

THE SKEPTIC

Vol. 30, No 2. June 2010

TRUTH on TRIAL

SIMON SINGH,
the BCA, SKEPTICS
& the LAW

MEMORY ★ BRAINS ★ HOUDINI ★ WELLNESS





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: July 24 - guest speaker comedian Sue-Ann Post
Bookings online or contact nsw@skeptics.com.au

Hunter Skeptics Inc – John Turner

Tel: (02) 4959 6286 johnturner@westnet.com.au

We produce a 4-page e-newsletter six times a year; contact the newsletter editor (kevinmcdonald@hotmail.com) 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.

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. Dinner from 6pm, speaker at 7.30pm.

See our web site for details: www.qldskeptics.com

Canberra Skeptics – Michael O'Rourke & Pierre Le Count

PO Box 555, Civic Square, ACT 2608
Tel: (02) 6121 4483 act1@skeptics.com.au (general inquiries),
arthwollipot@gmail.com (Canberra Skeptics in the Pub).

Monthly talks usually take place on the 13th of each month at the Innovations Theatre at the ANU. Dates and topics are subject to change. Canberra Skeptics in the Pub gather from time to time at King O'Malleys Pub in Civic. 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/loqdr>

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

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

Darwin Skeptics – Brian de Kretser

Tel: (08) 8927 4533 brer23@swiftdsl.com.au



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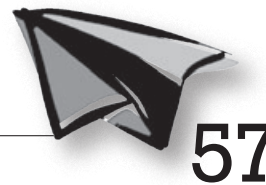
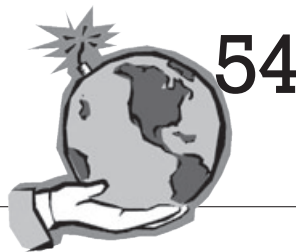
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It's the people ...

In the huge number of issues of *The Skeptic* I have edited since my recent enthronement – all three of them – I have tried to avoid singling out specific articles in this column. The effectiveness of articles, letters, fora, etc are often in the eye of the beholder, and far be it from me to suggest that this one is good, and this one not so (not that we would ever publish any of the latter in these pages).

But breaking with that loosely and briefly-held tradition, I cannot help but recommend a few articles in this issue, all of which revolve around the nature of skepticism.

First of all, there is an excellent article (there, I've done it) by Martin Bridgstock and Kylie Sturgess on a couple of the key figures in the world of skepticism who are looking at the big picture of the future of the movement and the promotion of the same. There are some thought-provoking suggestions in the article, some of which might make a few Skeptics uncomfortable, and make a few others smile with recognition while nodding their heads in agreement.

Another article to be noted is that by Martin Hadley. Martin is a barrister who also speaks English - very plain and blunt English if you say something silly or ill-advised. He has prepared a summary of the recent Simon Singh v the British Chiropractors Association confrontation. The BCA was finally manipulated into conceding defeat, and all praise to Simon for fighting a good fight. But Martin takes that story further, and looks at the issues of slander, libel, how Skeptics sometimes step over that delicate legal mark and how they might avoid the fate that befell Simon without losing their dignity or the point they wish to make. This is a very salutary piece, as most (all?) of us at one time or another may have been a tad intemperate and engage in a little too much plain English for our own

good. You can make your point, but you should be aware of the consequences of how you phrase it. Martin reports from the factory floor, so to speak.

Thirdly, there's the interview with Chris French by Kylie Sturgess (again! just one of three pieces she's authored or co-authored this issue). Prof French is the editor of *The Skeptic* magazine (UK version) as well as head of the Psychology Department of Goldsmith's College in the University of London, where he is also head of the Anomalistic Psychology Research Unit. Prof French comments on the growing sense of community within the Skeptical movement: "I think that for a long time 'community' was something that religious people had, but skeptics and atheists and humanists didn't have so much." No longer so, and that sense of community often manifests itself in pubs and clubs as much as meeting halls and lecture theatres.

[Just as a side note, Prof French appears elsewhere in this issue as co-author with Krissy Wilson; another example of how individual Skeptics, sometimes serendipitously, pop up all over the place to put their varied points of view.]

With people such as these – both the authors and their subjects – not to mention the many others who have contributed to this edition of the magazine, the Skeptical movement is in for exciting times indeed.

There are many who support the Skeptics in one way or another. Some are willing to offer their expertise in a private capacity; some do likewise in public; and there are many who simply want to add their support through their combined number. Long may that continue, and long may the individual members – all of them – thrive and continue to drive the movement to bigger and better things. ■

- *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.

Views and opinions expressed in articles and letters in *The Skeptic* are those of the authors, and are not necessarily those of Australian Skeptics Inc.

Articles may be reprinted with permission and with due acknowledgement to *The Skeptic*.

Editorial submission deadlines

July 15, 2010
October 1, 2010 (early issue)
January 15, 2011
April 15, 2011

Around the traps...

Wakefield “erased”

Dr Andrew Wakefield, the researcher at the centre of the 1998 *Lancet* paper which outlined a supposed link between the childhood MMR (measles-mumps-rubella) vaccine and autism, has been found guilty of “serious professional misconduct” and his name will be “erased” from the UK medical register, pending any appeal.

The UK General Medical Council, which made the recent decision, had earlier this year found Wakefield to be “dishonest”, “irresponsible” and guilty of putting children through painful and unnecessary tests, following the lengthiest such case in its history.

Wakefield’s original paper, as published in *The Lancet*, had 12 co-authors, 10 of whom later disassociated themselves from the paper’s conclusions. On January 2, *The Lancet* itself 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.”

Wakefield’s findings were picked up by anti-vaccination groups as evidence of the dangers of vaccination. That this research was not duplicated by others, and that the co-authors disassociated themselves from it, seemed to be of no consideration 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 paper 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 led 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 GMC also investigated two other medical professionals who were involved in one way or another with Wakefield’s research. Prof John Walker-Smith, who was a co-author of the *Lancet* paper and involved in the research practices, was found to have made “serious and repeated departures from good medical practice”. He will also be “erased” from the medical register, pending any appeal. Prof Simon Murch, another co-author, was found to have “acted in good faith albeit ... he was in error”, and therefore the GMC has not sanctioned him and has decided he is free to continue unrestricted medical practice.

Church and babies reject the AVN

The Australian Vaccination Network has suffered a couple of setbacks to its promotional activities.

Last month, the Uniting Church in the City of Perth cancelled a booking the AVN had made to speak at a church venue, citing that “The message promoted by the Australian Vaccination Network is not in line with the ethos and values of the Uniting Church in Australia.”

The move by the Church was prompted by concerns raised by a number of prominent Church members, experts in the field of ethics and public health, who had advised that the Church’s premises were not an appropriate place for the AVN to spread its misinformation. A spokesman said that, after consultation with the chair of the Church council, “No Uniting Church in the City venue is being made available to the Australian Vaccination Network for tomorrow

night’s meeting. ... We will be more closely examining the ethos and values of all groups that seek to use our space in the future.”

AVN president Meryl Dorey and Judy Wilyman, a PhD candidate at Murdoch University, were scheduled to speak at the AVN seminar titled “Flu Vaccines and Informed Choice”.

Dorey expressed frustration in her newsletter at the late change—she was about to board a plane to Western Australia when she was contacted by the Church to inform her of their decision. She implied a conspiracy against her freedom of speech: “Why would you even make the booking for the venue and then cancel at such short notice – as the facilitators could have arranged an alternative venue instead, if they had more notice. hmmm?”

The AVN later rebooked its Perth seminar for June 1 at the State Library of Western Australia. While that institution, too, received suggestions that it was not a

suitable venue for such presentations, the seminar went ahead.

But in April, the AVN received another knock-back when it was denied advertising space in Copeland Publishing magazines. Copeland is the publisher of monthly publications distributed free in Sydney, Melbourne, Brisbane, Adelaide, Canberra and Perth via childcare centres and baby shops and targeted to Australian parents.

Australian Skeptics understands that the AVN applied to purchase a 1/3 page ad in three publications – *Sydney’s Child*, *Melbourne’s Child* and *Brisbane’s Child* – at a total estimated cost of \$8000. But the publication denied their request, on the grounds that their material was not suitable.

Both organisations were commended for taking such a stance, particularly in the case of the publishers of the *Child* magazines which denied itself advertising income in favour of an ethical decision.

Noah's Ark resurfaces

It never rains but it floods. Two more Noah's Arks have risen from the depths this year.

Johan Huibers, a Dutch creationist, unveiled (if that's the right word) his life-size (if that's the right word) replica of Noah's Ark in the city of Schagen in early April.

Full scale models of giraffes, elephants, lions, crocodiles, zebras, bison and other animals greet visitors as they arrive in the ark, which also features a 50-seat theatre and a cafe, the latter probably not an accurate replication of Noah's on-board entertainment facilities.

Huibers did most of the work with his own hands, using modern tools (sounds like cheating) and help from his son Roy (only one son, so that probably makes up for the modern tools).

Huibers said he hoped the project would renew interest in Christianity in the Netherlands, where church-going has fallen dramatically in the past 50 years.

Meanwhile, in traditional Arkish territory, a team of evangelical Christian explorers claimed they'd found the remains of Noah's Ark on Turkey's Mount Ararat.

A group based in Hong Kong called Noah's Ark Ministries International made the latest discovery claim only a couple of weeks after Huibers unveiled his version.

In 2007, the joint Turkish-Hong Kong expedition claimed to have found an unusual cave with fossilised wooden walls on Mount Ararat, well above the vegetation line. The sample was declared by the Department of Earth Sciences at the University of Hong Kong to be petrified cypress wood. In April of this year, members of the group reported carbon dating suggesting the wood is approximately 4800 years old. Yeung Wing-cheung, a filmmaker accompanying the explorers, told *The Daily Mail* "It's not 100 per cent that it is Noah's Ark, but we think it is 99.9 per cent that this is it." That's what we like to see in Arkaeologists – a passion for complete accuracy.

Some have cast doubt on the authenticity of the find. *National Geographic* magazine quoted Paul Zimansky, an archaeologist from Stony Brook University in New York State specialising in the Middle East, as saying "I don't know of any expedition that ever went looking for the ark and didn't find it."

Briskepticon DVDs

The DVD set of the recent Briskepticon Skeptics conference is now available for purchase from the Queensland Skeptics Association.

The price is \$25.00, which includes postage within Australia. However, if you would like pick up a copy at the monthly meeting in Brisbane, then place an order and the price is a discounted \$20.00.

Methods of payment:

- By cheque made payable to Qld Skeptics Association Inc, PO Box 1388 Coorparoo DC, Coorparoo QLD 4151
- Direct debit: BSB 484-799 Account No. 036529666. As payment reference to the bank, please provide your surname and first name and email transaction details to mkittson@optusnet.com.au.

Please clearly print your full name and address to ensure successful delivery. Unfortunately, there is no credit card payment facility available for purchasing the DVD.

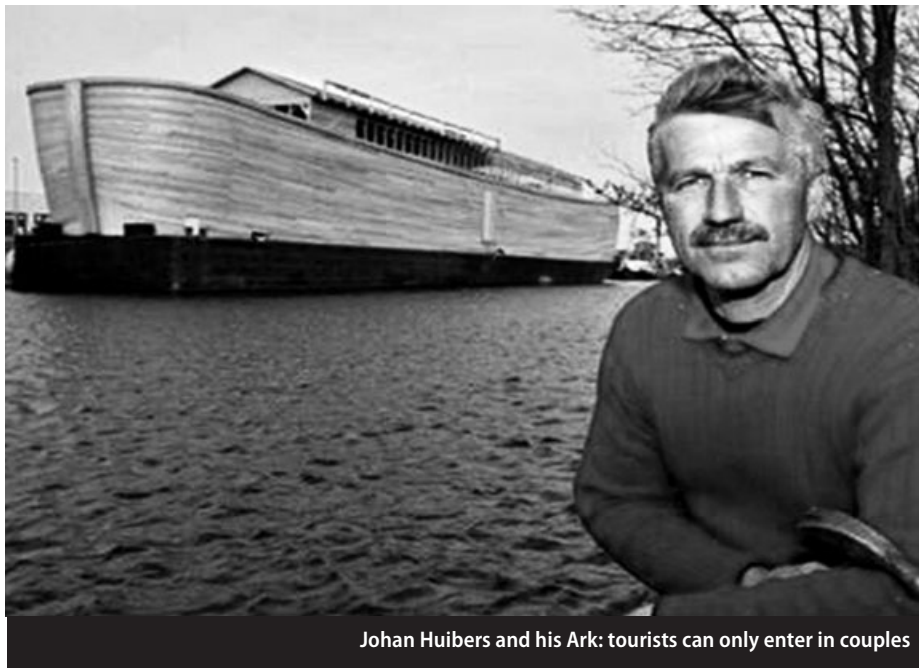
Thanks go to Richard Saunders from Sydney who recorded proceedings and who has provided us with a high quality professional product. Note that because of contractual obligations, the presentation made by Dr Karl Kruzselsnicki was not recorded and therefore is not included on the DVD.

Alternative medicine is costly witchcraft

A meeting of the British Medical Association's 'junior doctors' sub-group passed a motion at its annual conference in May denouncing the use of homeopathic medicine.

The UK *Telegraph* reports that Dr Tom Dolphin, deputy chair of the Association's junior doctor's committee, told the conference "Homeopathy is witchcraft. It is a disgrace that nestling between the National Hospital for Neurology and Great Ormond Street [London], there is a National Hospital for Homeopathy which is paid for by the NHS [National Health Service]."

The motion was supported by BMA



Johan Huibers and his Ark: tourists can only enter in couples

chairman Dr Hamish Meldrum, though it will only become official policy of the whole association if it is agreed by its full conference this month.

Meanwhile, in an article in *Australasian Science* magazine, Dr Ken Harvey of LaTrobe University's School of Public Health, said health insurance premiums are being driven "higher than they need to be because the insurers involved fund alternative therapies that lack an evidence base, such as homeopathy, reflexology and iridology.

"As the government substantially subsidises private health insurance, this means that all taxpayers are contributing to therapies that lack evidence of their effectiveness."

Creationist winners and losers

The US-based National Center for Science Education (NCSE) has announced its first UpChucky Award, given to the creationist "whose efforts in the preceding year would inspire Darwin (or any rational person) to 'drive the porcelain bus'."

Robert Luhn, NCSE's director of communications, says "When it comes

to dissing evolution (and science in general) there's no lack of volunteers. How to decide which among them is the worst? The UpChucky Award recognises supreme achievement in the field of persistently rejecting evolution in the most stomach-turning way imaginable."

And which creationist was thrilled to receive the award, and no doubt thanks Jesus at the award-giving ceremony?

The winner was Don McLeroy, former chair of the Texas Board of Education. As indication of his worthiness to receive the award, a notable quote from an address to the Board in 2009: "Somebody's got to stand up to experts!"

Luhn reports that Texas voters recently voted McLeroy off the Board, but that hasn't stopped them making a number of amendments to their state science standards. Seen by some as a back-door method of getting creationism or 'intelligent design' onto the syllabus, *New Scientist* reports that one of the amendments requires students to "analyse and evaluate scientific explanations concerning any data on sudden appearance and stasis and the sequential groups in the fossil record".

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An amendment to the Earth and space sciences curriculum requires the teaching of different theories of the origin, age and history of the universe. The board voted to remove from the standards the statement that the universe is roughly 14 billion years old.

School textbooks are required to comply with a state's science standards, so all changes to the science standards translate into changes to textbooks. And because Texas is a large market for textbooks, its buying-power influences what books are available in other states.

In two years, the Board will meet to review the state's textbooks, so creationists have been eager to slip in changes to the standards ahead of time, *New Scientist* says. ■

— VALE Martin Gardner & Jef Clark —

The Skeptical community lost two well-known and highly influential figures in the last few months. Past editor and executive officer, Barry Williams, reminds us of their contributions:

One of the cant terms that has gained wide currency in recent years is that of the 'public intellectual', a broad canvas that all too often refers to those who see it as their public duty to tell us *what* we should think. Fewer in number, but more applicable to the Skeptical enterprise, are those who tell us *that* we should think, and, sadly, the last few weeks have seen the loss of two exemplars of this approach.

Of Martin Gardner, who died at 95 in late May, what can be said? He wrote extensively and learnedly on many topics - mathematics, magic, philosophy and much more. I still have his first skeptical book, *Fads and Fallacies in the Name of Science*, which he first published almost 60 years ago, and I have been a fan ever since. He was one of the founders of the modern Skeptics movement and his contribution has been immeasurable. He was a Titan of Skepticism and we are much the better for his life and saddened by his loss.

I first met Jef Clark around eight years ago, when he visited me at the Skeptics' editorial office with ideas for some articles on how to spot popular, though fallacious, arguments. I liked the ideas and I liked Jef, and so we published a number of his pieces which later became part of the book he co-edited with his son, Theo, under the title *Humbug! The Skeptics field guide to spotting fallacies in thinking*. This book became a best seller through the Skeptics on-line shop and has more recently become an on-line guide in its own right.

I respected Jef for his energy and forthrightness in exposing humbug wherever it appeared, and I liked him a lot for the sort of bloke he was - frank, friendly and with a ready wit. I knew he had suffered bad health for a long time, first from MS which was in remission and later from the cancer that took him from us at the tragically young age of 61, only a few weeks ago. I know that Jef's family will miss him, as will I. You don't meet enough good blokes in life and their loss is deeply felt.

It is an honour to belong to a movement that has fostered the intellectual talents of people such as Martin Gardner and Jef Clark. They have truly made a difference.

Barry Williams

Down Among the Unbelievers

Kylie Sturgess took a trip to the Atheist Convention, and found considerably more than token skepticism.



Last year I was approached by the Atheist Foundation of Australia, as a member of the *Skeptic Zone* and *Token Skeptic* podcasts, to present and MC at the 2010 Global Atheist Convention - the GAC - held in Melbourne on March 12-14. Touted as the biggest atheist event in Australia's history, it was even rumoured to be the biggest such convention yet to be held in modern times.

I'd say it was completely unmissable by anyone's standards, considering the line-up of presenters - Australian and internationally acclaimed atheists, skeptics, humanists, rationalists and academics. Advertising for the convention proclaimed that "The bigger we can make this convention, the stronger the signal it will send to Australia's religious and political institutions that atheism and secularism are forces to be reckoned with." I think the overall response from critics prior to and during the event was a fervent hope on their part that it wouldn't be so - which hardly discouraged anyone who planned to go!

BEFORE THE CONVENTION

The book launch of *Fifty Voices of Disbelief: Why We Are Atheists*, edited by Russell Blackford, was scheduled at the Nova Cinema in Carlton, a tiny theatre tucked away among tram-tracks and fashion stores. It is there that both Blackford and the philosopher AC Grayling held forth on a discussion of secularism and atheism, to a packed crowd.

It was an excellent introduction to not only the passionate and charismatic Grayling, but many of my fellow attendees of the GAC. Clinging to the rails and handholds of a crowded tram, I ended up shouting jokes with Chrys Stevenson and Warren Bonett of the Sunshine Coast Atheists, before enjoying an impromptu dinner at a Federation Square hamburger bar.

The first full day, the Saturday, was to be held in a convention room seating 1500. Sunday's sessions required us to move to a larger segment of the convention stadium to seat 2500. However, the bloggers breakfast on Friday morning, with opinionated biologist and cult-online science blogger

Right, Phillip Adams realises he must be in the wrong seat.

Below Richard Dawkins spares a moment for the photographer.

All photos are copyright Geoffrey Cowan (KEB Photography) and received with much thanks.



PZ Myers, featured a dozen fellow online commentators laughing at how he couldn't quite handle a communion cracker spread with salty Vegemite!

The Young Australian Skeptics (or YAS), who run the youth-orientated podcast *The Pseudo-Scientists*, were involved in a variety of activities – they were spotted proudly wearing volunteer shirts, directing the crowds and helping backstage during the event. YAS team-member Jason Ball launched the Freethought University Alliance with the help of Myers. It was wonderful to see so many young and enthusiastic representatives from different universities, from across the country, all dedicated to creating and sustaining campus activism through various projects.

The Friday night started off with dealing with stage-fright by running around with fellow MC and President of Atheist Alliance International, Stuart Bechman. He's a wry and gentle-humoured man who was as wide-eyed as I am at the hundreds of people rolling in to collect their tickets. "Is this real? Where did these people come from? They're really going to be listening to the likes of us?" I quietly counted the numbers of women lining up and came up with a ratio of about 60/40 male to female.

The night started off with David Nicholls, the convention committee chairman and president of the Atheist Foundation of Australia, pointing out that we are "part of the majority for a change"! Backstage, I greeted the energetic

and articulate comedians and writers Catherine Deveny and Sue-Ann Post - women whose careers I have followed since I was a teenage Doug

Anthony All Stars fan and dreamed of attending a Melbourne Comedy festival. Their accounts, while drawing from two different religious upbringings (Catholic and Mormon), were both hilarious and vulnerable and we're all completely engrossed with their

experiences. Sue-Ann Post, in particular, had a stand-up routine that set the scene for the rest of the convention, urging us to critically evaluate the ramifications of unquestioning faith and the mainstream assumption that they benefit society. I'm delighted to get a signed copy of her book *The Confession of an Unrepentant Lesbian Ex-Mormon* and learn that she's a keen Skeptic and reader of *The Skeptic* magazine. I hope that she'll contribute to future editions.

commentary' of nearly every minute that passed.

It was the radio broadcaster and elder statesman of atheism in Australia, Phillip Adams, who started off the conference with a distinct message about skeptical activism and his views on its success – his talk, *The Atheist Delusion* is replicated on the ABC's *The Drum* website:

"Twenty years ago, [actually thirty – Ed] Dick Smith and I aided and abetted the creation of the



THE MAIN DAYS

When presenting a short opening-address on the Saturday, I acknowledged the power of the internet in helping a

new generation to network and attend the convention, including European back-packers, rural and remote region Australians - and even a honeymooning couple, Patrick and

Grace from the Charlotte Atheists and Agnostics of North Carolina! With over five-thousand Tweets documenting every lecture and every joke about AC Grayling's gravity-defying hair, this was both a real-world and cyber-convention, with the audience providing a 'director's

Australian Skeptics, the local branch of CSICOP, the Committee for the Scientific Investigation of Claims of the Paranormal. CSICOP deals with displaced religiosity... Far from winning, the Skeptics and CSICOP have lost ground to Millenarian and Shirley Macleanish madness. Turn on cable or free-to-air telly and you'll see an ever increasing number of programs based on paranormal detectives while John Edward and his fellow frauds talk to the dead. And the amount of space in newspapers given to astrology has by no means decreased. We live in a parallel universe to these people. The beliefs and behaviours that came from the Baptismal font in mainstream faiths have simply deformed and reformed."

Despite this sobering summation of the 'lost ground of skeptics', the

“ Millenarian and Shirley Macleanish madness ... John Edward ... astrology ... We live in a parallel universe to these people. ”

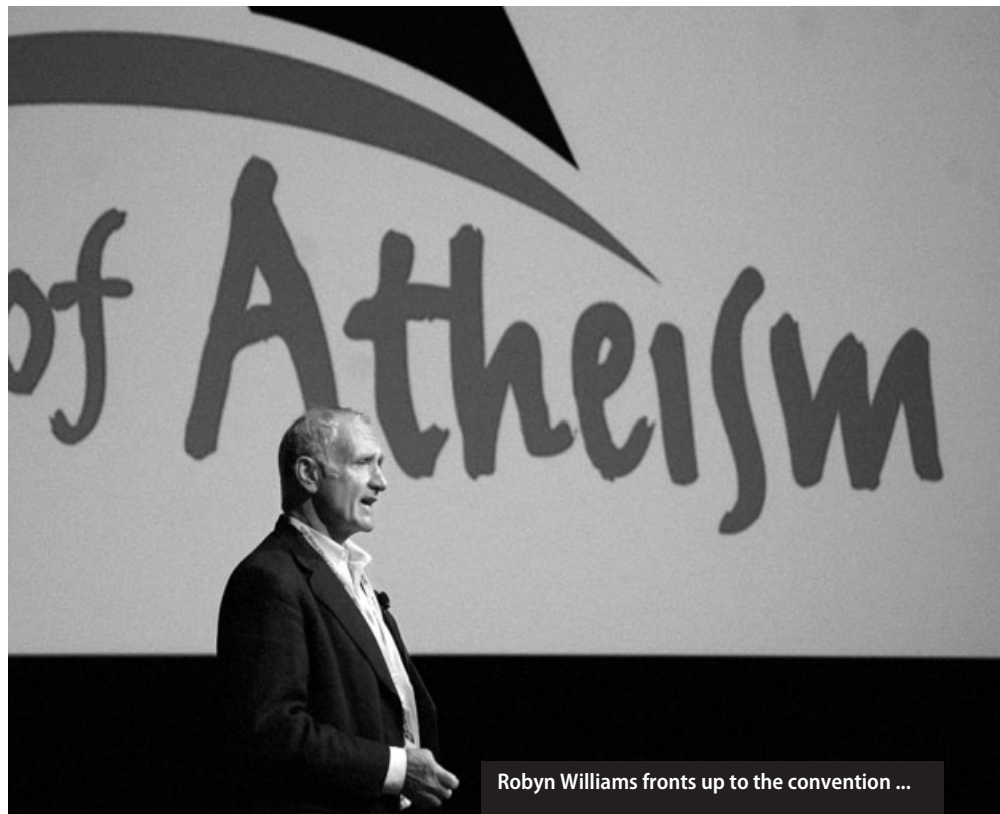
Among the Unbelievers

Continued...

dominant themes of his and other presentations were primarily of atheism, human rights, injustice and activism – as you might have expected for an atheist convention. While science and rationalism does overlap with skeptical thought, as Adams indicated, they are not one and the same.

The booths and the promotional materials for the GAC foyers during the breaks featured no ‘skeptic’ groups beyond the Young Australian Skeptics. I did spot representation by the Australian Sex Party (with their pro-choice and pro-sex-education flyers), and a great many atheist groups both official (the Atheist Foundation of Australia, the Atheist Alliance International who reworked their flyers for an Australian audience) and unofficial (various Facebook and Meetup.com groups). I was later angrily challenged by Bangladeshi presenter Taslima Nasrin as to “Why are Deepak Chopra’s books on sale at the bookstand in the foyer?” and had no idea what to respond!

Having met AC Grayling earlier during his tour of Australia, I was interested in the part of his presentation that criticised people who are funded by the Templeton Prize, which presents money to scholars who can demonstrate “a substantial record of achievement that highlights or exemplifies one of the various ways in which human beings express their yearning for spiritual progress”. I later remembered where I had first heard of the Templeton Foundation. It was at the Skeptics Society annual conference at Caltech in 2008. Dr Michael Shermer wrote at length on the level of their involvement and how they helped out with the travel expenses for the afternoon colloquium speakers on the Big Question topic. While the rest of Grayling’s lecture outlined how past Templeton Prize-winners have worked to bring science and religion together in a form of mutual comprehension, this



Robyn Williams fronts up to the convention ...

entanglement (or “embranglement” as he put it), according to Grayling, is more about different ends being achieved in different ways. It was certainly not an encouraging message for future skeptical-group involvement with the Templeton Foundation after his summation.

One of the stand-out presentations was the women’s panel, with bioethicist Leslie Cannold, author and social worker Tanya Levin, secular education advocate Jane Caro and rationalist Meredith Doig. I heard many people urge organisers to consider having more of the female perspective, particularly considering how few opportunities there were to challenge the stereotype of the ‘bearded, white male’!

The greatest honour that I had, however, was to introduce the author Taslima Nasrin, who was born in Bangladesh, raised as a Muslim and has long been targeted by Muslim extremists. When I started researching all the presenters that I was going to

introduce, I knew that most people in the audience would have no idea who she was and that they were going to be completely blown away by her story when they did hear her.

