from three previously unknown witnesses who saw the aircraft plummet with another larger object chasing it. Haines himself is the chief scientist for NARCAP (National Aviation Reporting Centre for Anomalous Phenomena) based in Vallejo, California. He is also a psychologist and former senior aerospace scientist with NASA and an aviation investigator. Hence, in this regard, his analysis is worth considering[4].

WHAT MAY HAVE HAPPENED?

I will now move from assessing the information available to the information that is not available, but to do so effectively, I need to set a number of premises, gaps and what potentially happened.

In developing a list of possibilities on what occurred to Valentich's plane VH DJS, the following premises (statements of fact) will be made in regards to the matter:

- That VH DJS did not crash on land either in Victoria or King Island (wreckage not located in 30 years);
- That VH DJS was lost over the sea in the Bass Strait area (wreckage not located on land);
- That Valentich was a competent pilot of 150 hours command time and was recently qualified to fly in the conditions that prevailed that night (supported by the official investigation);
- That Steve Robey, the flight services officer, was the last to talk to him (supported by Robey and official investigation);
- That VH DJS was fully fuelled for 300 minutes flight time (assumed from news reports)
- That, at the time of the incident, VH DJS was having engine problems (supported by radio transmissions made by pilot);
- That as sunset was at 19:19, the incident occurred in fading light, or low-light conditions, ie twilight (supported by official investigation);
- As a pilot with 150 hours experience, and his experience as an AIRTC instructor, Valentich would have had experience and knowledge of current aircraft types, aircraft recognition (a compulsory subject in cadet training) and meteorology, not including survival training (The author was a member of the organisation at the time of incident);
- That Valentich had a interest in UFOs (supported by Valentich's father, Guido Valentich);
- That Valentich had seen something that could not be explained (based

The last flight of Frederick Valentich *Continued...*

on the radio transmission), possibly lights from lighthouses or other sources.

But in the analysis of the information available, the following gaps in our data are evident:

- Was the aircraft VH DJS mechanically sound at the time of take off?
- What was mental state of Valentich at the time of the flight and at the time of the incident?
- What did Valentich actually see?
- Why did the radio survival beacon not activate?
- What did the FSO see on radar at the time of the incident?
- Where is VH DJS now?
- What was the purpose of the flight to King Island?
- What was the slick seen near the flight route?

The official report into the incident states that no reason can be determined. But from a review of the information that is available in regard to the matter, the following may have happened. It is assumed that the aircraft crashed into the sea as no aircraft or wreckage was located on land. I suspect that the wreckage would have been found on land simply through the media interest that had been generated. But I offer the following possible explanations:

a) VH DJS crashed into the sea due to engine or other malfunction;
b) VH DJS crashed into the sea due to pilot error;
c) VH DJS crashed into the sea as a result of the pilot being disoriented as a result of seeing the lights of Cape Otway;
d) VH DJS crashed into the sea because the pilot was flying upside down;
e) VH DJS crashed into the sea because it ran out of fuel;
f) VH DJS was lost as a result of a hoax started by the pilot, but crashed during the incident;
g) VH DJS was lost as a result of a collision or other action with a UFO;

Below Frederick Valentich's father Guido with the only known photo of his son. Guido reportedly said his son had an interest in UFOs for some years.

h) VH DJS was lost as a result of collision with another aircraft, not identified;
i) VH DJS was lost as a result of a military incident such as missile test.

In referring to Gerrand's articles[5], the possibility that the first four explanations (a) to (d) are the most possible conclusions, given the evidence. Explanation (e) is possible and cannot be discounted. Explanation (f) is doubtful as no motive for the hoax has been unearthed by official sources such as law enforcement. It is possible that Valentich, who had an interest in UFOs, wanted to give the impression that he was being chased by a UFO to gain notoriety, but during the 'hoax' he become a casualty. Explanations (g) to (i) are just doubtful, due to the lack of wreckage, radar sightings, reliable witness statements, official information and reliable evidence sustaining the existence of UFOs.

In my research I located a number of interesting blogs of people who were involved in the aviation industry, in particular flight service officers. One blog on the Professional Pilots Rumour Network in 2006 discussed the incident and from that information it was found that many FSOs in training use the radio transmission tape of the incident in their initial training. One blogger, by the name "Traffic_Is_Er_Was", stated that he remembers hearing the tape and recalls that it "wasn't that clear"; transmissions were low and short and apparently appeared confused. This blogger also suggests that Valentich became disoriented by the lighthouse at Cape Otway. Other bloggers who were FSOs under training who have listened to the tape of the incident have also responded that Valentich appeared to be under pressure. Other bloggers attest to the coolness and professionalism of the FSO who spoke to Valentich that evening.

Gerrand does make some interesting conclusions that hold their own from the point of view of a former trainee pilot who has flown in a Cessna 182. He states that the combination of twilight (between day and night), Venus and two lighthouses on Cape Otway and King Island flashing, may have provided the opportunity for Valentich to mis-report another object. In all the research that I conducted in the preparation for this article, Gerrand is the only person who has been profound enough to state this conclusion. Having flown at night, the conclusion is probable. Gerrand also states that two other aircraft have been lost over the same area in the previous ten years. (A search of the Australian Government Aircraft Investigation Agency website does not indicate any other aircraft losses since this time.)

Additionally, Gerrand's articles put forward information that is not found in any other article that I researched, especially the paranormal web sites. This is that Valentich's flight over Bass Strait was his first solo night flight over water. This is an important oversight in all the reading I have done on the subject as this puts more evidence toward pilot error.

I have contacted a source who formerly worked for the DoT that was aware of the tape recording. They said that no formal policy existed for the playing of the Valentich tapes to trainee FSOs because the tapes no longer exist. If the tapes were played to trainee FSOs, it was done without the sanction of the Federal Aviation authorities.

Another aspect is Valentich's obsession with UFO's. The primary

source for this information is derived from his father Guido who, as previously stated, died in 2000. One source[6] states that Guido Valentich said that Fredrick Valentich had seen top secret RAAF UFO files at RAAF Base Sale. I doubt this. As a former volunteer member of the AIRTC and RAAF Reserve myself, I can state that Valentich, being a normal volunteer instructor in the AIRTC firstly would not have had the security clearance to see such files, would not have been allowed access to the files and would not have been even allowed access to the facility that would have held the files. Secondly, as East Sale was a training base for air traffic controllers and pilots at the time, such matters would not have been conducted there but at RAAF HQ in Canberra. The same source also suggests that Valentich may have been sucked into a magnetic storm created by a military experiment, and as he was aware of the matter from his knowledge of the secret files he saw at Sale, the authorities had decided to remove him. I think rational readers can discount this possible conclusion.

This is unfortunately the level of conclusions that are being made by conspiracy proponents on the internet without any subjective or objective investigation or research. The whole incident spawns radical theories from no-doubt radical individuals. Other internet authors suggest that Valentich "learned" something on a 15 day course at RAAF East Sale base and that he was recruited by the "Australian Chapter" of the most secret intelligence agency in the world, this is why he was abducted[4]. The course that he was on was no doubt an RAAF ATC Promotion course, which at the time was conducted at RAAF East Sale in the Victoria Squadron of the ATC. I should know as I did my promotion courses at RAAF Richmond and RAAF Fairbairn and don't recall being inducted into anything but latrine duty, cleaning weapons, drill and ceremonial. No doubt these claims by these individuals are the result of ignorance of the role that Valentich played in the AIRTC. This provides a personal level of frustration for me as a former member of this organisation.

During my research I located one article, out of the hundreds available, that discussed an incident where an extreme level of conspiracy was detailed. It appears that in 1982, in Russia, a 'geologist' who was conducting UFO research located a number of objects. One object had a message inside a flask-like object that detailed a message from Valentich stating he had been abducted by aliens and that he was working in a large UFO that comes from a civilisation that comes from the Pleiades. It appears that the message was transferred to the Australian authorities for analysis after being investigated by the KGB. The matter is now classified as Top Secret and the object is believed to be in the United States. Another conclusion that I think as sceptics we can discount.

Anyway, the same article also states that Valentich is living in Tenerife and has been recruited by a group of ETs and that he still looks the same as his photos at the time of his disappearance.

In searching all available information on the Valentich matter, this article was the only one that made these claims. No disrespect intended, but readers, I could not be bothered to follow up on the claims, being Top Secret and all.

One aspect of the incident was that no formal investigation was conducted by the Victorian or Tasmanian Coroner. No records of the incident were registered with either agency and no death certificate was issued. Articles from newspapers on the thirtieth anniversary additionally do not state the result of any investigation, other than the investigation conducted by the Federal Transport authorities. I contacted both the Victorian and Tasmanian Coroners in regard to the incident and made enquiries if any coronial investigation had been conducted. These requests were sent in January 2009 and, at the time of writing this article, no specific response has been received.

"Valentich's flight over Bass Strait was his first solo night flight over water. This puts evidence toward pilot error."

WHAT ACTUALLY HAPPENED

So far, this article has attempted to pull together the evidence from various sources in relation to the incident, but much of it is clouded with the subjective thinking of a conspiracy, abductions, involvement of intelligence agencies and much speculation by die-hard UFO believers. But what of the hard evidence in regards to the matter?

As previously stated, normally an incident of this type would not be the subject of any article in the Skeptics journal, except for the radio transmission made at the time. But the real thinking behind this article is "why"? What did actually happen?

Haines put forward some new information in regard to the matter by interviewing "witnesses". These witnesses to the disappearance were interviewed for the first time since 1978 around 1999/2000, over 20 years after the incident. As a member of the law enforcement community, I can faithfully state that memories are not an exact version of an incident; they are the experience. In the telling of time, memories do not fade as such, but the experience can be enhanced or diluted. The use of such witness testimony by persons who are not named in the report and without essential background checks prove unreliable unless that evidence is backed up by contemporaneous notes or information, or corroborated by other witnesses that were with the witness of the time. Hence, my application of Haines' information in regard to this matter will be taken at arm's length, simply because it cannot be tested.

One witness was asked to review his sighting of the disappearance in the daytime, but the incident occurred at night, so the potential for the witness to be in the right place, 20 years later, in the bush while he was "shooting rabbits" does tend to make his testimony unreliable. Interestingly, Haines does make reference to the unreliability of

The last flight of Frederick Valentich *Continued...*

evidence after a period of time and the estimation of time in such incidents.

After a review of Haines article, it seems he too comes to the conclusion that Valentich crashed into Bass Strait and that Valentich was confused at the bearings of the 'UFO'. This tends to support the evidence that Valentich was confused by lights on the ground, being lighthouses at Cape Otway and King Island, but also the possibility that Valentich may have strayed from his agreed flight path and may have been lost.

So what did happen? The following did happen:

- Valentich did disappear over Bass Strait on the night of October 22, 1978, and no doubt crashed into the water.
- Valentich reported seeing lights and that these lights were possibly the lights from lighthouses or other lights reflected into the aircraft cockpit.
- At the time of the incident, Valentich was disoriented and may have strayed from his flight path.
- VH DSJ has not been located at this time.

I can make the following conclusions on what did not happen:

- VH DSJ and pilot were not taken by a UFO.
- VH DSJ and pilot did not collide with a UFO.
- Valentich was not abducted because of his AIRTC or other activities.
- Valentich did not create a hoax.

I believe that, given time, the wreckage will be recovered one day, much as the recent re-discovery of HMAS Sydney was undertaken off the coast of Western Australia. The technology exists for the search, but possibly the wreckage will be located as a result of looking for other objects or resources. Then we will know why the aircraft crashed and the ghost of Fredrick Valentich will finally be allowed to rest.

CONTRIBUTION TO AUSTRALIAN UFO CULTURE

It has been documented that the elder Valentich, Guido, joined the Victorian UFO Society in an attempt to understand what happened to his son. He remained a member until his death in 2000, convinced that his son was still alive and had been abducted by aliens[7]. He conducted an annual vigil at Cape Otway on the anniversary of the incident up until his own death.

A review of paranormal websites show they never fail to detail the incident of October 22. But except for Haines et al and Gerrand, no definitive conclusions have been distilled from the evidence available. The only conclusions offered are that of alien abduction and government cover up, standard curtains that are put up by conspiracy proponents to shield themselves from responsible investigation and reporting of evidence.

This incident does serve as a case study on how the development of a belief can come from a single incident.

Final Say

In reviewing this article, written in memory of a person whom I only knew for a short time, I hope that some sort of rest can be placed on the matter. Fredrick Valentich has become more famous in death than he was in his life. ■

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About the author:
Geoff Cowan is a skeptic, atheist and would rather be riding his horse.

The ART of PERSUASION

Vivienne Miller looks at the psychology behind unscientific medical beliefs, and how to gently suggest that the believers might like to look elsewhere.

Throughout history people and communities have been divided over personal viewpoints they feel strongly about. In some cases they have chosen house arrest or death, rather than recant their beliefs. Should we be so surprised then, that in this day and age, there are still individuals and communities that dispute scientific research and refuse to follow internationally recommended and accepted guidelines for health and well being?

Humans are an interesting species because they are social, group animals with a (usually male) leader. Humans need the group to survive. An accepted leader fulfills three functions: providing for the well-being of the led, providing a social organisation in which the group feels secure and to provide a set of beliefs.[1]

A small percentage of people are 'individual thinkers' and are more dominant in personality than others. Their personality allows them to challenge the formal leader's ideas and to maintain their own views when others around them disagree. These people are important for the survival of the species and for the development of new social groups. These are the people the Skeptics need to ensure are on their side!

Science is not as well understood by the public now as it has been at other times historically and this, I believe, is an education issue. I wish science were once again a compulsory subject for final exams for Year 12 (I understand it is not compulsory, at least in NSW, to my extreme sadness). This lack of respect for science, in my opinion, has a lot to do with the misunderstanding and distortion of scientific concepts and has allowed the flourishing of groups who thrive on pseudoscience.

Now, back to a more achievable prospect than re-instating final year science. To be able to assess and interpret original research is a difficult skill to learn, but if more people were taught this, they would be empowered to think independently and critically. If more people could do this, I suspect people who are currently swayed by bad (or frankly misleading) research might be angry with the proponents, rather than interested in the findings. Being able to critically evaluate research, in my opinion, should be taught in schools as an integral part of maths and science, however I doubt this will ever happen. Perhaps the Skeptics could work on instating this for every grade at school (if they are not doing this already)?

This brings me to the next point regarding people who maintain unscientific beliefs about medical issues (and many other issues too). Have you noted how important it is for many of these people to insist on their beliefs, and the more evidence you present to them, the more explanations supporting their view you obtain? This is because the right of the individual to maintain his or her belief is crucial to their view of themselves as a person (self-esteem) and how others see them.

Breaking these concepts down allows us to find ways to convert the followers (not so easily the leaders, for the reasons given above) away from unscientific medical beliefs. Basically, we need to empower people, as early as possible and regularly throughout their education, with the ability to critically analyse and assess information (particularly pseudoscientific topics).

The ART of PERSUASION

Continued...

This is best done through the educational system, but we need to target the parents too (not only might they be helped by this information, but also we risk alienating them if they don't fully understand what we are teaching their children). We need to target the followers, rather than the established leaders of unscientific thinking and this should be done in the absence of the rest of the group. The followers are more likely to be swayed by another opinion (especially if it makes sense and has good evidence) if they do not have the security and solidarity of their own group around them.

If you hold a firm view about something, some others will be swayed by your confidence and this will increase your self-esteem, reconfirming your ability to lead and encouraging you to be more definite about your belief, and thus swaying more people still to your opinion. As Skeptics, we need to make use of this fact to win over, through education, those we can.

You might recall how cults use targeting followers and holding, strong, confident opinions to recruit members; we need to analyse these groups and their way of thinking and use their psychology against individuals who insist on unscientific beliefs. The analogy between cults and some unscientific belief systems is closer than we might like to believe.

Targeting individual followers rather than leaders is most likely to be achieved in an opportunistic fashion, rather than via a public talk or reading literature. People like us, who feel strongly about the spread of misinformation, need to be actively involved here (I take every opportunity as a doctor and via the media to do this). I have continued to support the Skeptics organisation because I hope it can bring about such change in the future.

I find the most sensitive way of beginning a discussion about someone's unscientific belief is to ask them what experience they have had that has uncovered the information they have just mentioned (people like to talk about themselves). There must, of course, be no sense of adversity or conflict at this point, only genuine interest (and what they say is interesting sometimes). This information will help you decide how next to proceed, based on whether the person appears to be a follower or a leader in the unscientific belief. As previously stated, a leader is going to be very resistant to any other view.

Scientific and unscientific views are different philosophies – you cannot compare apples with a hairbrush, so to speak. You can't argue scientifically if the person doesn't understand scientific theory or if their belief excludes it. Their beliefs (in their opinion) may not be able to be evaluated by science. If you find this issue is repeatedly a block in a discussion on the topic of a belief, the person is not ready to accept your views. I find it useful to change the approach at this point to discussing how this is a difference in philosophy. I find the other person often opens up to this concept and to what you are now saying, as they no longer perceive you as challenging them. Ultimately, what we really want is to have time to put across a scientific view and the evidence for it and to have the other person open up enough to our thoughts to stop and listen.

"If a person is surprised that you are listening to them and are not rigidly against what they are talking about (especially when they expect you will be) they will listen to you."

At this point I can hear some readers say "I'm not sure I want that at all! Why bother?" The answer is that if we don't bother to put across a scientific point of view in opposition to nonsense, we certainly can't complain that so many people continue to espouse unscientific views. What we need to be doing is to convert those people who, out of ignorance and lack of scientific education, are unsure what to believe. Every opportunity should be taken to explain to others who disagree why a scientific approach is important. Some of these people are looking for guidance but don't know how to assess the correct opinion. We need to be diverting followers away from leaders of unscientific ideas as this weakens such leadership. We want to plant a seed of doubt in another person's mind about how sensible or safe their leader's unscientific health beliefs are. This does take patience and time.

