SKEPTICISM ■ SCIENCE ■ SOCIETY

THE SKEPTIC

Vol 40, No 2. June 2020

Twisted Chiro

History, Regulation & False Claims

+ Wine Card, Mystics, Atlantis & Carlos Hoax

Australian Skeptics ■ www.skeptics.com.au

Skeptical Groups in Australia

NSW

Australian Skeptics Inc – *Jessica Singer*
www.skeptics.com.au
PO Box 20, Beecroft, NSW 2119
Tel: 02 8094 1894; Mob: 0432 713 195; Fax: (02) 8088 4735
nsw@skeptics.com.au

Sydney Skeptics in the Pub – currently via online, see www.meetup.com/en-AU/AustSkeptics/ for details

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

Occasional social meetings at the Cricketers Arms Hotel, Cooks Hill. Those on the contact list will be sent details in advance. Currently meeting at 12.30 on third Sunday of each odd-numbered month.

Blue Mountains Skeptics
See Facebook for details.

Coffs Coast Skeptics & Freethinkers
See Facebook for details.

ACT

Canberra Skeptics – *Kevin Davies*
PO Box 555, Civic Square ACT 2608
www.canberraskeptics.org.au Tel: 0410 382 306
mail@canberraskeptics.org.au (general inquiries),
arthwollipot@gmail.com (Canberra Skeptics in the Pub).

A free monthly talk, open to the public - check website for details Skeptics in the Pub gather at 1pm on the third Sunday of each month at King O'Malleys Pub in Civic. For up-to-date details: www.meetup.com/ SocialSkepticsCanberra/

VIC

Australian Skeptics (Victorian Branch) Inc – *Chris Guest*
PO Box 5166, Melbourne VIC 3001
Tel: 0403 837 339 vic@skeptics.com.au

Skeptics' Café – third Monday of every month, with guest speaker, currently take place via Zoom.
Meeting times, Zoom link and other details are provided at www.skeptics.com.au/vic/events or
Facebook: www.facebook.com/theskepticscafe

Ballarat Skeptics in the Pub
http://facebook.com/groups/3978112230309544

Gippsland Skeptics in the Pub
Interested parties contact Mark Guerin or Martin Christian Power via the Gippsland Skeptics page: https://www.facebook.com/groups/291929110900396/?ref=bookmarks

Melbourne Eastern Hills Skeptics in the Pub
Contact: Andrew Rawlings andrew.rawlings@bigpond.com
Tel: 0438 043 050
hyyp://groupspaces.com/meh-sitp
https://www.facebook.com/pages/Melbourne-Eastern-Hills

Skeptics-in-the-Pub/19241290737690
Meets second Monday of each month at The Knox Club, Wantirna South.

Melbourne Skeptics in the Pub
See Facebook for details.
Meets on the fourth Monday of every month from 6 pm at the Mt View Hotel in Richmond.

Mordi Skeptics in the Pub
http://www.meetup.com/Mordi-Skeptics-in-the-Pub/
Meets at 7.30pm on the first Tuesday of each month at the Mordialloc Sporting Club. ($4 to cover website costs)

Seek The Evidence
www.skeptics.com.au

For details on Skeptical groups in other states and territories, see inside back cover

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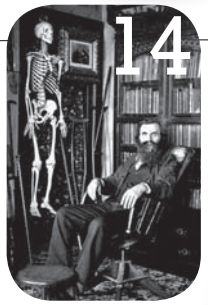

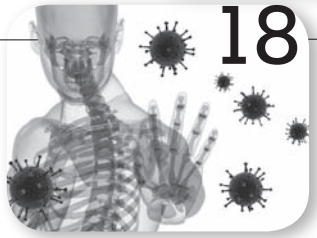

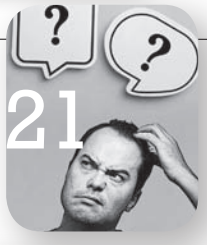

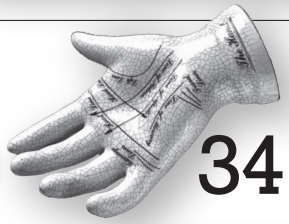

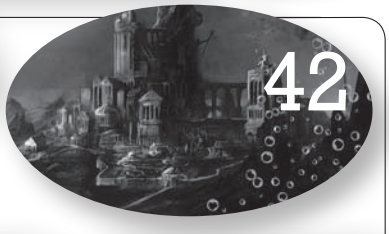

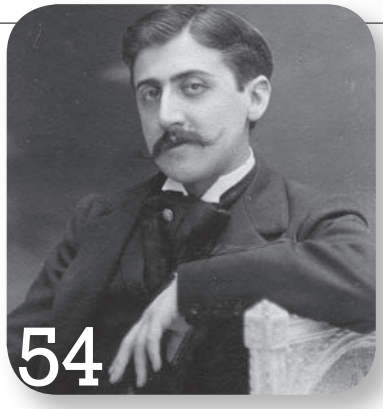

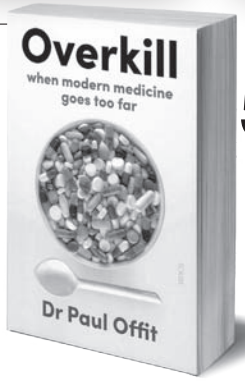

Skeptics

Chiropractic call to action

This issue of *The Skeptic* includes a major feature on chiropractic in which we look at the history, the practices, and the policies of this often controversial medical field.