The result was a solid minute and a half of applause for her presentation, “On my Struggle for Secularism, Human Rights, Freedom of Expression and For Women’s Freedom”. It was incredibly engrossing to hear her account and rather daunting to be on a stage with bodyguards surrounding

it because of the threats to her life.

Photos were snapped of PZ Myers bemusedly chatting to less than a handful of protesters outside the venue, who could only

“ It was daunting to be on a stage with bodyguards surrounding it because of the threats to Taslima Nasrin’s life. ”

produce “irreducible complexity” as their reason for belief in creationism. It was a disappointing show in comparison to the numerous philosophical and scientific arguments that were being debated on the stage and in the corridors of the convention! His presentation on the Saturday afternoon featured his

starring role in the YouTube comedy video *Mr Deity and the Science Advisor*. “We shouldn’t criticise religion because it is evil,” he summarised, “but because it’s wrong and it makes you stupid”.

The Saturday night dinner had me take part in a magic trick on the stage by a regular on the Victorian skeptic scene, Simon Taylor, as he wowed us all with his illusions and mind-reading tricks. It was a great opportunity to secure an interview with one of the Chasers, Julian Morrow who, with team-member Craig Reucassel, fired through a hilarious routine that mocked as much as it celebrated atheism. I’ll never look at the Atheist bus-posters quite the same way again after seeing what they did to a London double-decker!

Despite Richard Dawkins’ lecture being about “Gratitude for Evolution and the Evolution of Gratitude” (as you might have expected), it was his views on religion and not science that he was grilled upon during the question and answer session.

Introduced to the stage with the beginning of an evolution-themed music video *Right Here, Right Now* by Fatboy Slim (that he’d never seen before and commented that he wanted to see it in its entirety!), he touched upon the notion that an “atheistic, scientific and skeptical world view” did not necessarily mean a “joyless and dull” one. He emphasised that evolution is “not chance” but is instead a highly predictable process driven by natural selection and accidents causing separation of populations. He posed the notion that what perhaps led people to the desire for religion was a “lust for gratitude” and pondered whether his gut-feeling that life was rare in the universe (that he admittedly does not put much stock in) was true?

Despite this presentation being very science-oriented rather than a religious critique, around about the point when he covered the notion of a “divine knob-twiddler” in charge of the universe, I had to stifle my giggles. I’m certain that he wasn’t unfamiliar with that reaction though, considering the grin he shared with the audience. What made it particularly newsworthy was how during the official question time, one was posed by a media representative, Jacqueline

Maley from Melbourne’s *The Age* newspaper. She interpreted the answer to suit herself when writing her article, and it was picked up by other commentators. Such is the nature of journalism, you might be thinking.

However, the general feeling among those who attended, as opposed to some journalists who clearly didn’t, were largely praising of the conference. Even now, with protests against ethics classes in NSW and the creation of a new ‘Reason Australian’ group to unite as many different rationalist groups across the country as possible, there is a sense of ‘not being alone’.

I think the lesson that will remain with me is that of Taslima Nasrin’s continuing struggle to not only be heard but to survive under the threat of a Fatwa. How, despite the ease of cracking open a laptop and reading the blog-accounts and Twitter-stream backstage, technology was no answer for her people

continue to speak out despite the death threats, even as he recommended from the stage to say instead that one is silenced in the face of religious fundamentalism due to “fear, not respect”.

As Steve ‘Non-Stamp Collector’ and I stood waiting for a taxi at the end of the Sunday, we reflected that we were, just briefly, fellow travellers rather than tourists on the journey that many of these presenters have taken with their careers. Both of us are currently employed in a teaching capacity - one in Japan teaching English, the other in Western Australia, teaching philosophy. While we in no way compared ourselves to the intellectuals like Grayling or Adams, Singer or Dawkins, it was gratifying to know that we were reaching a growing rationalist audience that extended well beyond the traditional print text, let alone our classrooms.

I also concluded that I didn’t think that skeptics should rest on their laurels,



... while Sue-Ann Post takes a well deserved break.

in the remote areas of India whom she needed to reach with her message of resilience under religious oppression.

Professor Dawkins and I soberly considered how we very much rely on the internet to help us express points of view freely, especially after he offered to host not only Taslima’s banned work on his site, but the spiked newspaper article about the convention by Catherine Deveny. Dawkins concluded that Taslima was brave and courageous to

as Adams concluded at the start of the convention. Clearly many who attended did not know what it was to be a skeptically-minded person, and probably wouldn’t identify themselves as such. But I would certainly rethink how despite the differences in ‘isms’, that skeptics cannot ignore the potential power of these kinds of organisations to capture and sustain the media’s attention, or the efforts they make to support each other when they are silenced. ■

Why Africans are religious

Leo Igwe reports on religion in Africa – Islam, Christianity and no alternatives.

A new study conducted by the Washington based Pew Forum on Religion and Public Life says that Africans are among the most religious people on earth. The study, titled *Tension and Tolerance: Islam and Christianity in Sub-Saharan Africa*, was based on more than 25,000 interviews conducted in more than 60 languages in 19 countries. According to the study, at least half of all Christians in Sub-Saharan Africa believe Jesus will return in their lifetime. One in three Muslims in the region expect to see the re-establishment of the Caliphate – the Islamic golden age – before they die. At least three out of 10 people across much of Africa said they have experienced divine healing, seen the Devil being driven out of a person, or have received a direct revelation from God. About a quarter believe that sacrifices to their ancestors can protect them from bad things happening. Sizeable percentages believe in charms and amulets. Many consult traditional religious healers, and sizable minorities keep animal skins and skulls in their homes. The study found that in many countries across the continent roughly nine in 10 people say religion is very important in their lives.

Do these findings surprise anyone? Surely they shouldn't for anyone familiar with the situation in Africa. These findings do not surprise me at all.

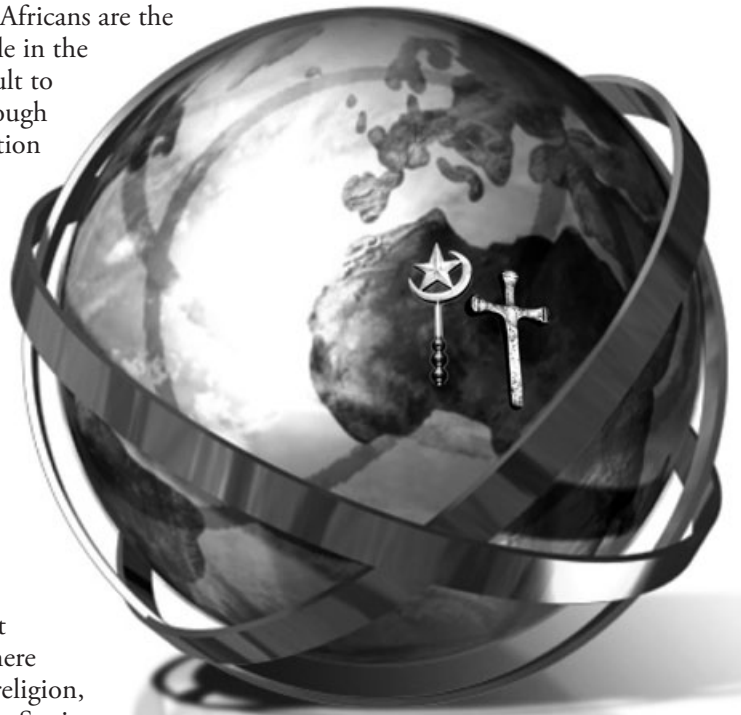
I am an African. I was born in Africa, I live and work in Africa, I am non-religious though I was born into a religious home. I attended religious schools. I had a typical (African) religious upbringing. I do not believe that Jesus will return again. I do not think that the Biblical Jesus existed and even if he did, I think he's gone – and gone forever. I can't see the world coming under an Islamic

Caliphate beyond what we have been experiencing since September 11, 2001. I have never experienced divine healing and I don't think those who claim to have experienced it are honest with themselves. I have not seen a devil being driven out of any person, but have seen self-induced hysteria by some Pentecostal con artists. I have not received any revelation from God – unless one day some godly people claim that their god revealed this piece to me. I don't believe that sacrifice to the ancestors will protect people from harm, otherwise their ancestors would be alive today. I think charms and amulets are useless, and consulting traditional healers and clerics is a waste of time.

The reasons why Africans are the most religious people in the world are not difficult to see. Africans go through religious indoctrination from cradle to the grave. Africans are not allowed by family, society or the state to think, reason or live outside the religious box. In Africa religion is by force not by choice, by compulsion and not according to one's conscience. Africans are brought up to believe that there is no alternative to religion, when in fact there is. So, in Africa, either you are religious or you are nobody, you are not a human being, you are nothing. There is too much social and political pressure on Africans to be religious and to remain religious. The social, political

and sometimes economic price of leaving religion, renouncing religion or criticising religion is high. So Africans are religious willy-nilly. Africans are obliged to profess all sorts of religious nonsense even when they know it is nonsense.

At home, religious indoctrination is the first form of orientation an African child receives. At a very early and impressionable age, infants are taught to recite meaningless syllables called prayers. Children are brainwashed by parents with various religious and spiritual myths. Their minds are infused with all sorts of religious dogma. Parents ensure that children are brought up in their faith – the faith of the family and the faith of their fathers. Children are taught to believe and follow, and not to question religious teachings even when there





is every reason to do so. Some of the findings of the Pew Forum describe the 'sacred' teachings that African kids receive and are told not to challenge, examine, criticise or renounce. African children are brought up to believe them and to swallow them hook, line and sinker. Not questioning one's family religion is seen as virtuous and the mark of a good child. This religious tradition is upheld and handed down unchallenged from one generation to another in Africa.

The religious brainwashing continues in schools. Most African colleges are centres of religious indoctrination. Western missionaries and Arab jihadists brought formal education (the model widely used today) to the continent. They established schools to win converts and recruit new members, not really to educate Africans. So schools in Africa are covert churches and mosques. Education is faith based. And this religious tradition is still upheld in most schools across the continent.

Some of the findings of the study cover what African pupils are taught every day in schools – what they recite and memorise as part of their compulsory morning devotions. Pupils at one Islamic primary school near my house in Ibadan sing this song everyday as part of their morning devotion: "We are soldiers. We are soldiers. Fighting for Islam. Fighting for Islam. In the name of Allah, we shall conquer, we shall conquer."

Every morning these children are made to recite that they are Muslim children and that they believe in Allah and Mohammed as his messenger. What can we expect from these children as adults after going through this religious drilling and being brainwashed with superstitious messages? Will they ever grow to say that religion – in this case Islam – is not important in their lives? So in school, as at home, African students are taught to blindly accept so called divine revelations without question. They are induced to try and have some encounter with God or to have some spiritual experience as a manifestation of faith or piety. Children and young

people are made to believe that professing their faith is the mark of a good student, and that education is not complete without religion or belief in God. So why should anyone be surprised that most Africans attach so much importance to religion?

This religionising continues in politics and in the state houses across Africa. State power is used to endorse, promote and privilege religion. In Africa, prayer, piety and politics go together. Religion and politics mix. States are not separate from churches and mosques. So there is immense political pressure on individuals to be religious, and to remain religious and faithful even when they are not convinced of religious teachings or would prefer to be faithless. Many African countries have adopted one or more religions as their official religions. For instance in Morocco, the King is not only the president of the country, but also the commander of the faithful. So every Moroccan is under political pressure to be an Islamic faithful, particularly Sunni Islamic faithful. The president of Gambia, Yahya Jammeh, is addressed as Dr, Alhaji, Sheikh, among other titles. Some years ago he added praying for the citizens to the list of his presidential duties, as well as trying to heal the sick – including those who have HIV/AIDS – by reciting verses from the Koran. In the self-styled Islamic republics, no-one who is not a Muslim can be president. What special value does being a Muslim add to the post of the president? None. In Gambia, the government erected magnificent mosques in all public schools in the country - schools without good classroom blocks, no libraries or laboratories.

In Africa, politicians have created a climate where to be a good citizen one must be religious or expressly pious. African politicians have made it appear that theocracy, not democracy, is the best form of government, and the Bible and the Koran are the best constitutions. African politicians strive to ensure that state legislation is based on these 'holy books' and that any policy, program or proposal not in line with the sacred texts is thrown out.

Another reason for the high level of piety in Africa is because most Africans do not think for themselves. They allow clerics to think for them. Africans consult their priests, bishops, sheikhs, marabouts, traditional medicine men and women whenever they have problems or want to embark on a major project. And they accept whatever they are given, such as charms like holy water, and olive oil as solutions and remedies. They do whatever they are told to do, including carrying out ritual killing and sacrifices.

Lastly Africans are deeply religious because of the lack of human rights and particularly religious freedom in Africa. This may sound like a contradiction, and some might argue that the high level of religiosity in Africa is due to too much religious freedom, but this is far from the case. There is no guarantee of religious freedom, and no protection for freedom of conscience. Africans have no freedom of religion or belief and are denied this basic human right by both state and non state actors. They are forced to be religious and to remain religious. Mechanisms to protect and defend the human rights of those who change their religion, who renounce or criticise religious beliefs, or who do not profess any religion at all, are weak or non-existent.

Religious believers and non believers are not equal before the law. Many Africans are religious because they don't want to be in the minority. They don't want to renounce what the majority upholds. They don't want to denounce what the state or society reveres. Many Africans are religious because they just want to play along.

Africans are among the most religious people on earth because of the failure of family upbringing, the failure of human rights and the rule of law, failure of the educational system, social and political pressure, and bad governance.

Africans are religious because for them there is no alternative. ■

Truth *on* Trial

Sydney barrister Martin Hadley gives a plain English report on the issues raised by the *BCA v Simon Singh* libel case.

The charismatic science presenter Dr Simon Singh has won his case. The British Chiropractic Association which sued him for libel has now thrown in the towel. They will pay Simon's legal costs 'as agreed or assessed'. If he gets his costs assessed his lawyers believe he will end up about £20,000 behind out of a total bill for his costs of about £200,000. We can expect any agreed figure to reflect that predicted shortfall. The BCA pays all of its own costs on top of what it pays Simon.

The BCA pays all of its costs on top of what it pays Simon.

We mostly think of court cases as one-off events. Early on, there may be a few 'mentions' – short hearings to administer how the parties will exchange documents and prepare their cases. Eventually we expect a trial which is basically sudden death, unless an error of law gives rise to an appeal. By contrast, defamation cases, here and in the UK, often involve a series of hearings as allegations and defences are refined. The determination of 'preliminary points' can profoundly affect a party's chances in the final hearing.

We shall see how Simon wrote an article for *The Guardian* newspaper. It mentioned chiropractors and their representative body, the British Chiropractic Association or BCA. They took exception to part of the article. As far as they were concerned, Simon was stating, as a fact, that the BCA promoted treatments which it knew were bogus and ineffective.

There was a preliminary hearing over whether Simon was stating a fact that the reader should accept; or only expressing an opinion for the reader to consider for themselves. That was determined up front because it would affect Simon's choice of possible defences. Could he argue that he had expressed an honest and reasonable opinion based on various facts that were set out in the article for the reader to evaluate? Or was he confined to showing that what he had stated was substantially true – usually a much more difficult defence to make good?

It was a blow to Simon when the judge decided that Simon's text read as a statement of fact. The defence of honest opinion was closed off. It was clear that the BCA as plaintiff would get to first base by proving the elements of its cause of action – discussed below – and Simon would then have to return service by proving the truth of what he had said.

Some onlookers might have expected Simon to embrace that task with relish because it would have put the BCA and the lore of chiropractic at the centre of the case.

Whether Simon was stating a fact about the BCA or making a comment about what they promoted, you might think that his language was of the combative kind we see from people



who want to get sued for defamation so that they can expose an issue.

Elsewhere in the article, Simon had stated grounds for saying why certain treatments, promoted by the BCA, were bogus. However, proving that the treatments were ineffective and that the BCA knew that, would have been an expensive exercise involving days in court and the expense of Queens Counsel representation. Perhaps Simon decided that he could not afford even to win such a case, let alone lose it.

Simon decided to appeal the preliminary decision that had gone against him. Three judges overturned the decision and ruled in Simon's favour, opening the door to a defence of fair comment while leaving truth still available. As luck would have it for us, the announcement came as about 80 Sydney skeptics gathered for their monthly meeting at the Crown Hotel, near to our own District Court. Celebratory libations were expedited.

We were delighted to spread the news on our website. The optimistic wish expressed in this summary has come true: "This result could be like the breakthrough try that puts a team



ahead just before half time, but such metaphors are problematic when there is so much uncertainty about how much work lies ahead. The appeal victory could provoke a settlement within weeks. Or we could see a long trial, in which chiropractic itself becomes the accused as Singh's team show why the expression 'bogus treatments' was rightly used."

But let's take a step back and see exactly how this situation came about in the first place.

WHY SIMON WAS SUED – THE DETAILS

On April 19, 2008, The Guardian newspaper published the article on a page labelled "Comment and Debate".

The BCA complained to *The Guardian* and Simon. The newspaper offered a right of reply, but the BCA opted for court instead of 'the marketplace of ideas'. *The Guardian* took the article off its website and the BCA focused their attack on Simon alone.

A party who alleges they have been defamed is not obliged to accept an opportunity to reply. They do not have to accept even a generous apology or retraction. They have the option of 'going legal' immediately (though that entails a risk of appearing unreasonable and that can lead to reduced damages in the end). If a newspaper article is defamatory, then the author and the newspaper can both be liable. The injured party, the plaintiff, usually sues both, or sometimes the newspaper only. It is very rare to sue only the author in person and that unusual action by the BCA has led to allegations of stifling discussion of the issue.

It is common for a plaintiff to cite the nastiest bit of an article. In contrast, the publisher will often say the meaning is much more balanced and fair if you look at the whole thing. The law seeks to re-create the experience of the reasonable reader. Here is the relevant section of the article – the first four paragraphs. The highlighted words are what the BCA sued on. The rest is what Simon says should be read to put that passage in context:

"This is Chiropractic Awareness Week. So let's be aware. How about some awareness that may prevent harm and help you make truly informed choices? First, you might be surprised to

know that the founder of chiropractic therapy, Daniel David Palmer, wrote that '99 per cent of all diseases are caused by displaced vertebrae'. In the 1860s, Palmer began to develop his theory that the spine was involved in almost every illness because the spinal cord connects the brain to the rest of the body. Therefore any misalignment could cause a problem in distant parts of the body.

"In fact, Palmer's first chiropractic intervention supposedly cured a man who had been profoundly deaf for 17 years. His second treatment was equally strange, because he claimed that he treated a patient with heart trouble by correcting a displaced vertebra.

"You might think that modern chiropractors restrict themselves to treating back problems, but in fact they still possess some quite wacky ideas. The fundamentalists argue that they can cure anything. And even the more moderate chiropractors have ideas above their station. *The British Chiropractic Association claims that their members can help treat children with colic, sleeping and feeding problems, frequent ear infections, asthma and prolonged crying, even though there is not a jot of evidence. This organisation is the respectable face of the chiropractic profession and yet it happily promotes bogus treatments.*

"I can confidently label these treatments as bogus because I have co-authored a book about alternative medicine with the world's first professor of complementary medicine, Edzard Ernst. He learned chiropractic techniques himself and used them as a doctor. This is when he began to see the need for some critical evaluation. Among other projects, he examined the evidence from 70 trials exploring the benefits of chiropractic therapy in conditions unrelated to the back. He found no evidence to suggest that chiropractors could treat any such conditions."

THE LEGAL ARGUMENTS

A critical thinker will see a number of issues raised by the article, as well as a mixture of fact and opinion. Let's

attempt a basic classification.

- It is Chiropractic Awareness Week – fact. During what is presumably a marketing exercise by the chiropractors, Simon ironically urges us to be aware of what is really going on. That we need to engage is clearly his opinion.
- Then there are some statements about Palmer and we take those as facts.
- Then: chiropractors do not confine themselves to back problems – another apparent fact.
- Some have the idea they can cure anything – possibly a fact but it sounds exaggerated – and this is a whacky idea – opinion.
- The BCA makes various claims about what their members can "help treat" – fact.
- "There is not a jot of evidence for this", ie no evidence that the members can help treat those ailments. That looks like an assertion of fact, provided we have some mutual understanding about what constitutes "evidence" and what "help treat" means. Is it an assertion of fact, or is Simon saying that it is his opinion that they are bogus? Does context help? The next paragraph – remember it was in the article but the plaintiff did not include it in the statement of claim – could be

read as justifying an adamant insistence that the treatments are bogus. Or do we take Dr Singh's reference to "confidently"

"I was never ruined but twice; once when I lost a lawsuit and once when I won one." - Voltaire

as indicating only an opinion, albeit a firm one.

- The BCA "happily promotes" these treatments. Again there is room for both the 'fact' and 'opinion' schools of thought, depending on what the words mean. We can see how this led to much of the argument so far.

From this list, covering just part of the article, we see how issues can proliferate. Dr Singh argued that his words meant that [the author's extrapolation] "Since there is no evidence for the treatments, I think they are bogus. The BCA is happily promoting treatments which I think are bogus."

Truth on Trial

Continued...

The BCA argued that the words meant that “It is a fact that the treatments are bogus, ie ineffective. The BCA knows this but continues to promote these treatments. That is irresponsible if not dishonest.”

Justice Eady found for the BCA on this argument but his judgement was reversed by the Court of Appeal. The appeal judges’ main reason for that view – that there is so much difference of opinion about what is or what is not scientific evidence, that any statement about the state of the evidence necessarily incorporates an opinion - might offend some scientists. “Not a jot” of evidence was like saying “nothing that I would call evidence”.

It is common for judges to make comments that go beyond what is necessary to decide that individual case. Such *obiter dicta* are coded to vary in intensity and significance from gracious *bon mots* to thunderbolts as from angry ancient gods. Here are the rumblings from the Court of Appeal:

- A need to protect reputation has not been served by public debate being chilled for two years. The questions raised by Dr Singh have a direct resonance for patients but they are unresolved – paragraph 11.
- The current law has allowed the BCA to sue Dr Singh only and not *The Guardian*. This creates the unhappy impression that the BCA wanted to silence one of its critics, rather than refute his contentions or put them in a proper perspective – paragraph 12.
- There are times when the court will have to act as historian or investigative journalist in determining the truth of an asserted fact, when the assertion is highly damaging and truth is relied on as the defence. The court will only go

“Comments from judges vary from gracious *bon mots* to thunderbolts as from angry ancient gods.”



Simon Singh takes a closer look at bogus treatments

to that trouble when a fact is asserted, not an opinion – paragraph 22.

- If the court required a defendant to prove their assertion of opinion, then the court has become like Orwell’s Ministry of Truth (a reference to 1984) – paragraph 23.
- The conclusions to be drawn from data are a matter of scientific debate and value judgements. To say there is no evidence for something is therefore an expression of opinion – paragraph 26.

The judges adopted this quote from a US Appeals Court: “[Plaintiffs] cannot, by simply filing suit and crying ‘character assassination!’, silence those who hold divergent views, no matter how adverse those views may be to plaintiffs’ interests. Scientific controversies must be settled by the methods of science rather than by the methods of litigation. ... More papers, more discussion, better data,

and more satisfactory models – not larger awards of damages – mark the path towards superior understanding of the world around us.”

REPERCUSSIONS

These comments vindicate many blogs posted by Simon’s supporters. However, some of the bloggery would catch in our skeptical filters. It is drawing a long bow to say that the legal and non-legal aspects of the Singh case show that English libel laws must be reformed. We will look briefly at two of the contentious issues.

Much has been said of the ‘reverse onus of proof’. Whoever has an onus has an obligation to prove something. When a plaintiff asserts a cause of action, they take on the task of proving each element of that cause. They must prove it “on a balance of probabilities” which is like 51 per cent. Similarly, when the Crown mounts a criminal

prosecution, it bears the onus of proving each element of the offence, but this time to the higher criminal standard of “beyond reasonable doubt”.

A plaintiff in a defamation case bears the onus of proving a number of things, failing which they lose before the defendant has any obligation to say anything. A plaintiff must prove publication of defamatory material which identifies them. Only once the plaintiff has done all of this, is it necessary for the defendant to make out one of the defences, including those raised by this case – truth or fair comment.

A defamation plaintiff does not have to prove that the words are false. They must be damaging – and there are many judgements that develop that concept – but truth is there as a possible defence for the other side to use, if they can. It would have been excellent to see the BCA show why the treatments that Simon mentioned are not bogus. Unfortunately, the law required Simon to show that they are bogus, if he wanted to make good a defence of



truth. Bloggers have loudly condemned this situation and it might strike you as incredible that the individual bears an onus of proof against the well-resourced industry body.

The power balance is usually the opposite. The 'victim' is one person suffering at the hands of a media empire. However, a better reason is the logic of the situation. The victim will complain: "They have accused me of [some positive statement]. How can I prove the contrary?" For example, "Martin Hadley has been a practising scientologist since his teens and his infiltration into the Australian Skeptics to committee level represents one of the most successful exercises of its kind." How can I disprove that? It is clearly defamatory, so if I can also prove publication to people who know me, such that my reputation will be damaged, then that should be enough to entitle me to hand over to the publisher and say: "You prove that is true."

Another issue raised by the case, which has agitated the bloggers, is 'libel tourism'. This is a real issue but I query the relevance of the Singh case to it. One

would hardly expect a British association, which had been defamed in a British newspaper, to sue in a jurisdiction other than England. True libel tourism is when a plaintiff sues in one place when they should be suing elsewhere. Plaintiffs choose London because a win in that court is often more prestigious than a win in their home town or where the publication was more widespread.

If libel tourism has any relevance to Simon's predicament, it is said to be that the inflow of plaintiffs increases the costs for everyone including local defendants like Simon. If English legal representation comes at a premium now, then the market should allow lawyers to move into that area to meet the demand and bring fees down.

THE RIGHT RESULT FOR THE RIGHT REASONS?

We conclude with the opinion of Jason Bosland, lecturer, Faculty of Law, University of New South Wales: "This case demonstrates how reasonable minds might differ in the interpretive process of distinguishing fact from comment.

Justice Eady, at trial, applied a 'verifiable fact' test as a means of distinguishing fact (verifiable) from comment (unverifiable). This approach, of course, suggests that fact and comment are much less intimately connected than is truly the case. The Court of Appeal's decision, on the other hand, is very light on explaining the proper principle to be applied. But without the presentation of facts upon which to base the opinion that the BCA knowingly promoted ineffective treatments, I find it difficult to see how the statement could be interpreted as anything other than a statement of fact."

Editor's Note:

We will continue to monitor this case. Dr Singh will be present at the Skeptics' convention TAM Australia in Sydney, November 26-28. ■



About the author:

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SKEPTICS AND FREE SPEECH

If you read this magazine regularly then it is a safe bet that you often see situations that make you hope someone will speak out. What's on the net frequently gets some of us as mad as hell. And then we realise, we have the means of redress at our fingertips.....

For those of you who are sick of Chinese proverbs, remember at least this one: "Once put in writing, words have a life of their own." A lot of scepticism is done in writing. What we speak is often recorded. All of these are the same in the eyes of the law. A hasty blog entry can be as actionable as a book.

I know people who are smart and articulate but who have impaired perception of the consequences of their actions. I hope a few tips will not offend. We are battling the fact that our desire to go into print may rise without a corresponding improvement in judgement. How much would you pay for software that would retrieve and delete an email you sent last night if it had not been read? The problem you might have with your emailing is the same as I have seen from many people who have recorded correspondence for

sending later. The common factor is the sender is not present when the message is received. As I have counselled solicitors, ask



yourself this question: "Would I be prepared to hand this to them, face to face across a table, and sit here while they read it?" A 'yes' answer leads to a second safeguard: "Would their reaction be to respond dispassionately on the issue, or would they feel abused and start abusing me back?"