The alternative way of approaching this problem is a direct way. Versions of this approach include immediate and stated disagreement, directly (and without solicitation) offering reasons for one's opinion over the other person's and extend to ridiculing or joking about how some people could possibly believe what they do (the latter has frequently been seen in *The Skeptic*). Direct approaches risk alienating the person you wish to educate, as it will force them to decide whether they are firm enough in their own opinion (and as we know, these days everyone is an expert in what they believe in), or whether they should back down and admit they are wrong and we are right without argument.

Backing down and agreeing one is wrong is not a common occurrence, as it requires great strength of self-assurance and confidence to admit one's error when confronted by someone with a directly opposing view. Imagining a situation where this might happen to you makes it easy to see why this is not the best way forward. A good example is when the company manager during an interview for a job you really want directly and bluntly contradicts you, just to see how well you handle it. Even though you

can see through the ruse, you most certainly don't feel comfortable being approached in this way and you don't like him for it!

In the process of converting people away from unscientific beliefs we must remember to empower them, not to confront them with their weakness and mistakes. The latter will lower their self-esteem (which has been challenged enough by encouraging them to look at scientific evidence and change their views). Fundamental in this is positive reinforcement. This involves in our subtly congratulating them for considering new information, for keeping an open mind, for their intelligence and ability to analyse, and then following up by explaining why our belief is in their best interest or (and here's the bonus point!) in the interests of their children.

However, if you are the leader of an unscientific view, you don't want this circle of increasing support broken by a direct challenge to your leadership, such as a direct attack on your belief, as this takes away your power and lowers your self-esteem, something none of us take with good grace! This is an example of the social hierarchy of humans and how new leaders split off from the group and start a new community.

These suggestions need to be carefully built into the conversation, subtly and slowly without them realising it, because if the person doesn't shut off from you and what you are suggesting at the beginning, you then have a foot in the door. If a person is pleasantly surprised that you are listening to them and are not rigidly against what they are talking about (especially when they might expect you will be) they will listen to you. You then have a two-way conversation and this allows you to gently and persuasively put your view across, with reasons why you believe this as opposed to their views. Once again, if you confront the person directly, ridicule them or insult their intelligence (even indirectly) you should save your breath.

In summary, I suggest the best ways of managing the problem of unscientific medical (and other) beliefs is through early and ongoing education which ideally also involves the family. There must be a most productive way of persuading people with these belief systems that they might be in error. The aim is to concern them enough that they do their own research. One should suggest to them reputable websites and other sources that are ideally from neutral organisations or from well-respected research bases.

This process is often ongoing. However, if you have any opportunity, even if it is only once, to engage in such discussions with someone holding unscientific views, you should seize them. Over time, the more brief interventions a person experiences, due to either an individual or different people exposing scientific views, the more likely it is that the person targeted will begin to wonder about whether his or her beliefs that keep getting challenged are correct. This technique is used medically for cessation of smoking, motivation to lose weight and for other habits, with proven success.[2]

This article was written because I believe strongly that it is time the Skeptics thought about how best to approach people who believe unscientific things, in order to educate and hopefully correct their erroneous beliefs without belittling or antagonising them (which would only further entrench their thoughts and create more adversity). I do not claim to have the best way of approaching the problem, but I believe, from my own vocational experience, that it is effective. However, there must be a best approach. I am hopeful that readers can contribute to the letters page other ways they might find effective of managing the rapidly growing problem of unscientific medical (and other) beliefs. ■

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About the author

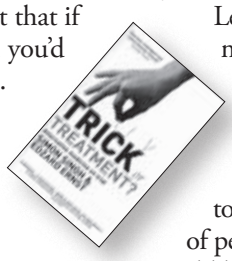
Dr Vivienne Miller is a general practitioner, author, medical editor and journalist.

Spreading the Mes

What's it like to be on the skeptical frontline, facing the weird and wonderful every day? Warren Bonett says meeting such people speaks volumes.

A little over a year ago, my partner and I set up a science and reason based bookshop in the heartland of new age practice and belief, the Sunshine Coast hinterland. It's also one of the highest areas in Australia for non-vaccination. Why on earth would you choose that area to set up a bookshop like that, I hear you cry. It's a point I've heard made many times, and the answer is fairly simple. If we were to do more than just sell to the converted we had to try to make rationality, critical thinking and science more accessible to those who had yet to learn just how amazing life, the universe and everything are when viewed through the lens of scientific explanation.

So we set about designing an amazing shop, which would demonstrate our respect for the material we sold. We would do our best to never have pseudo-science, conspiracy theory, and new age self-help tripe on our shelves. We read as much about the books and authors as feasible, given that we were ordering 6000 or so titles, to help us be reasonably confident that if you fell on a book in our shop, you'd walk out with something good.



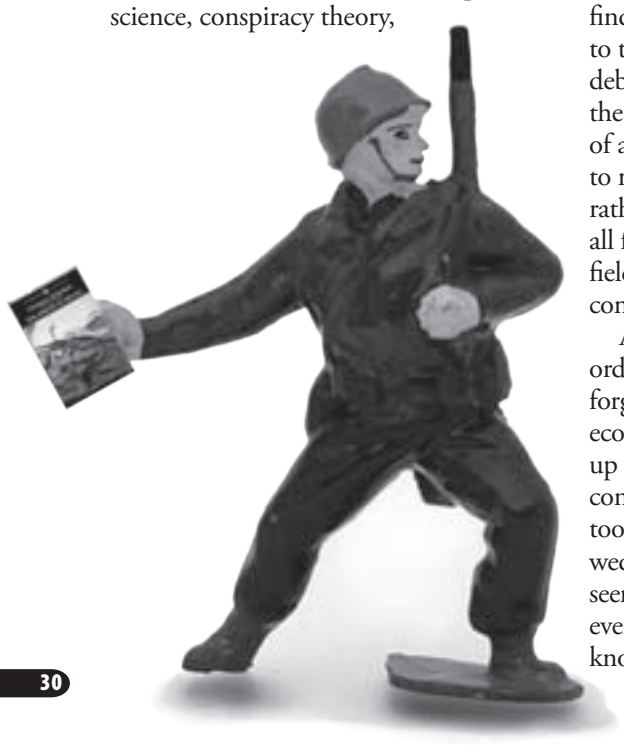
Some subjects were more difficult than others. Food, for instance, is rife with biased writing, particularly around organics and genetic modification. Vaccinations was good for books slamming the antivax propaganda but not good in accessible family grade information — the antivax crowd were far better on that front and it took some work to make sure that none of these titles made it through the net. Another area of difficulty is global warming, a subject that most would find difficult to get to the heart of due to the technical nature of many of the debates. The more we looked into this the more it seemed that those skeptical of anthropogenic warming effects tend to make their cases in the political arena rather than the scientific one. In virtually all fields we take the researchers in that field as being the most competent to comment - except this one, it seems.

After many weeks of this research and ordering, and designing and building, we forged ahead. A few days later the global economic crisis hit, our books shot up in price and we went into damage control. Oh yes and we fell pregnant too. Suddenly our attempt at creating a wedge of rationality in our community seemed like madness. To us it became even more personal and important knowing that around half of the children in the area would probably not be vaccinated and a number of the schools were suffering from creationist overload (yes, even the state schools).

Learning about the huge misinformation mill of antivax info, as well as caffeine cures for cancer and religious intrusions into the local schools meant that we needed to develop or find a community of people who shared our vision and could help us push against the tide.

In the first week, numerous 'intuitive' people, who were apparently accompanied by their spirit guides, visited us. Many of these people had something to sell. From books on mystic orbs, feng shui services, bowen therapy, reiki, and so on. We also discovered a course that had been teaching techniques in quantum consciousness, others to help develop psychic abilities, and a two-week 'mastery' course in reiki. Followers of these ideas came from all parts of the community, from teenagers to the elderly. Despite this we quickly found numerous local scientists, medical workers, skeptics, atheists, and secularists.

We started to run the Sunshine Coast Skeptics Group by putting on monthly talks from philosophers, historians, and scientists. Peter Ellerton and Martin Bridgstock, with whom *Skeptic* readers will be familiar, were among our first speakers. We also brought in neuroscientists, physicists, biologists, political scientists and environmental scientists to help bring a range of issues firmly into the frontal lobes of our community. And this has been one of the most rewarding experiences of our lives.



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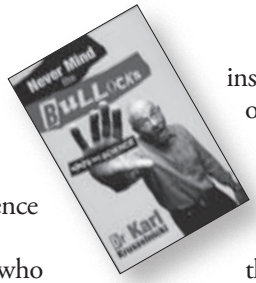


Perhaps the most unexpected area of learning for me has been in the sheer abundance of different types of pseudoscience and pseudoscience peddlers. One of our best customers, who is a former dentist, believes he can enter people's minds and unblock energies. He also believes that over the years of his practice in dentistry he gave thousands of women orgasms without touching them, merely by entering their energy. He is also a firm subscriber to Gerson's treatments for cancer and the dangerousness of vaccines. I have proposed to him that he try proving his abilities and ideas in a controlled experiment in order to win some serious cash from the Skeptics but he declined, citing the negative energy of skeptics. He sincerely did not see any flaw in his reasoning.

Gerson is one of the many 'scientists' we began to hear more about. Others include Bruce Lipton, Rupert Sheldrake, Peter J D'Adamo, Leonard G. Horowitz, Richard Gerber, Alexander Gurwitsch, Masaru Emoto, Edgar Mitchell, Matthew Fox, Michael Coleman Talbot, Amit Goswami, and a host of others that I keep forgetting to write down. I'll often look up the individual in question before the person telling me about them has left the shop.

There's usually one or more of the following features present in the results of the search: the scientist in question is always a 'leading expert'; 'quantum energy' is mentioned in relation to large scale effects on the macro world such as water memory or consciousness; earth shattering science is frequently done in the exotic locations of Eastern Europe, Russia or Asia (I wonder if there's places in the world where a guru from Dubbo would be considered exotic?); the institute responsible for the work is often the scientist's own privately run set-up even in their home; the science almost always supports a predefined and broad spiritual ideology; they're usually in disagreement with the 'scientific establishment' having had their results dismissed by the closed-minded orthodoxy just like Einstein and, most crucially, they've never submitted their science for peer review.

The most serious of our pseudoscience counterparts are antivax proponents and creationists. These are the ones who don't see support for their views on our shelves like say a quantum consciousness person might. They see something terrible and biased because ultimately they're more political than having a personal experience. After shuffling around the shop for a few minutes they'll pick the section that most offends them and hang there for as much as an hour. If there's more than one they'll still be silent. No whispering or chat or at least none that I can hear. And then it'll begin. The antivaxers will invariably ask "Do you have any books about the other side of the argument?" The creationists: "Do you have any books by Behe?" These invariably lead to bait and switch discussions ranging over the whole topic in question. The former break down to mercury, big pharma and autism. The latter to Dawkins is arrogant, you're arrogant and that old chestnut of complexity, complexity, complexity.

For those not familiar with the bait and switch, it's when your antagonist proposes a 'devastating argument' which you dispatch with a rational explanation, so it's quickly dropped for another line of attack. For instance:

CR: "Who made your computer? It was a designer wasn't it. It's too complex to have happened by chance. Just like the eye."

WB (me): "A computer is a human product and so a human is required to make one. This is a metaphorical comparison between things that only have a metaphorical relationship not a real one. For instance I could compare medicine to car mechanics by suggesting my body needs a tune up. It'd be easy to see how such a metaphor could be useful in conversation but not much use in medicine or mechanics.
Also, by suggesting a designer designed the eye, you are merely putting off the problem of who designed the designer, the only evidence for which is your metaphor. I require more convincing evidence."

CR: "Well, Dawkins is just arrogant."

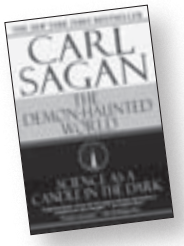
WB: "Even if that is true, does it tell you anything about the accuracy or truth of his claims or those of any scientist? No. The evidence does that."

CR: "What about the forged fossils? They do that when they need to make the science fit the evidence."

WB: "It's true there have been forged fossils. Fortunately science is such that it tends to find out pretty quickly when the evidence refuses to stand up to scrutiny. The number of forged fossils is extremely low, while the number of fossils discovered is in the billions. This makes the fossil record a pretty good pillar of supporting evidence for evolution - stronger than the conflicting accounts of single events in some ancient texts for instance."

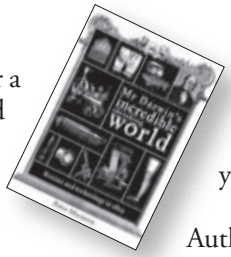
And so on. The same thing happens with every other variety of pseudoscience

Spreading the Message *Continued...*



claimant. It's difficult to keep on top of the subject matter but logic or basic thermodynamics usually lets them down. My general impression, after a year of high-level exposure to these arguments, is that these beliefs make learning new or challenging information too painful or difficult to contemplate for the believers. Conspiracy theories, evocations of higher consciousness and descriptions of quantum energies are, for them, shortcuts to comforting folk truths. Ultimately, this comfort forms a lock, the key for which is more of the same rather than evidence-based reality.

I'll leave you with another anecdote of an 88-year-old lady, who after a few minutes looking around and a brief chat, started to tell me how interested she was in the world and how the internet was really opening things up for her. I said that I was very happy that this was the case and asked what sort of things she found the most interesting at the moment. She pulled a quick heavy metal style hand signal at me with her index finger and little finger extended and the middle two tucked into her palm. She said that learning that Obama was the devil had been one of the biggest eye openers of her life. A friend had sent an email showing Obama using this hand signal, and Nixon, and Clinton and Carter. They were all servants of Lucifer. I said it'd be pretty easy to get photos of people like this and it probably required more evidence than this to tie a modern day president to an ancient figure of superstition. After a while she seemed to be convinced by my words (seemed relieved), and left repeating a phrase from one of our bookmarks from



the great Carl Sagan himself, "Extraordinary claims require extraordinary evidence. Thank you young man." ■

Author's postscript: *It was absolutely terrific to meet so many of you at the Brisbane Convention last year. And I'd like to thank you all for your patience with our manual receipting operation. For those who are interested, the best selling books (highest first) for the weekend were:* Beyond Belief *by Martin Bridgstock;* Nevermind the Bullocks *by Dr Karl;* Mr Darwin's Incredible Shrinking World *by Peter Macinnes;* Denial *by Tony Taylor;* Demon Haunted World *by Carl Sagan;* Trick or Treatment *by Simon Singh; and* Sweet Poison *by David Gillespie.*

About the author **Warren Bonet,** aka "Mr Embiggen", is the owner of Embiggen Books, Noosaville, Queensland.

Can I Get a Witness?

A Tale of a Meeting, by Paul Burke

'Twas the day after Christmas, and all through the house,
Not a creature was stirring, not even a mouse.
The owner had risen a short while before,
And while making a cuppa came a knock on the door.

The dog started barking, the cats scuttled over,
To find that the vis'tors would Witness Jehovah.
The owner grinned slightly, as he opened the door.
He'd enjoyed conversations with their kind before.

They asked how his Christmas celebrations had been.
He told them he'd had quite a Jesus-free scene.
This should be the clue to the two men of god,
That the man at the door may yet prove to be odd.

They launched straightaway to their well-practised song,
And asked if he knew that the world had gone wrong.
"From where I am standing," the owner replied,
"Life seems pretty good!" and he giggled inside.

So they pointed out horrors that would frighten the meek.
But he stood his ground, never fearsome or weak.
When they brought up the subject of terror, he said,
"There's more risk in a car crash of ending up dead."

They raised the environment, so he chortled glee,
"We can fix it if we act as one family."
They talked of disease, "What of AIDS, SARS and Flu?"
He replied "Well that's my subject, so let me tell you ..."

"We live twice as long, as those long ago.
We can treat most diseases, we could stop polio."
They quoted the scripture: "The righteous in town
Inherit god's kingdom when the end will come down."

The owner then told them, concerning the bible,
"I do not accept that sheep farmers so tribal,
Who said many things that were 'wise' in their day
Which we should apply to our problems today."

But noting that Earth is a 'Goldilocks' site
(Conditions for forming of life are just right),
"How could it be that requirements so odd
Have come just by chance - it must have been god!"

The owner felt need to put facts in their face
"With the number of stars that exist out in space
The chance is that life exists on some sphere,
And perhaps that is why we are currently here.

"And the thought that this planet was designed as our home
Is akin to a puddle just after a storm
Thinking 'Isn't this great! How come no-one can see,
That this hole in the ground was designed just for me?!'"

They moved to the question how the Earth got permissions
To orbit through space and not have collisions.
The owner did say that "In all of our history
The answer to two of our planet's great mysteries

"Appears to be that we struck objects in space,
Creating the moon, and end the dinosaur race."
They heard these ideas and pointed out that,
It wasn't so long that we thought Earth was flat.