It is controversial not only to those who sit outside of the profession, but also among those within. There is argument between industry members on the very underpinnings of their activities, such as the nature and existence of "vertebral subluxation" and "vitalistic energy", whether to support vaccination and the "germ theory" of disease, the role of X-rays in diagnosis, and the various claims made by chiropractors for its application to a wide range of conditions.

These claims rely on the debunked notion that subluxation, a misalignment of the spine, is responsible for the majority of disease - 95% of all diseases according to some.

This has allowed chiropractors to drag in a panoply of conditions that chiropractic can be applied to, including bed-wetting, asthma, ADHD, ear infections, stomach ulcers, and the list goes on. Chiropractors say they can apply these practices to anyone, including days-old infants.

And chiropractors are now claiming they can boost immunity.

Competing factions and unfounded claims are rife, and yet the industry and regulatory bodies seem to have little interest or enthusiasm for pulling members into line for their more outrageous and potentially dangerous claims and practices.

Time and again skeptics have called out individual chiropractors for promoting unproven and potentially dangerous claims, as this issue of *The Skeptic* indicates. And yet regulators use a wet lettuce as their implement of choice in dealing with them.

One of their more frustrating actions is to demand (ask?) chiropractors to remove certain claims from their advertising, and when that is done, if it is done, and however insincerely and temporarily it is done, then that is the end of the matter. No further action.

But the regulators, and AHPRA in particular, face serious problems on several fronts. AHPRA regards advertising and practice as separate issues, and within that organisation, we are told, there are two streams of complaint processes, which do not talk to each other and do not share information. False advertising is a criminal issue (Part 7 of the National Law); shonky practices are a professional one (Part 8 of the National Law).

At the same time, there are jurisidction issues, with, for example, AHPRA not able to act in NSW - it is only the NSW HCCC and the relevant Councils that have the power to manage notifications or complaints about the health, conduct or performance of registered health practitioners (Part 8).

But which regulatory body can honestly say that a left hand/right hand policy is effective? Surely sharing information should be a given. And surely, 120 years after Federation, a single national body would be the only truly effective process of review.

We call on governments to act on this ridiculous situation that only helps to promote misleading promotion and dangerous practices. We see a role here for the NHMRC to evaluate the 'science' behind chiropractic, much as it did for homeopathy, and the establishment of a Senate Committee to investigate the procedures used by the various Boards and their control - or lack of it - of their own practitioners.

Without that concerted action, without proper professional control, then shonks will go unpunished and continue to flout the industry's albeit weak rules and regulations. ■

- Tim Mendham, editor

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All effort is made to ensure correct acknowledgement of all contributions. We are happy to update credit when so informed.

Editorial submission deadline for the next issue:
August 1, 2020

Around the traps... TGA penalties

Skepticon 2020 goes online

AUS: Following a lot of discussion, soul-searching, consulting, and an extremely helpful survey, the organisers of Skepticon 2020 have decided that the event this year will be purely online.

Naturally this decision has been influenced by the need to ensure the health and safety of attendees due to COVID-19, whatever the nature of existing and possible future regulations may be.

The upside is that this will be a first for an Australian Skeptics Annual Convention, and gives a lot more people both in Australia and overseas the chance to "attend" without the cost of travel and accommodation, or getting out of their pyjamas for that matter.

While the downside is that the personal benefits of face-to-face meetings (the meet-and-greet beforehand, gala dinner, and the interplay between attendees during the event) will not be available, the organisers may look at some sort of special event for locals.

Speakers will include Mike Hall, Dr Alice Howarth and Michael Marshall from the Skeptics with a K podcast, and science communicator Dr Karl Kruszelnicki.

The event is being hosted by the Gold Coast Skeptics, and full technical details and ticket prices will be announced soon.

So keep your calendar and your mouse pointed at the Skepticon site, skepticon.org.au, and October 24-25, 2020. ■

Fax Number

Though it is currently listed on the publisher's panel in this issue, as of next month we will be dropping our fax number due to cost-benefit assessment. Readers will still be able to contact us via email, phone and snail mail.

AUS: The Therapeutic Goods Administration (TGA) has hit the headlines recently with a couple of high profile fines.

The TGA has issued twelve infringement notices totalling $151,200 for the alleged unlawful advertising of Miracle Mineral Supplement (also referred to as Miracle Mineral Solution - MMS), a bleach product claimed to treat COVID-19.

As Mal Vickers, campaigner against shonky medications, says, "Australia appears to have finally got its act together; it's a pity it takes *7:30 Report* exposure to do it."

The ABC *7.30 Report* story appeared on May 6, with the TGA issuing notices on May 12. However, *7.30* updated its story online on May 28, pointing out that MMS was still selling products online. The TGA initiated court proceedings the following day.

On June 4, the Federal Court of Australia made orders restraining Southern Cross Directories, trading as MMS Australia, and its director Charles Barton from advertising and supplying goods containing certain potentially dangerous substances, including sodium chlorite, the main chemical used to make MMS.

The Court adjourned the hearing to June 10 to allow Barton and MMS Australia to obtain legal representation. At time of going to press there was no information on how that adjournment had progressed.

Meanwhile, the TGA has also fined celebrity chef Paleo Pete Evans $25,000 for promoting his BioCharger miracle technology. The appliance, which is basically a Tesla coil with some coloured glass tubes, can apparently treat COVID-19, among hundreds of other conditions. It was selling for $15,000 (though the US original also sells for $15,000, so either Pete was offering a bargain basement price, or someone got their AUD and USD mixed-up). That means that as few as two sales would more than cover the fine.