If you are really determined to give someone a serve, do it to them and to them alone. You can't defame someone by communicating with them alone. However brutally you have injured their feelings, you have not defamed them until you 'publish' to someone else. On the other hand if you do communicate widely, it is possible to defame a person even though you had no intention of insulting them.

Among skeptics there has been huge support for Dr Singh, but this should not blind us to the interests at stake in a defamation case – a fair balance between freedom of speech and the protection of reputation. For any of us, the boot could be on the other foot one day. Most skeptics I know are not wealthy. Their integrity is their most prized possession. If any of us were attacked for something like scientific fraud or plagiarism, we would value a system that offers some legal redress.

I have met litigious peaceniks who fail to realise that litigation is like a private war. So, please don't start a fight, unless you really want one and you are ready to finish it; or you will have your own Gallipoli.

Martin Hadley

Brain Food

Martin Bridgstock and Kylie Sturgess examine some of the key ideas of two of skepticism's recent impressive thinkers.



There have always been skeptics who thought big, who wanted to change the way the world works. David Hume (1964[1777]: 89), in the introduction to his famous essay 'Of Miracles' was not in the least modest about his goal when he wrote, "I flatter myself, that I have discovered an argument . . . which, if just, will . . . be useful as long as the world endures. For so long, I presume, will the accounts of miracles and prodigies be found in all history, sacred and profane." Modern philosophy regards his argument as flawed, but many of its components live on in the modern skeptical movement.

Paul Kurtz (2001:12), too, thought big when he convened the first conference of skeptics. He wanted to generate some informed criticism of the tidal wave of paranormality which was swamping the Western world.

In this article, we want to talk about two recent big thinkers in the skeptical movement. Both are unassuming, and would probably shrink from being compared to Kurtz or Hume. On the other hand, both have important insights and ideas about the skeptical

movement. We think you should know about them.

THE ROLE AND FORMAT OF SKEPTICISM

Let's start with the editor of the *Junior Skeptic* magazine, Daniel Loxton. He was born in Victoria, the most 'British' part of Canada, and has edited the *Junior Skeptic* since 2002. He made a major contribution to skeptical thought in his essay 'Where do we go from here?' This was published in *Skeptical Briefs* of September 2008, but a more accessible version is online (Loxton 2009).

Loxton was writing in response to CSICOP's decision to change its name and also to broaden its mandate. Instead of focusing on the paranormal, the new CSI would seek to promote science and reason more generally. Loxton notes that many leading skeptics seemed fed up with investigating the paranormal and wanted something more. CSI leaders assured us that this would not prevent the analysis of paranormal claims, but Loxton raised a troubling point. Skeptics, he pointed out, are the only people who investigate – and, where necessary, debunk – the fake psychics, the quack

curers and the whole legion of misguided and dishonest paranormal practitioners. He raised the troubling question: if skeptics don't do this, who will?

It's a good point and, to our knowledge, one that has not been answered. We know that many people every year suffer because they trust alternative healers to cure their illnesses. People – including children – die because of this. We know that psychics prey upon bereaved and depressed people, conning them out of large sums of money by the pretence that they have psychic powers. If the skeptics do not investigate and expose these swindlers, who will?

Looked at from this viewpoint, skepticism is really a form of consumer protection. We discover and propagate the information which will enable people to make reasoned judgments about who to trust. It's important work, and someone needs to do it. As Loxton puts it succinctly: "No one else does what we do. We are the world experts on the paranormal, pseudoscience, and critical thinking. Moreover, that expertise is vitally needed." (Loxton, 2008:6)



Judging by opinion polls, it's quite clear that skepticism is not going to vanquish the paranormal – at least not for a long while. But, argues Loxton, someone has to tackle the scams and the suffering caused by the armies of the night. He takes encouragement from the fact that young people are now flooding into the movement, and they are interested in analysing the paranormal skeptically. So, he concludes, quoting the TV show, *Angel*, “Let's go to work.”

By itself this is an important contribution to skeptical thought. Loxton urges us not to forget our core business – after all, it is important – and not to confuse individual exhaustion with the need to change the movement.

However, Loxton wasn't finished. In a recent issue of the *Skeptical Inquirer* (November/December 2009), he charted out the changing face of skepticism itself. This article is so dazzling that we are going to spend some time summarising its key points.

Loxton's stepping-off point is the fact that computer and information technology is changing the whole basis of skepticism. He puts it in one paragraph: “It takes funded organisations to promote skepticism through expensive, high-risk means such as magazines and printed books. By contrast, the past decade (and the past five years in particular) have brought digital communication tools that make publishing and networking easy and cheap for grassroots skeptics everywhere. No longer restricted to specialist organisations, the trail is now shared by the thousands of amateur enthusiasts, social networks, and independent projects that make up the popular movement of skepticism.” (Loxton, 2009:24)

Is Loxton saying that the older skepticism, with its books, magazines and formal organisations, is doomed? Definitely not. He thinks that there are quite a number of functions that only formal organisations can perform. However, the explosion of skeptical involvement at the computerised grassroots level is an exciting growth point for the entire movement.

The eruption of this new skepticism

has a number of consequences which Loxton spells out. In perhaps the most memorable passage, he argues that any idea of unity – such as a single skeptical organisation in each country – has become completely outdated. Instead, there will be many organisations of various sizes, a veritable skeptical fleet: “The reality we are faced with is a flotilla of national, regional and local skeptical organisations ... moving independently and chaotically yet roughly in parallel. Some groups are larger and more influential than others of course – there are aircraft carriers as well as rowboats—but the variety of organisations, efforts, projects, and mandates is dizzying.” (Loxton, 2009:24-5)

Several consequences follow from these new trends. One is that talk of unity is outdated: skepticism is becoming a networked popular movement, and old-fashioned ideas of unity are irrelevant. On the other hand, the potential benefits are immense. For a start, if we have enough skeptics, we might reach a situation in which every paranormal manifestation has experts in the skeptical network who can comment on it. There are already specialists in some areas (have a look at www.sciencebasedmedicine.org for one example) and there can be many others.

Loxton says a good deal more – all of it worth reading – but we might pause there and note a couple of questions.

First, if we accept the image of skepticism as a flotilla of assorted craft, what keeps them

from drifting apart?

A fleet or convoy has direction-finding equipment – a compass in the old days, or GPS now – and also some

sort of place that they want to reach.

Granting that there is going to be a good deal of diversity, how do we keep this varied flotilla moving in roughly the same direction?

The second question is closely linked to this. Loxton raises the fascinating prospect of having experts on every bizarre claim in existence. Presumably these experts could be easily accessed through the net, and could comment

where needed on every relevant claim. It sounds great – and it may well be – but the obvious question is, how do we ensure it happens? It would be useless having, say a hundred experts on the Loch Ness monster and nobody to monitor the latest paranormal healing fad. How do we ensure that ‘black holes’ of inattention do not develop in this network?

Neither of these questions poses insurmountable problems, but we think that attention should be focused on them. A third question is more troubling. We know that the vast majority of skeptics today are inactive. They do little beyond subscribe to the magazines and perhaps come to the occasional meeting. Loxton's picture of the future is optimistic if we can mobilise our membership and make it more active. But can we? That is a much more fundamental problem.

THE CONTRIBUTION FROM SKEPTICS

At this point, Reed Esau's thinking about skepticism fits in logically. Esau's background is that he is a software engineer in Denver, Colorado, and he has adapted an IT industry concept called the BarCamp. BarCamp is a conference format aimed at distributing knowledge within the technical community. As we shall see, it may be applicable to skepticism.

Esau begins with the well-known observation that, in many fields and organisations, a huge proportion of the work is done by a handful of people. One recent theorist – writer Chris Anderson (2004) – has dubbed this the Long Tail. Indeed, there is a ‘law of effort’ which states that in many fields, about 80 per cent of the contributions come from about 20 per cent of the people.

You might be a little skeptical about this result. What exactly, you may ask, are these contributions? After all, there are many ways one can contribute to a movement such as skepticism. There are indeed, and the measure can apply to any of them. Reed Esau uses the

“ Someone has to tackle the scams and suffering caused by the armies of the night. ” - Loxton

Brain Food

Continued...

example of blogging activity, but you could measure organisation work at the local level, contributions to magazines, or speeches at skeptical meetings. Derive a summary measure of all of these, if you wish. Every measure would exhibit something like the Long Tail, with a minority of people making most of the contributions.

The phenomenon applies in many fields, and has been noted many times. Before Chris Anderson, historian Derek de Solla Price analysed a similar asymmetry among scientists. So did mathematician Alfred J. Lotka in the first half of the twentieth century. Esau's contribution is to apply the idea to skepticism, and to better understand how the larger skeptical community can contribute to skepticism.

Obviously, there are reasons why this asymmetrical distribution occurs. Some people are able to be full-time skeptics. People like Michael Shermer, Daniel Loxtton and Joe Nickell are able to devote all of their effort to skepticism, and so their contributions are enormous. Other people may have to fit skeptical activity around work and family commitments – which may leave little time or energy for anything else. Esau thinks that the current structure of skeptical activities is a contributory factor. Most skeptical meetings consist of a speaker and an audience. If the audience is lucky, it might get to ask a few questions at the end. Magazines and newsletters are other methods for a few people to communicate with many. In all these, most people are reduced to passivity.

Whatever the reasons, there is little doubt that something like the long tail effect does operate in the modern skeptical movement. What should we do about it? Esau is aware of a number of solutions. In particular, he thinks, there are new methods which can help: “We are entering an exciting new era where emerging social technologies and new methods of outreach hint at an abundance of newbie enthusiasm the likes of which we have never seen.

However, we risk squandering this windfall if we cannot provide good opportunities to engage and build upon that enthusiasm.” (Esau, 2008:1)

He points out that churches are often good at involving people in voluntary work: join some congregations, and you will rapidly find yourself singing in the choir or helping to run a fund-raising stall.

Esau points out that organisations which do this benefit both themselves and the people concerned. Indeed, his general rule is the carefully-stated proportion that the crucial consideration is “*To provide a path for the individual to grow through meaningful opportunities for involvement.*” (Esau 2009:4.

Esau's italics)
How can this apparently simple precept possibly benefit skepticism? What Esau wants to do is thicken the tail. That is, he wants to involve more of the less-active skeptics in the skeptical movement, and so both increase their overall involvement and spread the workload within skepticism. He points out that the Pentecostal churches have been especially good at this, and their total numbers now stand at around 400 million members. If the activities of all skeptics in the long tail (and Esau modestly includes himself in this category) increase, even by a little, then more will be done by the membership at large, and less by the overworked people in the core of the organisation.

Yes, but how do you do this? Esau believes that there are many ways. However, the one he has pioneered comes directly from his own work in the IT industry. This is the concept he calls SkeptiCamp.

One key point to make at the outset is that SkeptiCamp does not involve any camping. Reed Esau imported the idea from the IT industry, where the sessions are known as BarCamps. How do these ‘camps’ work? Well, an event is organised – usually over a single day, at a convenient location, and attendance is free. However – and this is

the revolutionary aspect – there are no guest speakers. Instead, the speakers are the attendees themselves, and everyone is expected to contribute, even as an organiser.

That last point is the key one for BarCamps and SkeptiCamps.

“ Provide a path for the individual to grow through meaningful opportunities for involvement ” - Esau

The traditional format for most skeptical activities is a few people communicating to the many. SkeptiCamp breaks away from this by inducing rank

and file members to contribute their thoughts, ideas and activities to the discussion.

Esau is perfectly aware that there are potential problems with this approach. In the first place, attendees at BarCamps are likely to be well-informed professionals, whereas some skeptics know very little. In addition, what guards are there against a fixated nut-case turning up, and droning on and on about his own hobby-horse? And won't many people find the prospect of standing up and talking quite terrifying?

There are answers to these. A key point about a SkeptiCamp is that criticism and comment is absolutely permissible. If an attendee thinks that someone else is talking drivel, a hand can be raised and the point made – or a pointed question asked – there and then. In short, there can be fair and constructive criticism of exactly the kind which scientists and academics have been used to for years, only now it is being extended into skepticism.

What sort of things do people talk about at SkeptiCamp? Reed Esau gives some examples: “Of the nine SkeptiCamp events held since 2007, there have been more than eighty talks covering a wide range of topics, from the hilarious to the deadly serious. Topics on the lighter side have included theatrical superstitions as well as an inquiry into the New World Order conspiracies surrounding the Denver International Airport. Serious topics have included an academic presentation on the evolutionary basis of morality



and a pediatrician presenting evidence of the effectiveness of vaccination in preventing infectious disease.” (Esau, 2009:29)

One rule that has been added to SkeptiCamps (in addition to the eight applying to BarCamps, available at <http://barcamp.org/TheRulesOfBarCamp>) is that evidence for assertions must be available: if you're going to say something, you should be able to back it up! Although a presenter may not be a domain expert, they should be informing and informed on key material.

So far a scattering of SkeptiCamps have been held across North America. The general verdict seems to be that they are very successful, and a wonderful way of inducing inactive members to take part in the organisation. Esau suggests starting small, gaining a little local sponsorship



and keeping initial numbers low. As the movement develops, increase the numbers and begin to offer food in the SkeptiCamp, and also give each participant a tee-shirt or other memento of the experience. Hopefully also it deepens the participants' understanding of skepticism, and will help integrate some of them into the ongoing work of the movement.

To ensure success and avoid repeating mistakes, sharing the experiences and learning is ongoing. Collaboration is key, which is why the SkeptiCamp Wikipedia exists and is a part of organising a SkeptiCamp. The idea is to build up a

Right Reed Esau - software engineer, long tailer and skeptical camper

Below Daniel Loxton - editor of *Junior Skeptic* and campaigner for core business

body of knowledge of what works in SkeptiCamps, and what does not.

SOME SKEPTICAL CONCLUDING THOUGHTS

Loxton and Esau are clearly looking to a skeptical future radically different from that of the past few decades. Neither wants to destroy or downgrade existing features of skepticism, but both take the view that the movement must adapt if it is going to prosper.

Obviously, every statement made by these two skeptics could be wrong. The movement toward a networked, multi-centric skepticism perceived by Loxton might just be a passing fad. And the SkeptiCamps pioneered by Esau and his colleagues might turn out to be unsuccessful. Still, our own observations do convince us that these thinkers could well be right. We have seen younger skeptics coming to skeptical activities and looking uncomfortable. They are wondering where they belong. And we have met hundreds upon hundreds of skeptics of all ages and backgrounds. In general, they are very bright people with much knowledge. We would like to tap some of that ability, and enable it to work within the movement.

In sum, although nothing is guaranteed, we think Loxton and Esau present important ideas, and that it is well worth thinking them through and deciding on courses of action. Even if they are not precisely right, something important is happening in skepticism, and we need to understand and respond to it. As Loxton says, “Let's go to work.” ■



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Thanks for the Memory

Krissy Wilson and Chris French investigate the psychology, science and politics of the recovered memory debate and the implications for belief in the paranormal

False memories are apparent memories for events that never occurred. Over the last two decades there has been considerable interest in studying false memories from a variety of different perspectives. The interest in this phenomenon has mainly been due to the explosion, in the 1980s and 1990s, of legal cases involving

allegations of child sexual abuse. In many of these cases it was shown that material that had supposedly been brought back into conscious memory by the use of so-called 'memory recovery' techniques, such as hypnosis and guided imagery, was not based upon events that had actually taken place. This finding sparked a furious debate in the 1990s concerning the veracity of memories allegedly 'recovered' during therapy.

Recently, a more systematic and less emotive approach to the study of false memory has prevailed and there is now a considerable body of research examining developmental, clinical and cognitive aspects of false memory creation (eg Brainerd & Reyna, 1998; Melo, Wincour & Moscovitch, 1999; Seamon, Lee, Toner, Wheeler, Goodkind & Birch, 2002).

In the light of experimental evidence, which has refuted some of the more controversial claims, the ferocity of the debate has cooled somewhat. However, the subject of the creation of false memories remains an important topic for researchers.

PSYCHOLOGY, SCIENCE, AND POLITICS

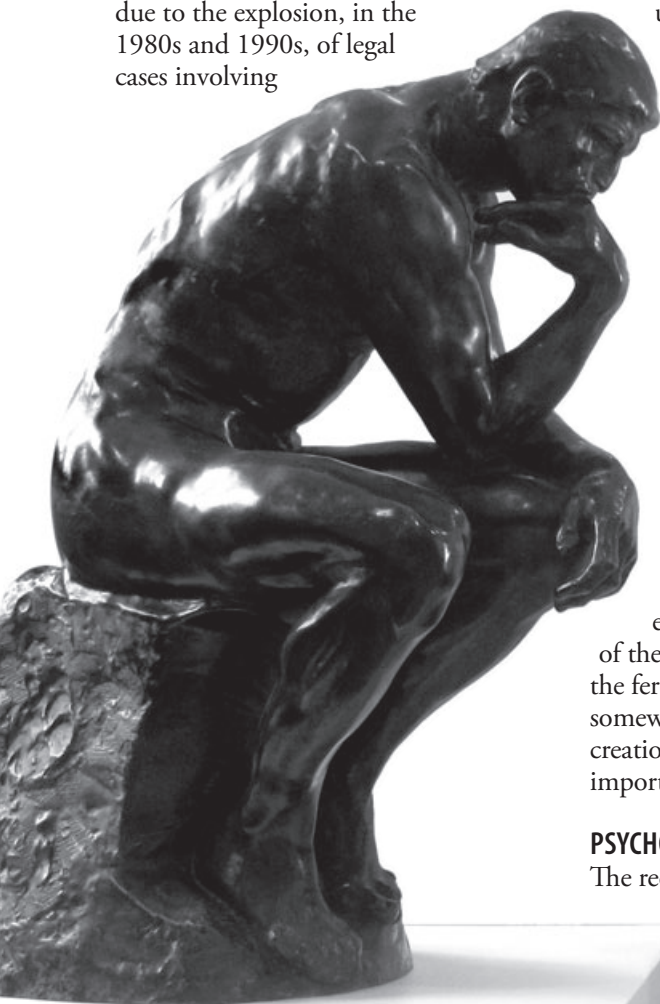
The recovered memory controversy began to emerge in the late 1980s with the first court cases involving allegations of childhood sexual abuse made long after the alleged

incidents. It became of national interest and had massive media coverage and led to one of the most divisive debates ever within psychology (McNally, 2003). On the one hand were the clinicians and therapists who claimed that (mostly) women were coming into therapy for common problems such as depression and sexual dysfunction and, with the guidance of a sympathetic therapist, were bringing into conscious awareness horrific but supposedly accurate memories of childhood sexual abuse at the hands of (mostly) male relatives.

Many endorsed this view, claiming that high proportions of abused victims had spent large periods of their lives in which they did not remember the abuse but during therapy were able to unlock the ghastly secrets that had lain hidden for so long (eg, Brown, Schefflin & Hammond, 1998). Meanwhile, on the other side of the debate, cognitive psychologists were suggesting that these memories were not real but were fabrications created as a result of suggestive techniques used by therapists.

Therapists, not surprisingly, were up in arms at the suggestion that these memories were created in the charged atmosphere of therapy under the influence of the therapist themselves and furthermore have accused critics of recovered memory therapy (RMT) of being essentially in denial with respect to what they believe to be the widespread, almost epidemic, nature of childhood abuse.

The scientific community claimed that RMT was little more than some





kind of quack new age therapy.

Meanwhile, more and more legal cases became headline news as alleged victims accused family members of abuse committed many years previously. A bevy of celebrities lined up to appear on chat shows to reveal how they had been abused as children and the debate turned into something of a media circus. An entire cottage industry of support groups, encounter groups and organisations have been set up for 'victims' from both sides. In the US, the False Memory Syndrome Foundation was established for families who had been wrongly accused of abuse and the British False Memory Society was set up to deal with the growing number of cases of false memories in the UK.

The entire episode has been, justifiably, likened to a "hysterical epidemic" (Showalter, 1997). But where did it come from? McNally (2003) has suggested that the rise of RMT may have emerged as a feature of the feminist movement; an erroneous and misapplied expression of female emancipation in an attempt to rebel against a patriarchal society.

Any historical review of the false memory debacle will always include reference to the contribution made by popular books on the subject of incest. By far the worst example is the now notorious self-help book, *The Courage to Heal* by Bass and Davis (1988). Essentially, this is seen by many as an invitation for depressed and vulnerable women to blame their emotional problems on childhood sexual abuse at the hands of a close male relative even when they entered therapy with no conscious memories of such abuse. Fierce critics of the recovered memory movement have condemned such literature as being misapplied, misinformed, and ultimately damaging to the suggestible and vulnerable who come to believe that they have been abused.

The polarisation of opinion with regard to the false memory debate was of such a divisive nature that it has been referred to as the "memory wars" (Crews, 1995). At the epicentre of the debate was the contention by therapists and clinicians that individuals

repress traumatic memories. However, cognitive psychologists would argue that the problem for genuine abuse victims is far more likely to be their inability to forget such trauma (eg Loftus, 1997). The main culprit is the Freudian theory of repression which many believe is an example of pseudoscientific thinking on Freud's part (Crews, 1995). In a working party report published in the UK by Brandon and colleagues, the conclusion on the likelihood that memories of trauma can be repressed is quite unequivocal: "No evidence exists for the repression and recovery of verified, severely traumatic events, and their role in symptom formation has yet to be proved." (Brandon, Boakes, Glaser, Green, MacKeith, & Whewell, 1997, p. 298).

EXPERIMENTAL TECHNIQUES

An enormous amount of experimental research on this topic has consistently shown how easy it is to implant false memories in a laboratory situation employing simple techniques. This has finally allowed both sides of the debate to come to some level of mutual respect. One technique for exploring false memories involves giving information that is highly associated with an item not presented in a to-be-remembered list (eg Deese, 1959; Roediger & McDermott, 1995). This procedure has proved to be extremely popular for studying false memories for various reasons not least of which is the fact that it does not infringe on any ethical considerations (Wright, Startup, & Mathews, 2005). The technique is heavily based on a study by Deese (1959) who initially constructed several lists each comprising 12 words. Each list consisted of the most common word association test responses to a critical word that was not included in the list. A typical example would be the word "needle", from which Deese constructed a list, including "thread", "pin", "eye", "sewing", "sharp", etc. Participants studied each list and then

tried to recall the words contained in it. Many participants falsely recalled the critical word (eg needle) as having been included in the list even though in fact it was not.

The Deese/Roediger and McDermott (DRM) paradigm has been used extensively across many different testing procedures and conditions with levels of false recall being among the most robust in the experimental literature (Roediger, Watson, McDermott, & Gallo, 2001).

Consequently, false memories have been investigated using the DRM in children (eg Ghetti, Qin, & Goodman, 2002), in older adults (eg McCabe & Smith, 2002), and in clinical populations such as older adults with dementia of the Alzheimer's type (DAT; eg Balota, Cortese, Duchek, & Adams, 1999). The DRM has also been used to examine individual differences in false memory creation (eg Blair, Lenton, & Hastie, 2002), the effects of mood on the creation of false memories (eg Wright, Startup, & Mathews, 2005) and in a study that examined false memories of the DRM type among a group of women who reported having recovered memories of childhood sexual abuse (Clancy, Schacter, McNally, & Pitman, 2000). The findings from the latter study showed that women who reported recovered memories of abuse tended to falsely recognise more critical lure words, compared to women who claimed never to have forgotten their abuse.

As can be seen from the above review, the DRM is a useful tool in demonstrating false memory creation in a laboratory setting and it is a procedure known to first year undergraduates. However, the technique has been described as merely a cognitive trick that can in no way be equated to the kinds of traumatic memories falsely recalled in therapy. In recent years many more experimental procedures to implant false memories have been designed.

“ The polarisation of opinion over the false memory debate was so divisive it was referred to as the 'memory wars' ”

Thanks for the Memory

Continued...

Loftus and Pickrell (1995) set about trying to find a way to prove that entirely false memories of a mildly traumatic event from childhood could be implanted using similar techniques to those used by therapists. They focused on the plausible scenario of having once been lost in a shopping mall, being subsequently found and looked after by an elderly lady. Twenty-four participants were told that a parent, older sibling or similar close relative had given the experimenters four accounts of events from the participant's childhood. A booklet was prepared for each participant containing four one-paragraph accounts of these four events. Three of these accounts were in fact true and one (the shopping mall scenario) was false. Each participant read the booklet and was then asked to write down anything they could recall from any of the events. Participants were seen in two follow-up sessions in which they were once again asked to recount any additional memories of the events. Seven out of the twenty-four participants on first reading the booklet were able to ostensibly recall the false event. In the follow-up sessions, six out of the twenty-four continued to claim they could recall the memory and in fact were able to give additional details about the event.

Critics, not unjustifiably perhaps, have claimed that being lost in a shopping mall as a child cannot possibly equate to the unspeakable trauma of repeated sexual abuse. Loftus (1997) points out, however, that this paradigm is not about real experiences of being lost, but concerns how false memories of being lost can be successfully implanted. The Loftus paradigm, and those that have followed, in no way attempt to dilute or undervalue the horror of child abuse. The intention of Loftus and others is to highlight how false memories might at least be instilled in a real life situation.



Furthermore, these studies suggest that even false memories can provoke powerful emotional responses.

During the years after the Loftus and Pickrell study was published, dozens of studies drawing on the 'lost-in-a-shopping-mall' paradigm have repeatedly replicated the basic finding that completely fabricated autobiographical memories can be implanted in a sizeable minority of participants. Similar studies have shown that false memories can be implanted for a wide range of plausible childhood events such as an accident that occurred at a family wedding (Hyman, Husband, & Billings, 1995), almost drowning and being rescued by a lifeguard (Heaps & Nash, 2001), being the victim of an animal attack (Porter, Yuille, & Lehman, 1999), choking on a small object (Mazzoni, Loftus, & Kirsch, 2001) and being diagnosed with having low blood sugar (Ost, Foster, Costall, & Bull, 2005). It seems that almost any plausible event from childhood can be turned into a memory using these techniques.

FALSE MEMORIES AND THE PARANORMAL

A range of individual differences have been studied in terms of their potential involvement in susceptibility to memory distortion and to the creation of false memories. Generally the findings have been mixed. Part of the problem may be in the particular procedure generally used to measure

susceptibility to false memories. Often the DRM task has been used, but some critics have suggested that falsely recalling a word from a list is very different to falsely recalling entire episodes.

French (2003) reviewed the relevance of this line of research with regard to the reliability of reports of various anomalous experiences. For example, the most likely explanation of reports of alien abductions and past-life regression is that these reports are due to false memories (see, eg Baker 1992; Holden & French 2002; Spanos, 1996). Furthermore, evidence has shown that a number of psychological variables that correlate with susceptibility to false memories (eg imagery ability, Dobson & Markham, 1993; hypnotic susceptibility, Barnier & McConkey, 1992; dissociativity, Hyman & Billings, 1998) in turn correlate with the tendency to believe in the paranormal and to report anomalous experiences (eg Diamond & Taft, 1975). This would tend to support the suggestion that many reports of ostensibly paranormal experiences may be based on false memories (French, 2003). It also suggests that believers in the paranormal may be more susceptible to the creation of false memories compared to non-believers, a hypothesis that has received support in recent studies (eg Wilson & French, 2006; Dagnall, Parker & Munley, 2008). ■

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About the authors:

Dr Krissy Wilson is a lecturer at the University of Tasmania, and Professor **Chris French** is head of the Anomalistic Psychology Research Unit at Goldsmiths, University of London and a member of the Scientific and Professional Advisory Board of the British False Memory Society. See an interview with Prof French elsewhere in this issue of The Skeptic.