Our hero butts in and explained to the men,
That they had their 'facts' mixed up once again.
"Well before Christ, a Greek man had found,
It was demonstrated that the Earth was quite round

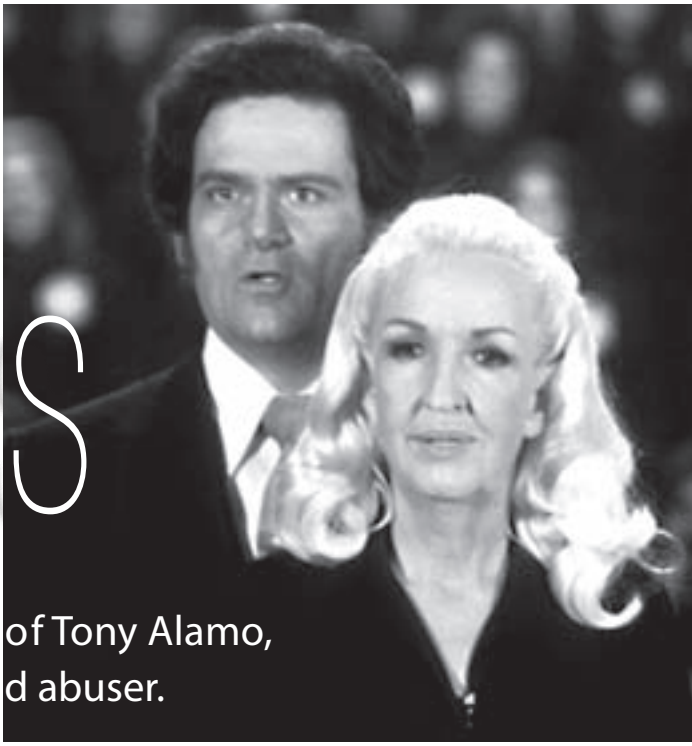
"And the church to be sure was the last institution
To accept this well-proven, scientific conclusion."
By now the responses had slowed to a crawl,
The Witnesses knew they banged heads on a wall.

They bid their good-days, and one imagines they winced,
As they left him a heathen who remained unconvinced.
As the owner returned to the house with his dog,
She looked up at him with her brown eyes agog.

She said that "It's fun when they come to the door,
And they start up their spiel, so you give them what-for.
And you talk of your science, your statistics and facts.
And all of these subjects are things that they lack.

"But they seem like nice folk come looking for friends
To join their delusion. But you know in the end,
I reckon for certain as they walk from the door,
They probably think 'What a c**t!'"

Remember the Alamos



Michael Wolloghan follows the rise and fall of Tony Alamo, crooner, evangelist, business leader and child abuser.

The town of Fouke, Arkansas, is well-known for an infamous cryptid called the Fouke Monster, a fearsome hairy beast similar to the mythical Sasquatch. One can imagine children roasting marshmallows around a secluded campfire, listening for unexpected bumps in the night, and discussing the creepy tales of the hideous beast in the woods.

Monsters often represent the darker side of humanity and it appears one did exist in Fouke. But this horrific creature was not of the mythical variety, but human.

Gaudy evangelist Tony Alamo was back in the media at the end of last year when over 100 US Federal officials raided his 15-acre compound and neighbouring homes in rural Fouke. Six young girls were placed in state custody as authorities investigated reports of child pornography and sexual abuse. Tony Alamo was quickly arrested at a lavish resort in Arizona a few days after the raid.

His final decline and fall was at hand.

Since his start 40 years ago as a street preacher, the flamboyant evangelist's tale has often been odd and dubious. Born Bernie LaZar Hoffman, 'Tony Alamo' (pronounced *ah-LAH-moe*) was born into a Jewish family. His family advised him to never tell anyone he was Jewish because they feared persecution, "because Jews killed Jesus".

When he decided to pursue a professional career as a crooner, he changed his name to Tony Alamo, because it sounded Italian. He was moderately successful as an entertainer, music producer and health club owner before God spoke directly to him while he was conducting an important business meeting. Obviously God didn't think this was an inconvenient time to advise Alamo of Jesus' second coming.

Soon after, Alamo converted to Christianity and met his future wife, Edith Opal Horn, who later changed her name to Susan. She was a would-be actress with platinum blonde hair. She shared Tony's passion for evangelizing.

Together they formed a Christian ministry in the turbulent social and political climate of the 60s. They focused on proselytising to hippies, drug addicts, prostitutes, alcoholics and the homeless. The Alamo Christian Ministries (ACM) slowly grew into a massive multimillion dollar enterprise with a string of successful companies. One money-making scheme for his church was selling a popular brand of sequined denim jackets worn by best forgotten celebrities such as Mr T and Hulk Hogan during the 80s.

Allegations surfaced, though, that Alamo was living an immensely luxurious life while most of his followers worked for church businesses for slave wages or nothing at all. While Tony bought garish pinky rings and Susan purchased fur coats, ex-members of the ACM started speaking up. Details emerged of ACM members living in cramped, unhygienic compounds and having to hand over all earthly possessions to 'Papa Tony'.

In 1976, the US Labor Department brought charges against Alamo for violating labor laws. After numerous drawn out legal battles, Alamo would be found guilty of not paying salaries to church members working in the ministries' businesses ventures.

The law would close further in on him, and the evangelist whom former US President Bill Clinton once described as "Roy Orbison on speed" was sentenced to six years in prison for tax evasion in 1994. Alamo had filed false income tax returns, had not paid his tax for 3 years and owed over US$2.2 million to the IRS.

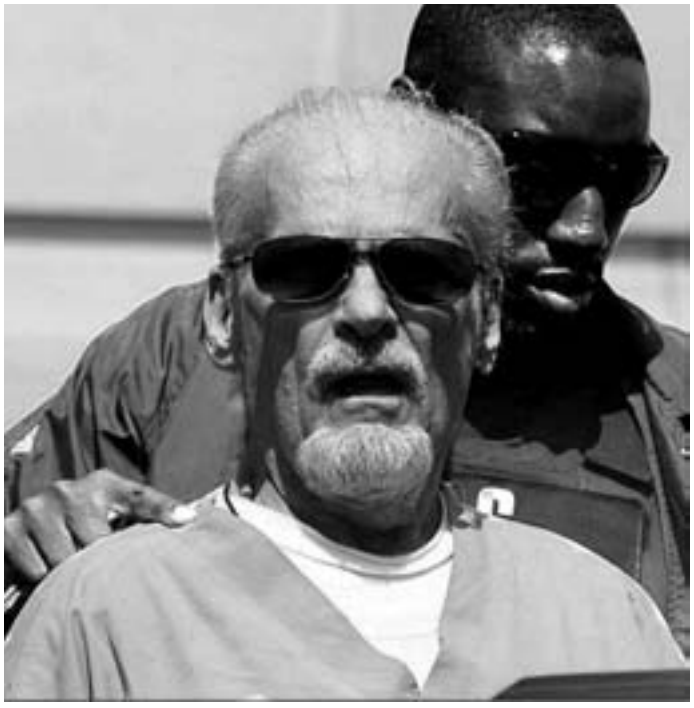
He defiantly claimed his innocence.

"What happened was some people in the church wanted to be on drugs, and wanted to be homosexuals, and wanted

to be fornicators and adulterers, so I had to put them out. They stood up against me in the court and lied. The court system, on the whole, is very corrupt," he quipped to the media.

Steven Hassan, a renowned cult expert, noted that government witnesses at the trial provided evidence of criminal sexual misconduct by Alamo. The prosecutor also presented Arkansas state authorities with alleged evidence of sexual abuse by Alamo, but this matter was not pursued further.

Once Alamo was released from prison he based himself in Fouke, Arkansas – known for its lakes, wildlife areas and recreational sites – and promptly got back into business. Perhaps like the golden-tongued fictional evangelist Elmer Gantry, Alamo understood the best way to make money was to do it with a religious gimmick.



His strange claims and antics don't end there.

Remarkably, Alamo claims to have seen a UFO. Once when he and his wife were driving to Las Vegas, she prayed that God would show them if flying saucers existed.

"They were so close to the window you could hear the swishing," Alamo said. "It was scaring me. I know they're not from some other planet – these are supernatural angels surveying the Earth just before God's pouring out of his wrath on the Earth."

Susan Alamo died of cancer in 1982. Alamo claimed she would be resurrected and kept her embalmed body on display for six months while his followers intensely prayed around it. He believed Susan was one of the witnesses, an immortal prophet, mentioned in the Book of Revelation. Not surprisingly, the power of prayer failed. Susan's daughter, Christhiaon Coie, called her stepfather's macabre actions "perverse" and "insane". It would take 16 years before Susan's body was returned to her family. Alamo was forced to pay US$100,000 in damages.

After Susan's death, Tony became more bizarre, erratic and paranoid.

He tirelessly supported David Koresh, the Branch Davidians and heavily criticised the US government's actions in Waco, Texas. He believed it was a "premeditated murder and genocide committed by the Catholic Nazi-influenced federal agents" to "exterminate a particular class of people [Christian Fundamentalists]".

Extraordinarily, he also said that "Jim Jones, a Roman Catholic Jesuit deacon posing as a Christian, was sacrificed (not with poisoned Kool-aid), murdered along with his flock by the Vatican to make the world look narrowly and suspiciously upon innocent Christian retreats."

Further surreal conspiracy theories and anti-Catholic rants littered his teachings.

Most alarming was his claim that the age of consent to marry is puberty and that there is a mandate in the Bible for girls marrying young. This unsettling stance fueled speculation that pedophilia existed within the ACM and that religious hucksterism wasn't all that was occurring, but something even more grotesque.

This brings us to current events.

When Alamo appeared in court to hear the verdict of the child sex counts against him this July, he moved slowly and appeared solemn. Now in his seventies, he no longer looks like a charismatic Elvis wannabe evangelist but a bulky, balding and frail looking individual.

His brief trial included several women testifying that he had 'married' and had sex with them when they were minors.

The jury convicted him on all 10 child sex abuse counts and Judge Harry F. Barnes sentenced Alamo to 175 years in prison. Alamo will also have to pay US$250,000 in fines.

Judge Barnes believed Alamo had used his position as both a pastor and a father figure to force himself upon impressionable girls who feared "the loss of their salvation".

Alamo predictably accused his victims of lying. He told reporters that he was "just another one of the prophets that went to jail for the Gospel". His lawyers said they planned to appeal the sentence.

The ACM website says that "Pastor Alamo has been criticizing the government for forty-five years with the truth and they've been slinging false accusations for forty-five years. You have to decide who you're going to believe - this government which has already been proven to be socialistic and communistic, or Pastor Alamo who is teaching you the truth. Either you believe Pastor Alamo or the homosexual Pope."

Dedicated ACM followers still try to recruit people to their flock with massive flyer runs, even after the sentence was handed down. The final chapter on Tony Alamo may have been penned, but the future of his ministry may be far from over. ■

About the author

Michael Wolloghan is a member of the NSW committee of Australian Skeptics, a reporter for The Skeptic Zone podcast, and an investigator of cults and strange religions.

PRACTICE MAKES

Marcos Benhamu looks at the science behind psychology practice, and finds it's often the wrong sort.

The psychology team at a Sydney-based health clinic comprises well-qualified and seasoned professionals. The clinic's website boasts a roster of highly qualified psychotherapists not unfamiliar with research, who have published in scientific journals or have presented scientific papers at international conferences. The therapeutic techniques offered by this team are evidence-based, such as cognitive behavioural therapy.

So what's so different about this place? Well, for starters, upon the request of interested clients, one of the psychologists offers Gendai Reiki Ryoho, an energy-based healing technique originating in Japan.

In fact, said clinic offers a range of services with which to complement psychotherapeutic treatment, from naturopathy to homeopathy. This seems to be the new trend in psychology: to complement evidence-based psychotherapy with alternative therapies.

As an apprentice in the field, I am encountering many qualified psychologists who promote such treatments, devoid of any empirical evidence. I have already had disagreements with senior colleagues over this matter, and I am sure I will continue to do so in the future. Even the Australian Psychological Society (APS), the profession's peak body, has an interest group dedicated to the study of alternative therapies in psychology.

I am currently training to become a registered psychologist under the NSW Board Registration of Psychologists. Candidates are required to undertake a certain number of hours with clients on a face-to-face basis and to acquire a key set of skills, such as active listening and administering psychometric tests. Additionally, a specified number of hours must be accrued under group supervision in different areas of competency, from service delivery to client-therapist communication.

During one such group session on the ethico-legal issues in psychology, the facilitator opened with the question: "What is a professional?" Many answers were offered: playing the right role, upholding the appropriate conduct (for example, being respectful of boundaries) and specialisation. I offered training on a given set of skills and expertise in a given field.

As the discussion progressed, it occurred to me to add that one aspect of being a professional should revolve around the service being offered and the extent to which said service is guaranteed, empirically, to deliver the goods. My statement was met with blank stares, so I proceeded to elaborate by way of example: one cannot compare a doctor who has dedicated years of his life to the study of medicine against a homeopath who has a poor understanding of the workings of biology and who peddles an unsubstantiated treatment, knowingly or otherwise. The facilitator said, "Uuuh … careful saying that in front of someone who uses homeopathy."

> **"The psychology profession's peak body has an interest group dedicated to the study of alternative therapies."**

And that was the first time that afternoon that I put my foot in my mouth. In fact, I discovered I have a large enough mouth to fit both feet simultaneously, as I pushed on rather than holding my peace. "How about, for example, rebirthing," I asked, "which can asphyxiate the patient?"

"But if re-birthing works for the patient," replied another student, "then maybe that's the best course of action," a statement the facilitator condoned. The discussion then turned to acupuncture.

"I can tell you, acupuncture doesn't work," I said.

"Yes it does," she replied with contemptuous disbelief at what I had just said.

"Not according to what I read."

"I don't know what you've been reading," she concluded "but you should read up more on it."

The general theme governing the remainder of the session revolved around how no one can say what's best for the client or what works better than anything else – no-one can conclude that cognitive behaviour therapy or acceptance commitment therapy works better than re-birthing, EMDR or singing Kumbaya - and one should do what works best for the client. Who's to decide, after all, what the client needs?

The session ended with the following morsel of wisdom from the facilitator:

IMPERFECT

"Best of luck, and don't forget about the placebo effect and people's ability to change."

It is worth pointing out that the facilitator of this group supervision session was a fully qualified psychologist with a Master's in clinical psychology. It is concerning that someone who has undertaken postgraduate studies in psychology and who presumably has a solid understanding of the scientific method can utterly fail to understand or unwittingly misuse the concept of placebo.

When I first started my board registration training, I contemplated the possibility of an internship at a similar type of practice to the aforementioned. Its website suggested accompanying viable treatments for pain management, such as cognitive behaviour therapy, with acupuncture. Further, the website went on to say that physicians "use placebos, which in some cases has resulted in a lessening or elimination of pain". I can picture the consultation: "Mr Smith, I'll write you a prescription for anti-inflammatory medication to ease your arthritis pain. Take it along with a placebo. It's known to work in a third of cases in clinical trials; I am sure the generic version is now available in pharmacies."

This practice also offers other services such as hypnotherapy, dream analysis, EMDR and biofeedback, all of which are either still under scientific scrutiny at best or have been discarded by evidence-based practitioners altogether. Practices such as the ones described here are turning a blind eye to scientific evidence when it comes to complementing psychological intervention. It is saddening to see that there are many, as a simple Google search could reveal.

Now, I stress the fact that many of these professionals are university-trained given that psychology is a science taught at a tertiary level, and the degree of difficulty as well as the academic expectations on students in Australia ought to have a bearing on the end product - namely, the scientist-practitioner.

Practice makes IMPERFECT

Continued...

When one takes introductory psychology courses at university, lecturers impress on the students that psychology is a science and that its knowledge base stems from rigorous scientific research. Psychology, ironically, had to overcome an identity crisis, unsure whether it belonged in the realm of philosophy or science. Nevertheless, psychology emerged as a science, and this is a fact academics today wear proudly and perhaps too close to their sleeves.

I can say from personal experience that applying to a Masters program in clinical psychology is difficult. Hundreds of applicants compete yearly for a scant number of seats at each clinical psychology faculty in Australia. One would expect that such high standards would produce professionals capable of thinking critically and who would not fall prey to fads and popular trends. Instead, it seems as though psychologists, purported scientists, can be as vulnerable to accepting alternative therapies as any member of the public.

Is there something amiss in psychology training at university? Therapists should adopt empirically-validated therapeutic approaches and adapt them to the case at hand. This would involve creating an evidence-based hypothesis, testing it, assessing the results on the client and fine-tuning the adopted strategy until the client attains the most optimal outcome. This is scientific work at a micro-level.

I once met a psychologist and former nurse who advocated a holistic approach towards her clients. She said she sometimes recommended energy therapies to them to disentangle points of tension in the body, something she claimed to practise herself. I wonder how many practitioners out there deliver this sort of advice. How un-therapeutic - un-professional - it would be, for example, to advise a client seeking help to cope emotionally with terminal illness to seek homeopathic remedies, feeding false hope when the role of therapist should be to help the client make the most out of their remaining days among the living.

Meanwhile, the APS states in its code of ethics that "psychologists only provide psychological services within the boundaries of their professional competence. This includes (a) working within the limits of their education, training, supervised experience and appropriate professional experience; (b) basing their service on the established knowledge of the discipline and profession of psychology...".

" Psychologists can be as vulnerable to accepting alternative therapies as any member of the public."

In this context, one ought to ask whether psychologists practising alternative therapies are working within the remit of their profession; are they in fact complementing their psychological practice? Are they acting within the established knowledge base? What, in fact, constitutes the knowledge base?

PsyCAM, an APS interest group, "promotes the understanding of recognised CAM (complementary and alternative medicines) modalities within, or 'by', the psychological profession. Educating psychologists on CAM enhances the psychologist's understanding of the medical treatment history of those clients who consult CAM therapists." The group's vision, according to its page in the APS website, is to "become a key player in the development of professional links between psychologists and CAM therapists, and an active participant in the development of APS policies relating to CAM."

Any such policies should revolve around heeding remedies and therapies validated with research in their efficacy and safety. While a psychologist must be aware of the patient's medical history as it impacts on therapy, one would have no business ruling or passing judgment on medical prescriptions; that's the remit of doctors and pharmacists. Surely, for whatever remedy the patient/client is taking, alternative or mainstream, the advice of a psychologist should not go beyond, "consult with your GP, madam." Therefore, one ought to question the relevance of CAM policies in the professional psychological arena.