Both MMS and Evans have been nominated for the Bent Spoon this year. ■

Vaccination rates fall in face of anti-vax campaigns

AUS: *The Sydney Morning Herald* reports that a "massive uptick" in media reporting of anti-vaccination activity in Australia has coincided with a fall in routine vaccination rates.

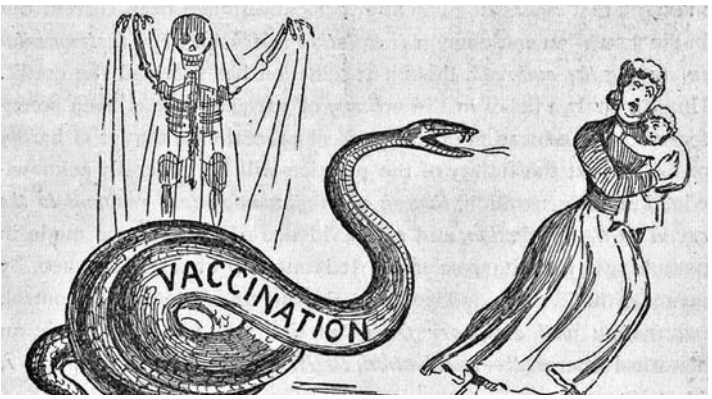
Associate Professor Margie Danchin, an immunisation researcher, told the *Herald* that a 900% increase in reporting of anti-vaccination activity demonstrated a dangerous rise in the campaign against vaccine science.

"We have a drop in routine vaccination coverage," she told *Herald* reporter Wendy Tuohy. "We don't necessarily know if it's related to anti-vaccination activity; we think it definitely looks like [routine vaccination uptake] has dropped." She said this may be due to a fear of attending clinics or other pandemic disruption.

Dr Danchin is a paediatrician and vaccination expert at the University of Melbourne, the Royal Children's Hospital and the Murdoch Children's Research Institute.

At the same time, there has been a letter-writing campaign aimed at politicians insisting on re-evaluation of the vaccination program. This seems to have derived from a couple in Northern NSW, and also involves letter drops around Australia.

Paranoia has been a key element of the anti-vax campaign. "COVID-19 has really rallied and provided almost the perfect storm for anti-vaccination activity," Danchin said. "They are using strong language and play on emotion and fear in the middle of a pandemic when people are concerned, frightened and know there are no cures."



Meanwhile, chef Pete Evans was allowed to spruik his "pro-choice" anti-vaccination message on KIIS FM's Kyle and Jackie O program, without any challenge to his claims. (The radio hosts have been nominated for the Bent Spoon for their allowing Evans such free rein.) ■

Anti-vax political party changes name despite objections

AUS: The Involuntary Medication Objectors (Vaccination/Fluoride) Party, which ran unsuccessfully as Senate candidates in the last Federal election, has changed its name to the Informed Medical Options Party, a change medical experts warned was an attempt to conceal the party's true agenda and appear more mainstream.

Despite formal objections from the Australian Medical Association and Federal Health Minister Greg Hunt, the Australian Electoral Commission found the name change met the requirements of the Electoral Act.

But while the name may have changed, it still has the same policies. The original anti-vax anti-fluoride conspiracy-touting party was set up by Michael O'Neill, founder, secretary, and leader of the fringe group. He is the husband of naturopath Barbara O'Neill who was banned from practicing for life. ■

Past Bent Spoon winners vie for the dishonour in 2020

AUS: Once is not enough for some people.

In the 38 years of the Australian Skeptics' Bent Spoon Award, issued to "the perpetrator of the most preposterous piece of paranormal or pseudoscientific piffle", we have never had the need to award this dishonour to the same person twice. However, with the current COVID-19 situation impacting on the whole world, some Bent Spoon winners from past years have suddenly and dramatically thrown their hats into the ring for 2020.

These include Meryl Dorey of the Australian [anti]Vaccination-risk/skeptics Network (awarded in 2010); Fran Sheffield of Homeopathy Plus (2012); Paleo Pete Evans (2015); and Judy Wilyman (2016).

The full list of nominations can be found at skeptics.com.au/features/bentspoon, where you can also nominate a likely candidate. The award will announced during the 2020 Australian Skeptics National convention, Skepticon, which this year will be held online. ■

Rise in paranormal activity during lockdown

USA: A New York hip-hop radio station, Power 105.1 FM, has highlighted a concern among local residents undergoing lockdown, while also demonstrating some interesting and edifying examples of faulty logic. According to the report in May, "Some residents of homes who have already experienced paranormal activity have seen a surge of strange things happening in their home while they are in lockdown."

That's more likely a surge of time rather than "surge of things", as residents spending more time at home might be noticing more of the usual creaks and other sounds that always happen in houses, especially older ones.

One interviewee said that "I'm a fairly rational person. I try to think, 'What are the reasonable, tangible things that could be causing this?' But when I don't have those answers, I start to think, 'Maybe something else is going on.'"

Although it might have been better to just leave the response to "I just don't know", rather than taking that leap into a paranormal explanation. ■

Beijing plan to punish skeptics of TCM

军民团结如一人试看天下谁能敌

CHINA: Health authorities in Beijing unveiled a set of proposed regulations on traditional Chinese medicine (TCM) for public consultation.