The Informed Skeptic



Skepticism – in the real world – runs the gamut between blunt nay-sayers and serious investigations into claims and reasons for belief. Chris French takes that latter path, and says Skeptics need to look to their role. Kylie Sturgess has a chat.

Professor Chris French often appears on British radio and TV in the role of an “informed skeptic”. He is the editor of *The Skeptic* magazine, a publication of the British and Irish Skeptics, produced and distributed by CSI. He is head of the Psychology Department of Goldsmith’s College in the University of London, where he is also head of the Anomalistic Psychology Research Unit. Professor French spoke to Kylie Sturgess about how people think about anomalies, attitudes to the paranormal, the role of Skeptics, libel and how the Brits are developing their Skeptical role.

Q *Firstly, what is anomalistic psychology, and how does it differ from parapsychology?*

A Basically, what anomalistic psychology focuses on is starting from the working hypothesis that paranormal forces don’t exist - are there other ways that we can explain ostensibly paranormal experiences. Now, it’s important to point out that we’re not saying that “No, paranormal forces don’t exist”. We’re just saying that given that the wider scientific community isn’t convinced by the evidence put forward by parapsychologists, then is it possible we can explain the weird experiences that people have, when they think they’re

experiencing telepathy, seeing a ghost, seeing a UFO or whatever it may be, we can explain those things in other terms and typically, we’re talking about psychological terms. So, we’re actually starting with the working assumption that paranormal forces don’t exist.

Now, most parapsychologists put most of their effort into trying to prove that paranormal forces do exist. Again, what you find in practice is that at the Anomalistic Psychology Research Unit, we do spend some of our time doing parapsychology, we do test psychics - we always get negative results – and we do test psychic claims and, again, we’ve never produced any positive results. But we think it’s important to be open-minded in approaching these things and some parapsychologists are interested in the kind of cognitive illusions where people believe something paranormal has happened even if it hasn’t, so it’s more a matter of emphasis than anything else. But if I had to bet my house, I’d bet that paranormal forces don’t exist. And therefore, as a psychologist, I’m really interested in why so many people think they do.

Q *What led you to becoming interested in this particular aspect of psychology anyway? This has been going on for quite some time, hasn’t it, the work that you’ve been doing?*

A It has. I should point out, by the way, that I’ve not always been a skeptic. I mean, when I was a teenager and when I was going through university as an undergraduate, I actually tended to believe in most of this stuff, and for the reasons that I think that most people do. I’d read the books, I’d seen the films, and I’d had the occasional spooky experience myself. It just seemed more sensible to me to believe that these things really did exist than if they didn’t. It was only when I read one particular book – it was Jim Alcock’s *Parapsychology: Science or Magic?* - when I was doing my PhD that suddenly I kind of realised that there was another way of looking at all these things.

That was the early 80s. I started at Goldsmiths in ‘85. Initially, I just did a couple of lectures on parapsychology from a very skeptical point-of-view, and the students clearly enjoyed it, whether they were believers or skeptics themselves. People do find these topics really interesting and fun to talk about. It wasn’t until 1995 that I actually realised that I was really very interested in this stuff and I could put on a whole course. So, I now put on a final year option as a part of our BSc Psychology program, on anomalistic psychology. Increasingly, the research I was doing was in that area, and eventually it really became my prime focus of interest, so it was a fairly gradual thing. What started off as a kind of side-interest





Left Prof Chris French, head of the Anomalistic Psychology Research Unit, University of London: "There's a tremendous increase in the skeptical movement over the last two years."

certainly played a part.

One of the things that I'm most excited about is that, from this year, one of the three options in the Psychology A-Level which is taken by kids in schools from 16-18 is anomalistic psychology. That's fantastic, because there are going to be thousands of kids every year who are going to be reading about anomalistic psychology and going "wow, that stuff is really interesting", and wanting to do it at university. I think that's going to have ripple effects with more and more universities putting on courses like this. At the moment, there are a handful of them, but now and then you hear of two or three new places offering a course like this. The students, as I said, find it really interesting, it tells you about human nature, but it also teaches you critical thinking, which applies beyond the realm of just the paranormal to all kinds of other areas, whether you're assessing alternative medicines or any other kind of controversial claim that's out there.

When I first wrote for my online column in *The Guardian* on anomalistic psychology in schools, I thought it was a very innocent, unprovocative little piece. But it was amazing. Some of the comments I got from people who clearly had not bothered to read beyond the first couple of sentences and the nice picture of Uri Gellar holding a bent spoon. Yet they were up in arms about it! This kind of topic, whether you're talking to people who do believe or who don't believe in it, just arouses such emotion in people.

I was quite taken aback by some of the comments from people, even from some of those who saw themselves as being as very scientific and very skeptical but even then did not think that anything like this should ever be taught in schools. I think that's a ridiculous position to take. The point is that opinion poll after opinion poll shows that the majority of the population, one way or another, do express belief in the paranormal, and do endorse at least one claim. Either they exist, or it's telling us something

interesting about human psychology. We should definitely take these claims seriously and try to understand what's going on.

Q *I guess what we have now is not only an overlap of consumer affairs awareness with skepticism, but also science communication? Has there been much consultation with formal science communication groups in the UK?*

A Things have tended to grow a bit organically to this point, but they are certainly getting a bit more organised these days. Thanks to the internet, it's a lot easier to have organised campaigns, to have networks and so on – that's very much a feature of skepticism in the UK at the moment.

There are groups like Sense about Science, which organised the campaign in support of Simon Singh. One of the things they did in regards to the effect that libel laws have on science communication is to join forces with two other groups who are also campaigning against the laws – that's English Pen (www.englishpen.org) which represents the literary world, and Index on Censorship (www.indexoncensorship.org).

There's now a very strong coalition, with a huge array of very big names – Jonathan Ross, Stephen Fry, all these people coming together, lots of MPs and cross-party support. There's a very big chance that this will have an effect on having English libel laws reformed. That would be a fantastic achievement. The view from those in science, with people like Singh and Peter Wilmshurst who is also a victim of these unfair libel laws, is that the way people have been treated has drawn attention to the fact that there is this big problem in the UK, insofar that scientists are quite cautious about what they'll put into writing and what they'll say in lectures. And that's not the way science is supposed to work!

The campaign in itself is a very just campaign, with implications beyond the world of science. It has also been very useful insofar as it highlights just how science works. Science is all about putting ideas out there, having them criticised, testing them against the evidence and

and hobby, I just realised that I found it fascinating and I still do.

Q *I've noticed that the Research Unit is very proactive when it comes to lectures and outreach. I get regular email updates from the ARPU email list, for example. Has it influenced numbers of students taking the course?*

A I'd say there's certainly a tremendous increase in the general skeptical movement in the UK over the last two years. I think it's hard to say exactly what's caused that, but you could speculate that there are a number of factors that are important. I'd say that Richard Dawkins and *The God Delusion*, Christopher Hitchens and people like that have made it much more acceptable for atheists to express their atheism. Skeptics in the Pub in London, which has been going now for ten years, has become so successful over the last couple of years that they're now drawing in well over two-hundred people every month and they've had to introduce a booking system.

Also, there are branches of Skeptics in the Pub popping up all over the country; there's well over a dozen in different cities up and down the UK now. So, there's definitely something in the air over here. I wouldn't like to claim that anomalistic psychology is the only reason people get into skepticism, but it has

The Informed Skeptic

Continued...

trying to refine your theories and come up with better ideas; letting the evidence speak rather than any kind of appeals to authority or to divine truth, or whatever else it might be.

Q *There's a real intersection of pop culture, politics and science now in the UK in regards to skepticism, isn't there?*

A Yes! We have your Tim Minchin, a complete genius! And that is just such an effective way of getting skepticism across well. We've got comedian Dara Ó Briain and Stephen Fry - for a long time people have known that he's a card-carrying skeptic, but it's getting out more now. Robin Ince does a fantastic job in terms of organising events - I'm sure you've heard about the show called *Nine Lessons*

and *Carols for Godless People* - shows that he organises around Christmas? It's absolutely great.

One of the nice things is the growing sense of community. I think that for a long time 'community' was something that religious people had, but skeptics and atheists and humanists didn't have so much.

Q *It's also reflected in the relaunch of the (UK) Skeptic Magazine, isn't it?*

A Yes, our magazine has been going on for over twenty years and we have a hard core of loyal readers - and now we're taking it to the next level.

We've gone from twenty-eight to forty pages, with lots of new columnists. We've got an editorial board that's just to die for, basically. We've got a couple of Aussies; we've got Tim Minchin and Dr Karen Stollznow, for example. There's Stephen Fry, Robin Ince, Richard Wiseman, Richard

Dawkins, Elizabeth Loftus - the list goes on and on.

One of the things that is very nice and rewarding is their enthusiasm. I mean, it wasn't just a matter of saying "Yes, I'm fine with my name being attached"; it was "What can I do to help?" It's a fantastic resource we can draw on, and with people we can ask to write articles too - so, it's gone from strength to strength. Good stuff! ■

Note: *The official UK Skeptic site, where you can subscribe to the magazine, is found at www.skeptics.org.uk. The ARPU (Goldsmith's College) site is at www.gold.ac.uk/apru.*



About the author:
Kylie Sturgess is an educator, writer and a prolific podcaster - not to mention a prolific writer of articles. See her report on the Atheist Convention and her co-authored article on Skeptics with Big Ideas, both in this issue.



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From the Ashes

The Phoenix Project aims to help former cult followers through art, music and literature. Michael Wolloghan talks with the organisation's director.

Creating art can be therapeutic for people recovering from destructive cults. The negative after-effects of cults cannot be underestimated, and artistic self-expression can help people to resolve problems, reduce anxiety, depression and increase self-esteem.

Diana Pletts, MA, directs and coordinates the Phoenix Project, an art exhibition that showcases challenging, imaginative work done by ex-cult members. While the success and acclaim of the exhibition is often overlooked by the mass media, it still continues to receive tremendously positive reviews.

I spoke with Diana about the Project, her remarkable past and the ability of art to enthrall, to capture a moment in time and to take us to places we've never been.

Q *Firstly, could you please tell me about the origins of the Phoenix Project – how did it come about?*

A The Phoenix Project really was a result of my time at Wellspring. [Wellspring Retreat is an accredited residential counseling center specializing in the treatment of individuals who have suffered in abusive cults.] Dr Martin [the director of Wellspring] encouraged me to reacquire myself with my artistic pre-cult self. Afterward, when I returned to college to complete my undergraduate degree, following my time at Wellspring,

somehow the photography class and the philosophy of the arts class just worked together with my recollections of what Dr Martin had said, and I thought that perhaps the arts could be a good tool to help ex-members to communicate the reality of their cult affiliation to the outside world. My hope was that, as a result of this communication, there might be additional places for ex-members to go in order to get cult-specific counseling, and additional funding as well, to assist ex-members to get the help that they needed.

So, to me, the Phoenix Project was communication with a goal: the ex-member communicating his or her reality to an uncomprehending world and, hopefully, a response from that world to assist this generally unseen yet often hurting and often struggling person.

Q *What do you believe are the benefits of art for ex-cult members?*

A My sense is that art itself is a benefit to ex-members first of all by the simple virtue of communicating their experience to someone else, not unlike the therapy experience. In this case, however, one is communicating to more than one person, so the hope is for a greater impact with this increased audience. I understand that the therapist is an audience in a very different sense, with a different goal.

Next, in the creation process, there is the satisfaction of seeing something produced, of having a concrete finished product. Having a finished product is healing because so much of one's group experience is in one's head. Someone

hearing me speak about my group experience said it sounded exhausting; and it was - constant, relentless, internal. So having produced something external to one's self is a pleasure.

Another positive aspect of producing art that might have to do with therapy (and note that I am not a psychologist, so this is speculation) is the notion of being able to see the particular problem as being outside of one's self. In responding to a problem by creating a particular artwork, whether visual, musical or literary, and placing it out there for view, in a very literal sense, one has externalised it.

I think that the sense of being able to communicate and also to externalise one's conception of what happened, must be helpful and healthful.

But, finally, the production of something might also be healing because you are breaking your group's taboo in several ways. First, by speaking out or writing or creating a work of art at all, in a sense one is telling tales out of school, telling the truth of what happened, breaking the "don't feel, don't talk" taboo.

Next, if one's group was, as was mine, against the use of the arts, saying that it is egotistical and likely to lead to spiritual death, then to act in a manner contrary to those dictates is an act of righteous rebellion and, I would argue, freeing.

But Dr Martin also saw the value of the individual - he celebrated diversity in nature, and believed it to be important for the individual to be allowed diversity of expression, as well - to not be clones. So, too, the Phoenix Project is a celebration of the return of the individual, and is a rebellion against the cultic notion of the necessity of the death of the self, the destruction of individuality, and the creation of clones.

In a sense the Phoenix Project is an event appropriately honoring Dr. Martin, for his assistance to me, and to many others, in the retrieval and resurrection of our unique, creative selves.

Q *You're an ex-member of The Path, an apocalyptic Christian sect. How did art help you overcome the trauma of being involved in that group?*





A I don't know that I would say that art helped me overcome that trauma - getting exit counseled and getting help at Wellspring helped me, as did the love and care of my husband and children, among other family and friends. Also, completing college and attempting to help with the cult recovery movement.

The artwork I have produced has answered the call, or the items I have previously mentioned - the feeling that I am talking out of school, speaking up and not being silent about the abuse that occurred, and therefore shedding light on a situation. Also the sense of seeing some of my issues externalised.

I would say, however, that sometimes when I have created a work of art or writing, the completed work has helped me to better understand that particular aspect of my cult situation. For example, I did a painting representing my conceptualisation of the results of the so-called 'healings' - more truthfully 'harmings' - from my group, as I saw them during the time of my recovery. Seeing them on the canvas helped to depict them to others, and gave me a better sense of what they were for me, as well.

Also, sometimes someone else sees it and responds, and comments, and their comments help me to understand that aspect in a new or better way.

And, of course, my interaction with the artwork of others helps me to gain a better grasp of some aspects of cult affiliation and of their situations.

Finally, the act of creation has helped in terms of regaining my individuality, especially by going against our group dictates telling the artistic among us not to be the way we were created. Pretty much in my group the notion was that anything you wanted or liked was likely to be the opposite of what 'God' wanted for you, so one was always enjoined to step away from what was desired, and to embrace that which was not.

Q *Do you find the production of the art, how you feel while making it, is of more importance than its final form?*

A No - really not. For me art is about



Left: One of Diana Pletts, director and coordinator of the Phoenix Project, own liberating artworks, appropriately of a phoenix.

I have found it a wonderful pleasure and delight to work on the Phoenix Project, bringing together people's works, getting to read and view and hear them and trying to come up with a way to showcase them. I find it very exciting to be able to interact with the creators and find a way to get their works out there. Opening the boxes and files is like Christmas!

communication. It is my attempt to have someone else have a better understanding of what I am trying to get across. It really is not about releasing anything other than the image or concept I am trying to convey.

Q *When was the first public appearance of the Phoenix Project?*

A The Phoenix Project debuted at the ICSA (International Cultic Studies Association) conference in Denver in 2006. We had over two dozen participants from several countries and a number of different groups, and it was well received. It consisted of an exhibit room, and two sessions of sharing in readings, video and music created by ex-members. The exhibit room presented visual art works in two and three dimensions, literary works and a music score. The Phoenix Project was held again on a smaller scale in Brussels, Belgium, in 2007 and again in 2008 in Philadelphia, with a very large number of participants from the international scene, including multiple works by various artists, and a 'Wall of Pain' of literary contributions. Three musicians shared their cult-related compositions with us as well.

The Phoenix Project will take place again this year at the ICSA conference outside of NYC in early July, and is again looking for works by ex-members or those raised in cults, which will help to shed light on the life of cult and ex-cult members and their recovery.

Q *What are your future goals and ambitions for the Phoenix Project?*

A A future hope for the Phoenix Project is that it will someday take place at times and places other than the annual ICSA conference, so that people other than those already close to the cult recovery world would become informed about this reality.

Another dream is that of putting together a book of works by the participants, with some commentary, again, for the same reasons as that already mentioned - that others might know, and in knowing might care to help relieve those under bondage to their cult leaders and mindsets.

Q *How can ex-cult members get in contact with you if they wish to contribute?*

A They can e-mail me at exmemberartwork@yahoo.com. Participants need not be present at exhibitions, they may be anonymous or use a pseudonym, and may send a jpeg attachment of the work. All rights are retained by the artist. Hopefully we can help others to understand some of the realities of cult affiliation. ■



About the author

Michael Wolloghan is a member of the NSW committee of Australian Skeptics and an investigator of cults and strange religions.

Houdini & the Hoaxers



Harry Houdini, communicating with spirits? And at right, communicating with Spiritualism supporter Sir Arthur Conan Doyle.

Harry Houdini was more than a famous magician; he was also a famous debunker of Spiritualists and their supporters, including his friend, Sir Arthur Conan Doyle. Russell Bauer reports.

When asked why he wasn't content with merely being a stage magician, Harry Houdini is reported to have replied, "Shake any tree in America, and fifteen magicians fall out." By the time Houdini turned 50, he would have thought the same thing about psychics and mediums operating in New York City.

The man who was born Ehrich Weiss went on to become an escapologist, author, magic researcher, historian, film producer, actor and pilot. Most people would assume that his greatest aerial achievement involved escaping the bonds of a strait-jacket while suspended upside-down twenty storeys from the ground, but Houdini was actually the first person to make a powered flight in Australia (this year marks the 100th anniversary of his flight at Digger's Rest in Victoria).

Three years later (in 1913) it would be the death of his beloved mother Cecilia that would have Harry searching beyond the restrictions of earth's gravity, and questioning what mysteries lay beyond the ultimate 'great unknown'.

With the coming of the First World War, belief in spiritualism began to flourish worldwide (but particularly across America) as grieving families

turned to alleged psychics for comfort, with messages from dead soldiers being something of a specialty among the soothsayers of this era. The repertoire of tricks used by mediums changes generationally, and usually mirrors advances in technology. While modern practitioners favour digital apparatus for 'electronic voice phenomena' and 'orb photography', psychics in pre-Depression America were producing ghostly messages on chalkboards and slates, while spirit photographers were 'capturing' the faces of dead relatives (which always bore a striking resemblance to studio portraits and were invariably shrouded by smoke, fog or gossamer cloth). But for the world's most accomplished illusionist, these were mere parlour tricks which Houdini replicated easily and often.

While public debunkings of scam operators was to become something of a pastime for Houdini in the final years of his life, in the decade immediately following the death of his mother a friendship flourished between himself and England's most vocal advocate for the Spiritualist movement, Sir Arthur Conan Doyle. The men maintained a correspondence across the Atlantic

following their first meeting in 1920, with each professing an admiration for the other's talents.

Conan Doyle had lost his son Kingsley to pneumonia during the war, while Jean Doyle (his second wife) was still recovering from the death of her own brother during the Battle of Mons. The Doyles turned to some of London's most popular 'mediums' to receive not only messages from the grave, but updated family photographs.

Over time, Jean Doyle discovered that she had an ability to sit in front of large sheets of butcher's paper and write down words that floated in and out of her subconscious thoughts - this skill became known as 'automatic writing', and helped cement Sir Arthur's belief in all things connected to Spiritualism.

So it was that, in 1922, the Scottish-born author and the Hungarian-born magician began sharing their particular beliefs in the afterlife, with Conan Doyle inviting Houdini to join them at their hotel suite in Atlantic City, near the end of a lecture-tour that the author had been conducting through the United States.

During the now infamous sitting (which would mark the beginning of a strained relationship between the two men) the medium chose to begin by drawing a large cross - the universal symbol of Christianity - in the centre of her writing paper, while offering a

prayer. Houdini's mother, Cecilia, was Jewish, but nevertheless allegedly made an appearance (courtesy of Lady Doyle's spirit guide, Pheneas) and proceeded to compose her thoughts using the King's English. When Houdini pointed out that his mother could speak barely three words in English, this fact was summarily dismissed by Sir Arthur, who informed his now-suspicious friend that languages knew no barriers in the spirit realm.

At one point during the séance, Houdini was invited to pose a question to the spirits who were 'controlling' Lady Doyle's hand, to which he asked what, if anything, was special about the particular day on which the session was taking place. Unable to inform her son that it was, in fact, Cecilia's birthday, Houdini's doubts in the abilities of Jean Doyle were almost



confirmed. With the sharpened response of a mystery writer, Conan Doyle assured his younger colleague that there were no birthdays on the other side; it seems that spirits only celebrate their 'death' days.

Had the séance ended there, the Doyles may have simply resigned themselves to the fact that Houdini was not buying into their beliefs, and given up the notion that they might ever convert the celebrated escape-artist to the world of Spiritualism. However, before Lady Jean had a chance to pack up her tools of the telekinetic trade, the magician took a pencil and allowed his hand to

move across the paper, writing the name "POWELL" in large, easy-to-read letters. Sir Arthur was beside himself. He told Houdini that only that same week, he had learned of the sudden passing of his dear friend, Ellis Powell, and that surely the appearance of his name must have been evidence enough that Powell's spirit was working through Houdini's own hand. Harry would explain months later (in a letter to Conan Doyle) that he had instead been thinking of his own friend, Eugene Powell, who had been struggling financially (and with his health) on the day of the Atlantic City meeting.

Why had Houdini chosen to write anything at all? The most likely answer is that he was trying to show that automatic writing, if not purely fabricated in a manner to deceive, is nothing more than the dictating of thoughts and images that pass through one's mind while in a relaxed state.

With the friendship now scuttled irreparably, each man took turns to send letters to major newspapers, proclaiming that the other was in denial of what had really happened on that day in the Doyles' hotel suite. Houdini decided to devote the rest of his life to publicly denouncing mediums and psychics as frauds, even agreeing in 1924 to sit on a panel of investigators organised by *Scientific American*.

A precursor to James Randi's million-dollar prize, the magazine put up a bounty of several thousand pounds for any psychics passing a series of tests. While most hopefuls were debunked by Houdini in the first few minutes of being investigated, he was to find a tougher opponent in the form of Margery 'Mina' Crandon, wife of a prominent Boston doctor. The paranormal world was abuzz with the talk of a woman who had progressed from mere flashes of psychic intuition to full-blown displays of toppling tables, the mysterious ringing of electronic bell-boxes, the voice of a long-dead brother and the production of rubbery-looking 'extra' limbs that she termed 'pseudopods' (which tended to resemble off-cuts from the local butcher), and which could emanate from her nostrils and ears, sometimes covering

HOUDINI ... WITH MUSIC

Renowned Australian poet, Bruce Dawe, and Queensland musician and composer, Russell Bauer, have written a new musical, *Houdini: the Man from Beyond*, in celebration of Houdini's life. The musical follows Houdini's final and most successful years, from his history-making powered flight over Australia through some of his most famous stunts and to his legendary showdowns with spiritualists.

Date: August 20, 21, 27 and 28 (eve) and 22, 25 and 29 (matinees).

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Bookings: USQ Artsworx box office, 07 4631 1111, or www.boxoffice.usq.edu

her entire face or, on other occasions, appeared from regions south of her naval.

Houdini relished the challenge that she presented, and persuaded the magazine to abandon any talk of awarding the prize to the Crandons on the grounds that he was able to replicate all of the phenomena that took place during the sessions. The usually-demure Margery left Houdini with a threat to send her friends to beat him up should he choose to embarrass her on-stage during any of her demonstrations.

Although she continued to practise as a psychic, she pushed her luck a little too far when she began to produce 'ghostly handprints' in hot wax during her séances; investigators for a Boston centre of psychical research determined that the prints belonged to Margery's dentist.

The threat to give Houdini a sound beating was never carried out. However, the Spiritualists of America claimed something of a victory when, within only a few years of the initial Margery tests, Houdini died suddenly from a ruptured appendix on Halloween, October 31, 1926. He was 52 years old. ■



About the author

Russell Bauer is a lecturer at the University of Southern Queensland and co-author and composer of the musical, *Houdini: The Man From Beyond*.

The Woo of Wellness



Loretta Marron opens the door to wellness centres, and finds that despite some good intentions there are also some very strange approaches.

From that shock of their initial diagnosis to the completion of their last scheduled treatment, cancer patients put their lives on hold. On an emotional rollercoaster ride they may have feelings of confusion, anger, grief and despair, so for many of them, when the treatment is over, it is difficult to know where to place those first faltering steps into their new life after cancer. For the lucky ones, it can be a speedy journey along a smooth road to recovery, but for others a little help can make a big difference. For those who can't be cured, it is a time of preparation and comfort.

'Wellness' centres can have an important role in helping cancer patients during and after their treatments, but most of them leave the door open to quackery. Two new Australian 'Wellness' centres attached to hospitals are due for completion early next decade.

We are now well into the 21st century so shouldn't they only be offering evidence-based care?

Olivia Newton-John is undeniably and justifiably a popular Aussie super star. Loved by all, year after year,

Australians are happy to admit that they trust her¹. We have followed her well-publicised adventures most of our lives, watching the shy teenager in those early days when she was a TV songstress who bravely entertained the troops in Vietnam, to her work today. Over the years we have basked with Australian pride in the glow of her well-deserved career successes and we continue to share in the ups and downs of her many real-life dramas. In more recent times, we have followed her battle with cancer and we continue to be delighted at the success of her treatment.

After Olivia recovered from breast cancer, she worked tirelessly to raise funds for a 'wellness' centre which will be part of the Austin Hospital, Victoria. She has already raised over \$2 million by organising a 21-day trek along the Great Wall of China where she

was joined by many celebrities². When interviewed on the ABC TV's *Talking Heads* program, she stated that her vision was to have "homeopathy, herbs, massage, acupuncture, meditation & spirituality"³ under one roof. Olivia

“ Vitamins and supplements complicate cancer treatments and can make drugs ineffective or toxic ”

recently married John Easterling, who is the CEO of the US-based Amazon Herb Company, a successful herbal remedies business. Easterling has his own objectives for the wellness centre which is to "incorporate and showcase leading natural protocols that help influence healing responses in the body"⁴.

Australians are still mourning the loss of Professor Chris O'Brien. He was a household name for many of us who regularly watch *RPA* (Royal Prince Alfred Hospital, NSW), a case-centred medical program where, for over a decade, he was often seen treating his patients. During his career O'Brien, a neck and head surgeon, had conducted over 4000 operations to remove other people's tumours. Tragically in 2006, he was diagnosed with a terminal brain tumour and he died in 2009. He was honoured with an Order of Australia (OA) and a state funeral. His family continue to raise funds for the centre that will bear his name.

During his treatment, when

interviewed on Channel 9's 60 Minutes, O'Brien stated that he had become "a big believer in complementary and alternative treatment"⁵. While he continued to have his conventional therapy, he also chose to be treated by a naturopath. He was having a "special form of electrical acupuncture"⁶ which was supposed to energise him. He spent many hours practising transcendental meditation, was on a "very strict diet of fruit and vegetable juices with many vitamin supplements" including "selenium, evening primrose oil, omega-3 oil and an antioxidant called glutathione". He also took homeopathic remedies.

You can also find a reference to him on Ian Gawler's website where there is a photo of him alongside this controversial alternative cancer therapist⁷.

Any drug that can change the way your body works, whether prescription or complementary, comes with risks.

According to Professor Ian Olver, head of the Cancer Council of Australia⁸, vitamins and supplements complicate cancer treatments and "can change the way the body metabolises other drugs and either makes those drugs ineffective or makes them toxic". Other research has shown that antioxidant supplements have no preventative effect on cancer but actually increases the risk of bladder cancer⁹. Patients with heart disease treated with folic acid plus vitamin B12 were also "associated with increased cancer outcomes and all-cause mortality"¹⁰ and high dose vitamin A supplements can "increase the risk of lung cancer". Also "some other vitamins and minerals may also be harmful"¹¹.