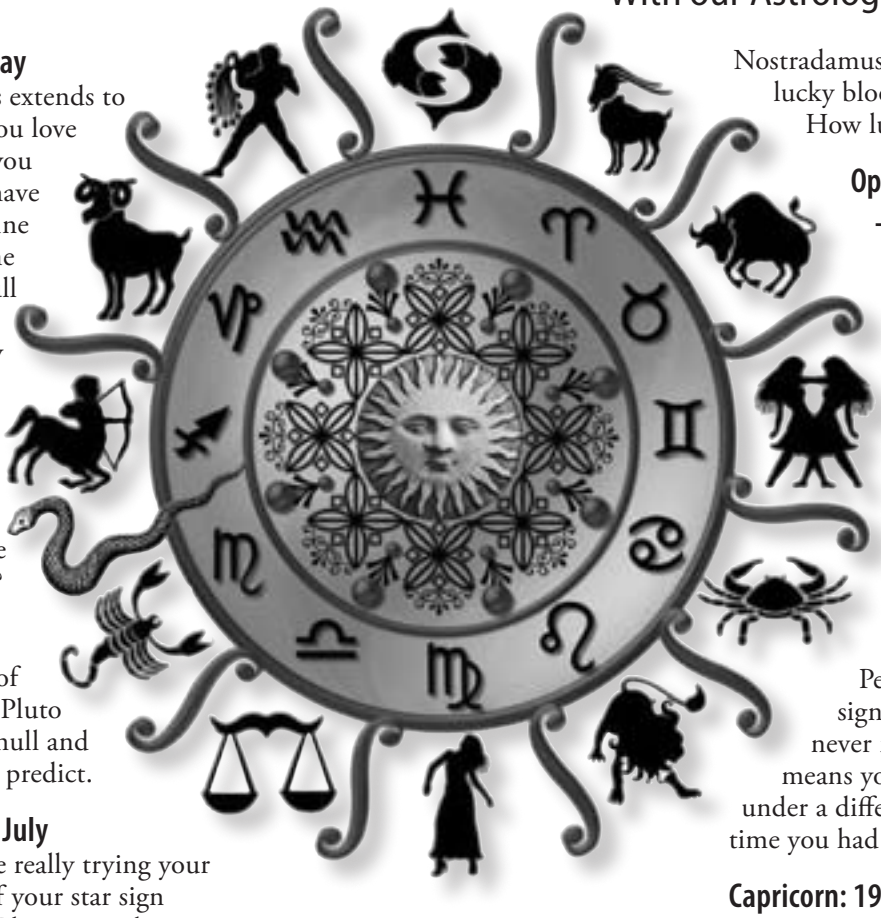
I anticipate interesting debate in the future as the field of psychology comes to terms with alternative therapies - if there ever is such a struggle. I, for one, will probably continue to stuff my feet in my mouth in the years to come. ■

About the author

Marcos Benhamu is a psychology intern in the process of completing his NSW State Board of Psychologists registration.

Your Stars: MARCH 2010

With our Astrologer Dr Duarf Ekaf



Aries: 19 April-13 May

Your love of animals extends to the kitchen where you love to cook them. Did you know that animals have star signs too? Imagine a ram born under the sign of a fish or a bull born under the sign of a goat! Your lucky rabbit has all its feet.

Taurus: 14 May-19 June

Pluto is entering the 4th region of the … eh ... what's that? Pluto is no longer a planet? You mean all those thousands of horoscopes that use Pluto as a planet are now null and void? That I did not predict.

Gemini: 20 June-20 July

Even though you are really trying your best, other people of your star sign have voted you off. Please reapply to another star sign or maybe try another planet with different signs. Better yet, just make up your own. Your lucky song is "I'm a loser".

Cancer: 21 July-9 August

I see you phoning my $5.99 per minute Tarot Hotline. Your cards are telling you to dial my $7.99 per minute Psychic Hotline. My predictions have you dialling my $9.99 per minute Astrology Hotline, which tells you to dial my $13.99 per minute Feng Shui Hotline! But ... why stop there?

Leo: 10 August-15 September

Don't let negative people get you down. It's much better if it's positive people getting you down as they always make you feel good about it somehow. Your lucky goat is only kidding when it says it's lucky as it just doesn't want to end up as goat curry.

Virgo: 16 September-30 October

This is a good month for counting the days until the next month. If you count more than 31, you are doing something very wrong. Since you gave up drinking, your lucky bodily organ is your liver. Your unlucky business owner is your local publican.

Libra: 31 October-22 November

Kissing a frog will not turn it into a prince, but I'm sure the frog won't care. You could try kissing a snake. I wonder what that would turn into? No, the stars recommend you stick to humans and super glue is just the thing for that.

Scorpio: 23 November- 29 November

To quote Nostradamus, "In the year 2000 plus 10; the great Dr Ekaf will cast a horoscope. Those in the southern land will send him money; Blood will flow in the blood bank."

Nostradamus is never wrong! Your lucky blood type is your own. How lucky is that!

Ophiuchus: 30 November -17 December

Mars rules your life this month which is why you keep running to the service station to buy some more. Imagine if there were a planet called Kit-Kat! Your lucky year will be 2093 as you'll be lucky to see it.

Sagittarius: 18 Dec-18 January

People born under your sign are true skeptics and never read horoscopes, which means you must have been born under a different sign. I think it's time you had a word to your mother.

Capricorn: 19 January-15 Febuary

At times, you wish you lived in the past. If you find yourself there you could make a fortune predicting the future, which would be the past for you. So there you go. If you make it back to the future, you'll be rich.

Aquarius: 16 Febuary-11 March

Forget trying to remember all those things you forgot about the last time you read your horoscope. If you are driving a car, stop reading this immediately! The stars forecast that this month your lucky numbers are 747, 767, 787 and A380. The stars also see air travel in your future.

Pisces: 12 March-18 April

The stars are unclear for you at the moment. Well, actually I have writer's block. To hell with the stars, they're no help at all. I mean really! I'm supposed to get your predictions from points of light in the sky? Still, it beats working for a living. ■

Finding the Fallacy

There are many types of argument, and many of those are totally fatuous. Theo Clark throws himself into a farrago of fallacies.

At the 2009 Skeptics' convention in Brisbane, I gave a talk, *Bah, that's Humbug! Spotting errors in reasoning*. (The "replay" of it can be found at http//bit.ly/skepfg.) My talk was about how to identify fallacies in other people's arguments and some simple methods to hone one's skills of fallacy detection.

Following is a list of definitions of the key fallacies you will come across at one time or another.

1. **Appeal to authority -** the advocate makes an unwarranted appeal to an authoritative person or organisation in support of a proposition.
2. **Appeal to celebrity -** advocate takes a position on a matter because a celebrity they like (or rather, want to be like) holds that position.
3. **Ad hominem -** advocate mounts a personal attack on the opponent rather than against the argument put forward by the opponent.
4. **Appeal to personal incredulity -** advocate believes that X must be true because it'd just be too darn "far out" if it wasn't!
5. **Argument by artifice -** advocate puts forward convoluted and weak assertions which any disinterested observer would perceive as artificially constructed in order to make a case.
6. **Argument by slogan -** advocate uses a simplistic statement or slogan rather than logical argument in a debate or discussion.
7. **Argument to consequences -** advocate claims that a proposition cannot be true because it ought not to be true (or vice versa).
8. **Begging the question -** advocate makes a circular argument where the conclusion is, in essence, a restatement or paraphrase of the premise.
9. **Browbeating -** advocate is threatening and overbearing in argument and doesn't allow the opponent the opportunity to state his or her case.
10. **Burden of proof -** advocate fails to take responsibility for arguing a case by claiming that the opponent must first prove that the opposite case is true.
11. **Burden of solution -** advocate denigrates a suggested solution to a problem but fails to propose a viable alternative.
12. **Cultural origins -** advocate makes an unwarranted claim that a particular way of doing things is best because of its cultural origins.
13. **Exaggerated conflict -** advocate claims that because there is some degree of uncertainty in a domain of knowledge, nothing at all in the domain is certain.
14. **Factoid propagation -** advocate asserts the truth of a proposition that is commonly assumed to be true, when it is not in fact established as true.
15. **False analogy -** advocate puts forward an analogy in support of a case, but the analogy only has superficial similarities to the case in question.
16. **False attribution -** advocate appeals to an irrelevant, unqualified, unidentified, biased or fabricated source in support of an argument.
17. **False balance -** advocate assumes without justification that each side of an argument is equal in merit by default, viz: "there are two sides to every story".
18. **False cause; correlation error -** advocate asserts that there is a causal link between phenomena, when the link is (potentially) only apparent rather than real.

AD HOMINEM, FALSE DICHOTOMY ... BINGO

At the Brisbane Skeptics Convention, Theo Clark gave a live and interactive demonstration of a game he calls Fallacy Bingo.

Played much like ordinary bingo, Fallacy Bingo requires you to spot particular logical fallacies as they appear. The one who fills the spaces on their card first wins.

Clark says playing Fallacy Bingo is great fun with a group of friends. "This is especially enjoyable at a live talk or debate. Pick carefully though – the game might be over in five minutes at a talk by Deepak Chopra."

The Fallacy Bingo cards are available at http://bit.ly/Fallacy. They can be printed off or you can play online in the browser, including on most internet-enabled phones.

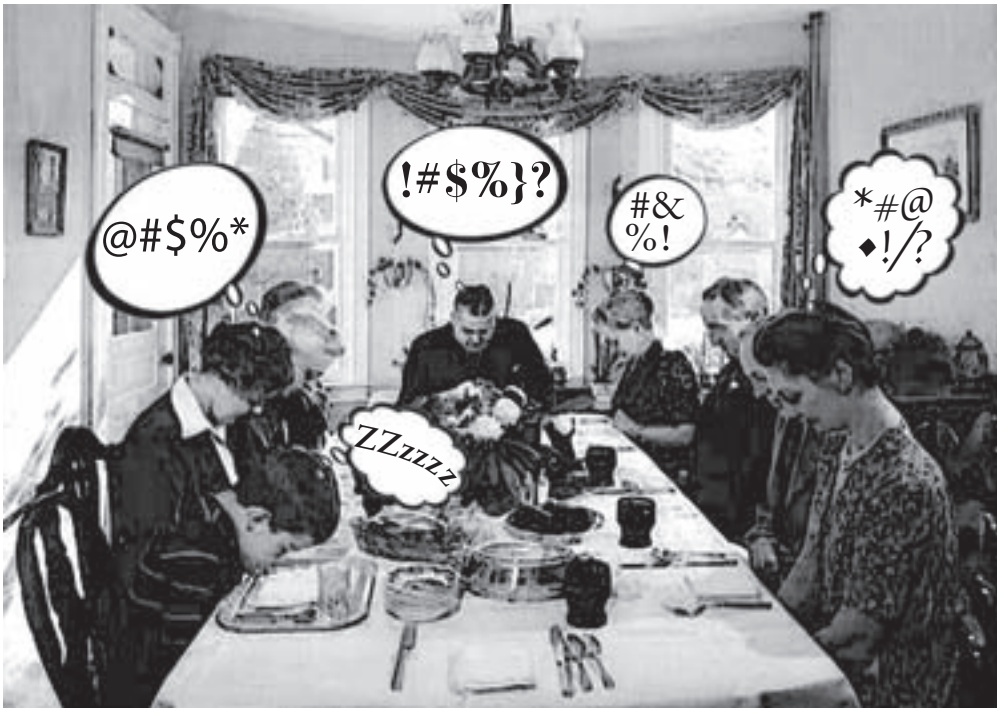
19. **False compromise -** advocate seeks to reconcile two differing views by "splitting the difference" and falsely claiming that the result reflects reality.
20. **False dichotomy -** advocate represents an issue as "black or white" when in fact the reality is "shades of grey".
21. **False dilemma -** advocate portrays one option as necessarily excluding another
22. **Gibberish -** advocate presents an argument or assertion that is so garbled in its presentation that it is essentially meaningless.
23. **Impugning motives -** advocate makes an unwarranted claim that the opponent has devious motives.
24. **Misuse of information -** advocate misunderstands or deliberately misuses a statistic, fact or theory to support an argument.
25. **Moral equivalence -** advocate seeks to draw false moral comparisons between two phenomena which are not morally equivalent.
26. **Moving the goalposts -** advocate changes the discussion focus by forcing the opponent to tackle a more difficult version of the topic.
27. **Observational selection -** advocate pays close attention to confirming evidence, but ignores evidence which is contrary to his or her position.
28. **Poisoning the well -** advocate seeks to undermine an opponent's position by linking the position to an original source which is unjustly denigrated.
29. **Popular opinion -** advocate makes an unwarranted appeal to popular opinion (eg "most people agree that...") in support of a proposition.
30. **Sanctimony -** advocate makes an unwarranted claim that his or her position is morally superior to the opponent's position.
31. **Simple-minded certitude -** advocate has an unshakeable belief which remains unchanged even in the face of overwhelming contrary evidence.
32. **Single cause -** advocate asserts that there is only one cause of a phenomenon or problem, when the evidence suggests multiple factors.
33. **Slippery slope -** advocate asserts without evidence that if we take "one step in the wrong direction", it will inexorably lead to catastrophe.
34. **Special pleading -** advocate claims special insights into an issue, and which the opponent is incapable of achieving.
35. **Special pleading (immunised hypothesis)-** advocate makes a claim that cannot be falsified due to their continued insistence on denying the validity of counter evidence.
36. **Stacking the deck -** advocate is aware of counter-arguments to his or her position, but conceals them in order to defeat the opponent.
37. **Straw man -** advocate attacks a weakened, exaggerated, or over-simplified form of the opponent's position rather than the real position.
38. **Unfounded generalisation -** advocate draws a general conclusion about a phenomenon based on unrepresentative examples.
39. **Weasel words -** advocate uses emotionally loaded labels to boost his or her position or to denigrate the opponent's position.
40. **Wishful thinking -** advocate claims that X is true on the basis that they'd really like X to be true
41. **WTF? "fallacy"-** the advocate's claim is so error ridden that one would not actually know where to begin in trying to analyse it. ■

About the author

Theo Clark is co-author of *Humbug! the skeptic's field guide to spotting fallacies in thinking.* He has an associated website (partially) devoted to fallacies www.skepticsfieldguide.net and for the last year has hosted a podcast, *Hunting Humbug 101 - a crash course in shooting down bad arguments.*

Just Desserts

Sincerity is no substitute for evidence. But try telling that to your dinner guests. James Allan ponders the perennial prandial problem.



How many readers have gone to dinner parties and listened to otherwise intelligent people assert that alternative medicine can be just as effective as mainstream, scientific medicine? Generally, the argument is that alternative medicine, in all its many forms, is just another complementary and legitimate form of healing.

So homeopathy, acupuncture, echinacea - even aromatherapy, magnetic resonance zones or anything with the word holistic in front of it - gets elevated to the same plane as chemotherapy, antibiotics or vaccines for mumps or measles. And this goes hand in hand with rather disdainful comments about sceptics of such alternative treatments not being open-minded and not being tolerant of competing world views.

So those who think alternative medicine is bogus are close-minded and intolerant. Well, that may be why I think it's bogus, but why should you?

What is one to make of this sort of embrace of a tolerance that says all beliefs are equally valid and worthy, which implies that sincerity of feeling is what really counts?

I suppose the more mischievous among us would begin by noting that this sort of tolerance is often more selective than many of its proponents pretend. Strong beliefs in favour of the efficacy of homeopathy or iridology or the latest natural herb are frequently propounded by those in the chattering middle classes, many of whom would look aghast at anyone who held firm religious convictions. As far as the latter is concerned, a thorough-going scepticism grounded in a scientific world view is the order of day. That, and a fair bit of tut-tutting about how dull-witted you'd have to be to actually believe that stuff.

But mention echinacea or homeopathy, or even astrology or more bizarre notions such as recovered memory syndrome, and the mantra for these same chardonnay-sipping people becomes the rather fashionable one that there are other, deeper truths out there that empiricism and a scientific world view cannot show us.

A more fundamental response to the embrace of irrationality starts with a few facts. In reply to the Monty Pythonesque question, "What has testing and appeals to hard evidence and the scientific world view ever done for us?", the answer would go on and on and on. Our televisions, microwaves, CD players and cars are its products. So are our jet trips overseas. As are the world's vastly more productive farming practices that manage to feed more than six billion people. Yes, even nuclear weapons are its progeny.

But then pacemakers, antibiotics, various public health measures, inoculations, modern surgery techniques and more have nearly doubled average life expectancy in the past century. The scientific world view has made life better for humans as a whole than at any other time in our comparatively short history.

Nor is it true that this scientific world view - the one that has delivered untold benefits to mankind - is compatible with or complementary to the mystical,

anti-evidence world view underlying the embrace of such notions as homeopathy. (And did you know that homeopathy rests on diluting substances to a ratio of about one atom per universe and on metaphors such as that the almost pure water you take remembers the now gone substance?)

It seems almost churlish at these dinner parties to point out that alternative treatments rely on the placebo effect - that most people for most illnesses simply get better on their own (whether they take nothing, a sugar pill or unbelievably diluted water) - and on the deep-seated desire many have to want to believe something is working. And it seems churlish to ask why it is that these new age complementary medicines cannot produce results under double-blind drug trial conditions.