The new rules, proposed by the city's Health Commission and the Municipal Administration of Traditional Chinese Medicine, are mostly in line with an existing campaign by China to promote the heavily criticised medical regimen of TCM at home and abroad.

But *Beijing News* revealed that one specific article has drawn the ire of legal experts and people skeptical of TCM practices: Article 54 stipulates that those who "defame and slander" TCM are subject to punishment by public security departments or even face criminal responsibility for "picking quarrels, causing trouble, and disrupting public order," a vaguely defined crime often used by Chinese law enforcers to police online speech.

A large number of observers have called the regulation an aggressive move on the government's part to make TCM "beyond criticism and speculation." Some also raised questions about the ambiguity in the definition of defamation and slandering, claiming that the vagueness would allow the government to interpret the article in any way it sees fit.

In response, a spokesperson for Beijing's Administration of Traditional Chinese Medicine told the *Beijing News* that the regulation was "misread" by its critics. "Defamation and slandering are different from criticism and false arguments," he said. The official also noted that the government was aware of the negative feedback and was open to make changes after the public consultation.

However, the explanation didn't convince many critics. "How come a government department overseeing TCM has the right to regulate my exercise of speech rights on the internet?" a Weibo user commented.

Despite the limited scientific evidence substantiating its effectiveness, TCM has seen a rise in popularity and usage in recent years with the help of the Chinese government, which has increasingly sought to brand the therapies as a source of national pride and a form of China's soft power. During the COVID-19 pandemic, a group of TCM experts was put in charge of a medical facility in Wuhan, which was purposely built to treat COVID-19 patients. Meanwhile, the National Health Commission included TCM in its treatment plan, recommending it to doctors as an effective tool to mitigate patients' symptoms of fever and breathing difficulties. ■

Troll farms pushed coronavirus disinformation

USA: NBC News reports that *Natural News*, one of the largest publishers of coronavirus disinformation on Facebook, has been banned from the platform for using content farms from North Macedonia and the Philippines.

Natural News was one of the most prolific pushers of anti-vaccination news and particularly the viral *Plandemic* conspiracy video, which falsely claims that coronavirus is part of an elaborate government plot to control the populace through vaccines, and erroneously claims that wearing a mask increases the risk of catching the virus.

Facebook said that it had found foreign trolls repeatedly posted content from *Natural News*, including coronavirus conspiracy theories about 5G towers and Bill Gates. They also posted content from *Natural News'* sister websites, *NewsTarget* and *Brighteon*, in an effort to artificially inflate their reach.

"We removed these pages for spammy and abusive behaviour, not the content they posted. They misled people about the popularity of their posts and relied on content farms in North Macedonia and the Philippines," Facebook said in a statement.

Natural News is a website owned and operated by Mike Adams, a dietary supplement purveyor who goes by the moniker "The Health Ranger." Adam's operation is by far the worst spreader of health misinformation online, according to an *NBC News* analysis. ■

Skeptics legal defence fund seeks volunteers

AUS: An international skeptics legal defence fund is in the process of being set up, following the successful defence of Britt Hermes, and it is calling for experienced and qualified volunteers to help out.

In September 2017, skeptical activist Hermes was sued by a naturopath who took exception to one of her blog posts. The lawsuit could have forced her into silence, which would have been a bad outcome for Hermes herself and for skepticism in general.

Australian Skeptics Inc organised a fundraising campaign that was successful in covering Hermes' legal expenses. The campaign conditions were that leftover funds would be donated to another cause, such as a Skeptics Legal Defence Fund – an international fund to help skeptics who are sued (or threatened with legal action) for their skeptical activism.

In order to kick off the process of starting a defence fund, a discussion was started between Steven Novella (*Skeptics Guide to the Universe*, *Neurologica*), Simon Singh (Good Thinking Society), Britt Hermes, and Eran Segev (Australian Skeptics Inc). They are all skeptical activists who have engaged in legal action related to skeptical activism and have significant experience in many of the relevant areas, but there are still gaps to be filled, and we can't do it alone.

Further information on the fund is on the preliminary website, skepticslegaldefense.org. But in the immediate term, there is a drive for volunteers. These should have relevant skills to the operations of an international not-for-profit. In particular, legal practitioners from various jurisdictions are needed, especially if they are experienced in defamation law, freedom of speech, commercial law, administrative law, and other areas of interest.

Others skills such as fundraising and marketing (especially social media) are also required.

If you have these or other skills that you feel may be useful, please contact the defence fund at info@skepticslegaldefense.org. ■

UK Principles Revisited

The UK-based Sense About Science organisation has expressed concerns about "the lack of differentiation between scientific advice and government policy decisions", particularly with reference to COVID-19 directives and regulations.

In May, Sense About Science director Tracey Brown wrote to the UK Prime Minister Boris Johnston, referring to the *Principles of Scientific Advice to Government* introduced by former Prime Minister David Cameron in 2010.

The Principles "are drawn from lessons in the heat of crises such as mad cow disease and vCJD. The principles were widely backed across the scientific community, parliament, scientific advisers and the public. They set out plainly the need for scientific advice to be open and transparent, and distinct from the policy decisions that are informed by it."

The Principles set out the rules of engagement between government and those who provide independent scientific and engineering advice. They provide a foundation on which independent scientific advisers and government departments should base their operations and interactions.