Selenium does not cure cancer and there is no evidence that it can "reduce side effects of chemotherapy, radiotherapy or the effects of surgery in cancer patients"¹² and some misguided cancer patients have taken it with tragic results¹³.

In early 2009, to help consumers make informed decisions on their choices of complementary medicines, the National Prescribing Service (NPS)¹⁴ announced the completion of a six month study to identify appropriate resources that can be used by both health professionals and consumers "with confidence".

The consortium selected to conduct the study was led by a team of pharmacologists who run the Adverse Medicines Events (AME) Line¹⁵, a free service operated by the Mater Hospital, Queensland, where both consumers and health professionals can report problems with all drugs, including prescription medication and herbal remedies. The team consisted of 20 complementary medicines experts from across Australia including representatives from the University of Queensland, Bond University (evidence-based medicine),

naturopaths and consumers. While the recommended resources have been listed on the NPS website, they include subscription websites. But with no funding available, over a year after the completion of the study sadly these sites remain inaccessible to the general public.

It is not just high profile cancer patients who are promoting inappropriate complementary and alternative therapies and medicines (CAM). Breast Cancer Network Australia (BCNA) frequently invites alternative therapists, including naturopaths, to their conferences. With an attitude of "as long as it does no harm, why not have it?" and stating that complementary therapies and medicines "can be a good option"¹⁶, cancer patients are being given advice at these BCNA conferences, that may well waste their time and money and that has the potential to compromise or delay their treatments.

While a small number of complementary therapies such as massage, tai chi, yoga, painting and music are proven to help some cancer patients, after decades of research and many millions of dollars spent on high quality clinical trials there is good evidence now available on the effectiveness, or lack of it, of many heavily promoted therapies and remedies which is never mentioned by the speakers at the BCNA conferences and continues to be ignored by them.

While most people use CAM to improve their quality of life and for

symptom control, very little is said about the implausibility of some CAM therapies that defy the laws of physiology, physics and chemistry and the growing body of scientific evidence that continues to confirm the failure of these therapies when tested. The BCNA website makes no attempts to discourage the CAMs that do not provide any benefits over placebo such as homeopathy, reiki, reflexology

and a host of other implausible therapies. Rather, it states that "for some of these treatments, there is evidence that they are effective and for others there is either conflicting evidence or more research

is required to make claims about their benefits".

Local cancer support groups follow their lead and poor quality information and inappropriate advice continues to be provided on a regular basis to these vulnerable patients throughout Australia.

In the UK, cancer centres offer homeopathy, sound healing and many other implausible treatments. In the US, even the Memorial Sloan-Kettering Cancer Centre, considered the gold standard in wellness centres, offers courses on reiki¹⁷ and reflexology which are now well-known to be disproven, placebo therapies.



Professor Edzard Ernst is the editor in chief of *Focus on Alternative and Complementary Therapies*¹⁸, a quarterly review journal that aims to present the evidence on CAM in an "analytical and impartial manner". He is also the world's first Professor of Complementary Medicine from the University of Exeter in the UK. Ernst is so respected

“ Only interventions for which a good evidence base exists will be offered ” - LifeHouse spokesperson

The Woo of Wellness

Continued...



that in 2007 he was invited by the Complementary Health Care Council (CHC) to speak at their Sponsor Obligations Conference¹⁹.

When asked about wellness centres, Ernst recently stated that “centres offering interventions to improve the length and quality of survival of cancer patients have a duty of care to ensure that what they offer is evidence-based.” In relation to disproven therapies, he added that he would caution “against the inclusion of reiki, reflexology and homeopathy in any centre that is striving for effective healthcare”.

His statements are backed up by Professor Michael Baum, whose research into tamoxifen “has contributed to the 30 per cent fall in breast cancer mortality”²⁰. In May 2006 he led a campaign calling for a homeopathy boycott²¹. In a letter published in *The Times*, supported by leading scientists and his medical colleagues, he stated that homeopathy is “an implausible treatment for which over a dozen systematic reviews have failed to produce convincing evidence of effectiveness”.

When asked about the inclusion of unproven or disproven CAM in wellness centres, Baum said that “It is unethical for modern medical practitioners to sink to this kind of deception that denies the patient his autonomy. ... I have little doubt that we share the same motives and compassion for our fellow citizens at the time of their sickness and vulnerability, but promoting placebos above the milk of human kindness will not help your cause.”

I have been given assurances from health professionals from both RPA and Austin Health that their wellness centres will only provide evidence-based complementary cancer therapies.

A representative from LifeHouse said that “there will be in place a robust credentialing process for individuals and their disciplines” and that “only interventions for which a good evidence base exists will be offered”. A representative from Austin Health said that “cancer therapies must be based on evidence” and that they are “actively involved in implementing evidence-based care”.

Despite these reassuring words, without an appropriate code of conduct and with ongoing pressure from their respective financial donors and from many pushy misguided CAM supporters, I am yet to be convinced. ■



About the author

Loretta Marron – the “Jelly Bean Lady” – is a crusader against quackery, as well as winner of the 2007 Australian Skeptic of the Year award.

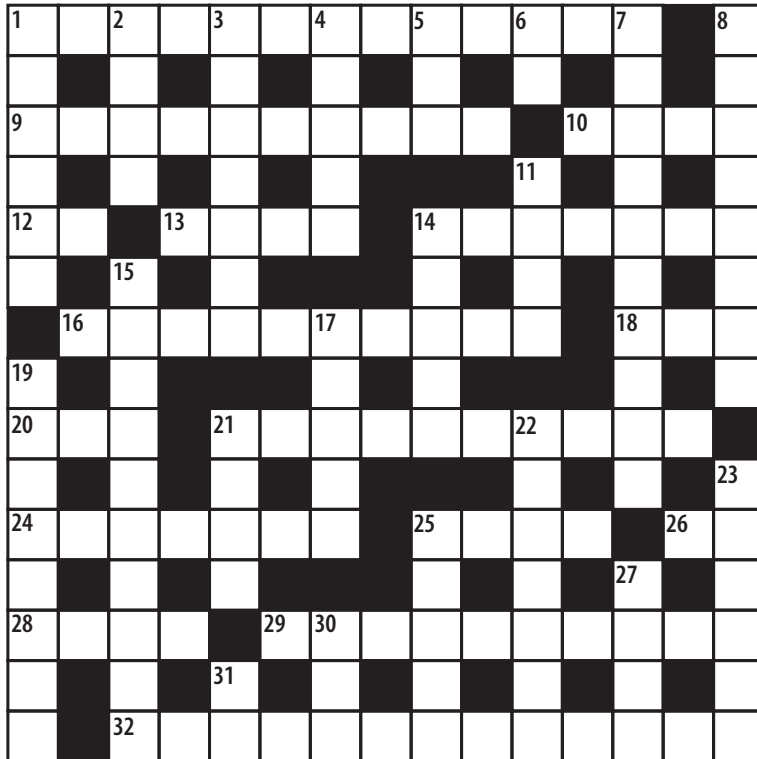
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Brain testers

CRYPTIC CROSSWORD no 6



Tim Mendham + Steve Roberts

PUZZLES *In honour of Martin Gardner (1915-2010)*

On a clock with sweep hour, minute and second hands:

- A. How many times does the minute hand pass over the hour hand between midday and midnight?
- B. All three hands overlap at 12:00 - is there another time when all three hands overlap?
- C. If the clock stops, at least it is accurate twice a day. Can it be accurate more often than that?
- + Define the value of 26 algebraic numbers a...z as pi raised to the powers 1,2,3,4 ... 26. What is the value of the expression $(x-a)(x-b)(x-c)\dots(x-y)(x-z)$?

TRIVIA QUIZ

- 1. What was Lord Kelvin trying to do when he discovered the principle of convection of heat?
- 2. When Isaac Newton hit upon the principle of gravity, he was a student at Trinity College, Cambridge. Why was he sitting under an apple tree in his father's orchard, when he was supposed to be at university?
- 3. What was Bob Dylan doing while he composed the epic song *Sad Eyed Lady of the Lowlands*?

Answers on page 61

ACROSS

- 1. Creepy places for domesticated spirits. (7,6)
- 9. An ogre alarm I ring if it's too much running around. (10)
- 10. Put your moniker on the indication. (4)
- 12. Osmium found overseas (1,1)
- 13. With sulphur it needs cleaning, which is something you must do. (4)
- 14. Talismen for what seems to be the last emu. (7)
- 16. I'd contract to change it, but it would go against everything I've said. (10)
- 18. Michelle Obama is not the First Lady. (3)
- 20. Has been wood but is no longer. (3)
- 21. In spite I can't turn to fight infection, but it could almost be against me. (10)
- 24. Ruler as per Rome. (7)
- 25. Are these Charles' emanations? (4)
- 26. Beryllium exists! (2)
- 28. The bad are not vile. (4)
- 29. Global conspirators caught in the spotlight? (10)
- 32. Conservatives fill up with the necessary ingredients for the job. (3,5,5)

DOWN

- 1. Fear of hot or right alternative. (6)
- 2. Encourage the surgeon to exhort his son. (4)
- 3. Thanks, must include article for this major event. (3,4)
- 4. There's something fishy about this anti-vaxer. (5)
- 5. The good info on fossil fuel? (3)
- 6. Senior sort of strontium. (2)
- 7. The genius's ire is strange and unique. (3,7)
- 8. And on the left, the evil act tries to be evil. (8)
- 11. Religious group reaches one hundred, at last. (4)
- 14. Something wrong with a girl. (5)
- 15. Direct direction for the headland. (2,3,5)
- 17. Don't change the votive table. (5)
- 19. There's no foundation for such false claims. (8)
- 21. Heard to be an alternative to a circling light. (4)
- 22. Psych is nothing like a science that matters. (7)
- 23. Your religion would give a false impression that is strong. (6)
- 25. You're not even uncultured! (5)
- 27. Can you bat? Are you up to it? I thought it was forbidden. (4)
- 30. Would I lie about a garland? (3)
- 31. Man made of helium! (2)

Term of life

Chris Borthwick looks into the so-called persistent vegetative state, and notes that the definition is often used



There has recently been a number of cases, mainly from Belgium, where people who have been diagnosed as being in a vegetative state have shown signs of conscious communication. See, for example, Monti et al in the *New England Journal of Medicine* (www.nejm.org February 3, 2010 (10.1056/NEJMoa0905370)).

It's worth glancing at the way this development is being reported because it shows up relatively clearly the way that medical research is interpreted (by both laypeople and medical scientists) in ways that fit into pre-existing slots in our beliefs.

The report on the *NEJM* study in the *New York Times*, for example, begins "This week, the *New England Journal of Medicine* reports on a fascinating study involving a car accident victim who remains in a persistent vegetative state [PVS]. Using magnetic resonance imaging technology, doctors have been able to communicate with him."

You'd have to be a PVS tragic like me to notice that the *New York Times* uses the term 'persistent vegetative state'.

That particular term has been out of favour in the professional community since at least 1996, and since then researchers generally follow the usage of the Royal College of Physicians (RCP) (1996) which refers only to the "vegetative state", the "continuing vegetative state", and the "permanent vegetative state".

Why is it in the least important whether PVS means "permanent vegetative state" or "persistent vegetative state", I hear you ask? Just how accurate do you expect a busy journalist to

be, anyway? Well, it's another bit of evidence that the public view of this area was set pretty much once and for all when the original name was suggested by doctors Jennet and Plum back in 1972. Which is hardly surprising, because the needs that called forth the definition in the first place are still just as vivid.

We don't want to think that people are undergoing unimaginable suffering, and we listen without any great pressure of skepticism when someone tells us that they aren't. We don't want to pull the plug on someone who's still conscious, and we listen without any great pressure of skepticism when someone tells us that we're not. Jennet and Plum told us that the diagnosis was immutable, insentient, incurable, and unmistakable, and that was what we wanted to believe. We have no motive to probe deeper into the data, and we don't.

The evidence in front of Jennet and Plum wasn't very strong, and they didn't pretend that it was – "the criteria needed to establish that prediction [of irrecoverability] reliably have still to be confirmed

.... [and] Exactly how long such a state must persist before it can be confidently declared permanent will have to be determined by careful prospective studies."

The statistical problem here was that the number and proportion of people diagnosed with PVS who recovered consciousness depended, among other things, on how many people with PVS had their plugs pulled, and once it had been authoritatively put forward that these people were never going to recover that number could only go up. If you

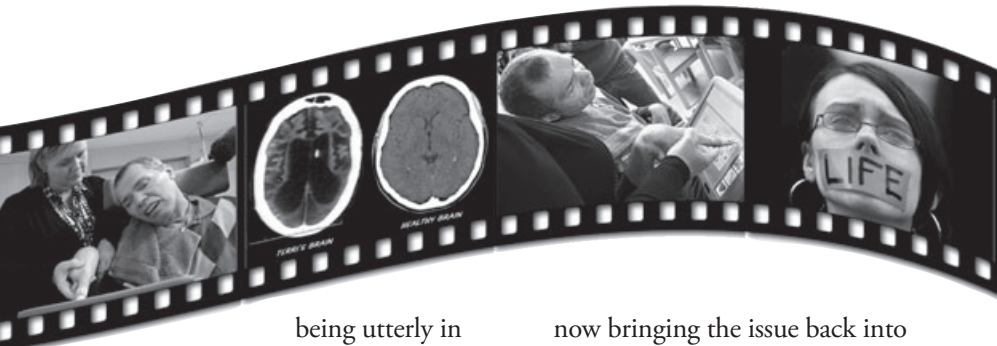
knew they couldn't be conscious, you didn't look for consciousness, and you weren't going to find it.

The stats were always pretty dicey, and a number of studies over the years showed that, for example, recovery rates went up by 15 per cent if you employed the extraordinary diagnostic technique of having a new doctor walking through the ward looking at the patients concerned. The final straw was, or should have been, the study by Andrews *et al* (1996). This was reported as saying that 40 per cent of the people in the study had been misdiagnosed as PVS when they weren't. This was true enough, but it rather underplayed the situation. On top of that 40 per cent, another 35 per cent of the original cohort recovered communication later. In total, three out of every four people with diagnoses of PVS were eventually able to communicate. PVS should at that stage have been an ex-diagnosis.

No such luck, and the Schiavo case came along to show us why. Particularly in America, this became caught up in the Liberal/Conservative (Secular/Religious) struggle. Liberals believed that conservatives were using Terri Schiavo as a right-to-life proxy and opposed them instinctively. This involved them in saying that Ms Schiavo should have been allowed to die.

There are, of course, a number of good arguments for decisions such as this. You can believe that such a life might well be thought worse than death. You can believe that resource allocation is an issue. You can believe that the people closest to Ms Schiavo should be allowed to make the decision. However, all those arguments are complicated and uncertain and involve not only the risk of looking heartless or even murderous but the unsettling possibility of not

“ The stats were always pretty dicey. Recovery rates went up by 15% if a new doctor walked through the ward looking at patients ”



being utterly in the right. How much simpler to say that Ms Schiavo had no consciousness, would never recover consciousness, and could be disregarded as a factor – simpler and more self-reassuring, which is why that position was adopted.

My view, for what little it is worth, is that the deeper questions should arise only when all efforts to establish communication have failed. With Ms Schiavo, they were hardly tried. If we knew what she wanted we might feel we wanted to override it – the conservatives would hardly have been happy if she'd asked to die – but at least we'd know what we were doing.

The Laurys team in Belgium is

now bringing the issue back into contention, and it will be interesting to see what direction the debate takes from now on. I'll believe we're making progress when both permanent vegetative state and persistent vegetative state give way to the NH&MRC's suggested 'post-coma unresponsiveness'.


It is still worth noting, though, that for at least thirty-five years the vast bulk of the medically-educated world has believed in an immutable, insentient, incurable and unmistakable vegetative state, something that now appears to be highly dubious. This is not a case where new technology has uncovered evidence than that previously unavailable.

Rather, new technology has forced us to recognise that the evidence was never there in the first place. It's also worth us skeptics asking ourselves, what other as yet unrefuted aspects of medicine may also have been distorted in this way by societal assumptions, and worth reflecting that the words "Science says..." and "Medicine says..." are sometimes simply a rephrasing of "What I'd like to believe is...". ■

For the references to this article, and for further discussion, see my article in Neurorehabilitation (Borthwick CJ, Crossley R., Permanent vegetative state: usefulness and limits of a prognostic definition. NeuroRehabilitation.2004;19(4):381-9), online at <http://home.vicnet.net.au/~borth/Neurorehabpvs.html>.



About the author
Chris Borthwick works for *Our Community*, a support organisation for Australian not-for-profit groups.



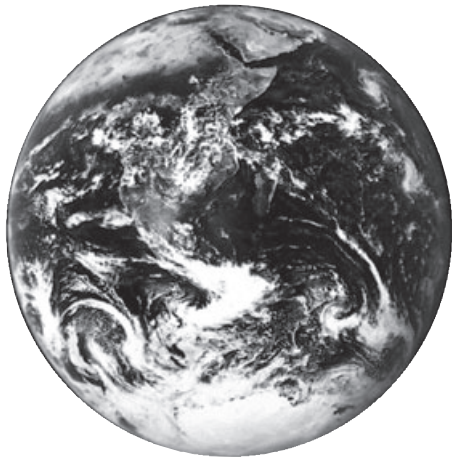
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Home of the Sunshine Coast Skeptics

What critical thinking boils down to is the means to construct and to understand, a reasoned argument and - especially important - to recognize a fallacious or fraudulent argument. The question is not whether we like the conclusion that emerges out of a train of reasoning, but whether the conclusion follows from the premise or starting point and whether that premise is true.

– Carl Sagan

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Search for Extra-terrestrial Intelligence, or SETI, is an organisation that involves amateur and professional scientists in many countries sweeping the sky for radio signals emanating from outer space. SETI enthusiasts believe that somewhere out in space among the billions of stars in our galaxy there must be intelligent beings that are at least as advanced as us who will be generating radio signals that bespeak of intelligence and, furthermore, that such intelligences may have the desire to communicate with us. The SETI program sets out to detect and identify such signals (if such exist!).

The argument goes that if we assume that all things in our universe are governed by the same physical laws and chemical processes that govern us we can reasonably expect that there will be many other planetary systems like our own that are capable of supporting and nourishing life forms. Assuming that there are possibly millions of intelligence-sustaining worlds out there it seems reasonable to search the radio spectrum for evidence that there is sentient, intelligent life out there beyond our solar system.

While initially it may seem improbable that other worlds could have evolved life forms somewhat similar to and compatible with ourselves, SETI enthusiasts argue that the huge number of star systems similar to our own solar system that must be out there reduces that improbability to virtual certainty. While recent press releases by cosmologists suggesting that there are many more planets of similar size and composition to Earth appears to support their argument, some of the assumptions made either explicitly or implicitly

Set to fail?

Rex Newsome finds three problems with the Search for Extraterrestrial Intelligence – the search, the extraterrestrial and the intelligence.

by SETI enthusiasts may not be as sustainable as they claim. In this article, we will examine these assumptions.

WHAT IS INTELLIGENCE?

But before we continue there are two big questions to be considered: “What is intelligence?” and “What should we take as a sign of intelligence?” Many papers and books have been written in an attempt to define intelligence, especially recently in discussing how we might apply the term to animals and computer systems. Psychologists tend to duck the problem by defining intelligence simply as “what intelligence tests measure”. However, can such an approach assess the intelligence of an extraterrestrial being? “What is an orange?” and “Name four past presidents of our galaxy?” are typical of questions that might be asked in a typical local test. However, such test items are hardly applicable to an extraterrestrial since the items are language dependent and refer to things and events of our own Earthen environment, and refer to ideas that are peculiar to our way of thinking and running affairs.

Basically, what we appear to mean by ‘intelligence’ is that there is something unexpected or unpredictable about the way a system interacts with environmental circumstances to bring about outcomes we would call ‘smart’ in human terms and which cannot be explained by mechanistic or systematic processes. Alan Turing suggested that one way of deciding if a computational system is a good simulation of human intelligence is to ask if a jury can discriminate between answers given

by the system to whatever questions they might put from those that would be given by a human. Basically, all intelligence tests are a kind of Turing test with the questions being put by paper or some other mode of communication. However, whatever we accepted, pro tem, as an indication of ‘intelligence’, it seems most possible that alien beings, if such exist, could be intelligent in many other ways than is a human, an animal or computer.

So our problem is “how do we judge if electromagnetic phenomena from outer space are a sign of intelligent action?” Can we take signals that make a complex pattern as an indicator of ETI? Some time ago our hopes were raised by the reception of a series of even pulses from outer space. However, this was eventually identified as a pair of rapidly rotating binary stars.

Could even more complex patterns be produced by a series of these that happen to line up with Earth? We can be fooled, as when we first observed that constantly

repeating pattern that turned out to be binary quasars.

Sometimes we take ability to take part in interactive behaviour as a sign of intelligence, but such a procedure also has problems. We can see stars interacting with each other and to the sudden appearance of stray or wandering celestial bodies. Could not some observer, ignorant of Newtonian gravitational mechanics, say that the celestial body that adjusts its orbit to accommodate to a wandering intruder is displaying intelligent interactive

“ What might look like high intelligence may be due to to circumstances external to the being supposed to be intelligent ”

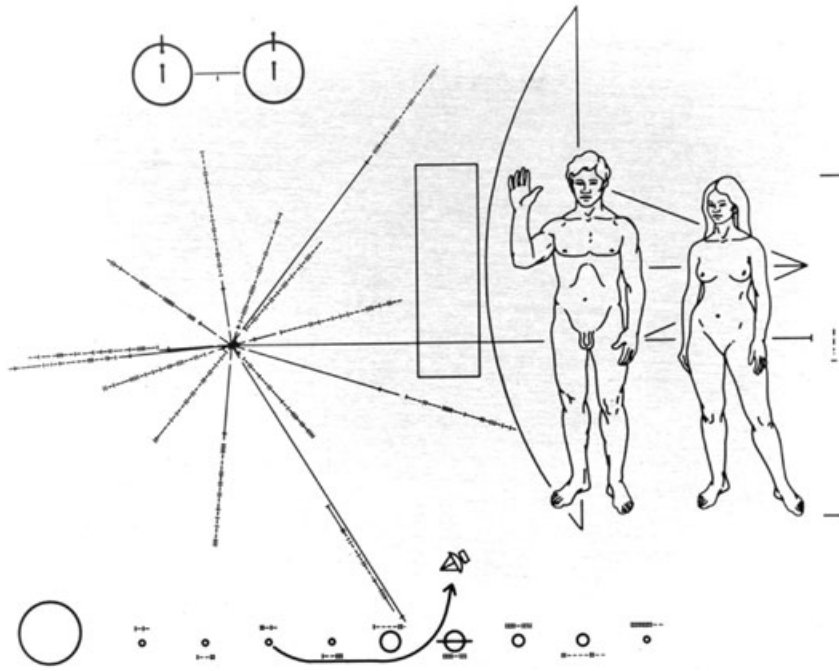
behaviour? If we look, we may even find signals in the form of magnetic waves from that body that could be interpreted as saying, in effect, "I see you and I am moving out of your way."

The difficulties of defining intelligence will not be laboured further. But the fact that difficulties exist leaves the SETI project with problems of exclusion and inclusion. On one hand we may be restricting our perception of the possibilities far too much by thinking of intelligence in terms of our own experience and limited terms of reference. It would be ironic indeed if we were to reject a signal from a superbeing as unreadable garbage because of our own limited understanding of what constitutes intelligence. And what to us might look like high intelligence may be due entirely to circumstances external to the being that is supposed to be intelligent.

ESTIMATING THE LIKELIHOOD OF ETI

We have been told by cosmologists that there must be billions of star systems in the universe that have planets of earth size. However, this does not necessarily mean billions of earths with similar environments and state of development. How many of such would be likely to have a world of ETI beings that are at least sentient, curious about the existence of possible neighbours and have the capacity and technology to communicate with us on our terms? Assuming that such worlds would have to have environments and supportive conditions somewhat similar to our own, we can estimate roughly the proportion of planets that meet this requirement.

We Earthlings live in an environmental space, or niche, that is remarkable in that it keeps within fairly close tolerances in terms of celestial



Left: We come in peace! The plaque placed on Pioneer 10 designed to give information to aliens that humans are friendly. But would aliens understand the message? The plaque was designed by Carl Sagan and Frank Drake and drawn by Sagan's ex-wife, Linda Sagan.

that are audible to us. Familiarity with these environmental features has conditioned our thinking about things, and our ideas of what may be possible.

scales. It is within these tolerances that we evolved more-or-less by a sequence of marvellous coincidences and accidents, each of which were of astronomical improbability if we were waiting around, at any particular stage, for such a precise set of events to happen. It is only because they did happen to happen that human civilisation exists in its present form today.

We humans can survive without special devices such as space-suits only if the temperature stays within about a 20 degree range, and if pressure does not vary much from 101 kilopascals and an atmosphere that is about 21 per cent oxygen. Because our flora and fauna and the total supporting wherewithal have all evolved more or less within the same bounds, our own bodies have co-evolved to work efficiently within these bounds and, by and large, only within these bounds.

We have also evolved sensitivities to certain wavelengths of electromagnetic waves and to pressure waves that work best in the environment that has been created within a very thin and peculiar layer of atmosphere of this one special planet which we call Earth. These conditions have formed and guided the way we and other animals move and communicate. We thus do not naturally respond to electromagnetic radiation outside the band of frequencies we call light, or to pressure waves outside the 20 to 20,000Hz band of frequencies

In stellar space, in contrast, many other possibilities exist. Temperatures can be from -273°C to millions of degrees, and pressures can be from high vacuum to millions of kilopascals, or whatever, and there are gravitational fields that would crush a steel cube into a minute dot.

While light is almost ubiquitous, sound, in our terms, is not. Although we primarily use sound and electromagnetic energy to communicate, there are other forms of radiated energy that could carry communications, eg gravity waves.

Assuming that each environmental space or aperture for an extraterrestrial, regardless of form, would be of approximately the same size as that we have on Earth, we may gain a ballpark estimate of the possible different forms that could exist by dividing each of the seven or eight relevant dimensions by aperture size. First, dividing the total temperature range that exists in extraterrestrial space by 20, the range we can exist within, yields about 50,000 slots. (or, more conservatively, about 10,000 or 10^4 if we scale the slots proportionally). Summing over a similar division of the seven or eight other dimensions yields between 10^{11} to 10^{12} environmental niches in which a life form might conceivably evolve, or indeed could have evolved. It is thus possible, if this analysis is near correct, that life forms could have developed in a way that is as various as those found on Earth within each of the

Set to fail?

Continued...

10^{11} or 10^{12} niches.

The question is that, of all these possibilities, how many ETs could there be that would be compatible enough with us to bridge the communications gap? If we expect to be able to understand messages from an alien intelligence, and to communicate back perhaps, we will need a fair degree of system compatibility with not only the alien signalling system, but also the alien's physical world, for we will only be able to make sense of any message if semantic references are similar to ours. That is, the physical structure and constraints of their world and their environmental referents will have to be reasonably like ours. If it is otherwise, their signs and codes would have little or no meaning to us, and vice versa.

Considering that we are talking of 10^{11} to 10^{12} possible environmental niches that are each different in some way from our own, and mostly in very big ways. Without limiting in any way the possibility that any or all of the niches could have developed intelligent systems, the number of niches that will have some overlap with our own that will meet our criteria will be small indeed! Restricting our survey to earth-size planets changes nothing, since that simply reduces the number of candidate worlds.