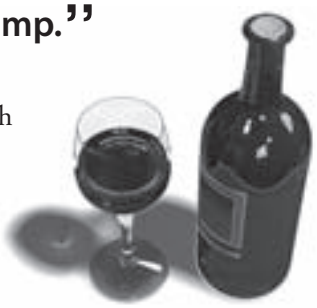
Here's a simple fact. When it comes to the empirical, causal world in which we live, not all beliefs (no matter how sincerely and passionately held) are equally valid. Science starts from the commonsense premise that there is an "out there" beyond our senses, one that imposes outcomes and answers on humans, however we may have been socialised. The world is not simply what we wish or think it to be.

Any trendy postmodernist who may pretend that basics such as gravity, say, are social constructs is easily dealt with. Give him the Jeremy Bentham test. Take him up any tall building and ask him to jump. He won't. He believes in a real, external world like the rest of us (outside the odd university English department, at any rate).

So you see, however many times some people may mistakenly repeat it, it is simply not true that you are more open-minded if you embrace alternative views that implicitly require you also to reject the discovered laws of physics and to put away the demand for hard, cold, testable evidence. More gullible? Yes. More open-minded? Not a chance.

Uttering terms such as "complementary" or "competing world views" is no substitute for evidence and empirical testing. Likewise, reading a product described as natural should not automatically send shivers of desire down your spine; such a description tells you nothing about whether it is good or bad. Hemlock is natural and it kills people. Fluoridation, hip replacements and braces are all highly unnatural and very good indeed.

" Take him up any tall building and ask him to jump."



No one likes to be rude at a fun dinner party or to risk social isolation by calling someone an idiot. But next time you find yourself seated beside a smart, well-paid enthusiast for the benefits of alternative medicine, you may just gently point out to him that if he gets cancer, he'd be better off opting for chemotherapy than for some equally valid, equally legitimate, non-traditional, world-view treatment. ■

About the author

James Allan is Garrick Professor of Law at the University of Queensland.

MINCHIN'S MUNCH

On the subject of, shall we say, dinner parties where the conversation is more strained than the vegies, we recommend you search for one of the variations of Australian comedian Tim Minchin's piece *Storm*, available readily on YouTube. There's even an animated movie of it, though to the Editor's taste the background music and sound effects tend to drown out the lyrics, which is a shame. See the straight performance one first, then see the movie. And don't forget to take your partner – they'll love you for it.

HO HO HUMBUG

Now that Christmas is over, is it safe to talk about Santa? Alison White wonders if it ever has been.

Of all the issues that have got me into hot-water during a long life as a sceptic, nothing has been as scalding as my views on Father Christmas. Issues such as religion and climate change are a doddle when compared to questioning the ethics of a belief in the jolly old man in red who rides a sleigh.

As a child the belief never made sense to me, so you can see dear reader that I was a very strange child indeed. I was born in 1943 and as a child my parents never made a fuss about the issue. They were pretty uninvolved parents and I think their view was believe if you wish kid, but do not say when you wake up to the lie that we told you he was real.

This is something that I have generally followed with my own child, not wanting to put her at odds with friends, and yet not wanting to tell a lie. I guess that you could call this a cop-out and you would be correct, but given the grief the whole issue has given me over my life time, you might be more sympathetic. However, my daughter does not seem to have suffered from not having this belief rammed down her throat; but then she always did very well out of the Christmas loot.

Strange child that I was, I just could not work out the logistics of Santa getting from the North Pole around the world with a sleigh and reindeers – and having to stop at every child's house and get down the chimney and leave presents. The maths (as they say) just did not stack up. And what about the Grant family up the road; they had no chimney at all, just uber modern gas.

Santa also seemed to be so unfair. These were the days of all sorts of political incorrectness and while Paul Taylor received a bike for Christmas, his sister Genevieve had to be content with a new pair of pyjamas. Mrs Simpson, the widow in the next street, had three children and had limited financial means and her children never seemed to get much at all. This lack of justice seemed to be repeated all over the suburb along gender lines, and reflecting the financial means of the family. As a small child, I could accept that life was unfair, but I could not accept that Father Christmas could be so unfair and so unkind to many children.

I used to notice that in the houses of friends the closer it came to Christmas and the more they questioned their parents about the reality of Santa, the bigger and more unbelievable the answers seemed to get. In my household the answer to those questions was always: "Well, what do you think?" This was most unsatisfactory to a junior sceptic who just wanted the facts and a straight answer.

Accordingly, as a five year old, I rebelled and decided that Santa was not real, and when I pressed my parents they confirmed my suspicions. I think this was done with a certain relief, in that the charade did not have to be continued. Also my father, being a bit of a miser when it came to opening his wallet, probably thought that now Father Christmas was out of the way, he could probably get away with spending a whole heap less on Christmas presents.

Now the hard part started. My parents warned me not to tell the other children. I tried my best, but keeping my mouth shut was not a strong point with me – then and now!

Oh, the trouble this caused.

As an adult, I have often questioned friends and acquaintances as to why they go along with this absurd lie to their children. People who would no more lie to their children about the facts of life, or the fact that grandma had died (not gone to sleep, or is with the angels) or a host of other matters that form a child's view of the world. However, they see nothing wrong with going along with this crass untruth. I am spoiling a childhood and I do not understand the fantasy world of children. I am, in fact, threatening the world as we know it.

I maintain that children have a wonderful fantasy world, but one that they make up themselves. A rock becomes a pirate ship, a tree a castle or the family cat becomes a dragon. They can believe in all sorts of things, but in things that come from their own imagination, not something that is pushed onto them by adults who have been suckered by the worst aspects of the consumerism cult that Christmas has become.

Did I lose out by not believing in Father Christmas for any length of time? I guess so, in that my lack of belief set me apart from my peers. I was also hurt by the sheer weight of insults that were hurled at me by child believers, and later on by adults who seemed to think my views perverted.

Has harm been done to believers? I cannot tell and would be interested in any research into this area, if such has been undertaken. (A good topic for a PhD in psychology or sociology maybe?) But it seems to me that if children are softened up by an enforced belief in a lie early in life, this may open them to being more susceptible to the lies and false beliefs that they will inevitably encounter later in life.

I cannot also help but wonder what harm has been done to the children from poorer families, whose gifts were small compared to those of others. Their self–esteem may have been badly damaged and may never recover, even after the belief ceased.

And what about those children who trusted their parents to tell the truth, and were sorely distressed when the lie was revealed? I just do not know.

I guess the majority of kids are like the majority of people; their emotions do not run so deep as to be seriously affected by this nonsense. However we sceptics are cut of a different cloth; this is why we are sceptics.

But then bah humbug – maybe I'm just a miserable old fart? ■

About the author

Alison White is retired and has a background in journalism and policy development. She describes herself as a life-long Skeptic "and has the bruises and x-rays to prove it".

The Architecture of delusion

Dr Krissy Wilson's impressions of a towering conspiracy.

It is refreshing to know that all over the world there are interest groups full of motivated individuals fighting the forces of darkness, striving to eke out the truth and bring light to the gloom of delusion and superstition. For this we should be grateful. Unfortunately, the fact is that one man's 'truth' is another man's lie. Of course we want to expose governmental cover ups and corruption but not at the expense of our sanity. All too often a well meaning desire to expose lies and deceit merely results in paranoia and self-deception.

My own search for the truth led me to a February 19 press conference presented by the Architects and Engineers for 911 Truth hosted outside Sydney's picturesque St Mary's cathedral. Barrister Brae Antcliffe, a member of Lawyers for 9/11 Truth, announced to the world that there were some 1000 engineers and architects who had signed a petition "demanding a new investigation" into the events surrounding the destruction of the three towers on September 11, 2001.

Yes, three. They are suggesting that all three towers – the Twin Towers WTC 1 and 2, and a smaller building WTC 7 – were destroyed as a result of controlled explosives, indicating that this was in fact an 'inside job'. Their 'evidence' includes eyewitness testimony, forensic data and an analysis of the official reports.

I listened attentively and must admit that it is a little odd that the third building also collapsed that day but suppose for a moment that all this was true. The Americans, no doubt led by the CIA or FBI or whomever, blew up the World Trade Center using explosives that may or may not have been hidden in the lift shafts of the building, under the cover of the explosion of two radio controlled planes (just stay with me here) that were deliberately flown into the buildings.

OK, so ... why exactly? It seemed like a simple question that I put to John Bursill, an aircraft engineer and one of the leading protagonists for AE911 in Australia. But things are never simple with the deluded. What followed was a tirade of 'facts', historical references, allusions to the Warren Commission, the Vietnam War, oh lord, you name it. The poor boy hardly paused for breath. It was near impossible to get a straight answer but from what I could glean it seems that the Americans deliberately blew up the towers, in cahoots with Al Qaeda, to 'psychologically rape' the population in order to establish an American Empire.

To the casual bystander, Bursill seems like a presentable chap. Well-built like a boxer with a flashing smile, but at a certain point he got 'that look' in his eye. I see it all the time with believers/psychics and other conspiracy nuts and religious zealots. It's a kind of other worldliness, where they go into a well-rehearsed speech that spirals further into their own twisted sense of reality. Alarm bells began to ring. I smiled. It was time to go. Several times they tried to get my name and which paper I worked for. I refused to tell them. Not sure why but felt the need to preserve my privacy. There is a moment when our healthy need to ask questions becomes an obsessive cause that blinds us to rational thought. A warning to us all, perhaps? ■

The cycle of life

Nazis – memes – sceptics - prophets ... And so it goes, the almost inevitable realisation that all knowledge is connected and connectable.

WHAT IS MEMETICS?

Memetics is an approach to evolutionary models of information transfer based on the concept of the *meme*. Just as memes are analogous to genes, memetics is analogous to genetics. In his book *The Selfish Gene* (1976), Richard Dawkins coined the term "meme" to describe a unit of human cultural evolution, arguing that replication also happens in culture, albeit in a different sense. Dawkins contended that the meme is a unit of information residing in the brain and is the mutating replicator in human cultural evolution. It is a pattern that can influence its surroundings – that is, it has causal agency – and can propagate. This created great debate among sociologists, biologists and scientists of other disciplines, because Dawkins himself did not provide a sufficient explanation of how the replication of units of information controls human behaviour and ultimately culture, since the principal topic of the book was genetics. Dawkins apparently coined the term only in a speculative spirit. Accordingly, "unit of information" came to be defined in different ways by many scientists.

GODWIN'S LAW

Godwin's Law (also known as Godwin's Rule of Nazi Analogies) is an adage formulated by Mike Godwin in 1990: "As an online discussion grows longer, the probability of a comparison involving Nazis or Hitler approaches one." Mike Godwin is an American author and lawyer. Godwin's law is often cited in online discussions as a caution against the use of inflammatory rhetoric or exaggerated comparisons. Godwin has argued that overuse of Nazi and Hitler comparisons should be avoided, because it robs valid comparisons of their impact. In its early forms, Godwin's law referred specifically to Usenet newsgroup discussions; however, the law is now applied to any threaded online discussion: electronic mailing lists, message boards, chat rooms, and more recently blog comment threads and wiki talk pages. Godwin has said he introduced the law as an experiment in memetics.

What goes

DON'T MENTION THE WAR

During World War II, leaflets with false Nostradamus quatrains predicting the defeat of France were launched by German planes over European skies. It seems that this operation was masterminded by Nazi political secretary Rudolf Hess and that even Adolf Hitler believed in Nostradamus' quatrains. Certainly his Propaganda Minister Josef Goebbels did, under the influence of his wife Magda. Subsequently the Allies responded in kind, both with air-dropped leaflets and via the American film *Nostradamus Says So*. After Rudolf Hess left Nazi Germany in a mysterious flight to Scotland, probably seeking a peace agreement with the UK, Hitler issued the *Aktion Hess*, a mandatory prosecution of any divinator or future-teller in all Nazi-occupied countries.

In Ellic Howe's privately published *Nostradamus and the Nazis* (1965), the author quotes astrologer Louis de Wohl: "Hitler planned to bring the war to the American continent on the basis of astrological beliefs."

Richard Dawkins coined the term 'meme' to describe a unit of human evolution.

WHO'S PUSHING MEMETICS?

The term "memetics" is a transliteration of the Ancient Greek μιμητης, *mimitís*, meaning "imitator" or "pretender" and was used in 1904 by the German evolutionary biologist Richard Semon. However, Semon's work was largely ignored for some time. A January 1983 column by Douglas Hofstadter in *Scientific American* was influential in the development of memetics, as was his 1985 book *Metamagical Themas*. In his 1993 essay *Viruses of the Mind*, Dawkins used memetics to explain religious belief and the characteristics of organised religions. However, the foundation of memetics in full modern incarnation originates in 1996 with two books by authors outside the academic mainstream: *Virus of the Mind: The New Science of the Meme* by former Microsoft executive turned motivational speaker and professional poker player, Richard Brodie, and *Thought Contagion: How Belief Spreads Through Society* by Aaron Lynch, a mathematician and philosopher who worked as an engineer at Fermilab.

Karl Ernst Krafft, Hitler's personal astrologer, supposedly died in a concentration camp. A warning, perhaps?

around ...

MEMETICS AND THE PARANORMAL

The Meme Machine (1999) is a popular science book by psychologist Susan Blackmore on the subject of memes. Blackmore attempts to constitute memetics as a science by discussing its empirical and analytic potential, as well as some important problems with memetics. Blackmore, a psychology and physiology graduate from Oxford, got her PhD in 1980 in parapsychology, her thesis being entitled *Extrasensory Perception as a Cognitive Process*. After some period of time, her attitude towards the field moved from belief to scepticism. She has appeared on television a number of times, discussing such paranormal phenomena as ghosts, extrasensory perception, intelligent design, the 'multiverse', alien abductions and out-of-body experiences, in what she describes as the "unenviable role of rent-a-skeptic".

THE PARANORMAL PROPHET

Nostradamus (Michel de Nostredame, 1503-1566), a well-known figure in paranormal areas, especially those concerning astrology and prophecy, was a French apothecary and reputed seer who published collections of prophecies that have since become famous worldwide. He is best known for *Les Propheties*, the first edition of which appeared in 1555. Since the publication of this book, which has rarely been out of print, Nostradamus has attracted an almost cult following. His many enthusiasts, as well as the popular press, credit him with predicting numerous major world events, though his prophecies are notoriously open to individual interpretation, often dramatic, and falsification. The latter includes one supposedly about 9/11 but actually written by a Canadian student in 1997 to (ironically) show how the prophecies' validity can be exaggerated.

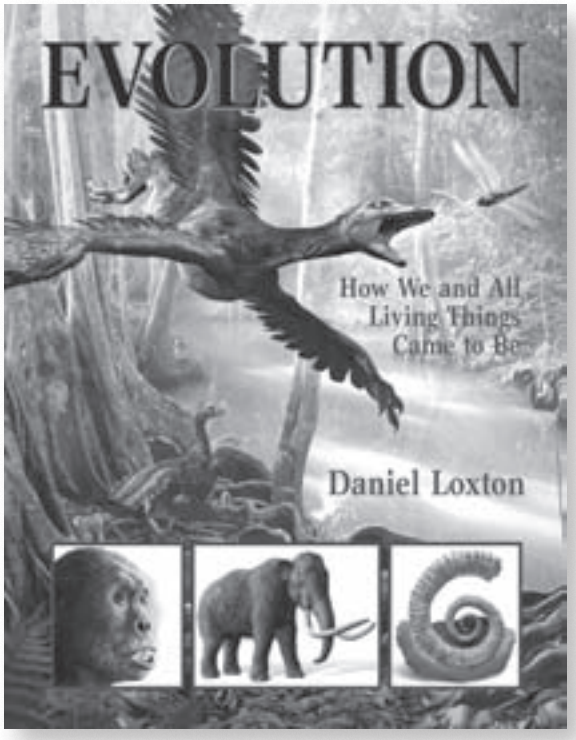
Occam's (or Ockham's) Razor is often applied to claims of the paranormal. It states "Entia non sunt multiplicanda praeter necessitatem" - entities should not be multiplied beyond necessity. It is also called The Law of Parsimony.

Evolution for kids of all ages

Evolution: How We and All Living Things Came to Be
By *Daniel Loxton*
Kids Can Press, **US$18.95**

Evolution is a simple process. So simple, in fact, that Thomas Henry Huxley said in a letter to Charles Darwin "How extremely stupid not to have thought of that!"

The discovery of DNA 94 years after the publication of *On the Origin of Species* made the process appear even simpler, for now there was a mechanism for inheritance and for change, two of the fundamental aspects of evolution by natural selection.



Despite the simplicity of the process, explaining it is not so easy. Many people struggle with some of the core concepts. Perhaps the most misunderstood aspect of evolution is the meaning of natural selection. Many people imagine evolution as having some goal – some ultimate target that it tries to achieve – and fail to understand that change is random and that it is the environment that chooses which individuals will survive. Similarly, the concept of change in the distribution of genetic traits as a key principle is often misunderstood, with many people preferring to think of natural selection as the result of direct competition – the fittest defeat the less fit – which is rarely the case.

With evolution being difficult to explain and often misunderstood, it would make sense that trying to explain it to children would be doubly difficult, perhaps even doomed to failure. But Daniel Loxton was not deterred.

Loxton is the editor of the Junior Skeptic segment of Skeptic magazine, the magazine of the Skeptics Society in the US. He is a gifted artist and contributes not only most of the content of the segment, but also all of its artwork. In other words, he knows how to attract children's attention, and in the book *Evolution: How We and All Living Things Came to Be* he shows every bit of this knowledge.

The only word that can be used to describe the first impression of the book is "striking". The dust jacket features a photorealistic archaeopteryx in flight, which is a sign of things to come as the book contains a large number of high quality paintings. But Loxton has used his artistic talent in other ways, and there are also many drawings and illustrations.