The Principles apply to ministers and government departments, all members of Scientific Advisory Committees and Councils (the membership of which often includes statisticians, social researchers and lay members) and other independent scientific and engineering advice to government. They do not apply to employed advisers, departmental Chief Scientific Advisers or other civil servants who provide scientific or analytical advice, as other codes of professional conduct apply. For the record, the principles are:

1. Clear roles and responsibilities

- Government should respect and value the academic freedom, professional status and expertise of its independent scientific advisers;
- Scientific advisers should respect the democratic mandate of the government to take decisions based on a wide range of factors and recognise that science is only part of the evidence that government must consider in developing policy;
- Government and its scientific advisers should not act to undermine mutual trust;
- Chairs of Scientific Advisory Committees and Councils have a particular responsibility to maintain open lines of communication with their sponsor department and its ministers.

2. Independence

- Scientific advisers should be free from political interference with their work;
- Scientific advisers are free to publish and present their research;
- Scientific advisers are free to communicate publicly their advice to government, subject to normal confidentiality restrictions, including when it appears to be inconsistent with government policy;
- Scientific advisers have the right to engage with the media and public independently of the government and should seek independent media advice on substantive pieces of work;
- Scientific advisers should make clear in what capacity they are communicating.

3. Transparency and openness

- Scientific advice to government should be made publicly available unless there are over-riding reasons, such as national security or the facilitation of a crime, for not doing so;
- Any requirement for independent advisers to sign non-disclosure agreements, for example for reasons of national security, should be publicly acknowledged and regularly reviewed;
- The timing of the publication of independent scientific advice is a matter for the advisory body but should be discussed with the government beforehand;
- Government should not prejudge the advice of independent advisers, nor should it criticise advice or reject it before its publication;
- The timing of the government's response to scientific advice should demonstrably allow for proper consideration of that advice;
- Government should publicly explain the reasons for policy decisions, particularly when the decision is not consistent with scientific advice and in doing so, should accurately represent the evidence;
- If government is minded not to accept the advice of a Scientific Advisory Committee or Council the relevant minister should normally meet with the chair to discuss the issue before a final decision is made, particularly on matters of significant public interest.

4. Applying the principles

- Scientific Advisory Committees, Councils and government departments should consider the extent to which the principles … are reflected in their operation and to make changes as necessary. [Quoted in part.]

Brown ended with the comment: "Clarity and transparency would be an important and welcome step to avoid further undermining scientific advice, the science base on which it is drawn, and people's confidence in the government's deliberations. Openness and scrutiny would help deliver the most effective approach to the crisis itself, as well as confidence in the democratic process more broadly." ■

Prophet & Loss

Shock horror! Richard Saunders suggests that, no, Harry T did not predict the Coronavirus Pandemic of 2020

Australian "psychic medium" Harry T, who bills himself as "One of the world's top psychics", has made the news, at least on the morning chat shows, as having predicted the current coronavirus pandemic way back in 2016.

Harry T is one of many so-called psychics who do the rounds of the clubs with live "talking to the dead shows" (this type of entertainment has been investigated and reported many times in the pages of *The Skeptic*) and also appears on radio and on *Today* and *Today Extra* on Channel 9 TV to give readings and predictions. Mitchell Coombes has been doing an identical shtick for many years over at rival station Channel 7 on *The Morning Show*.

Normally this revolves around personal readings for love, messages from beyond, and celebrity or royal gossip as these are core interests for the audience. Nothing out of the ordinary with that, this sort of thing has been going on for decades with dozens making the same sort of claims over the years. It must be said that this sort of light entertainment is really not taken seriously and is mostly harmless.

But on an interview on Today Extra on April 16, 2020, Harry T said, "Four years ago there was an email that was sent out to the producers of The Today Show actually, when I was booked for a segment to do world predictions, and I was asked to basically predict world events for the next 5 years." We cannot say if this "5 years" time period was part of the request from the producers at the time or not. While we can't rule it out, it would be unusual to have that time frame specified. What was revealed on TV and online in April 2020 was a graphic, similar to a screen capture from an email, dated "Wed. Jun 29, 2016". Under the heading VISIONS there was the following.

- Saw China taking over America
- Saw more people getting sick - almost like the flu and other diseases
- Europe not the greatest feeling - stuff happening - re-organised - Europe will change as we know it.
- Australia is the safest place to be

The above predictions were not used on the final TV segment in 2016 and we are not given any more text from the email.

If we take a look at these points one by one (in order of their original listing) and bear in mind they were made in 2016, we can maybe get a clearer understanding.

- In what sense could China take over America? Surly not an invasion and occupation? Economically? On the sporting field? In any sense in the latter half of 2016 up to today, this vision is too vague.
- This is the main vision or prediction in light of COVID-19. Without any parameters, this prediction once

Table 1: Coronavirus and 'flu-like' epidemics 2000-2020*

2002 → H7N2	**2005** → H1N1 (1 death)
2002 - 2004→ SARS (severe acute respiratory syndrome - 774 human deaths)	**2007** → Equine flu
2003 - 2007 → H5N1	**2009 - 2010** → HiN1/09 (150,000 – 575,000 deaths)
2003 → H7N7 (1 death)	**2013** → H7N9 (c127 deaths)
2004 → H7N3	**2013** → H1Ni (2035 deaths)
2004 → H10N7	**2019** → COVID-19 (300,000 deaths +)

*Not including Ebola, Zika, dengue fever, cholera, measles, yellow fever, Japanese encephalitis, bubonic plague, etc etc

again is just too vague. When did he see this happening? With no time parameters set, it is just too easy to make predictions and wait until something happens. Even if Harry T had a five year time frame in mind or even one year, it would not be too hard to find a case of illness involving many people. The WHO sadly reports on this every year. (See Table 1 on flu-like epidemics.) Also there is no location given for the people getting sick or the scale. How many people over what area? So, no matter where it could happen, Harry T could claim a hit. (Another Ebola outbreak in Africa would fit into this prediction just as well.) Finally the description includes "other diseases'', so again, no matter what comes along, it can be shoe-horned or retrofitted into the vision.