It thus can be argued that this will drastically reduce the number of possible sources for SETI-type signals that would be in any way meaningful to us. Any sustainable arguments to the effect that only few of these would be appropriate and stable enough to develop intelligent forms would reduce that number even further. Thus, even if there were ten billion - or 10^{10} give or take a few orders of magnitude - solar systems out there, dividing through with the niche estimates leaves very few candidate worlds indeed.

TIME

A further consideration is that, even if there is a planet out there in space that offers a similar environment to our own and bears a life form comparable to

ourselves, to communicate it must have developed to roughly the same stage as ourselves. Of the 400 million years our planet has had some higher life-form extant, we humans have only been around for less than one hundredth of that time, and had the ability to communicate beyond Earth for about 1/100,000th part of that. Given that we persevere with our search for another 60 years before losing interest, as we surely will if we have no decent results, then our search-time aperture will only be 1/100,000th of our existence. If there is at least one ETI world out there, what are the chances of overlapping endeavours to communicate?

Time has a further relevance in that our signals relate to our attention span which, in turn relates to our size and adaptation to our environment. We are thus likely to attend only to signal properties that fit within a human-sized attention span, that is, those that modulate within minutes or even, at best, an hour or so – a further aperture limit which would ignore a simple “hello” that takes a month to say.

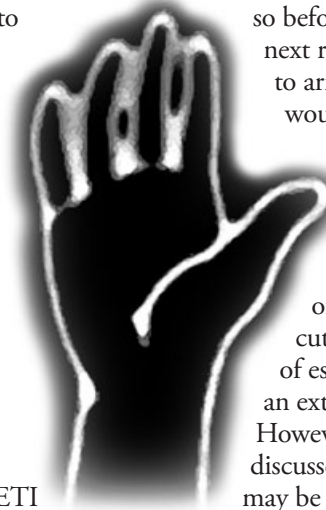
DISTANCES

One further problem for SETI is the distance we must suppose a signal must travel to reach us. While some possible sources may be a matter of a few light-years away, others are as far out as 15 billion light-years. If we did detect the arrival of a suitable complex signal, it could be that the signal was sent anywhere between four or five decades and several billion years ago. Without an agreed time code to peg the time of sending, we will have only our guesses as the age of the message and its distance of origin. We would then have the possibility that the message sender, and perhaps even the species, was long since extinct. Reception and eventual decoding of such a message from a more distant source than, say, more than one hundred light-years away, would be a pyrrhic victory indeed.

Apart from mere detection of an

ETI, practicable communication with such seems only possible within a limited envelope of space, say, out to about 15 light-years radius, for to have any surety that the signal we have picked up is indeed from an ETI we will need to perform at least one ‘handshake’. That is, at least one message must pass each way for one party to know that a message has been interpreted correctly. The figure of 25 years arises for us because twice that, the time for our handshake to be confirmed, would be about the maximum working life of the handshake sender. It seems unlikely that successors to present senders would be terribly interested in a handshake transaction initiated a century or so before them, especially if the next round was not expected to arrive until they themselves would be long gone.

A signal horizon of about 25 years would leave all but about 1/3000 millionth of the posited universe out of reach. This, of course, cuts down the possibility of establishing contact with an extraterrestrial drastically. However, if the considerations discussed below are valid, it may be that it does not matter anyway.



WHY BOTHER SAYING HELLO?

Except the possibility that in receiving a signal from outer space that is significant of an intelligent sender is simply eavesdropping on communication between parties that are known to each other, or the chance encounter with a wandering alien ‘star trek’ ship, why would an alien being send a message to us? For what purpose, or for what motive would an alien wish to be known, and possibly to communicate? While humans seem to have an inbuilt desire to talk to each other, and even to other animals, it is most possible that this is just a peculiarity created by our own social evolution. Would or should non-terrestrial intelligent life forms share this characteristic?

The usual purpose of any



communication is to receive some return response that is meaningful - "I want you to do something," or "Tell me something." For example, "We are about to demolish your planet to make way for a hyperspace bypass. Please vacate it immediately" or "Do you have a ... ?" One must wonder for what purpose someone some tens of light-years away may wish to exchange communications with us, even given our world systems are in some way compatible.

Exploration is one possible motive, with a payoff in terms of materials, colonisation, or trade. While we have explored new worlds in the past for such purposes, these were on our own planet. Contrary to the traditional stories about sailors believing that they were in danger of sailing over the end of the earth, the principal explorers knew pretty well that whatever new lands they might discover would be pretty much like back home.

In contrast, a would-be explorer several tens-of-light-years away would have little idea of how our terrain might be arranged, the extant geothermal conditions or of life-form possibilities, just as we, respectively, would have little idea of their world. If they do happen to have some information from a returned space probe, because of the delay, it is possible they may conclude that the Earth is dominated by 20-metre-long things with long necks and vicious incisors, or by green slime. In any event, stepping between interstellar worlds is considerably more difficult, and much more hazardous than is stepping between continents on planet Earth for us, and for aliens.

Establishment of communication with Earthlings as a prelude to a possible expedition seems also an untenable proposition. For any ETI at many light-years remove, there is sure to be an abundance of material sources more readily at hand than on the third rock from a small, dying star, and one that is not even visible from home base. If we were to suspect that material mining was

a possible motive, our best option would be to stay very quiet. One never reveals wealth to strangers who might then try to take it from you. Besides, how would we handle meeting a being that turns out to be vastly and intimidatingly superior in intelligence than us? Would they even bother to be civil to us, or simply step on us like we do to ants?

Colonisation raises problems of environmental compatibility again, and of getting here at any speeds short of that of light. Trade seems out for the same reasons. The immense costs of interstellar or intergalactic travel also puts all above motives for communication into the very, very unlikely bracket.

As to the eavesdrop possibility, while it may confirm our suspicion that we are not alone in the universe, it would be about as exciting as discovering from hard listening outside our bedroom window that somewhere in the neighbourhood there are people who shout to each other in a language we don't understand.

This still leaves the possibility that there are aliens that, like humans, have this desire or curiosity to know if there is anyone beyond their world that is as intelligent as they, and who, moreover, wish to be friendly. No argument against this can be offered here. If SETI enthusiasts have fun while exploring this possibility it is their prerogative to do so.

It has the added attraction of providing a mass of recorded information on electromagnetic radiation from outer space for scientific analysis. However, while friendliness to strangers is a cultural trait in humans, it may not be a universal one. The chance of finding an alien having such a human characteristic is thus very open. While fishing in unknown waters can result in a surprising and exciting catch, in this case the waters are very different from anything we have found fish in before and the prospect of a

catch must be very small but potentially very dangerous.

TRICK OR TREAT?

Finally, if we do manage to detect, and perhaps communicate with, an extraterrestrial, where does it leave us? If we do connect, it will mean that to do so the ETI will have to be at least as advanced and as intelligent as us and, because the truncated Gaussian of possibilities are all on the greater than side, the probability is very much biased towards their being greater than ours in both aspects.

If it should turn out that they are about the same level in both, then, ho-hum, it would not be terribly exciting. If they are more intelligent, or we suspect that they are, then it is likely that we will not want to know that. Besides constituting a real threat to us to know that there is actually something out there that could make us seem mental idiots, it would be an unbearable blow to our collective ego to discover that we are not the superior beings we would like to believe we are, but mere minor extensions of the ape species.

As Stephen Hawking has recently suggested, we ought to be very, very afraid indeed, especially if we consider just what we did as aliens landing in the new world of South America.

Perhaps then, in essence, the SETI program is really an attempt to reify our image of ourselves as the supreme beings - apart from the Almighty - in the intelligence stakes. The SETI project, I suspect, is one we all secretly hope will fail, and it could even be argued that the way it has been conceptualised and set up guarantees that it most surely will. ■

Editor's Note: See the review of Prof Paul Davies' recent book, The Eerie Silence, in this issue. Davies chairs SETI's Post-Detection Taskgroup.



About the author

Rex Newsome lectured at the University of Queensland on psychology. He has now retired to another planet.

“ For an ETI, there is sure to be material sources more readily to hand than on the third rock from a small dying star ”

Sweet Reason — a response



David Gillespie responds to Chris Forbes-Ewan's comments on his book, *Sweet Poison*.

My book *Sweet Poison* is a plain English guide to the biochemistry of how fructose (one half of table sugar) is killing us. The book traces the history of our state of knowledge about our metabolism of sugars. After detailed examination of the research, it concludes that there is strong evidence that:

- The fructose half of sugar has a unique metabolic pathway that results in the immediate creation of circulating fat and uric acid;
- Among other things, the fat results in severe dysfunction of our appetite control system which can in turn lead to weight gain; and
- The cumulative effects of increased circulating fat and elevated uric acid include (at the very least), Type II Diabetes, Heart Disease, hypertension, stroke, fatty liver disease, kidney disease and even some forms of cancer.

But Chris Forbes-Ewan has criticised my books and its contents on both the ABC's *Ockham's Razor* and in *The Skeptic* (30:1, p14). He has decided that he doesn't need to understand the bio-chemistry in order to critically review it.

On my blog (www.raisin-hell.com), Chris was asked what he thought of these conclusions above. His answer was illuminating. He said "The main reason for not answering immediately is that I simply don't know the correct answer. It is 40 years since I studied biochemistry formally, and I haven't kept up with the literature enough to be in a position to give an expert opinion." Notwithstanding that the vast majority of the book was apparently opaque to Chris, he managed to find some points of contention which he raised in the article.

Chris' first concern that he deemed "worth checking" (more than a quarter of the way through the book) was that I had misreported a 1985 fructose feeding study conducted by the United States Department of Agriculture (USDA). The study - *Indices of copper status in humans consuming a typical American diet containing either fructose or starch* - was abandoned on ethical grounds because after 11 weeks, four of the participants developed heart problems. Chris says copper deficiency caused the problems, not fructose.

The USDA researchers had been studying the effect of copper on rats for a few years. They had observed significant pathologies produced by fructose feeding, including severe cardiac abnormalities. Fructose seemed to interfere with copper metabolism to such an extent that it caused often fatal enlargement of the heart and liver.

The researchers obtained permission to repeat the experiments with humans, but the study was stopped early because of the heart related incidents. Even so, the authors felt confident that the same effect had been observed in humans before abandonment. In the abstract they say: "These results suggest that the type of dietary carbohydrate fed [fructose or starch] can differentially affect indices of copper status in humans."

So I guess you're right, Chris. Copper did cause the problems. That, after all, was the point of the study. But it's also clear that this was only because the subjects were fed fructose.

All of that aside, it's an abandoned study from 1985 and I never suggest it's probative of anything. There are much

more complete and more recent human trials and I've mentioned some of them in the postscript below.

Chris then claimed to have found a raft of studies, which he says I didn't mention, suggesting fructose was actually beneficial. The studies he discovered were a line of research first started in 1976 by Phyllis Crapo, discussed on pages 59 and 60 of the book. Crapo had discovered that fructose, unlike glucose, does not produce an insulin response. She speculated that might make it a good choice for Type II Diabetics.

Her research and that of those that followed her (in the papers that Chris 'found') showed that diabetic patients did indeed enjoy a better glycemic response after a meal if their food had been sweetened with fructose rather than normal sugar.

The American Diabetic Association (ADA) was so impressed by the work that in 1984 it recommended diabetic patients use fructose instead of sugar. But in the decades that followed, an increasing volume of research (documented in the book) showed that fructose was directly responsible for creating circulating fats that are significantly implicated as a cause of Type II Diabetes. These discoveries led the ADA to quietly reverse its position. In 2002, the ADA said that added fructose should be completely avoided because of the observed effect on plasma lipids (circulating fat).

So, yes, there is research that shows that fructose has a lower glycemic index than sugar, but even the ADA now



acknowledges that questionable benefit is far outweighed by the other potential downsides of consuming it.

Chris then skipped straight to the notes section of the book for the only other error he detected. As a small aside I mentioned that the International System of Units' (SI Unit) measure of energy can be derived from Einstein's famous equation $E=mc^2$.

It's not an important point, which is why it's in the notes. It's just a little tid-bit on how the unit which we know as a Joule, the metric equivalent of a calorie, can be derived. Clearly I needed to explain it more plainly, because Chris, with all his talk of howling nuclear reactors, appears to have completely misunderstood it.

Having demolished all my shoddy science (well, at least the bits he thinks he understood), Chris moved on to some other things I said in my *Ockham's Razor* presentation (in July last year). I said we are all eating way more sugar than we should. As a result we are all eating much more food than we have in the past (because of the way fructose affects appetite control).

When it comes to the consumption of sugar (or any food) in Australia, a lot of guessing is required because there hasn't been a national consumption survey for decades. But there is some data from which educated guesses can be made.

The Australian Bureau of Agricultural and Resource Economics keeps detailed statistics on sugar production and domestic availability. Doing the maths on those figures, it's easy to calculate that

there is currently 63.55kg of cane sugar available for consumption per person per year in Australia. Not all of that is going to get to our mouth, but even assuming 30 per cent doesn't (the Australian Bureau of Statistics uses 20 per cent but the USDA uses 30 per cent), consumption should be at least 44.5 kg per annum each, for every man, woman and child.

After we add fructose from fruit juice, honey and fruit juice concentrate - increasingly used instead of sugar - we are well over 50kg of sugar or sugar equivalent per person per year. The fructose half of this equates to 16.4 per cent of the recommended adult male's diet of 2000 calories per day or 18.2 per cent of an adult female diet of 1800 calories. That's a lot more than the "6-7 per cent" Chris calculates.

But even if he were absolutely right, it wouldn't change my argument one little bit. Unlike Chris, I don't believe (and there is no credible research to suggest) that there is any safe level of fructose consumption beyond that which is contained in two pieces of fruit per day.

Chris asked Rosemary Stanton to weigh in when it came to shooting down my outrageous claim that we are all eating more of everything and she obliged with "there is no evidence for an increase [in calorie intake] among adults".

And, in a way, Rosemary is right. There is no recent data on what Australians actually eat. But there's some pretty good circumstantial evidence. In 1980, two in five Australian adults were either overweight or obese. By 2008, only two in five weren't. In just 28 years the number of people with a weight problem increased by over 50 per cent. While that's not strictly evidence of increasing food consumption, that's an awful lot of lard to conjure out of thin air.

Prior to 1988, we at least have some direct evidence. Australian Institute of Health and Welfare (AIHW) data shows that between 1963 and 1988, Australians increased their apparent energy intake from approximately 2600 calories per day to 3250 per day (25 per cent in 25 years). The numbers would have to be adjusted for wastage, but it's still going to be a significant increase.



I don't know if we are eating exactly one per cent more every year after 1988, and nobody else does either, but whatever the true number is, it's likely to be a lot more than Chris and Rosemary's estimate (0 per cent). I guess the other explanation might be that some miracle occurred in 1989. We uncoupled ourselves from the US trends (which kept climbing at a similar rate all the way up to the present) and stopped eating more each year, but still got significantly fatter by some other means. Magic, perhaps?

Chris has admitted he has no understanding of the primary biochemical concepts discussed in *Sweet Poison* and it's clear that he's misguided on even the things he thinks he understands. So why would he presume to critically review *Sweet Poison*?

Thankfully he takes the time to explain that conundrum. He says his employer, the Defence Science and Technology Organisation, has been providing ration packs with "relatively large quantities of [sugar] ... If Gillespie's claim ... is not challenged, then DSTO could be accused of poisoning every ADF member" Well yes Chris, that's right - what good lawyering. But saying it isn't so won't change the science, no matter how much you or your employer want it to. ■

POSTSCRIPT

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About the author:

David Gillespie is a lawyer and the author of *Sweet Poison: Why Sugar Makes Us Fat* (Penguin, 2008).

The cycle of life

Prognostications – actors – dancers – beer and barrels ... And so it goes, the almost inevitable realisation that all knowledge is connected and connectable.

ONE MERYL'S WORDS

“There will come a time - I pray to God that it will happen in my lifetime - when those who have pushed vaccines upon innocent, helpless babies - doctors, pharmaceutical companies, government officials - will be proven to have lied and cheated these instruments of death into our children's bloodstream. When that occurs, the outcry will be heard around the world and there will not be enough hiding places on the globe for these murderers to hide or enough money to pay for compensation.” (Newsletter, 2008). The following admission is interesting: “While we are already seen as rabid, idiotic fringe-dwellers by so many in the mainstream, it does our argument no good at all to bring in conspiracy theories which, though we may subscribe to them, are unprovable.” (Yahoo Group, 2009). These statements were made by Meryl Dorey, immediate past president of the Australian Vaccination Network.

Meryl Dorey: “We have mountains of articles that prove our case. Why weaken it by bringing up [conspiracy theories] that will turn 99.9% of the population off what we are saying?”

A SECOND MERYL'S SKILLS

Another Meryl is internationally acclaimed Meryl Tankard, a leading Australian choreographer. Tankard works around the world, with recent projects ranging from a sell-out Sydney Festival collaboration with Taiko drummers to a Broadway musical. She was born in Darwin, but moved frequently across the region due to her father's Air Force career. She spent her early years in Penang (Malaysia), Melbourne and Newcastle, acquiring a taste for change and adventure which was to pattern her entire career. Tankard has created work for some of the world's finest companies and her large scale commissions, such as the opening ceremony for the Sydney Olympics in 2000, bear testimony to her imaginative range. Work in film and opera accompanies her choreographic research and ongoing engagement with contemporary dance theatre on the world stage ensures that Tankard is an internationally famous name.

What goes

... AND HOW THAT'S APPLIED

Due to the traditional barrel's distinctive shape and construction method, the term has been used to describe a variety of other related or similar objects, such as the gun barrel (with the term growing out of the fact that early cannon were built from staves of metal hooped together, similar to a barrel) and barrel organ. The idiom “over a barrel” means to be in a predicament or helpless situation where others are in control. Some kinds of food, such as pork, were stored in barrels in larders before the era of refrigerators. This practice generated a political term, pork barrel, in which earmarks for particular people or locations were labelled ‘pork-barrel’ spending. Finally, there is perhaps the best known and widely applicable saying: “Empty barrels make the most sound”.

NOT A MERYL ... BUT NEAR TO BEER

Tankard is also the name of a 'thrash metal' band from Germany, founded in 1982. After losing their guitarist because of their image as a bunch of drunks, they moved on to issue their first record in 1986. From that point on, the band has continuously made songs and records in the same style they started out with - fast metal songs in honour of alcohol. They claim to have invented a new genre called 'alcoholic metal'. Tankard are self-proclaimed Kings of Beer. Naturally, they are named after the more traditional **tankard**, a form of drinkware consisting of a large, roughly cylindrical, drinking cup with a single handle. Tankards are usually made of silver, pewter, or glass, but can be made of other materials, for example clay or leather. A tankard may have a hinged lid, and tankards featuring glass bottoms are also fairly common. Tankards are generally used for drinking beer.



Tankard: Cylindrical drinkware for holding beer, a German thrash metal band and an Australian dancer.

around ...

... AND HOW TO HOLD IT

A **barrel** or cask is a hollow cylindrical container, traditionally made of vertical wooden staves and bound by wooden or metal hoops. Traditionally, the barrel was a standard size of measure referring to a set capacity or weight of a given commodity. For example, a beer barrel was originally a 36 gallon capacity while an ale barrel was a 32 gallon capacity. Wine was shipped in 31.5 gallon barrels. Barrels are one size of cask. Other cask sizes include, but are not limited to, pins, firkins, kilderkins, puncheons, rundlets, tierces, pipes, butts and tuns. Someone who makes barrels is a cooper. Modern barrels are also made of aluminium, stainless steel, and plastic.



... AND HERE'S THE BEER

Beer is the world's oldest and most widely consumed alcoholic beverage and the third most popular drink overall after water and tea. It is produced by the brewing and fermentation of starches, mainly derived from cereal grains, most commonly malted barley, although wheat, maize and rice are widely used. Most beer is flavoured with hops, which add bitterness and act as a natural preservative, though other flavourings such as herbs or fruit may occasionally be included. Some of humanity's earliest known writings refer to the production and distribution of beer: the Code of Hammurabi included laws regulating beer and beer parlours, and *The Hymn to Ninkasi*, a prayer to the Mesopotamian goddess of beer, served as both a prayer and as a method of remembering the recipe for beer in a culture with few literate people. Beer is normally transported in barrels.

German 'thrash metal' band Tankard invented 'alcoholic metal'. One member left the band as his conservative father did not want him "hanging around with a bunch of drunks".

Sources: Wikipedia, AVN newsletters, etc



Meryl Dorey: "We are already seen as rabid, idiotic fringe dwellers by the mainstream."

Is anybody there?

The Eerie Silence – Are We Alone in the Universe?

By Paul Davies

Allen Lane, A\$49.95

What do you do if, after 50 years, you still haven't found even the slightest inkling of the thing you seek? If you were looking for the source of the Nile, the Holy Grail, or the Loch Ness Monster, in some circles you'd be described as noble, in others as an obsessive verging on the nutty. You might easily be derided as a religious crank.

And what if that search involved noted scientists with a long list of qualifications. Does that make the search any more respectable? Is this less of a religion and more of a justifiable scientific experiment, albeit a very long one?

Such is the dilemma facing those involved in the Search for Extraterrestrial Intelligence (SETI). And such is the challenge to Paul Davies, physicist, writer and broadcaster, currently a professor at Arizona State University as well as the director of the BEYOND Center for Fundamental Concepts in Science. He has held previous academic appointments at the University of Cambridge, University of London, University of Newcastle upon Tyne,

University of Adelaide and Macquarie University. Davies, among that lot, for the last five years he has also been chair of SETI's post-detection taskgroup, which looks at what we do with alien transmissions when we find them.

SETI has celebrated its 50th birthday this year, and Davies has written a book outlining the history of the organisation and the issues it faces (or might face). Despite the book's somewhat naughty title, which seems designed to attract the UFOnuts, perhaps for extra sales, the tome is well-written, interesting, and covers a multitude

of issues, from the technical operations of SETI's use of various facilities to the plans developed to cope with either overheard alien conversations or dialogue directed at Earth. We aren't talking random radio emanations from pulsars and the like, we're talking conscious transmissions from apparently intelligent and perhaps even advanced lifeforms (and there had better be intelligent lifeforms in space because there's bugger all down here on Earth).

He gets into the major problem of SETI on page 2 – where's the evidence? "SETI astronomers say the silence is no surprise: they simply haven't looked hard enough for long enough," Davies says. The universe is a big place, he says, and searches to date have only covered a miniscule part in only a relatively local area. This justification is worryingly similar to hunters after Nessie, except they at least have had some 'evidence', though largely (entirely?) hoaxes and misinterpretations. Davies does stress that he thinks SETI is science and not pseudo-science, and compares its bona fides with that lacking in telepathy, for instance.

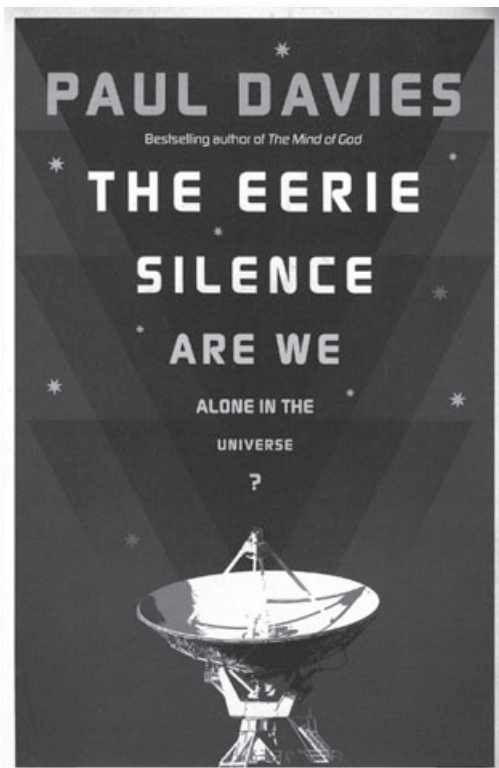
But does he believe that there is intelligent life (or even unintelligent life) out there somewhere? Sort of. The scientist in him says no, the philosopher says why not, and the little boy hopes it's true. Does he believe we'll find it? You'd think so, as he doesn't dwell on the negatives too much, but spends much time on what do we do if/once we find Them. This is not surprising on two counts – he has devoted much time to SETI, so you wouldn't do that unless you thought there was a good chance or at least an interesting time; and his role in post-detection directs the major issue of the book.

How would such a discovery affect our everyday lives? Very little, he suggests, but it would have a major impact on our worldview. How would it affect religions, especially those with a leaning toward special creation? Drastically, he says, though religions have a tendency to adapt and, once the initial shock is over, claim the newcomers as one of theirs, albeit unsaved, and thus prime targets for conversion.

Which raises the question of whether SETI itself is a religion. He has a bit each way on this, and only covers the topic in a couple of pages. But overall it is the philosophy behind the search which is most interesting, despite the results being so disappointing, to say the least. And that makes this book interesting and worth a dip, even if you don't believe.

- Reviewed by Tim Mendham

Postscript: For a contrary view on SETI's raison d'être, see Rex Newsome's article in this issue.



Someone to watch over you

Angels: A history

By David Albert Jones

Oxford University Press, A\$29.95

Angels are all around us. They flutter in stained glass windows, of course, and in cemeteries, but little ones shoot arrows into hearts, especially around Valentine's Day, and they show up in movies like *It's a Wonderful Life* or *Wings of Desire*. Something like 70 per cent of Americans believe in real angels, not just the ones shown in art, and they believe that angels are busy doing things and helping us along. Belief in angels seems to be increasing when our age is proud of its science and rationality. Why are we infested with these celestial beings, or at least with those who are certain of their existence?

There are answers in an agreeable little book *Angels: A History* by David Albert Jones. Jones has been a friar, and is a Professor of Bioethics in the School of Theology, Philosophy, and History at St Mary's University College in Twickenham, England. He thus knows angels up and down. He's not going to tell you if they exist or not, advising that it is foolish to try to prove or disprove their existence; but since he

advises keeping an open mind about the existence of immaterial spirits (just as others might advise us to keep open minds about fairies or alien abductions), it might be clear upon what side he leans. Nonetheless, there are reasons we think of angels the way we do, and depict them, for instance, with wings or with harps or arrows. Jones's book is a welcome examination of millennia of religiously-approved folklore, true or not.

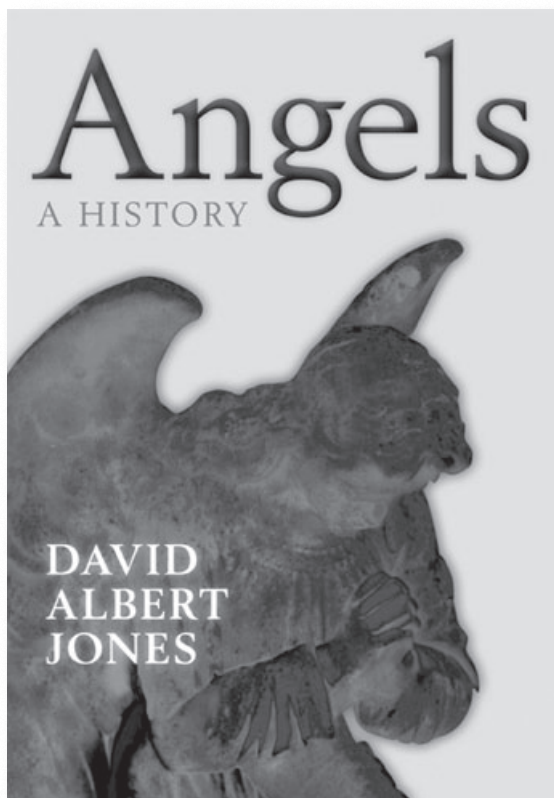
There are angels, or beings

analogous to angels, in many religions, including Hinduism and Zoroastrianism. Jones, however, is covering the three Abrahamic religions - Judaism, Christianity, and Islam - whose holy books testify to the existence of angels. Indeed, one of the first mentions of angels is of three of them visiting Abraham, a story in the Old Testament that is alluded to in the New Testament and is also related in the Quran. These angels are described as men; it took a while for Abraham to realise that they were angels, as it would not have if they had come equipped with wings and halos.