In some senses the books looks like a typical high quality children's book, with beautiful artwork in every page, bite sized text segments, largish font size and only 48 pages of actual content. But it is anything but typical, for in addition to the striking art, the text of the book distinguishes it as a major achievement in science communication. It is unlikely that a child who reads this book will be left with misunderstandings about evolution of the type highlighted above. Indeed, the book covers every major aspect of evolution, and uses sidebars to ensure that difficult points or potential misunderstandings are treated without interrupting the flow of the text. The book ends with a short glossary and a detailed index.

Loxton recommends the book for children of ages 8 to 13, however I dispute this categorisation. On one hand, the review copy has been used for the past several nights as a bedtime story for a six-year-old who asks pertinent questions and understands the explanations. On the other hand, the book uses simple but not childish language, and could easily be enjoyed by any interested adult.

Having been produced in North America (Loxton hails from Canada) there is clearly some awareness of the creation/evolution debate in the US, and major fallacies spread by creationists are dealt with summarily, if politely. Despite the politeness, a US publisher could not be found for the book, as it was deemed too controversial for the US market. It is fortunate that a Canadian publisher agreed to publish it, and early sales figures suggest it will be handsomely rewarded. At this stage the book is not offered for sale in Australia, but it can be purchased online from Amazon.

- Reviewed by Eran Segev

What doesn't work

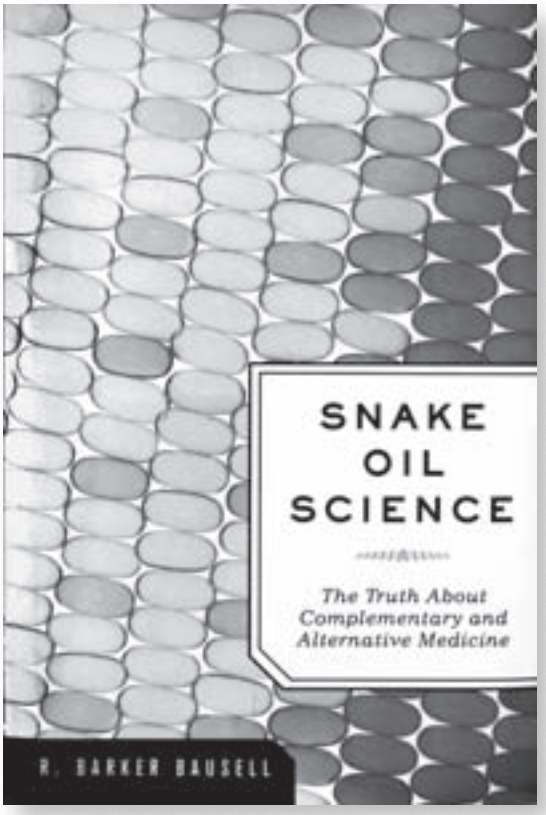
Snake Oil Science: The truth about complementary and alternative medicine By *R Barker Bausell*
Oxford University Press, **A$49.95** *(20% discount for academics)*

Doing good science on human health and medicine is difficult. Getting reliable, valid, useful results in tests of alternative medicine is bloody hard. Sorting the valid from the invalid, and understanding the difficulties and processes that give us false results, is the subject of this book.

When I try to explain to intelligent well-read friends that every decent study done on homeopathy shows that it does not work, the response inevitably comes down to the last resort of "well it works for me".

The brilliance of Bausell's book is that it shows in clear, easy-to-read detail the factors that lead us to these false conclusions, and how they interact in complex ways to deceive our 'pattern seeking' species. He also defines and explores in great depth the placebo effect.

Bausell is by training a research methodologist, but he admits that when peoples' eyes glaze over at this description he reverts to calling himself a biostatistician. He also says "If I took myself a bit more seriously, I would also add that I am something akin to an empirical philosopher, studying the strategies that facilitate our species' ability to make correct inferences or judgements." He was formerly research director at the complementary medicine program funded by the University of Maryland National Institutes of Health. Verily he knoweth what he writes.



He summarises the issue as "Just because the logic of scientific experimentation is simple does not mean that it is simple to run a high quality clinical trial." His chapter headings give a good picture of the scope and approach of the book:

- The rise of complementary and alternative therapies (CAMs)
- A brief history of placebos
- Natural impediments to making valid inferences (including reluctance to admit we are wrong; simple optimism; respect for authority; a propensity to believe the absurd; a conspiracy view of the world; a lack of skepticism)
- Impediments that prevent physicians and therapists from making valid inferences (including patient expectations; physician behaviour; patient politeness; selective memory; all augmented by the Hawthorne effect, natural history and attrition)
- Impediments that prevent poorly trained scientists from making valid inferences (including natural history; regression to the mean; investigator disingenuousness; the Hawthorne effect; experimenter bias; placebo effect)
- Why randomised placebo control groups are necessary in CAM research
- Judging the credibility and plausibility of scientific evidence
- Some personal research involving acupuncture
- How we know that the placebo effect exists
- A biochemical explanation for the placebo effect. This chapter describes a brilliant experiment by a group of Italian scientists with the daunting title "Response variability to analgesics; a role for non-specific activation of endogenous opioids". This is a crucial part of the book, and perhaps the most demanding, but Bausell makes it clear and understandable (even thoughI have a science background, it is still accessible for any reader).
- What high quality trials reveal about CAM.
- What high quality systematic reviews reveal about CAM. This chapter concludes: "There is no compelling, credible scientific evidence to suggest that any CAM therapy benefits any medical symptom (pain or otherwise) better than a placebo."
- How CAM therapies are hypothesised to work. This chapter concludes: "No CAM therapy has a scientifically plausible biochemical mechanism of action over and above those proposed for the placebo effect" and "CAM therapies are nothing more than cleverly packaged placebo effects."
- Tying up a few loose ends.

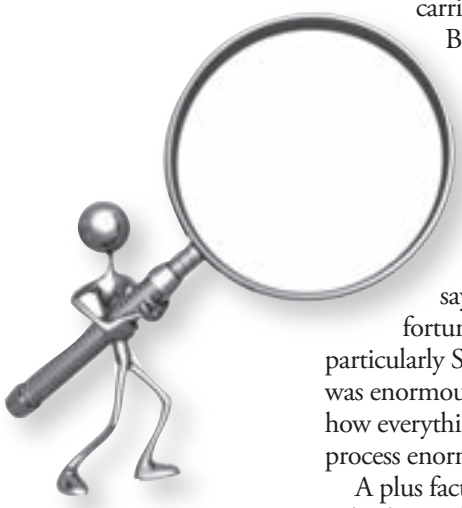
With apologies to (patron) Philip Adams, "ten out of ten, and a koala stamp". This book should be compulsory reading for every health practitioner and student in the country, CAM, orthodox, or otherwise. Health consumers (all of us) should be encouraged to read it.

- Reviewed by John Cameron

The Skeptical attitude

In which conventioneers discuss claims, sugar and skeptical responses.

On taking a defensive position ...



Back in April 2008, people from the various skeptical groups scattered around Australia met up in Wagga Wagga to have some conversations about future directions for the Skeptics movement in Australia. It was a great weekend, one I enjoyed so much I got a bit carried away and nominated not only Brisbane as the location for the 2009 Australian Skeptics national convention but also myself as the convenor. When I first mentioned my bright idea to Qld Skeptics President Bob Bruce he responded, while wearing a very wry grin, that it would be a lot of work. I must say he wasn't wrong. However, I was fortunate with the people I had helping me, particularly Sheryl Backhouse whose contribution was enormous. I ended up being very happy with how everything turned out and enjoyed the whole process enormously.

A plus factor was having Embiggen Books set up a display in the room and having books available for purchase. This is Warren's 'best seller' list:

1. *Beyond Belief: Skepticism Science and the Paranormal* by Martin Bridgstock
2. *Denial: History Betrayed* by Tony Taylor
3. *Mr Darwin's Incredible Shrinking World* by Peter Macinnis
4. *Never Mind the Bullocks, Here's the Science* by Dr Karl Kruszelnicki
5. *Sweet Poison: Why Sugar Makes Us Fat* by David Gillespie

Since all of these people were guest speakers, that probably comes as no surprise.

A key reason I volunteered myself as convenor was that the idea of being the head honcho in charge of the program content really appealed to me. Having attended every Australian Skeptics convention bar one since 2000, a New Zealand one in 2006 and TAM in Las Vegas in 2007, I felt I had accumulated a fair bit of insight into what works and what doesn't appeal, at least from one audience member's perspective.

I had first considered inviting David Gillespie as a possible guest speaker after reading a couple of reviews of his book *Sweet Poison: Why Sugar is Making Us Fat.* I had planned on seeing him at Riverbend Books at Bulimba in August, something which I wasn't able to do because of a date I had with a surgeon! While I was in hospital recovering from this encounter, I had a conversation about David's book with the stoma nurse who was looking after me. She recommended it. I took notice of this since diet and nutrition are her areas of professional expertise. After I got out of hospital, I visited Riverbend and asked the people there how David's talk went and got a positive response, so I purchased a copy. I enjoyed reading the book and thought (and still think) that the hypothesis he presents is well-argued.

In the book, David describes a personal journey, where he endeavours to find out why he, like lots of us (myself included), have a weight problem. His conclusion is that a big problem with our diet is too much sugar, with fructose being of particular concern. Once consumed, fructose goes on a fast track in our systems and is metabolised as fat without doing anything much else on the way. We often don't realise just how much sugar we are consuming because much of it is hidden. It is also very easy to eat lots of it.

Once I announced David's inclusion in the program, I received some negative feedback, something which surprised me but which I took on board as it came from people whose opinion, as a general rule, I value and trust.

There were two main concerns expressed to me:

- That the book is 'pseudoscience'
- The potential for damage to the Skeptics' image.

With respect to the pseudoscience charge, I asked for evidence to support this assertion and was told that it is demonstrated by references to some discredited and pseudoscientific sources. I was hopeful that some of the questions from the floor after David's presentation would highlight flaws in his argument, but as I saw it this didn't happen. Since then, I've been waiting for someone to show me that the 'science' behind what David is saying about how sugar is metabolised in our system is bollocks. At this point in time, I am still waiting.

There has been one answer which does call into question some of David's evidence and some of the conclusions he draws from it. Last year, David was a guest on ABC Radio's *Ockham's Razor* program. As a follow up, Robin Williams interviewed nutritionist Chris Forbes-Ewan. Chris identified errors in David's work, but he also acknowledged that David makes some valid points. Chris also

mentioned something I'd picked up on with respect to the influence of David's legal background on his research methodology and how the book has been written. His discourse is framed in adversarial terms, with fructose cast in the role of serial killer and David on a mission as the prosecuting attorney. [See Chris Forbes-Ewan's article on *Sweet Poison* elsewhere in this issue.]

This brings me back to the issue of the nature of evidence. Evidence means one thing in a courtroom and something rather different in a science lab. Context does matter. I wonder if some of David's critics are rejecting his argument because of the way it has been framed. I also wonder how many of David's critics have actually read the book.

This criticism made me feel just a bit uncomfortable and it has taken me a while to work out why this may be the case. One inference which disturbs me, if it is true, is this: that since David is not a scientist, he has no business writing the book that he did. This has more than a touch of elitism and 'closed shop' mentality about it. I hope I am wrong and this it is not a manifestation of an ideology that has been labelled 'scientism'. In essence, scientism sees science as the absolute and only justifiable access to the truth.

Are we really prepared to accept the proposition that the scientific method is the only valid mechanism by which one can gain knowledge of the world or reality? I don't dispute that the scientific method when used properly and appropriately is the best tool we have come up with to make sense of the natural world. However, it denies a lot of what makes us human and what adds value to our lives to say that it is the only valid path to enlightenment and the only way we can learn things. Stories are a wonderful platform for sharing ideas, sparking debate and providing inspiration. Unlike some of his science colleagues, this is something Carl Sagan understood.

My final point is this. Since when as an organisation or as individuals have skeptics been concerned about the potential for collateral damage to their image, especially with respect to issues on which the jury has yet to deliver its verdict? We investigated water divining and fire walking. We've also debated creationists who really do have no case to argue!

Let's not forget what it is that we do: We think critically where there is doubt

- We analyse claims
- We are open-minded
- We seek the evidence!

Margaret Kittson
Camp Hill Qld

... and again

What a great convention Briskepticon was. I won't go through all the bits and pieces, but suffice to say that a good time was had by all. We even went through a few emotional responses listening to the guest speakers; some of whom were funny, some intense, but all of whom had us interested and engaged. I'd like to comment on one presentation in particular and examine not so much the talk but the audience response.

David Gillespie speaks of fructose as a 'poison'. He tells us the reason we're fat is the introduction of fructose in ever increasing amounts to our food. Hmmm… As David readily admits, he is not a scientist; and as our president (Eran) pointed out, it showed.

His presentation was not that of a scientist, even as one would speak to a lay audience. There was too much willingness to associate disparate factors together in a causal relationship, overly hasty generalisations and no shortage of slothful induction (to name a few of the fallacies we spoke of later in the convention – thanks, Theo). There were also assumptions regarding motivations and collusions that had a disturbing flavour of the conspiracy theory about them. Any presentation that says "they don't want you to know this" is effectively going about the process in the wrong way. We need to focus on positive evidence, not speculate on Machiavellian machinations.

Now, I have not read the book and perhaps these issues are addressed therein, but judging from the reactions of those who have, they are not. I certainly wasn't convinced that reading the book will reward the time commitment, and so I am left with a lukewarm sense of indifference, which is unusual for me. I think this was substantially because there seemed no overtly dangerous aspect of his theory, but more of this later (yes, I know this type of thinking can spread into more potentially damaging areas, but bear with me).

Part of my uncharacteristically ambivalent response is because I zoned out a bit on the detail of the talk once I realised the nature of the argument. What really captured my attention was the body language of the audience members. While I was shaking my head and thinking how the misconceptions in the presentation could be addressed through educating David himself, it seemed a different theme was developing in the audience.

Initial responses after the presentation were antagonistic, focussing on perceived inaccuracies in both the book and in the presentation. This developed quickly into an argument about

The Skeptical attitude

Continued...

following due process in science. The lack of a peer review process was revealed, though of course David is not a scientist and does not publish scientific papers in appropriate formats; hence the issue is a problematic one in terms of answering that particular allegation. More pointedly in this context, the only opinions sought seemed to be from biased people, albeit with supposedly credible scientific backgrounds (his MD father-in-law being one and some far-flung professor of human nutrition in the US who already supports this theory being the other). It is noted that there was also some significant support for David's views from individuals on the day.

Considering that the purpose of the Australian Skeptics is to investigate "pseudo-science and the paranormal from a responsible scientific viewpoint", the criticisms of David and his project would certainly seem to be core business, however I have reservations.

As it happens my presentation on the day was all about how we need a scientific approach to knowledge, so as to avoid exactly the type of thing David's talk demonstrated. One might therefore imagine I have some harrumphing and righteous indignation about his presentation, but in fact I do not and here is why.

I believe we need to increase the public engagement with science and scientific issues, and that we suffer when science is portrayed as outside the scope of normal human business. We are on potentially damaging turf when we suggest that engagement in science should be left only to the scientists. By "engagement" I don't mean people just being groupies of scientists, but thinking scientifically and exploring issues for themselves in a scientific manner. Of course, it also means a respect for the process of formal science. This is at the core of scientific literacy.

I have a masters degree in science from the ANU, I teach the stuff in a specialist science academy for high performers, and I am about as protective of the subject as it's possible to be. I brook no nonsense about questioning the efficacy of science as compared to any other human endeavour that attempts to improve our lives. I also want to see it done properly; but science belongs to us all and we all need to develop along that particular rational path. Of course, we are not all at the same place in that journey.

Here are some points in favour of David's presence at the convention. He presents as a concerned person whose anecdotal evidence instigated a personal enquiry done in what he perceives to be a rational manner. He has offered to have his work looked at by any scientist that we might push his way and for the process to be a public one. He did not present this at some holistic medicine seminar but in the full and harsh glare of a reasoning audience as a speaker at the Skeptics' convention (and this by invitation – we after all were his hosts, he didn't crash the party).

And so *if* he is serious about discussing this, *if* he wishes to become a better scientific investigator, take the right advice and develop a reasoned and structured methodology, *if* he is amenable to changing his view based on better evidence than he himself has been able to gather (it might be that his evidence falls apart at the first cognitive prodding), *if* this is not linked to any other issue that could be potentially damaging to human health and well-being, and *if* the admission that he is not trained in science is not a disingenuous one (ie we are not seeing false modesty covering a hubristic core), then I reckon he might just get a tick for trying. In my view these are big ifs, so the box remains unticked for the moment, and I'm not sure I even have a pencil handy.

Either way, we do not do our cause a service if someone comes to the Skeptics with what they perceive to be a scientific idea (even if after the fact) and we chastise them for doing so. We need, rather, to help them understand how their methodology might be flawed, how they might go about getting better information, and assist them in devoting themselves to the process rather than a specific outcome. We need not polarise our community so quickly into effective devotees of the sceptical method and outright quacks, nor imagine that those dipping a toe into unconventional waters should not do so unchaperoned by scientists. This is not intended to suspend criticism, but to question the end point of that criticism. It is certainly not an endorsement of David's 'findings', but it is an endorsement of this very public attempt to engage scientifically with an issue, albeit with the caveats of the previous paragraph.

The most powerful thing science provides is a common language for us to share our experiences and analyse our thinking. It should permeate all that we do. As skeptics, our role should be to educate as well as to guard against irrationality and to walk a fine line between inclusivity and exposure.