- Predictions about unease in Europe make sense when you remember what was going on 2016. The Brexit vote in the UK was very much on people's minds - the referendum was announced just three days before the date of Harry T's predictions. The outcome would mean Europe would be re-organised and changed. There were also protests and uncertainty and the ongoing European migrant crisis with thousands of people seeking to enter the EU with drama and unrest resulting. All these before the prediction was sent.
- Australia is generally considered to be a safe place regardless. It has a stable system of government and is far from world trouble spots with little seismic activity although there are natural disasters from time to time.

Another point to make is that Harry T is now linking all these visions together to make them fit the current Coronavirus situation. China, illness, change in Europe and safety in Australia. Three of these, at least, can be seen just in terms of economics and geopolitics just as much as they can be to health. Harry T is embellishing the predictions in light of current events. For example, he said in an interview on *9 Honey*, "There were dot points in exact form of what's happened." Also "Europe will change as we know it. That was before Brexit as well." but as we can see from the date of the email, Brexit was already underway. He went on to say, "when you've got something that's solid, concrete, black and white proof, you can't really question that." Well, maybe so, but we are yet to see "concrete proof".

Maybe Harry T is secretly on our side as he also says "You know my industry is kind of an uphill battle because there's so many shonks in it." Oh really? Care to name names, Harry?

But generally, how does Harry T fare in the prediction game? Like others, to one degree or another, he makes many predictions. Australian Skeptics has so far, as part of a much broader project, collated about 60 distinct predictions he has made going back to 2013. 17 have been correct, 8 have been correct but expected to happen, 10 have been too vague to score and 25 have been wrong. There are many more to collate and analyse, a time consuming process.

We might wonder why Channel 9 has not made a bigger fuss over an interview they ran on *Today* around the same time (April 2020) with Kane Guglielmi, the director of the Australian movie *Cooped Up*. The film was made in 2016 and is the story of a man self-isolating from a strain of the Coronavirus derived from bats. It almost mirrors current events to a … "T". What? Not a psychic insight? No, the director makes no such claims but does muse at the coincidence.

The tried and true tropes for predictions are on display with Harry T: Make lots of predictions, ignore the ones that miss, shout about the ones that hit and/or interpret and embellish them in light of what you want them to mean. And doesn't morning TV just lap it up. ■

Richard Saunders, chief investigator for Australian Skeptics Inc

Readers' indigestible

Tim Mendham looks at videos and publications - polar opposites of pseudoscience and reason.

This issue, we look at a child of social media, a 'documentary' that bleeds paranoia, disgruntlement and revenge. And a publication that is the complete opposite - a serious look at science, mathematics, physics, philosophy, reason, reality and the 'meaning' of it all. Read on.

PLANDEMIC

In the world of social media, conspiracies can come and go at a moment's notice, but few have the aggressive approach to self-promotion of *Plandemic*.

Plandemic is an anti-vaccine conspiratorial 'documentary' which makes a range of claims about COVID-19. It has been playing a cat-and-mouse game with social media platforms since it was launched across a range of sites.

It was initially published on May 4 (US time).on video sites Vimeo and YouTube, and quickly followed on Facebook, Instagram, Twitter and even the business 'match-up' site LinkedIn. On May 7, Facebook, YouTube, and Vimeo all said they were removing the video from their platforms.

Nonetheless, *Plandemic* has drawn millions of views around the world. In a post saying the 26-minute video is an excerpt from a future full-length documentary, the producer of the video, Mikki Willis, urged readers to download the video directly and re-post it elsewhere "in an effort to bypass the gatekeepers of free speech".

Rarely has any such video been so widely distributed, and so quickly and so thoroughly debunked across an even wider range of outlets.

CONSPIRACY CLAIMS

In what is described as a "hodge podge" of conspiratorial, paranoid, and delusional claims, the video centres on discredited former medical researcher turned anti-vaccination activist Judy Mikovits (pictured).

Apart from the usual claims about Bill Gates being involved in the spread of the virus, the film makes the following claims:

- Mikovits was held in jail without charge. She was actually briefly held on remand after an accusation of theft of a computer, lab notebooks and other items from her former employer, the Whittemore Peterson Institute; the charges were later dropped. She also claimed that the notebooks removed from the Institute were "planted" or that the National Institute of Allergy and Infectious Diseases and its director Anthony Fauci bribed investigators. Mikovits later used the excuse for her incorrect claims that "I've been confused for a decade," and that in future she would try to be more clear when she talks about the criminal charge: "I'll try to learn to say it differently."
- The virus was manipulated, whereas analyses show that SARS-CoV-2 is not a laboratory construct or a purposefully manipulated virus.
- Flu vaccines increase the chance of contracting COVID-19 by 36%. The claim misinterprets a disputed paper which studied the 2017-2018 influenza season, predating the COVID-19 pandemic. The claim that the flu vaccine increases the chance of contracting COVID-19 does not appear in the original paper at all.
- Wearing masks "literally activates your own virus. You're getting sick from your own reactivated coronavirus expressions." This claim is unsupported by evidence. Masks prevent airborne transmission of the virus especially during the asymptomatic period (up to 14 days) when carriers may not even be aware they have the disease.