Making images of angels has been the work of Christian artists, because of a reluctance of Jews and Muslims to depict them, a reluctance traced back to the fear that people will make images and then worship the images rather than the higher inspiration for them.

The earliest depictions of angels go back to the 3rd century CE and show no halos or wings. In the next century, they started getting their wings, probably influenced by pagan depictions of Nike or Eros, although the Bible alludes to cherubim and seraphim having wings. The Quran states that angels have wings, perhaps not just one pair of wings, but two or four, and tradition says that the archangels have 600. Somewhere around the 5th century, angels got halos, which were originally used for depictions of the head of Jesus; halos, too, were borrowed from pagan art to show the gloriousness of a god, or of an emperor. Angels got their harps from a confusion of angels and saints. An angel gets a trumpet solo in both the New Testament and the Quran, going to play when time ends and the last judgement comes, but no angel is described as using another instrument, although they sing and praise a lot. Depictions of angels playing music tend to show them using whatever instruments were played at the time of the painting. (This is just one of countless ways this book shows that angel behaviour reflects that of humans. Jones jokes, "In the 15th century, on an altarpiece by Jan van Eyck, the angels are even seen reading music. Before this time the angels presumably played by ear.")

In Revelation, saints get harps, and since people have a confusion between angels and dead souls who have become saints, angels popularly are depicted with harps as well. Scripture, however, makes clear that humans and angels are different creatures completely and do not turn one into the other. 'Secular angels' became popular in Rococo art, the chubby cherubs or putti, used for



Someone to watch over you

Continued...

decoration without explicit religious context.

We can't know much in detail about the lives of angels, but we ought to be able to tell at least if they are male or female. It's easy in the Bible; those angels that appeared to Abraham were male, and the angel that came to Mary Magdalene had the appearance of a young man, and angels as members of the spiritual army of God were presumed male. But Jesus said they didn't marry, and if they are pure beings without bodies, it would make sense that they are sexless. The Quran says they are neither male nor female, but also specifically condemns the idea that angels were females. When angels started being depicted as child-like cupids, their adult varieties started taking on feminine characteristics. If you call someone "an angel," it's a good assumption the person is female. You could assume that *Charlie's Angels* was about females even if you never saw the show.

One feminist has said that angels used to be intellectually respectable, but are now taken less seriously, and when such a shift happens there is a change from regarding them as male to regarding them as female. It might also be that angels have taken on a different sort of role. The main job of angels in the Quran and Bible is to send messages; there are fewer stories of the angels intervening, guarding or helping. The nurturing parts of an angel's job might more naturally be depicted with a female angel. People who get messages from God these days tend to do so in some sort of direct line to him without an angel intermediary - the idea of guardian angels seems to have more appeal.

Philosophers discuss such things as souls and life after death still, but angels don't have as much intellectual appeal as they used to. Thomas Aquinas said that angels were real but not physical.

They have no birth, death, appetite, or weight. Those who saw angels, he said, were seeing a body that an angel made by some nonce process of condensing air. Aquinas also taught that at birth, a particular guardian angel is appointed to every person; he did not think this appointment happened before birth because the mother was in charge until then, with her guardian angel in charge of the pregnancy, too. Aquinas also tried to answer the questions of how angels can sin. Humans can sin pretty easily, since we have greed and desires, but angels are supposed not to have such drives, plus they are supposed to know about right and wrong better than humans can know. Angels can be bad, Aquinas said, by being too prideful; for instance, the Devil (a former angel) had pride manifested by a desire to be like God, and although angels are like God in many ways, the Devil seems to have the problem of trying to make himself like God on his own. This might be a little difficult to understand, and it is hard to figure out how we could be sure that a particular guardian angel might avoid making the same mistake. Who is to say that a prideful guardian angel might not start some sort of mischief in the life of the individual over whom the angel has charge? The naughtiness of angels, remember, was enough to make a war in heaven.

Jones can't resolve such issues, but of course no one can; not even believers would insist that the actions and impulses of angels are always subject to our rational understanding. His book is a welcome history and gathering of cultural facts about angels. It is not much bigger than the little booklets that you can pick up in the line for the cashier at the supermarket, with titles like *How to Contact Your Guardian Angel*. I have seen such books, but I admit that I have not read them. Even so, I am willing to bet that the current volume is much more intellectually satisfying.

- Reviewed by Rob Hardy

The Skeptics' Guide to the Universe

is a weekly Science podcast talkshow discussing the latest news and topics from the world of the paranormal, fringe science, and controversial claims from a scientific point of view.

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The Skeptic's view

Exuberant Skepticism

By Paul Kurtz

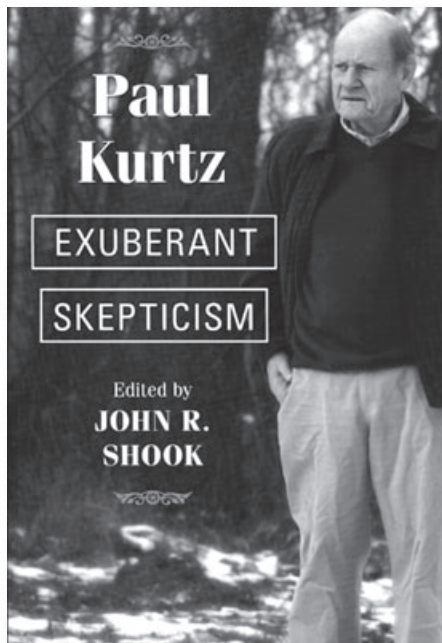
Prometheus Books, US\$19.00

First of all, it must be said, that this book has one of the least attractive and most inappropriate covers I have ever seen. Exuberant can mean two things – lively and cheerful, or growing profusely. Far from Paul Kurtz looking exuberant, as the book's title would suggest, he looks more like an old man tapping his pockets and wondering where he left his keys, hopefully not dropping them in the snow.

Now, Prometheus Books is to be commended for its efforts in promoting skepticism. Founded by Kurtz himself in 1969, it has been a pioneer in the field of publications on skeptical and critical thinking, and has published some of the leading lights in this field. But eye-catching cover design, at least in most cases, has never been a strength, and this is one of those.

But can you tell a book by its cover?

Paul Kurtz has an impressive pedigree. Apart from Prometheus, he is the founder of the original Committee for the Scientific Investigation of Claims of the Paranormal (that mouthful later shortened, along with a reorganisation of the body, to the cheekily titled Committee for Skeptical Inquiry, or CSI – no relation).



CSICOP/CSI is the oldest skeptical association in the world. (Australian Skeptics is the third oldest, after the Brits.) Kurtz is also professor emeritus of philosophy at the State University of New York and a fellow of the AAAS. He's written hundreds of articles, and written or edited more than fifty books.

So what's this one like? Let John Shook, the book's editor, fill us in: "For the first time, Paul Kurtz's most important and influential essays advancing reason and skepticism have been collected together in one convenient volume. Kurtz has long been the world's leading philosophical skeptic, but he is much more than just a skeptic. Extending insights from the philosophies of American pragmatism and scientific naturalism Kurtz has constructed a comprehensive philosophical system. This volume's concentration on skepticism does not obscure, but rather illuminates, Kurtz's overall commitments to secular humanism and the ethical and exuberant life. For that reason, the chosen title of this volume, *Exuberant Skepticism*, is quite accurate and timely."

That pretty much sums it up – a wide-ranging series of essays covering skepticism and the paranormal, religion, politics, ethics and eupraxsophy (look it up).

Actually, that last word pretty much sums up the tone of the book. These are not essays for the faint-hearted. They are certainly serious discussions of some serious issues, but they are also often dense and, while not necessarily impenetrable, certainly somewhat dour in tone and content. For those who like that sort of thing, you'll like it. For others, it might be heavy going. Learned, the essays definitely are. The work of an experienced thinker? That too. Sometimes even passionate, in an intellectual sort of way. But exuberant? No.

Sometimes you can tell a book by its cover.

- Reviewed by Tim Mendham

Correction & Addendum

In the previous issue of *The Skeptic* (30:1, page 49), the review of the book *Snake Oil Science* was incorrectly attributed to John Cameron. The actual author of the review was Dr Charlie Carter. Our apologies to Dr Carter for so cruelly denying him his rightful fame. (Also, possibly, our apologies to John Cameron in case he didn't like the book).

Taking advantage of this correction, Dr Carter would like to clarify the reference in

the review to "the complementary medicine program funded by the University of Maryland National Institutes of Health" and the relationship between the two bodies:

"The information is from two different places in the book. The wording is slightly different in the two places, and the best sense I can make of it is that R. Barker Bausell, author of the book, is a professor at the University of Maryland, and was the research director of the NIH-funded Complementary and Alternative Medicine Specialised Research Centre at the University of Maryland."

Knocking down the conspiracy

Debunking 9/11 Myths: Why Conspiracy Theories Can't Stand Up To the Facts

By David Dunbar and Brad Reagan (editors)

Hearst Books, US\$14.95

Since the attack on the United States by 19 terrorists in September 2001, a cottage industry of conspiracy has spawned and grown. Personally, I took little interest in these theories as the facts were pretty straightforward. I remember being woken late one night by a short terse phone call and my brother who just screamed “Turn on the TV” and I saw to my horror the second plane hit the second tower. It was evident by the television coverage, media and internet that a terrorist attack had been committed against the United States. I remember Osama Bin Laden actually taking credit for the attacks and other terrorists being arrested in the largest criminal investigation ever to be conducted. The approximately 2600 people who died that day came from over 100 countries and comprised people of various religions, careers, ages all going about their daily activities. It is here that my personal distain for the ‘9/11 Truthers’ starts to take hold. The conspiracy theories that have been developed show little respect for the victims of that day and the families of those victims.

With that in mind, I decided to buy the book *Debunking 9/11 Myths* edited by the staff at the magazine *Popular Mechanics*. The magazine has been in print for over 50 years and the editors decided to address the conspiracies of 9/11 ‘truth movement’ in a special edition in 2006, subsequently expanded into a book with a forward by Senator John McCain. While this is not exactly a recent publication, its content and pedigree still place it as an important contribution to the ‘debate’.

I was very much moved by one statement in the foreword by

McCain which states: “Any explanation for the tragedy of 9/11 must start and end with the facts. The evidence, the data – only then – can conclusions be drawn as to what happened.”

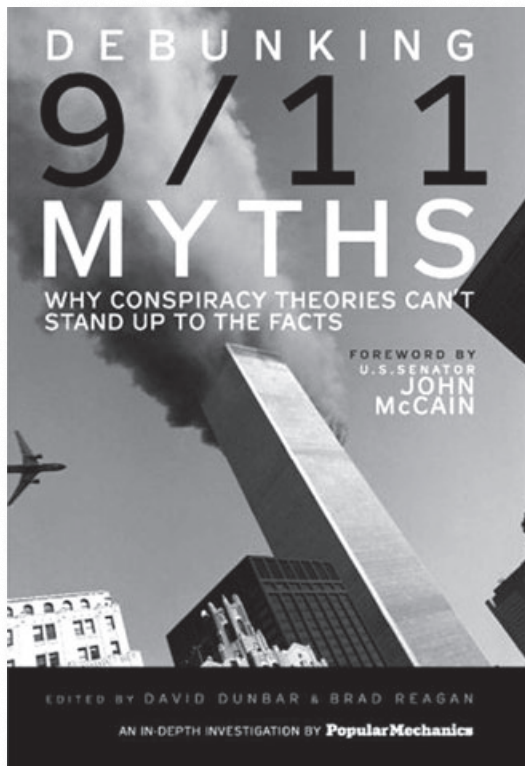
McCain then states his feelings to the ‘Truthers’: “They ignore the methods of science, the protocols of investigation and the dictates of logic. The conspiracy theorists chase any bit of information, no matter how flimsy and use it to their preordained conclusions”

I could not have put it better. The book does address all the main theories that have been peddled by the Truthers into four separate chapters, being the planes, the World Trade Centre, the Pentagon and Flight 93. This separates each of the incidents in a manner that allows for each of the theories to be addressed and discounted.

The first question is, does the book achieve this aim? I believe it does, in an excellent straightforward way. Each of the claims is stated and referenced to a person or website. Then each of the claims is dissected to its basic points and facts. One claim is that one of the aircraft that hit the first WTC Tower had no windows. Thus, the Truthers claim it was a military aircraft. But when the editors state that the person who made the statement was standing in point A and the aircraft was banking (turning) at a 30 degree angle, yes, you would not see any windows either. Yet, the Truthers fail to outline the hundreds of witness statements that saw a civil aircraft fly into the tower, with windows, markers, etc. Also, aircraft wreckage was located with windows, but that does not stop the Truthers!

Another claim is that the building was deliberately demolished; which was ‘evident’ by the puffs of dust seen as the building collapsed. When a building collapses, dust, debris, fire proofing, etc get squeezed out and this was evident in the videos of both Towers collapsing. Surprisingly, I read that the WTC was built to be “full of air” to lower dead weight or the weight of the building. The construction was also unique as most of the stable columns were in the centre of the buildings. Thus, when the building collapsed, it ‘pancaked’ and the dust left at the most appropriate points.

These were just two of the examples that are given in this excellent book. The editor-in-chief of *Popular Mechanics*, James Meigs, provides an afterword to the claims and evidence which would be of interest to all skeptics. As a skeptic, I do look for patterns in conspiracy theories and Meigs has delivered an appropriate list of techniques used by such theorists. This list can be applied to just about all groups from anti-vaccination groups to crystal healers to ghost



hunters to psychics. A short summary of the list includes discussion on “marginalisation of opposing views”, “argument by anomaly”, “slipshod handling of facts” and other such patterns used by conspiracy theorists and others.

I commend this book to all skeptics, but I will also expand this recommendation to include all people who have an interest in the facts and truth. The book is a fitting example of how to address a conspiracy theory in a rational and logical manner. Dunbar and Reagan should be commended for

the outstanding approach to this issue which has continued in spite of all the evidence to the contrary.

As I write this review, one of the terrorists has been committed for trial to a New York Court. I can only hope that the trial will demonstrate the complete silliness of the 9/11 Truth Movement.

- Reviewed by Geoff Cowan

Editor's Note: The original article in Popular Mechanics upon which the book was based can be found at: www.popularmechanics.com/technology/military/news/1227842

Beware the dog!

Shock! The Black Dog of Bungay

By Dr David Waldron and Christopher Reeve

Hidden Publishing, UK£9.99



Shock! is a small book, but like the quaint English town of Bungay, central to this investigation, it is surprisingly rich in detail, history and culture.

The book investigates one of the most pervasive myths of folklore and cryptozoology. According to a pamphlet written by Abraham Fleming in 1577, the town of Bungay was visited by a murderous Black Dog “or the Devil in such a likeness”. People were killed and one of the local churches was badly damaged. At the time, the locals attributed the carnage to a lightning strike during a ferocious storm (validated by

accounts from all over Britain) but this was to change with Fleming.

Within a month of the fatal storm, Fleming wrote a sensationalised account from his home in London. As an ambitious Calvinist, the facts were not as important as the message he wanted to impart. The pamphlet seems designed to shock the wicked back to the path of righteousness by invoking a genuine fear of prescient evil. In the context of the period, late in the Reformation, it was bound to be a success.

The authors of *Shock!* go far beyond debunking this myth, going into great detail to explain how it came about and why it has endured. The history of the town may seem the least interesting part of the book but significant cultural events, such as the Reformation and the Depression, are instrumental to understanding why the myth has been reinvented time and again.

Today, people still visit Bungay for its paranormal past, and this has not gone unnoticed by the locals who have adopted the Black Dog like a lost puppy. This is a part of their identity now, taken less seriously by most, but cherished. We get the impression that as long as nervous night travellers jump at shadows, the Black Dog will keep returning. By reading this book, people can at least appreciate where the Dog comes from and why it isn't going away.

To be fair, the book does have its limitations. The investigation is, by definition, only concerned with one incident and one town, though other events are frequently mentioned and thoroughly referenced. No book of this size can hope to explain all anomalistic big cat and black dog sightings in Britain, but it does a fantastic job of explaining this one. By doing so, it shines a light on how people think, making this case relevant to any folk mystery, and even to the nature of folklore itself.

Cryptozoologists would find this book invaluable for the wealth of detail on this incident. It is extremely well referenced for anybody game to walk those dark country streets conducting their own investigation, even if only from the comfort of an armchair. The book is written for the general public, even though academics would find it equally useful and interesting.

I would recommend this small book to anybody with an interest in history, folklore, cryptozoology and the nature of belief. As a definitive account of the Bungay Black Dog mystery, it should be on every monster hunter's bookshelf.

- Reviewed by Philip Peters

Atheism, big bangs, Kalam & the Universe

In which is discussed the beginning of the universe, and what went before, and how



What matters ...

In my response to “Getting out of ‘Cults’” [The Skeptic, 29:4, page 60], I cited the response of various atheistic philosophers - Daniel Dennett, Quentin Smith and Mario Bunge - to the Kalam Cosmological Argument as examples of desperation and cognitive dissonance.

The essence of the Kalam Cosmological Argument is:

1. **Anything that begins to exist has a cause.**
2. **The universe began to exist.**
3. **Therefore the universe has a cause.**

I did not present the arguments supporting the first two premises, as my intent was to highlight the response of atheists to the argument, not to defend the argument itself.

However, in *The Skeptic*, [30:1, page 59] Wayne Robinson and Len Bergin attacked the Kalam argument.

In the Kalam argument the universe is interpreted in the broadest possible sense. It is all that is physical, ie the cosmos. If it is either the observable single universe or an unobservable multi-verse, then so be it.

It would take too long to provide a thorough explanation of the supporting arguments for the Kalam argument and so I will just give a sketch. Premise 1 has traditionally been seen as intuitively obvious and the conclusion logically follows. Premise 2 is where most of the debate has been. The arguments supporting premise 2 are as follows:

The initial argument for premise 2 was developed by Muslim philosophers in the Middle Ages. It is impossible to create an actual infinite set, as it leads to absurdities. According to mathematician David Hilbert, “The infinite is nowhere to be found in reality ... The role that remains for the infinite to play is solely that of an idea.” A past eternal universe would entail an actual infinite number of events, which is absurd. Thus the universe cannot be past eternal.

The second argument is based on the second law of thermodynamics. The entropy of a closed

system is always increasing. If the universe is past eternal, then the universe should now be in a state of heat death. It is not, so the universe cannot be past eternal.

The third argument is based on the Big Bang. The Standard Big Bang Model claims that the universe began to exist just over 13 billion years ago.

There are several conclusions that can be drawn about the nature of the cause. The cause must be non-physical, immaterial, transcendent, timeless and powerful. William Lane Craig also argues that, since the creation entailed a choice, that the cause must also be personal. The Kalam argument is not necessarily an argument for the Christian God. The Kalam argument is also used by Muslims and Jews.

Wayne Robinson cited the example of the Paricutin volcano. He parodied the Kalam argument to suggest that Paricutin had a transcendent cause and that cause must have been the god Vulcan. Now this is clearly not the case, as a volcano has a physical cause, but this is not so with the universe. If the universe is all that is physical, then if the universe had a beginning, then its cause must of necessity be non-physical, ie transcendent. Thus Wayne’s parody is fallacious. It is an instance of the false analogy fallacy. Wayne says he has no problem with the Kalam Cosmological Argument; it is just that he believes that the cause of the universe was natural. However, if the natural had a beginning, then Wayne has a problem.

He suggests an eternal ‘multi-verse’. This has some initial problems in that it is unobservable and the physics is highly speculative. It also has a fatal flaw that is common to all pre-Big Bang scenarios. In 2003, cosmologists Borde, Guth and Vilenkin demonstrated that any inflationary scenario cannot be past-infinite. It had to have a beginning.

Len Bergin is hoping that there is past-eternal material world prior to the Big Bang. The Standard Big Bang model is that the Big Bang is the start of matter, energy, space and time. There was no ‘before’ before the Big Bang. There was absolutely nothing natural. The Big Bang is only a description of what happened after the beginning. It does not explain the cause of the beginning. There have been various alternative theories for unobservable worlds prior to the Big Bang. Len’s suggestion does not correspond to any of the major metaphysical theories. It also is not possible

that any pre-existing worlds can be past-infinite in the light of the Borde-Vilenkin theorem.

Unlike Wayne and Len, both Quentin Smith and Daniel Dennett accept that premise 2 is correct. They know too much. They don't enjoy the intellectual freedom offered by ignorance. Thus they are forced into bizarre rationalisations in order to maintain their atheism.

Wayne also made some brief comments about the fine tuning argument that completely missed the point. The constants in physics and initial conditions in the Big Bang are finely tuned to allow what Paul Davies calls "interesting outcomes" anywhere in the universe. If it wasn't finely tuned, you would not get basic stuff like large elements, molecules, stars, galaxies etc. According to physicist Roger Penrose, the probability that the universe was life-permitting if the initial parameters were chosen by chance is approximately 1 in $10^{(10^{123})}$. This is the number 1 followed by 10^{123} zeroes and has 10^{40} more zeros than there are atoms in the universe.

The probability for being initially dealt four aces in a poker hand is just over 1 in $50,000$. If the universe was life-permitting by chance, then this is equivalent to being dealt four aces in a poker hand 2×10^{118} times in a row; on your first attempt! What sane person would bet on those odds? The universe is a stacked deck. The fine tuning is far more plausibly explained if it was by design rather than occurring by chance. Former atheist Fred Hoyle stated, "The universe is a put up job" and, "A common sense interpretation of the facts suggests that a super-intellect has monkeyed with physics."

Both Wayne and Len appeal to the argument from ignorance. Even though we don't know now, maybe one day we will know. Even if we never know, then there still can be a natural explanation. The problem with this argument is that it can be used to explain anything; and is therefore meaningless.

Wayne claims there is no evidence. He rejects the beginning of the universe and the fine tuning of the universe as evidence because, since he believes naturalism is true, therefore a naturalistic reason must exist, even though he has no idea what it is. This is clearly begging the question. Wayne has a blind faith belief in naturalism, no matter what the evidence.

The traditional arguments for the existence of God have been based on the creation and design of the universe. Atheists have attempted to deny a creation event and to explain away the apparent design. Both attempts appear to have failed.

... and antimatters

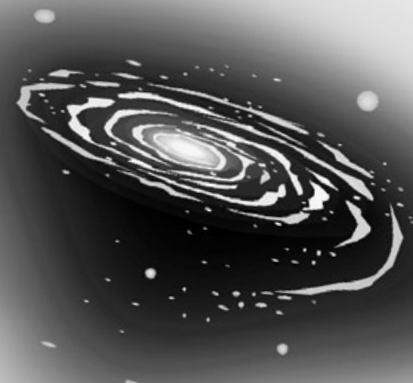
Wayne Robinson discussing the origin of the universe [*The Skeptic*, 30:1, page 59] has faith that science will eventually find an explanation. Just as other sceptics and atheists would like to know of a creation that produces matter and energy by physical means, not supernatural. Well, there is a physical reaction which can explain it. The Big Bang does not fulfil the desires of these people because matter and energy appear without logical physical explanation. It was devised by a Jesuit priest, Georges Lemaitre, and is accepted by some of the main religions because the supernatural seems to be the only explanation.

What is required of a non-supernatural creation is a normal physical process. Whatever goes on around us are natural processes that do not require anything but the right conditions. Any physical process that we know of is like this. So all we need do is find a physical process that can proceed in the original condition of nothingness. There is a physical process, that has been carried out, that involves 'nothing'.

Physicists at the Department of Experiment Physics, UCD, have isolated atoms of matter and anti-matter, brought them into contact and they have annihilated to produce nothing. And energy. Most physical and chemical processes can be reversed. All that is needed is to change the conditions. For instance, matter expands when heated. Change the conditions by removing heat and matter contracts. Hydrogen and oxygen can be combined to produce water. This process can be reversed so that water can change to hydrogen and oxygen.

In conditions of the presence of matter, energy and gravity, that annihilation was achieved. In the original conditions of complete absence of matter, energy and gravity, perhaps matter and anti-matter were generated in a reversal of the annihilation process.

That annihilation process produced nothing plus energy according to Einstein equation $E=mc^2$:



Atheism, big bangs, Kalam & the universe

Continued...

- matter + anti-matter → nothing + energy
Reversal of this would be:

- nothing + energy → matter + anti-matter

In the case of the first simple matter, it would, like known quantum particles, have had no mass and so, according to the equation, E would have been zero.

So the simple physical reaction, needing no help from the supernatural, could have been:

- nothing → matter + anti-matter

These new particles would have appeared wherever there were the appropriate conditions, so they would have been closely packed and at absolute zero temperature. The pairs of particles of matter and anti-matter would have had no influence to affect their orientation, so they would have been absolutely random in their relationships so that some would have annihilated, leaving voids. These voids would have resulted in the development of potential energy when the particles interacted to develop physical characteristics including mass and powers of repulsion and attraction. This potential energy would have enabled conversion into kinetic energy and eventually heat and radiation, including cosmic background radiation.

So there it is! A completely non-supernatural possibility.

Robinson touches on time scale too. Nothingness existed as far back as one can imagine and before that, infinitely. It extended to unimaginable distance too, and beyond that, infinitely. So if the suggested process occurred, it occurred everywhere and an infinitely long time ago. So a universe created this way must be infinite in size, but not necessarily in age. Our universe is expanding and will go on till the galaxies are dead and almost infinitely spaced so that gravity in the space between would be virtually zero and all energy will be attenuated to nothing. Our universe will die but in these conditions a new universe will form just as zillions of universes have in the infinite past. So our universe is not infinitely old, but the cosmos is.

One last thing. Astronomers explained the expansion by suggesting an explosion, a big bang, that generated velocities up to the speed of light. In my 'silent whisper', when interactions between the particles expansion began and continued, a speed of separation between two particles a kilometre apart of only one fourteen millionth of a metre per year would result in particles fourteen thousand million light years apart separating at the speed of light, with no explosion!

Brian a'B Marsh
St James WA



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Science adored, science abhorred

In which our correspondent is perplexed by inconsistency in attitudes to science



A post on Facebook where a correspondent said “I thought the vaccines go through vigorous testing before we inject children,” got me thinking. She was implying that vaccines are dangerous because product surveillance had detected a problem in one of them. Of course, vaccines go through an extensive testing process before introduction, and continue to do so afterwards. So why is it that when continuous product surveillance reveals a need for action in one industry (pharmaceuticals), that is a cause for worry, but when continuous product surveillance reveals a need for action in another industry (aviation), that is welcomed as standard operating procedure, no less.

I am often intrigued by the difference in attitudes to the pharmaceutical industry and attitudes to my industry, aviation. People are quite content to board a Boeing 747 and fly around the world to London. They put their complete trust in the crew, the engineers, the air traffic controllers, the people who designed and built the plane, and so on. They never go through the blueprints before buying the ticket. I very rarely see criticism of the people involved, the science and engineering, the continuous research and development and product surveillance and improvement.

In my many years in the aviation industry, I never saw the aviation equivalent of Meryl Dorey marching up to the cockpit to lecture the pilots on EPR settings, nor blogging about how Boeing doesn't understand the science behind hydraulic pressure requirements in elevator screw jack assemblies. Yes, I did see criticism of the aviation industry's contribution to noise and CO2 pollution, fair enough, but I never saw armchair experts form lobby groups tell Boeing how to build their planes better, or to warn travellers to avoid flying machines or face death.