Peter Ellerton
Tarragindi Qld

The Skeptical approach

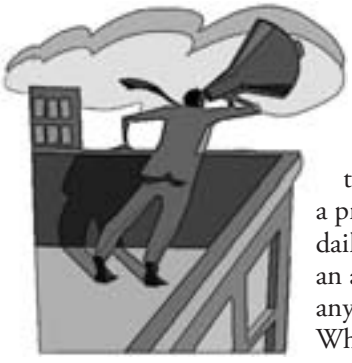
In which are discussed reasons to believe, flat earths and obsessive compulsive disorder.

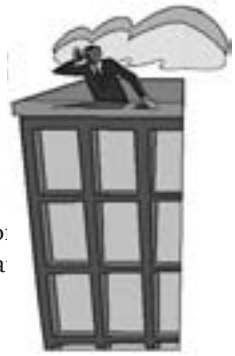
Skepticism and credulity ...

In her article "Reasons to Believe" [*The Skeptic*, 29:4], Krissy Wilson has stated that skepticism is a belief system. I think she was being provocative, but I feel compelled to respond.

We must first consider what is a belief. The broadest definition could be a thought or assumption made by an individual about his/her environment, or adopted from another person's expressed idea about their common environment (ie the universe). It necessarily entails a theory of mind. Our normal human function is dependent upon beliefs – we assume the persistence of what we have perceived after we no longer have the sense data to confirm the perception. We make judgements about the reality of our beliefs by retesting their persistence. In some people, this retesting becomes a repetitive action that severely retards their social function (compulsive behaviour). We believe our sense data are true most of the time but allow for hallucinations and illusions; and we test our beliefs against others descriptions or perceived interactions with the environment. We necessarily act on our beliefs and assumptions, for to do otherwise would require repeated confirmation by re-observing, or seeking confirmation from others – social dysfunction is the consequence.

Clearly Skeptics are not socially dysfunctional, we have an individual set of beliefs which we act upon, but this belief system exists completely independently of our skepticism. People often criticise the process of skepticism by applying an absolutist interpretation of the process – how can anyone be a Skeptic and have no beliefs; how could they function without assuming the persistence of objects beyond their sense data? The defect of this argument is obvious – skepticism is not a process that is applied to every function of daily living but the expression of doubt about an assertion, statement about the world or anything that is the expression of a person. When this analysis is made depends upon a judgement of importance.





Another logical attack on skepticism is that the absence of belief necessarily results in the absence of morality. The failure o reason here is the assumption tha laws, particularly religious laws, as decreed by a divine being are the cause for morality. But what if morality is a necessary function of social grouping independent of pontification, ie no social grouping/no morality. It remains apparent that sceptics are a subgroup in many societies – poorly tolerated at times they threaten political power holders.

When do we apply our process of sceptical analysis? When we think it is important to do so; Ian Plimer famously when geological fact was hijacked for religious propaganda, Richard Dawkins when the fact of evolution is denied and threatens the education of children, James Randi – for lots of reasons.

Of necessity skepticism begins with doubt about – not denial – of an assertion. That assertion may be that the world is flat. We do not design a formal experiment but we seek supportive or conflicting facts.

I have seen images from space vehicles that show the earth as a globe. If the flat earth assertion is true, then these images must have been faked and the circumnavigation of the globe by multiple mariners must have been falsified. The likelihood of this occurring because it involves so many different people, times and languages is highly unlikely. Therefore, the flat earth assertion must be wrong.

Skepticism is thus obviously the testing of beliefs - a function 'normal' people do all the time (albeit selectively).

Is the paint wet as the sign on the seat states? People will test by smelling, touching and wiping. This is normal. If we see someone else test the wetness of the paint, we do not repeat the process having observed the experiment performed by someone else.

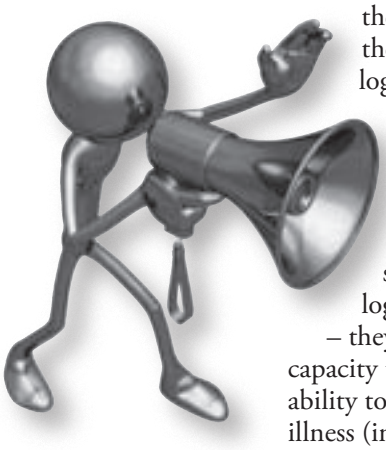
Similarly, when experimental results are published, they are open to retesting and after multiple repeats accepted as fact (defined as probability of error less than 1 per cent, or 5 per cent). A theory may be constructed on individual observations, but when published is open to public criticism and refutation by experiment. If good evidence is produced the

The Skeptical approach

Continued...

theory is revised. The probability of error falls with repetition of testing. The majority of the people in the world fail to develop any sense of probability and have a high degree of belief in luck, fate, divine intervention and cannot comprehend how the reliability of scientific evidence is built through repetition. The drive for repetition derives from competition (for reputation, money, promotion), Experimental results that are not coherent with past results, or are incoherent with theory, promote review of theory and method – not repression.

For example the assertion that there is a divine creator has been investigated by many philosophers, their published results have been influenced by the political milieu in which they wrote. The failure of their theories to explain the origin of the creator shows their theology to be merely a shift back of the logical vanishing point (the point beyond which testing is impossible – all philosophies have an untestable axiom at their root).



Many people do not have the capacity to doubt, others may use it selectively and curtain off parts of their logical world from thoughtful analysis – they function normally and retain the capacity to test reality in their sense data. Loss of ability to test reality is regarded as neurological illness (including psychiatry). Non skeptics, or the credulous, do not apply their capacity to test reality to some of their beliefs about the world. Their failure to do so makes them prey to anyone who wishes to manipulate them. I do not need to repeat the multiple areas in which this occurs, as the pages of *The Skeptic* are full of the scams, religions, and sometimes downright fraud perpetrated on the innocent and naive. (Fraud being where the perpetrator knows what they are promoting is false.)

Why does credulity exist? That analysis is applied selectively suggests it is not an inherited defect but is a learned behaviour, forced into the childhood brain and crippling their capacity forever. Is religious education therefore a form of child abuse? Surely an education system exposes children to a wide range of ideas, gives them the capacity to test, and allows them to make their own judgement. Failure to do this is not education but brainwashing/programming. But perpetuation of religion, racism, and all forms of fanaticism is dependent upon preventing future acolytes from gaining the capacity to doubt and analyse. It may still be that people are born with a preset capacity to stop and think – one can certainly imagine circumstances where survival (defined as living long enough to propagate genetic inheritance either personally or through relatives) advantage would exist, but survival may also be dependent upon reacting before thinking (eg escaping predators). Societies could be viewed as consisting of a normal distribution (aka bell curve) with sceptics in one tail, and the credulous in the other, and the majority between applying beliefs and analysis to varying extent in the body of the distribution.

Skepticism, in any political society, is more likely associated with a survival disadvantage. I know of no skeptics who believe in killing of non-skeptics, but we are daily bombarded with the lethal activities of religious fanatics. (I include Marxists, animal liberationists, and their like as religious acolytes – anyone who believes that killing another human for their beliefs is justifiable.)

All humans, in order to function, must have a belief system, or else we succumb to an extreme form of OCD (obsessive compulsive disorder). What makes skeptics different is their assertion that beliefs are only true in a probabilistic sense. Beliefs that result from scientific research have the highest probability of being true; beliefs that arise from stories written by unknown authors many centuries ago are among the lowest likelihood. For that section of the world's population that is programmed to believe an absolute irrefutable truth their capacity to doubt is nullified. So does this mean that a relativistic approach to tolerance of weird beliefs is valid?

Social relativism argues that ideas derived from scientific research have equal validity with those written as a tax dodge by a science fiction author with possible psychiatric conditions. Thus, repeated investigation generating the same result reported by hundreds of different people in multiple languages is equal to a treatise in English written by one man in order to create a tax deductible organisation. Such an approach is good from a societal aspect as it emphasises tolerance of 'deviation', but it also means that people will be subject to absolute falsehoods to their own and their children's detriment. Hence, social relativism is effective only when there is universality of education and people are educated to exercise doubt and make judgements about assertions presented to them.

But is science really simply a social philosophy equivalent to whatever crackpot religion someone wishes to create? Does the work of

hundreds of different people repeatedly testing a fact to ensure that it has a high probability of being true really have the same evidential weight as hearsay? Most legal systems do not think so, hearsay is inadmissible as evidence – there is a non-science acknowledgement of different weights of evidence.

Scientific research is of course criticised because some fraud occurs; any competitive system will have participants who seek advantage by not complying with rules and ethics. The process sometimes lapses into a fixed belief system that represses innovation. But science has the strength and capacity to recognise fraud, and to acknowledge new ideas (eventually). The strength of science is that it detects and publicises such fraud rather than repressing politically embarrassing reversals. Allegedly competing social philosophies are primarily religions which are built on a fixed belief system that represses new ideas, and not only fails to detect fraud if detected, it threatens their political power and structure and is usually repressed.

Some skeptics actively defend beliefs which cannot be scientifically verified, and use their skeptic label as a cloak. *C'est la vie*, some proponents of religion are atheists.

The essential elements of skepticism are:

- The ability to doubt assertions made by humans (including one's own beliefs).
- The ability to test those assertions in a scientifically reliable manner.
- The ability to refrain from wasting time attempting to verify things which are not disprovable.
- The capacity to discard an absolutist approach to life in favour of a probabilistic one.

There may be many readers who do not agree with this analysis; this is only a thumbnail sketch with partial development only. I look forward to prospective trials of child development that will test the nature/nurture contributions to human analytical capacity and susceptibility to credulity but I do not expect those benefiting from human credulity to relinquish their advantage.

David Brookman
Salamander Bay NSW

Editor's note: *See also the Letters section for more comments on Dr Wilson's article.*

CRYPTIC CROSSWORD SOLUTION

CODE PUZZLE SOLUTION

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I . s a n
g . m y .
H y m n .
R h y t h
m I c a l
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y s t . w
I t h . a
. s l y .
G y p s y
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I sang my hymn rhythmically at a tryst with a sly Gypsy

TRIVIA QUIZ SOLUTION

1. **Frightened to death by an eclipse on May 5, 840.**

2. **George Formby.**

3. **Hamlet, but Falstaff says more across several plays.**

What you think ...

Was Jesus Gay?

A deep and interesting debate has been raging on the www.badreligion.co.uk forums regarding homophobic messages in the Bible, and so on. So I decided to have a look and see if I could find evidence that Jesus himself was a gay man.

Jesus never got married, had no kids, hung around with men, and even washed and massaged their feet.

If Jesus was the perfect human, why didn't he have the perfect family life as designated by society? Wife and two kids?

Apparently only about 5 per cent of men are homosexual (how anyone can know that is beyond me but for the sake of this thread we will go with it) so the chances of Jesus being gay is quite slim, but then 1 in 20 isn't really that unusual.

We know that there were 12 disciples or friends of Jesus. But the original Greek word of "apostolos" meaning apostles, was actually used to describe 20 people in the bible!

So including Jesus we have at least 21 people in the Jesus gang! So odds dictate one of them was gay.

In the Gospel of John, the disciple John frequently refers to himself in the third person as "the disciple whom Jesus loved". We know Jesus loved all his followers, but for John to specifically mention this interests me greatly. When this was written in the original Greek the word love was written as "agape" which means unconditional love, whereas the word "philia", which means love between friends, was not used.

To say I love you in Greek, you would say "Sa ga po" which is taken from the word agape. You would also say my love as "Agabe mou", which you would say to a partner or a close friend.

But to argue, the erotic word for love Eros was also not used, so again we are left with uncertainty.

Citing from *John 19:26-28*, during the Crucifixion the following is said: "the disciple standing by, whom he loved". Why does the Bible mention this disciple? We know that Jesus' mother is there apparently, but so is this disciple.

Whatever you think, the fact remains that Jesus' sexuality was never truly stated in the Bible. Why is there this omission?

Jesus surrounded himself with men. He never married or had kids. We know that Greeks and Romans would have slaves that would also be sexual partners, and Jesus didn't condemn that, he only showed compassion to a slave and healed him.

So was Jesus gay? We will never know, but one thing is for sure, Jesus never said a bad word about homosexuality.

Jon Donni
Birmingham UK

Reasons to Believe

I noticed in Dr Krissy Wilson's article "Reasons to Believe" [*The Skeptic*, 29:4, p23] the following: "Commercial successes such as *The X Files*, *The Mentalist* and *Medium* present a seductive view that certain individuals can talk to the dead and foresee the future". In my opinion, the *Mentalist* presents a sceptical and critical approach, the main character is portrayed as a con man whose ability to manipulate gullible people is the theme of the series; the program is quite different in its interpretation of "paranormal" phenomena to the others mentioned. I'm not sure if commercial success is significant as an indicator of public acceptability, after all, how many *Buffy* fans believed a word of it? We all like to be deceived some of the time, otherwise we would never go to the movies, watch TV or read a novel.

Russell Walton
Warragul Vic

Having enjoyed Krissy Wilson's Hobart 2007 talk, I looked forward to her Brisbane 2009 paper (as published in *The Skeptic*, 29:4). As expected, it was entertaining and interesting.

Before I challenge two of her statements, however, I invoke the spirit of her compatriot, the late Professor CEM Joad, of "It all depends what you mean by ..." fame.

Krissy repeatedly uses the words "believe" and "belief". What does she mean when using those words? The OED gives seven meanings for the verb and Webster's gives six for the noun. Which is Krissy using? Once we know that, I can decide whether or not to challenge her statements: "We all believe, whether we realise it or not. Skepticism itself is a belief."

I suspect verbal prestidigitation - switching swiftly betwixt and between the multiple meanings, faster than the reader's logic can follow the tricks.

Krissy, please clarify.

Dr Peter 'Skepdoc' Arnold
Edgecliff NSW

Why do some people believe that paranormal things exist and others do not? It is a very good question to which Dr Krissy Wilson has reviewed some of the answers.

During the review, Dr Wilson asks "I wonder if we are approaching this issue from the wrong perspective?" and, if any criticism can be made, it is that the review emphasises the psychology of the problem while downplaying or avoiding its physical aspects. This is a self-declared bias as Dr Wilson asks "So what can psychology tell us about the complex and mysterious issue of human belief?"

That very physical organ, the brain, in its role as central to the body's whole nervous system, generates belief. Belief is a function of the brain. The nervous system receives physical inputs from the external world in the form of light, sound, touch or whatever other sensible signals exist and processes those inputs into a mental picture of the external world. Insofar as that mental picture is a true representation of the world, it enables us to move safely through the world. Moreover, when combined

with our physical dexterity, we are able to take the external world apart and reassemble it, experiment, so as to reveal the interconnections of all material things and bring them into our use. And, with memory and the ability to record our knowledge in speech and writing, that is the basis of our ever-expanding mastery over our physical environment.

When those physical signals from the external world are absorbed by the brain they undergo a transformation from reality to virtual imagery. Disconnected from a material base, the imagination can fashion the image in any way it chooses; it can fantasise. The fantasy is not completely free-wheeling because long experience tells us that there is an iron rule: every effect has a cause. Consequently the fantasy must seek the cause.

When the truth was obvious that the sun went around the earth, the fantastic solution was to find the cause in an imaginary supernatural being driving it around in his chariot and that became enshrined in religion. Later, scientific work destroyed that one fantasy but the fantasy of supernatural beings as causal agents for other phenomena remained.

The field of the unexplained, or where the explanation is misunderstood, is fertile ground for the fantasy of the supernatural to take hold and, once it takes hold, other social forces come into play to sustain it. There is a whole class of people which depends for its livelihood on maintaining the fantasy, ranging from witch-doctors to clergy, charlatans, faith healers and, now, TV evangelists - all begging for money.

Whether a belief is believable, ie true, can only be determined by the scientific technique of taking the belief out of the brain and applying it to the real world. If it works, it's true and that result remains until one finds a situation in which it doesn't work. Then, in Thomas Kuhn's (*The Structure of Scientific Revolutions*) terms, one must look for a revised fantasy and start all over again.

John Warren
Annandale NSW

Editor's note: *See also David Brookman's contribution on this theme in the Forum section.*

Boy in the Balloon

I have just read your editorial about the "boy in the balloon" hoax [*The Skeptic*, 29:4, p4].

When I first saw the TV footage of the balloon it was immediately obvious to me from the motion that there was no concentrated centre of mass and careful examination suggested that the volume was much too small to support even a tiny passenger.

These observations indicated conclusively to me that the story was a hoax.

If it was so obvious from the very short TV clip why was it not obvious to others on the ground? Is it because the public understanding of even the most basic physics left them unable to understand what they were seeing?

The media has to take much blame because they accepted the story in such a non-critical way.

Phil Irvine
Uralla NSW

God in Africa

I always enjoy Leo Igwe's hard-hitting skeptical reports from Africa. He is clearly distressed by the human misery he sees in Africa. However, some of his conclusions don't seem to follow from the observations.

Leo believes that "The situation in Africa is a clear demonstration that God is a fiction." My concern with this argument is that an awful lot of the misery in Africa seems to come purely from human beings. The destruction of the Zimbabwe economy, the Rwandan genocide and the waste of Nigeria's oil wealth seem to stem from human behaviour, and tell us nothing about God one way or the other.

Leo believes that religion is making Africans accept their lot, rather than working hard to improve things. The problem with that view is that Western countries such as Britain and the USA went through the development process while being highly religious. India seems to be doing the same now.

It is certainly true that religion has caused some atrocious conduct in Africa – the endless wars in the Sudan are a good example. On the other hand, I don't think the evidence that religion alone is responsible for Africa's misery is especially strong. What about the widespread corruption and lawlessness? There is little point in working to create wealth if rapacious officials and armed thugs are going to take it away.

I strongly suspect that there is no way of "getting God out of Africa", and that matters would not improve much if we did. Instead, what about strong anti-corruption measures, with aid tied to making them work? What about training and paying the police forces properly, so they will protect hard-working citizens and their property? What about making sure that developed nations' markets are open to African exports, if they are of good quality? I would prefer to see Africa's problems tackled on a practical level, rather than vaguely wishing for something which seems extremely unlikely to happen.