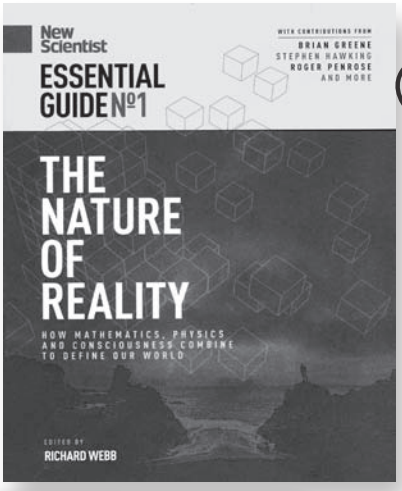
She also says that beaches should remain open as "healing microbes in the saltwater" and "sequences" in the sand can "protect against the coronavirus". The video claims that the numbers of COVID-19 deaths are purposely being misreported in an effort to control people.

The video was immediately and widely blasted by such outlets as the American Association for the Advancement of Science, fact-checking sites Snopes and Politifact, BuzzFeed, Wikipedia, BBC, Forbes, and, of course, in-depth reports on YouTube itself, among many others. (Links to these comments and responses can be found in the online version of this story on the Australian Skeptics' website - https://tinyurl.com/yabepcz6.)

Nonetheless the video was supported by such medical and scientific experts as entertainers, football players and Instagram "influencers" (usually the preserve of food, entertainment and fashion promoters, as well as various Kardashians).

In a matter of hours, the video became one of the most widespread pieces of coronavirus misinformation, drawing millions of views across the major technology platforms. Its success underscores how misleading information about the coronavirus crisis continues to circulate, with some indications that growing fear and frustration are making conspiracy theories more appetizing to a larger audience.

Mikovits is no stranger to controversy. As reported by Snopes in an in-depth investigation, a paper by her (and others) was published in Science in 2009, claiming to have demonstrated an association between a newly discovered retrovirus called 'xenotropic murine leukaemia virus-related virus' (XMRV) and the poorly understood condition known as Chronic Fatigue Syndrome (CFS). However, nobody - including many of the same researchers involved with the original study - was able to replicate its results. The research came under increasing scrutiny for sloppy methods and its reliance on misleading or manufactured figures. The editors of Science retracted the paper in full in December 2011. ■



Nature of Reality

From the ridiculous to the sublime, the comparison between *Plandemic* and a new publication titled *The Nature of Reality* from *New Scientist* is … well, it's beyond comparison.

According to a recent article in *The Conversation* (see elsewhere in this issue), *Plandemic* shows all the classic symptoms of conspiracy traits – contradictory beliefs, overriding suspicion, nefarious intent, conviction something's wrong, persecuted victim, immunity to evidence, and reinterpreting randomness. *The Nature of Reality*, on the other hand, shows restraint, intelligence and intellectual rigour, not to mention featuring a group of noted scientists and philosophers contributing their views on reality, mathematics, physics and consciousness. These include Roger Penrose, Stephen Hawking, and Brian Greene.

Mentioning Hawking in that group indicates that these are not new articles. Rather this is the first edition of a new series titled *New Scientist Essential Guides*, taking articles published over the years in that magazine. It is anticipated that these guides will be published five or six times a year, with the next one (due out this month) covering artificial intelligence.

This almost-100 page publication looks at a range of questions regarding reality (which "knowledge-seekers have pored over for millennia"). These include how mathematical laws describe the world; the nature of space, time, matter and energy; the mysteries of quantum reality (ie real quantum science, not the quantum stuff psychics espouse all the time); the search for theories of everything; and how our consciousness interacts with reality.

(As a passing question on how our consciousness interacts with reality: what is something you see all the time – all the time! – but hardly ever notice? The answer is plain, and you can find it at the end of this short article.)

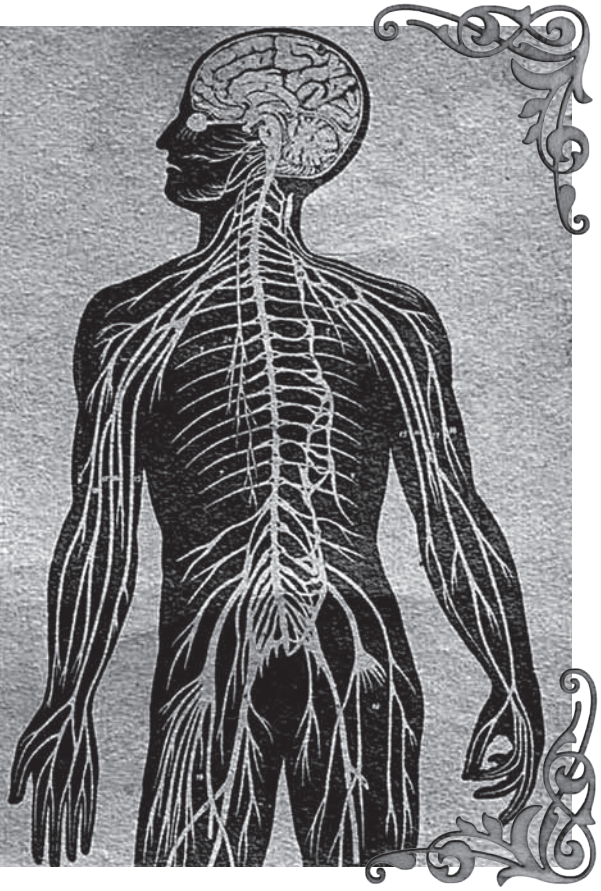
There is something here for anyone interested in reality beyond the commonplace – which means people with as much an interest in philosophy as they have in science or mathematics, or, in fact, the philosophy of science and mathematics, or even the science of philosophy.