On the other hand, I see no end of criticism of doctors and researchers, the companies who research and develop vaccines, and the

science and technology of the vaccine industry. So many people think themselves to be experts whose opinions are supposed to be of equal value to those of Nobel Prize winners. They form lobby groups of self-appointed ‘experts’ and lobby politicians, the media, doctors and, more importantly, parents, to denigrate vaccines and the mainstream health industry.

When you next board a Boeing 747, rest assured that Boeing has continued to research the science and engineering involved in building this magnificent machine, 40 years after it entered service. Yes, occasionally problems are found with components, the matter is researched and improvements are introduced without fuss. Hardly a day goes by without Boeing issuing engineering instructions to its customers. This is not taken by those involved as a failure of the design and manufacture, but it is taken as a recognition that all human activities are flawed and so diligent attention must be paid to detecting and correcting problems and improving the product so that the best possible product goes to market.

Exactly the same process goes on within the pharmaceutical industry, but without the jet-setting glamour. Behind the scenes, research and development continues, with the aim of detecting problems and improving the product. This is not taken by those involved as a failure of the design and manufacture, but it is taken as a recognition that all human activities are flawed and so diligent attention must be paid to detecting and correcting problems and improving the product, so that the best possible product goes to market.

So why is it that one industry has the confidence of the public, even the adoration, but the other seems to attract so much contempt? Why does one industry have a customer base that has faith in it and the other has a customer base in which so many people are armchair experts ready to use any perceived flaw to ‘prove’ that the whole industry is a con and a diabolical conspiracy?

Why are anti-vaxxers so ready to pronounce themselves experts on vaccination, and at the same time ready to board a Boeing 747 and flit off to London never claiming any expertise in how it is done, nor criticise the people who take them there so safely? Why is one branch of science adored and another branch of science abhorred?

Why is that?

What you think ...

The Fructose Debate

In *The Skeptic*, (30:1, page 14) Chris Forbes-Ewan writes an article titled “Sweet Reason”, in which his main target is the cheerleader David Gillespie, who is responsible for a book titled *Sweet Poison*.

Chris has been, at best, lazy in writing this article. He fails to address the root issues that the book discusses, which is the claim that fructose is ethanol without the buzz and that it is technically a toxin that short-circuits the body’s appetite controls, is only metabolised in the liver where it is converted to triglycerides and is a very significant contributor to type II diabetes and obesity. Chris’s space-filling attempts at humour fall flat and his boast of a infantile post on Gillespie’s blog have no place in a journal such as *The Skeptic*.

Chris along the way plays the ‘natural’ card, as if there’s some deity-driven purpose for fructose that makes it good for us because it’s in honey and fruit and cane sugar. Is Chris aware that natural is not the same as good? Plants have a vested interest in encouraging animals to eat their fruit and deposit seeds far and wide, not to help those animals to live long and healthy lives, and bees have vastly different internals to mammals.

Perhaps if Chris had paid more attention in his article to the material presented by Robert Lustig, which he does at least mention briefly but entirely skips its content, where the science is well presented and deserves serious consideration, and addressed the issues that Lustig presents rather than ranting against the cheer squad’s spelling mistakes, then the article may have been of some benefit to the readers of *The Skeptic*. Also the work of Gary Taubes (author of *Good Calories, Bad Calories*, turn to chapter 12 of that book for a summary) deserves attention. A competent nutritionalist would be

expected to be aware of both these people’s work and to not simply dismiss the issue with a hand wave and a quasi-legal parody.

Fructose is a controversial sugar with some serious issues surrounding its consumption in all but very small doses and it deserves serious attention and educated debate, not the defensive, poorly researched and self-interested article presented by Chris.

Carl Brewer
Vermont Vic

I was one of the people who spoke to Margaret Kittson after David Gillespie’s presentation at Briskepticon [see Margaret Kittson’s Forum piece, *The Skeptic*, 30:1, page 50]. I did refer to the presentation as “not appropriate”, and hope that my comment did not distress her.

Gillespie’s claim focused on a link between fructose and obesity. To be able to understand and evaluate this claim, one needs a fair degree of expertise in a particular biomedical field. I do not have that expertise, and so could not judge Gillespie’s presentation. I could not tell if it was a massive scientific discovery or a piece of rubbish. From what I could gather, only a small handful of people in the hall had knowledge in the area, and they had little or no time to prepare a response to what they were hearing.

Since there were few experts there, it follows that most people in the audience could not benefit from the presentation. They could not learn from it, since it could be rubbish, and they could not critique it for lack of expertise. Like Peter Ellerton, I zoned out, and I got on with some reading quite early on.

What should Gillespie have done? The answer is obvious. He should have written up a paper and sent it to a relevant journal, where genuine experts could have examined it at length. Or he could have presented at an expert conference, where a roomful

of specialists would have understood exactly what he was saying. I was astonished that he had not done this, since he claimed to be in touch with scientists, who could surely have given him guidance.

Please note that this viewpoint does not prejudge the quality of Gillespie’s argument. My concern is that this was a wildly inappropriate forum for this particular idea and, quite literally, a waste of time.

Having said that, let me add that the rest of Briskepticon was both enlightening and great fun. Margaret worked hard, and it showed in the excellent quality of the organisation and presentations.

Martin Bridgstock
Nathan Qld

Santa’s role

“Ho Ho Humbug” [*The Skeptic* 30:1, page 44] reminded me of living in a mining town in central Queensland. A twelve year old girl there was adamant that ‘Santy’ existed. My wife and I, as new parents, decided that our children would receive Christmas presents from us, from other family, from friends, but not from Santa Claus.

My two year old daughter was at a hardware store when Santa was there. The store owner, who we knew in other circles, was insistent about her meeting Santa. My daughter cried. Over the years, I realised this was not an unusual reaction of young children. Many find a large bearded man in a funny red suit scary*. Why should we force children to like Santa?

Have my children missed out for not having received presents from Santa over almost 20 years? They would probably say they have, but that has more to do with a parental belief that you can have “too much of a good thing”, and that children are better off appreciating well-chosen gifts than a multitude of cheap ‘stocking fillers’ that inevitably break by Boxing Day.

As a child, my brothers and I put out pillow slips to be filled on Christmas Eve. Did we believe Santa existed? Of



course not! But the pretence was good for having more presents. What annoyed me most was the sudden way the tradition was ended when I was about 12. No discussion, more a “You’re too old for such nonsense.” Nothing replaced that game, that aspect of family tradition.

Sure, do away with Santa, maybe we could have had a treasure hunt for presents instead, or a quiz trail. Thirty years on my daughter gave me a map resulting in my climbing a tree to find my Easter eggs. There are alternatives to Santa (and Easter bunnies) to spice up our celebrations.

I do not mind Santa Claus as a reminder of the tenuous link back to a good bishop in Roman times. I am happy to have Santa as a part of the fun and games of Christmas. But we do not have to weave a web of lies about his existence. I was happy for my children to jostle for lollies thrown from a Santa from some odd variation of a sleigh at some community gathering, but my children received gifts from people who loved them and cared for them, not from some distant figure.

Inevitably, at Christmas time, some school or group finds itself in deep trouble because they have banned Santa. Usually the cry is of “political correctness gone mad”. In actual fact, it is usually conservative Christians who have banned Santa. And this is one time I am agreeable with the fundamentalists. And, like Alison White, discretion appeared the better part of valour.

Dan Stewart
Gympie Qld.

* *They’ve met Barry Williams then? - Ed*

An Open Letter to Richard Dawkins

I write in relation to three quotes which appear in *The God Delusion*, in the section Secularism, the founding fathers and the religion of America of chapter 2, the God Hypothesis, viz.

- Christianity is the most perverted system that ever shone on man.

(Thomas Jefferson)

- Lighthouses are more useful than churches. (Benjamin Franklin)
 - This would be the best of all possible worlds if there were no religion in it! (John Adams)
- Taking them in order, the first quote, taken in isolation, is misleading in that it does not make the distinction which was clear in Jefferson’s mind, namely that the teachings of Jesus were good but had been perverted by his biographers and followers: hence the ‘most perverted’.

I would be grateful for a source reference for the quote by Franklin.

I have seen the text of a longer quote from Adams, which came in a letter to Thomas Jefferson of 19 April 1817, as: “Twenty times in the course of my late reading, have I been upon the point of breaking out, this would be the best of all possible worlds, if there were no religion in it!!! But in this exclamation I should have been as fanatical as Bryant or Cleverly. Without religion this world would be something not fit to be mentioned in polite society, I mean hell. (Source: what purports to be a facsimile, <http://www.loc.gov/exhibits/religion/vc006646.jpg>)

The longer quote from Adams, if genuine, completely reverses the meaning of the extract.

I would be very grateful for your comments in relation to these quotes.

On a personal note, I am very grateful that books and other works by you have challenged, educated and amused me and have contributed to my leaving the church of which I was a member. For most of the period of my membership I was not a believer, ie a person with faith in the conventional sense; I managed by redefining ‘God’ as a principle rather than a sentient being. However, I became increasingly concerned that church membership, even in what I conceived as my moderate, rational way, was a sort of endorsement to faith, any faith, including violent fanaticism.

Ralph Seccombe
Toronto NSW

Misuse of ‘odds’

I teach a course in elementary probability at QUT, Faculty of Education. As part of the unit we look at misuses and misrepresentations of probability, particularly in the media. Most of the students do not have a mathematical background so we use only basic probability in our analyses. For example, a *Ripley’s Believe it or Not* cited the case of a baby girl born in the USA on December 7, the same date as her mother and grandmother quoting the ‘incredible’ odds of $1/365^3$ or less than 1 in 48 million (mathematically correct). Clearly, many would think this an incredible occurrence. However, when we examine the probabilities we find that it is not at all extraordinary. Firstly it doesn’t matter what the date is so we’ll ignore the December 7 date and get a probability of $1/365^2$ or less than 1 in 100,000. This may still seem ‘extraordinary’ but given the population of the USA, if we consider the probability that somewhere some child will be born on the same date as a parent and a grandparent of the same sex, we find that even over a relatively short period of time, this is nearly certain to happen. It’s a bit like if you buy a lottery ticket and you have a 1/100,000 chance of winning. You might consider it extraordinary if you win, but not if somebody wins. We don’t see media reports “Extraordinary event: someone wins lottery!” *Someone* has to. Likewise the event described is nearly certain to happen (See at end for those interested).

I recently came across another example of a misuse courtesy of the letters section in *The Skeptic*, March 2010. In a letter headed “Was Jesus Gay?”, Jon Donni wrote: “the odds dictate”.

Firstly, the odds never dictate anything; they tell us the likelihood of something; in this case the likelihood of at least one of a group of 21 men being gay. Some assumptions need to be made:

- The proportion of homosexual men in the population is five per cent
- The 21 in the sample are representative of the population. This latter assumption is probably not true. For example the proportion of married men is probably different

Misuse of 'odds'

Continued...

but without the assumption we cannot proceed.

So let's see what the likelihood that at least one of the 21 is gay under these assumptions.

- The probability that any one is not gay is 95 per cent or 0.95.
- Thus the probability that all 21 are not gay is $(0.95)^{21} = 0.34$.
- Thus the probability that at least one is gay = $1 - 0.34 = 0.66$

The phrase "the odds dictate" implies a higher probability than this. It would be better for the author to say something like "there is a greater probability than not of ...", or "the odds favour" or "it is about twice as likely as not that ...".

(If we want to find the probabilities of exactly one, two or three gays in the sample we use the Excel function BINOMDIST. This gives us 0.38, 0.20 and 0.07 respectively and we can see that the most likely is, as expected, one.)

To analyse the Ripley's article, we simply set up an Excel spreadsheet and make the necessary estimations and assumption:

- If n is the number of births per year in the country
- Y is the number of years of observation
- p is the probability that any child born has the same birthday as both parent and grandparent of the same sex = $1/365^2$.

We should note that these calculations are only approximate. This is because if two people are born with the same grandmother, their outcomes in regard to the events of interest here will be correlated. Also we have ignored the minor effect of leap years.

- Then $(1-p)$ is the probability that they do not match
- And $(1-p)^{nY}$ is the probability of no match for nY births
- Hence $1 - (1-p)^{nY}$ is the probability of at least one match

We see that in even a relatively small country with 100,000 births per year, the probability of this "believe it or not" occurrence is about 90 per cent. In a large country such as the USA it is virtually

certain to happen every few years. The only "believe it or not" situation would be if it didn't happen. The misconception here is in not understanding what the problem is.

Robert Peard
QUT, Qld

Valentich & UFOs

I enjoyed reading the analytical essay by Geoff Cowan concerning the disappearance of Frederick Valentich and the plane VHDJS.

As would most informed UFO adherents, I disagree with his categorical denial that it has anything to do with a UFO.

His arguments are similar to the Rendlesham Forest incident that occurred in late December 1980. Most of your readers may be unfamiliar with the events that took place there. Briefly, the basic facts are:

- an object with pulsating lights was observed in the forest by officers of the USAF
- a subsequent patrol was led by Lieutenant Colonel Charles I Halt, deputy base commander, RAF Woodbridge, who also observed and made a report to the authorities.

The reported sighting has recently been verified by the Ministry of Defence (understandably no explanation given) by way of the Freedom of Information act.

The point I make is that the comments made by Skeptics, after the press release, were almost as strange as the object observed, ie mistaken for lighthouse beams; the commotion made by farm animals; predators; the officers at the scene were intoxicated; the damage done to the forest canopy – rabbits!

There were also various 'explanations' for the higher than normal radio activity recorded at the site.

Can anyone explain Mr Cowan's conclusion? He offers no proof that the Bass Strait incident was not caused by a UFO?

I rest my case.

R. Hadley
Adelaide SA

Belief, Gods & 9/11

Could a Skeptic go so far as to develop a 'closed mind' when he/she confronts a subject that has attained widespread belief within the conspiracy theory arena? Perhaps too focused on rejecting out of hand any suggestion that the theories might contain a few grains of truth?

I'm prompted to ask this question due to reading Dr Krissy Wilson's article "The Architecture of Delusion" [*The Skeptic*, 30:1, page 45] dealing with the events of 9/11 in which she says: "All too often a well-meaning desire to expose lies and deceit merely results in paranoia and self-deception." In many respects, I agree with that observation.

However, as a Skeptic, I am prepared to listen with an open mind to theories, suggestions etc as to the subject in question (9/11 in this case) so as to try and derive some understanding as to why certain conspiracy theories might have originated and then analyse that input, regardless of the popular (perhaps too often unquestioned) acceptance of these theories.

Re the above, there is an interesting DVD titled *911 In Plane Site* that presents many anomalies relating to TWC1, WTC2, WT7 and the Pentagon. One example: at the time a Boeing commercial passenger aircraft hit the Pentagon, there was one surveillance camera able to capture an indiscernible image. Only one camera? At the Pentagon? In that case, I suggest it would be a simple matter to land a joyflight helicopter for a picnic on the lawns of the White House without being spotted by the FBI or the Secret Service.

It has been suggested by psychologists and their ilk that people who claim to have spoken to/been abducted by aliens are considered to be paranoid/self-deceptive, yet in the same breath they would consider it blasphemous to label a Catholic, Muslim etc, who believes in an invisible entity in the sky who listens to them and answers their prayers and so on, paranoid/self-deceptive. But where



did these believers get their 'facts' to support such belief in these entities?

I would suggest through conspiracy theories (for 'conspiracy' choose whichever dictionary definition you wish); in other words, the Bible, Koran, etc and numerous other 'words of God(s)' tomes penned in the distant past by ordinary mortals. Yet because of their popular appeal, gods are considered to be a 'fact' by millions of believers.

Please note: I am aware that there may be a 'few grains of truth' among the religious chaff. Might similar grains of truth also exist among the 9/11 chaff?

To sum up, why is it that belief in gods is accorded such wide acceptance when there is no evidence and yet the 9/11 conspiracy theories, which I would suggest contain at least some evidence, are considered paranoid and self-deceptive according to Dr Wilson?

To adapt Dr Wilson's sign off: a warning to us Skeptics all, perhaps?

Terry Fowler
Roseville NSW

Jesus ... again

You should have stuck to the decision to close correspondence started by Martin Bridgstock's articles in 2008 rather than let Mike Myerson display (yet again) his biblical ignorance and inability to think clearly.

I will dissect only one of his many assertions. I had discussed the historical evidence for Jesus' existence then added that Christianity's existence was proof that Jesus existed. Meyerson says that on that argument the 330,000,000 Hindu Gods also exist.

All but Meyerson can see this argument's flaw. The existence of a religion or movement with a founder is evidence the founder existed but not evidence for claims about him or beliefs advocated. Examples include Buddhism, Christianity, Islam and Marxism. But some have no founder. They emerged from ethnic/tribal groups or from amalgamating different ideas. Examples include animistic religions, Hinduism and Shinto. Their existence says nothing about

their founder and is not proof for their beliefs. Not even Mike believes Hindu Gods founded Hinduism. So Hinduism's existence cannot be evidence of these Gods' existence.

I suggest the Editor now close this correspondence, allowing Mike time to attend Logic I.

David Goss
Mawson ACT

Editor's note: Agreed, this correspondence is now truly closed.



CRYPTIC CROSSWORD SOLUTION

F	F	U	S	H	G	R	I	H	E	R	H	S
E	B	C	G	E	H	N	S					S
I	N	A	T	I	L	L	I	L	L	I	L	E
L	T	S	O		A	O	L					L
B	S	H			A	U	E					S
	C	P	T	I	S	E	P	T	I	S	A	S
R	R		S		L		T					B
E	V	E			C	T	R	A	D	I	C	
T	N	L	M		S	T						R
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I	G	C			E	A	E					R
N	G	S	I	G	L	E	R	O	L	E		R
I		U	R		O	A	R	A				O
S		S	E	S	H	O	U	S	E	S		H

PUZZLE SOLUTION

- A. 10
- B. No
- C. Yes, possibly - during the transition to/from daylight saving time
- + Zero, because it contains (x-x).

TRIVIA QUIZ SOLUTION

1. Trying to finish his dinner, which consisted of a pork chop with hot apple sauce and a glass of warm wine. He was called away from the table and on return found a cold chop and cold wine but still-warm apple sauce.
2. The Great Plague had caused all universities to close for the time being.
3. Recording *Sad Eyed Lady of the Lowlands*.

Your Stars: JUNE 2010

With our Astrologer Dr Duarf Ekaf

Aries: 19 April-13 May

Money is on your mind this month, as it is every month. It's on my mind too as I have not been paid to write the rest of your star sign. Sorry, just make up the rest yourself.

Taurus:

14 May-19 June

People born under your star sign are usually over the top and beside themselves. If this is you then you need to find your balance. You can try a naturopath but a good lie down and a cup of tea is cheaper. Your lucky year is 2009, which is a pity as it won't be back for a very long time.

Gemini: 20 June-20 July

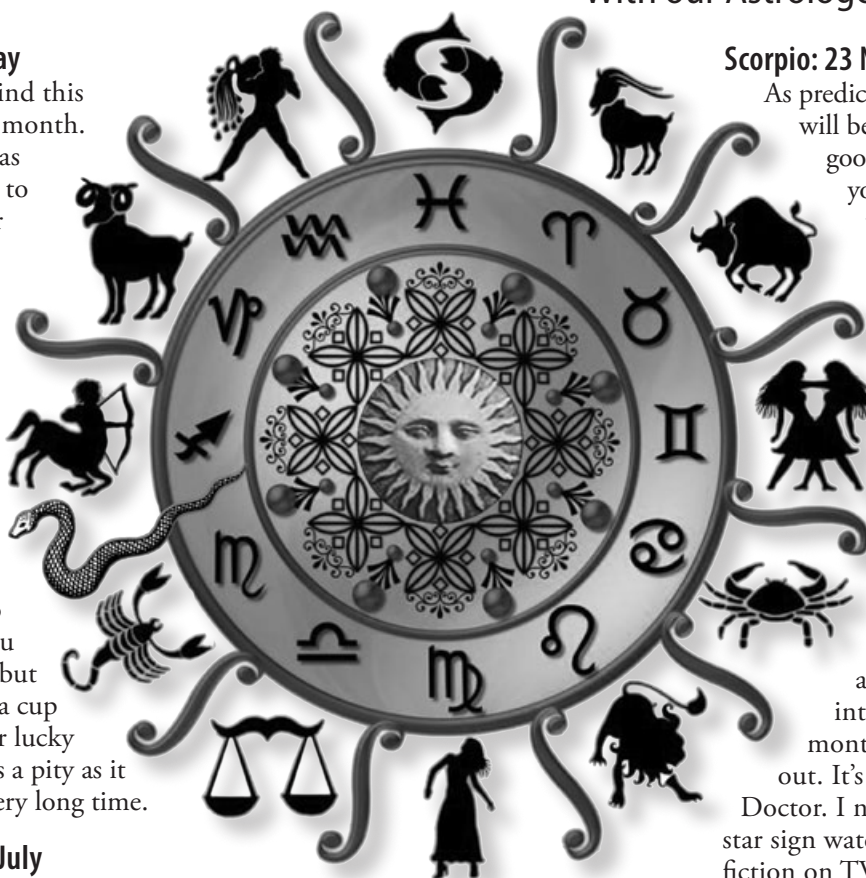
It's another day and another week and yet another year. Well it's better than the alternative. The stars are shining on you, but then again they shine on everyone except when it's cloudy. So, before you go outside today, take a look at the sky. If it's cloudy stay in bed. If you can see the stars, go back to bed as it's night time.

Cancer: 21 July-9 August

Your friends cannot understand why you are a skeptic, especially when you subscribe to a skeptical magazine that features an Astrology column. I tried to write a skeptical column for an Astrology magazine once but it was rejected! Tell your friends that people born under their star signs are also skeptical by nature and should subscribe to this magazine!

Leo: 10 August-15 Sept

A long lost relative may come into your life this month with good news ... or a long lost relative may come into



your life with bad news ... or a close relative may pop over for dinner with good and bad news ... or no one comes for dinner but you get good news from a friend and/or a relative. It's amazing how accurate the stars can be.

Virgo: 16 Sept-30 Oct

Your love of curried baked-beans is causing a bit of a stink with friends and workmates. Yes, they want some too. Mind you, people of your star sign are great in the kitchen ... when it comes to washing up... but forget about the cooking. Your lucky animal is a Dodo, which is sadly extinct.

Libra: 31 Oct-22 Nov

Now is the time to head for a Mind Body Spirit Festival and get your aura cleansed and your hog washed. It is also a good place to see crapitalism in action. I'm sure the exhibitors are good book keepers with all that cash being handed over. (ATO take note.)

Scorpio: 23 Nov-29 Nov

As predicted by Nostradamus, 2010 will be followed by 2011. This is good news for you as it means you will not miss out on a whole year of your life. In an amazing validation of the powers of Astrology, the ancients, using the stars, also predicted one year would follow another in order! However, I am not taking bets on 2013.

Ophiuchus:

30 Nov-17 Dec

The planets of Vulcan and Gallifrey are moving into your star sign this month with Tatooine moving out. It's time to trek to see a Doctor. I note that people of your star sign watch too much science fiction on TV.

Sagittarius: 18 Dec-18 Jan

Eating an apple a day will make your greengrocer richer. In fact, a well balanced diet is a good alternative to alternative medicine which is really no alternative at all. Your lucky moon is Naiad, a tiny moon of Neptune. You'll be very lucky if you ever get to see it.

Capricorn: 19 Jan-15 Feb

A chance meeting with an old friend will bring back memories. Wow, that's a really lame prediction, even for me! Okay ... A chance meeting with a stranger will bring back no memories at all. Hmm ... no. That's still rubbish. Right ... A chance meeting with ...

Aquarius: 16 Feb-11 March &

Pisces: 12 March-18 April

Don't bother - nothing astrological (or even logical) happens to you this month. Maybe next month. Time to stay in bed and read *The Skeptic*.

Are you skeptical?

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Skeptics analyse claims.

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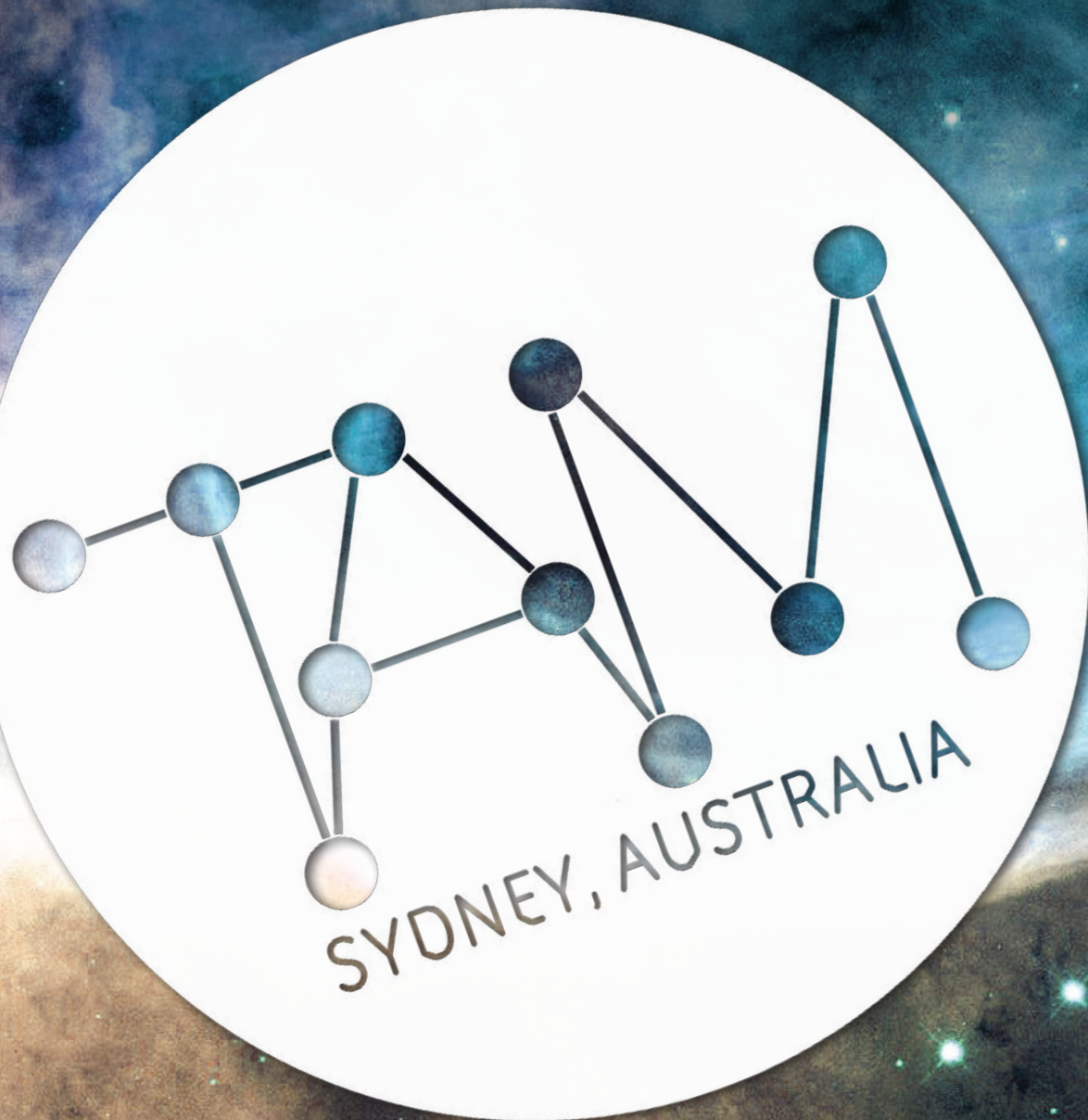


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