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Martin Bridgstock
Griffith University Qld

Philosophy in Schools

The "Education and Ethics" article published in the last *Skeptic* strongly resembles the presentation made by John Turner and his colleagues at the Wagga Wagga symposium in 2008. This group lobbies strongly for philosophy for children (P4C) and argues that it has many benefits. The problem is that a number of criticisms were made at that meeting and, apparently, none of them have been taken on board in the years since. For example, at Wagga, Margaret Kittson pointed out that Buranda State School cannot be used as an example of the effects of P4C as both the school and the surrounding area have become very 'gentrified' over the years, and so before

Philosophy in Schools

Continued...

and after comparisons are simply not valid. Yet Turner again cites Buranda in his article.

Nobody will disagree with Turner's stress on the importance of developing critical thinking. I belong to an association that runs P4C training, have trained teachers myself in the method and have also worked with Dr Stephan Millett of Curtin University in developing programs which use P4C. Still, I don't regard it as any kind of educational panacea. Why not?

Well, Dr Millett presented a series of reasons at a UNESCO conference in Quezon City, Philippines this year. He raised a number of problems with P4C, but the key one is simply the lack of a large body of clear research data demonstrating the effectiveness of philosophy in schools. There is some data, but not enough to convince policy-makers. One drawback so far is that there are no follow-up philosophy classes at secondary schools in Clackmannanshire, which was touted in the article as a unique example of research.

In short, we simply do not have enough evidence to commit large chunks of children's classroom time to P4C. That interview and his comments to a P4C practitioner can be found at http://tinyurl.com/p4cinterview.

As an educator, I focus on making sure claims have basis and are tested, before rallying people unnecessarily. I do not in any way compare P4C to, but am mindful of, the failure of "learning styles" trends - where all of the studies that purport to provide evidence for learning styles were unable to satisfy key criteria for scientific validity. The major new report published in December 2009 in *Psychological Science in the Public Interest* (a journal of the Association for Psychological Science) has the authors arguing that the current widespread use of learning-style tests and teaching tools is a wasteful use of limited educational resources. Do not let the likes of parents or politicians be unwittingly urged to climb on a similar bandwagon.

Personally, I agree with Daniel Loxton, of *Skeptic* magazine, who urges that skeptics focus on their core business of paranormal and pseudoscientific claims.

Turner should be reassured that competent people are studying the possibilities of philosophy in schools.

Kylie Sturgess
Yangebup WA

I concur wholeheartedly with the sentiments in your December editorial. Put simply, we need to understand why people have a tendency to believe bullshit.

I'd like to comment on one point in regard to the Around the Traps item in that issue, "Ethics instead of Scripture". The idea of the St James Ethics Centre being involved in an alternative to religious studies in NSW schools set my antennae quivering. The SJEC website goes to great pains to proclaim its 'independence' but it was set up by the Anglican Church.

A look at the board of directors gives a few clues. Many of the directors only show their business affiliations, but the ex head of the King's School must be a Christian. Quote the King's School website: "it has also been successful in imbuing in many of its graduates something of the wonderful Christian tradition of service". Anyone familiar with Geraldine Doogue's radio programs will know that she also is a religious Christian.

What we seem to have here is an 'ethics centre' purveying religious dogma cloaked in the language of 'ethics' and 'logic' The Weekend Australian used to run a column featuring a bloke from the equivalent Catholic 'ethics centre' pushing Catholic dogma in the same way.

I would feel happier if the 'ethics' classes were being run by the Humanist Society.

Charlie Carter
Alice Springs NT

Claims & proof

While the Skeptics, and scientists in general, proclaim a rigor founded on observation, I contend that this rigor is substantially overstated and that what scientists do in practice differs substantially from what the scientific method would suggest. Carl Sagan stated "extraordinary claims require extraordinary evidence" and this is the benchmark used to test anomalous phenomena. However, no hypothesis can be tested in isolation; there are always maintained hypotheses. These maintained hypotheses are particularly great in the case of phenomena which by their nature can only be observed wild and cannot be repeated in a laboratory - because in this case the maintained hypotheses have to include things like the credibility and integrity of the witnesses and the reliability of the transmission of the data. Since these things always leave some room for doubt, Sagan's criterion is incapable of giving a positive result and so cannot claim to be 'scientific' if that has anything to do with the objective observation of phenomena.

However, the Sagan methodology is scientific in the sense that it conforms with the institutional practice of science. Science is uncomfortable with anything for which it does not have an explanation and this is the real reason for the rejection of otherwise well-attested phenomena such as UFOs and, perhaps, telepathy. Consider your own consciousness. It cannot be reproduced in a laboratory, has not yet been satisfactorily explained, and if subject to Sagan's criterion it would be dismissed as bogus (indeed some scientists do dispute that consciousness exists for these reasons). Notwithstanding its observational and analytical intractability, consciousness does exist and this should serve as a warning against prematurely dismissing related phenomena. The English physicist Penrose has developed an explanation for consciousness in terms of quantum physics and who knows, perhaps parallel universes can be used to explain clairvoyance. If so, observations of clairvoyance will blossom because it has

become explicable and hence permissible.

The point being, the Skeptics society gives us a chance to be free of the usages, limitations and persecutions of mainstream science. Sagan's criterion is meaningless and statistical methods should be used instead.

Doug McLeod
Beacon Hill NSW

Atheism & the Universe

On February 20, 1943, Dionisio Pulido, a farmer near the Mexican village of Paricutin, and his family, noticed an eruption of ash and stones from a fissure in one of their cornfields. Over the following few days, they became proud owners of a brand new volcano, which reached a height of 5 storeys in a week, eventually reaching a height of 424 metres, before it went extinct in 1952.

Using the Kalam Cosmological Argument: "Anything that begins to exist has a cause. The Paricutin volcano began to exist. Therefore, the Paricutin volcano has a cause." All of these statements are self-evident. Science has no means of predicting why a volcano is going to form in this place (instead of 10 or 100 kilometres away) or at that time (instead of the year or decade before or after) or even when a volcano is going to erupt. Science isn't even able to predict the violence of a volcanic eruption. The Paricutin volcano was finely tuned to be relatively benign to life (only three people died, and that was actually due to a lightning storm during one of the eruptions).

So it is obvious that the Paricutin volcano has a transcendent cause, and further, it proves the existence of the god Vulcan. Atheist scientists insist on the eternity of volcanoes as a means of denying the existence of Vulcan.

Well, actually that is a silly argument, but it is no sillier than Kevin Rogers' argument in the letter "Atheism & cults" (*The Skeptic*, 29:4, p60). Kevin Rogers asserts that, traditionally, the case for atheism is based on the universe being eternal, and so has no cause, and that science will progressively provide an explanation for everything and remove the need for a god.

I would think that the main basis for atheism is the complete lack of evidence for any god. "Absence of evidence is not evidence of absence", but "Absence of evidence for something where there should be evidence is evidence of absence".

Certainly, the hundreds of millions of years Charles Lyell was postulating for the age of the Earth, its true age of 4.6 billion years and the age of the universe of 13.7 billion years, are eternal compared to the 6014 years of traditional Christianity. I somehow find it difficult to accept the existence of a personal god who takes an interest in his creation, in view of the apparent disinterest in the suffering of his creatures.

I don't have any problems with the Kalam Cosmological Argument; the universe has a beginning, therefore it has a cause. It's just that I deny that it was a transcendent cause. I think that there was a (unknown) natural cause, which we may never know.

One of the models is that our universe is just a bubble off a much greater multi-universe (which may be eternal). The fine tuning argument, I find completely unsatisfying. I find naive the idea that, since we live in a universe that has physical constants with values allowing life to develop on at least a tiny speck in the apparent infinity of the cosmos, this indicates that there was a god who deliberately set the values. Where else would we be, except in such a universe?

I also have faith that science will eventually find an explanation for (almost) everything, given enough time and effort. Just because there is a lot that isn't known now (perhaps because the questions haven't been thought of yet), doesn't mean that answers won't be found later. Lord Kelvin (who was one of the greatest scientists of the nineteenth century) calculated the age of the Earth to be no greater than 30 million years old. He thought that this calculation was his greatest achievement and all that was left in science was to measure physical constants with more precision and explain black body radiation. He had no idea of radioactivity, and was therefore gloriously wrong in his estimate.

Perhaps there will be some physical property that will explain the beginning of the universe we haven't thought of yet? And why the physical forces (gravity, electromagnetic, weak nuclear and strong nuclear) have the values they have.

Wayne Robinson
Kingsley WA

"The universe is eternal and so has no cause" is an expectation on which the case for atheism is traditionally based wrote Kevin Rogers. As an atheist, I believe the development of the universe was an inevitable consequence of the effects of the Big Bang, with the Big Bang itself being the inevitable effect of preceding events.

I contend that there have always been some 'things', no matter how sparse they were (look to the particles of atoms for some indication of sparseness). The further back into the past- infinite the more sparse would have been the 'things'. They could have changed (evolved) by friction and collisions through moving along the line of least resistance, with the progression eventuating in the Big Bang.

In my view everything (ultimately) works through the movement of objects along the line of least resistance – this requires the regarding of the sub-atomic as being objects.

In view of present day scientific knowledge such as Darwin's natural selection, the Big Bang theory and the nature of atoms, I find it hard to believe that people, generally, will continue to believe much longer in a supernatural creator who seemingly had magic-like powers. How did that 'creator' create?

Len Bergin
Lower Templestowe Vic

Jesus et al

It would be remiss for *The Skeptic* to allow argument as irrational as that employed by Goss [*The Skeptic* 29:4, p54] to go unchallenged. In particular, Goss's most outrageous claims need to be addressed.

Goss maintains that I asserted that Jesus did not exist. I did not assert that Jesus did not exist. I asserted that there is no good historical evidence that Jesus existed. The distinction is subtle but important. Goss attempts to demonstrate the historical existence of Jesus with fallacious reasoning. He asks, "If Jesus did not exist, why does Christianity exist?" The Hindu religion has 330 million gods. There is no doubt that Hinduism exists. Does that mean that all these gods exist? Goss has to answer "yes". Similarly, Father Christmas must exist because he is believed to exist by hundreds of millions of young people as part of their belief system.

Goss claims that using my criteria, individuals such as Mohammad did not exist. This is wrong. There is no doubt that Mohammad did exist. His life has been well-documented in an historically acceptable manner.

Goss ends his letter "Jesus advised Christians to use their brains." But how could Jesus have advised Christians when none existed during the time Jesus spent on earth? Jesus insisted that he was only interested in preaching to the Jews. As for Jesus advising his followers to use their brains, there is overwhelming scriptural evidence that Jesus was utterly opposed to his followers using their brains. Jesus made it clear that we should follow as sheep. Indeed Jesus called his followers "sheep". He frequently insisted that faith is all that he required of his followers. Blind faith, however, is not intellectually taxing.

Mike Meyerson
McMahons Point NSW

UFOs & circles

Regarding Paul DesOrmeaux's article "Too Snooty to Stop?" [*The Skeptic*, 29:4, p41].

Paul's observations dealing with UFOs I can understand, having been an interested follower (I was tempted to say "observer" but realised that could be misconstrued) for many years via the reams of printed material available. One aspect of ufology I point out to 'believers' is that given the vast number of cameras on Earth, even more so since the digital revolution, I have not seen one convincing photograph in publications pandering to the devout. They (meaning the photographs) are always slightly blurred, out of focus, etc, unless the UFOs are cobbled together from Airfix plastic model kits.

Goss ends his letter "Jesus advised ChThose who may have followed the UFO saga might recall the old chestnut from the 1960s when a dentist surgery light fitting was propelled into the ether and photographed with a Kodak roll film. This particular piece of 'evidence' really started the ball rolling – even though it was later revealed as a hoax.

Moving on to crop circles - unlike UFOs, these can be seen in hundreds of sharp, focused images. Perhaps it's the artist in me (my images are 'science fiction' based, however please don't hold that against me!) but I find crop circles fascinating images/symbols (call them what you will) that have been improving in their complexity and execution to a degree that requires a great deal of finesse, far beyond that of Doug and Dave (the ones perhaps alluded to in Paul's article), the two elderly cider-quaffing locals in the UK who demonstrated their 'skills' for the benefit of television viewers. Given the credibility accorded TV and the popular press, and not only in the UK, this apparently convinced just about everyone that Doug and Dave were indeed the perpetrators of crop circles, even going back to 1978. Oh really?

Apparently one of the earliest known references relating to crop circles is a pamphlet titled *The Mowing Devil*, dated 1678, from Hertfordshire in the UK. (Or perhaps the pamphlet might indicate that Doug and Dave seem to have found the secret of longevity due to indulging in pints of scrumpy?) Incidentally, the largest design to appear overnight so far (in Wiltshire) was approximately 800 feet wide and consisted of 409 circles. Amazing what a few pints of cider can produce.

The point I wish to make is, unless I am presented with credible evidence (as a skeptic would require, surely) as to who, or what, is producing these remarkable images. (I would suggest to those who dismiss them out of hand to take the time to look at some photographs of the circles in question), I am keeping an open mind until such indisputable evidence arrives. Or perhaps Paul could enlighten me as to their origin? I would be intrigued to know from whence he draws his presumed/assumed knowledge/insight/evidence etc which enables him to simply dismiss them as a hoax.

By all means pooh-pooh crop circles, for whatever reason (fear of the, as yet, unexplained perhaps?), but please Paul, as you are apparently a skeptic, would you explain exactly how they are produced? I look forward to reading your explanation so as to assist me in arriving as a satisfactory understanding as to the origins of the continuing enigma represented by crop circles.

Terry Fowler
Roseville NSW

PS: Paul, and other skeptics, may or may not be interested in reading and observing the images in Vital Signs by Andy Thomas. Just a thought.

Cult counselling

My article, "Getting out of Cults" [*The Skeptic*, 29:3], describing our atheist counselling service for the victims of cults and religions, generated several comments [*The Skeptic*, 29:4]. These questioned the nature of the

counselling service, whether atheists should be providing it, and whether atheism itself was even justified.

It was pointed out by Michael Wolloghan that the service does not accord with the standard practice in cult counselling, which avoids addressing issues of the actual veracity of the beliefs, and focuses on the adverse practices of the cult or religion. Michael seems to have completely missed the point, because it is just for this reason that the atheist service is being provided.

Some people feel guilt and anxiety because of their rejection of religious belief and may assume that their inability to accept the beliefs may be a symptom of a deficiency in their own rationality. They need to be assured that this is not the case, and that it is the belief systems that are rationally deficient. Standard counselling services, as Michael says, will not do this.

Other comments on the article appeared to come from religious believers who object to the fact that religious beliefs are not rational. Yet we know that religious beliefs are culturally induced, that they contain numerous falsities and contradictions and that they play upon fear, guilt and emotional needs. There is no doubt that fostering rational cognitions about religions can certainly be of help to those suffering from the trauma induced by them.

John L Perkins,
Atheist Exit Counselling Support Australia
Melbourne Vic

Getting religion

Dr Krissy Wilson writes on "Reasons to Believe" in the December 2009 issue. That article deals mainly with beliefs in the paranormal. I have wondered about religious passion and this led me to consider the way people acquire their religious beliefs. Religious beliefs are acquired early in life while beliefs in the paranormal seem to come later. There might be a connection.

Most religious people have their religious denomination imposed upon them when they are babies. Subsequently, their parents talk to them about their gods, messiahs. personal spirits, writings and messages in religious texts and behaviour in the context of religious morals and punishment from a unique bogeyman. Later, the child attends school, Sunday school, church, temple or mosque and hears a lot of stuff which tallies with their religious ego. That ego seems to the child to be uniquely his or her way of thinking and they have no recollection of having received it all from outside. When the person hears things in later life which tally so well with their personal beliefs, they accept any such information and add it to their store of knowledge.

The fact is that the child has exercised absolutely no judgement in adopting a religious denomination or accepting certain beliefs. Nevertheless, any questioning of their beliefs seems to be an attack upon the individual's own judgement and so the individual reacts with passion. If the individual hears things which tally well with their spiritual ego, they might react by choosing to promote beliefs that seem so good by turning to evangelism. If they hear of an alternative religion which offers something better but without offending the spiritual ego, they might change their religious denomination. Some people question all this and reject it, but even so might find it difficult to reject everything so deeply held, retaining a belief in an afterlife or a god.

To summarise, a child acquires religious affiliation and belief when too young to understand, too inexperienced to know of alternatives, too naive to do other than believe what they are told, too reliant on or respectful of their parents to do other than accept what they say, too young to be able to make a reasoned judgement and too immature to make any decisions themselves.
So the child, in fact their parents too and actually everyone from the Pope up, played no part and exercised no judgement in accepting early religious knowledge and have therefore an extremely superficial basis for their beliefs.
That spiritual ego, acquired so early in life, serves to enable the individual to make judgements, which seem to be soundly based, but aren't, on other matters not necessarily religious. Particularly on matters that have a supernatural flavour. So it might be that people who have retained and not questioned their spiritual ego, might be prone to accept the paranormal.

Brian a'B. Marsh
St James WA

Carl Sagan is dead

I must protest at the description of Carl Sagan Day on the Skeptic web site [http://www.skeptics.com.au/latest/news/monday-november-9th-is-carl-sagan-day/].

Carl did not "pass away" – he died. Using "pass away", "pass over", etc is succumbing to the magical thinking of supernatural power in the use of words.

Animals, plants, bacteria, fungi, moulds and any other self perpetuating set of genes all die.

David Brookman
Salamander Bay NSW

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