Unlike the superficial paranoid delusions of *Plandemic*, these articles look beyond individual obsession, and when they do look inward, as in the latter chapters, then you might find that you're not quite what you think you should be; in fact, you might not exist at all.

A caveat about this edition is that it is not clear who the authors of the articles are, or when they were first published. Outside of the sometimes short contributions by the keynote writers, who are unlikely to have produced entire chapters, there is only a list of "additional contributors", and we are left with the question of what authority can we attribute to these discussions, and has their content been questioned or even overturned since their original publication. We can certainly rely more on *New Scientist* than we can on Judy Mikovits, but a little more certainty to the sublime would take us even further from the ridiculous.

And, to answer the question "What can you see all the time but hardly ever notice?" We said it was plain – as plain as the nose on your face. In other words, because your brain decides an out-of-focus nose is a distraction, by and large it wipes it out of your perception. What you see – or don't see – is not necessarily reality. ■

Back to The Past



In this classic catch article from 1995, Stephen Basser looks at chiropractic – then and now – and finds very little has changed.

In this article I will review the history of chiropractic, and examine, as it approaches its 125th birthday, its scientific status.

To avoid any potential confusion and misunderstanding I thought it would be helpful to start with some conclusions. What I am saying here is that many of the claims of chiropractic are, at present, unscientific or, more accurately, scientifically unproven. What I am not saying today is that all of orthodox medicine is scientifically proven. Those who wish to read that message into this paper are advised to stop reading now to save disappointment, and to preserve their prejudice!

THE EARLY HISTORY

Chiropractic was founded by Daniel David Palmer in September 1895 in Davenport, Iowa. Palmer was born in Ontario, Canada in 1845, and at the age of 20 travelled with his brother to the USA. In 1887 he moved to Iowa and opened a magnetic healing practice (practitioners of magnetic healing believed they belonged to a select group of persons whose personal magnetism was so great it gave them the power to cure disease).

According to the official history, Palmer performed the first chiropractic adjustment in September 1895 on Harvey Lillard, a janitor working in the building where Palmer practised. Lillard had been deaf for 17 years, claiming he became so suddenly when something gave way in his back while stooped in a cramped position. Palmer examined Lillard, and found an out of place vertebra in his spine. After applying pressure that moved the vertebra back into place Lillard's hearing returned.

> "Chiropractors believed their science was superior clinically and morally."

Palmer believed he had succeeded in one of his life's quests - to find the secret of disease - why one person falls ill while his/her neighbour does not. He confided his discovery to a friend, Reverend Samuel Weed, who suggested the name "chiropractic", from the Greek for "done by hand".

Palmer had no medical training and was unaware that the nerves of hearing are entirely within the skull. He believed he had restored the man's hearing by relieving pressure on a spinal nerve affecting hearing. Palmer proposed the principal of the spinal subluxation, and established chiropractic based upon it. He believed that the body requires an unobstructed flow through the nervous system of an ethereal substance called Innate Intelligence. Vertebral subluxations - minor dislocations of the spinal column - were believed to interfere with the flow of Innate, and caused an alteration in nervous 'tone'.

By depriving areas of the body of Innate, subluxations produced disease, and Palmer claimed that 95% of all diseases were caused by subluxated vertebrae. Treatment involved identifying these subluxations and manually restoring the vertebrae to their normal alignment, thus releasing

Clockwise: William Harvey Lillard, the first patient of DD Palmer. DD performing his magic on Shegetaro Morikubo who was later arrested for practicing medicine without a licence. DD in his performing rooms and the Ryan Block circa 1906.

the "innate intelligence", allowing the body's natural healing powers to cure the patient.

From its inception chiropractic was defended as a science. For chiropractors, though, scientific knowledge was not acquired by experimental control of variables in a carefully designed study. Instead they examined and treated patients, and argued, as many still do today, that the results of their clinical treatments constituted scientific proof.

Palmer's son Barlett Joshua, or BJ, had bought out his father's burgeoning chiropractic business after a bitter falling out, and assumed control of the financial and educational affairs - proclaiming "Our school is on a business, not a professional basis, we manufacture chiropractors."

BJ was not an advocate of systematic science: "There has been a long history within chiropractic of anti-intellectualism and again this was heavily influenced by BJ Palmer. 'We can't give you brains, but we can give you a diploma.' "(Ian D Coulter, 1990)

Throughout the 19th century supporters of 'natural theology' held to the view that science ennobled man because it demonstrated the magnificence of God. Chiropractors envisioned man as a microcosm of the universe, with the Innate Intelligence a manifestation of a larger Universal Intelligence, controlling everything. Chiropractic, as a new scientific law enabling healing of the sick, was an important contribution to revealing the goodness of God. By comparison, the emerging scientific medicine was regarded as 'atheistic materialism'.

Chiropractic was described by its supporters as "the only truly scientific method of healing" because it balanced the spiritual and the material. Chiropractors believed their science was superior to medicine clinically and morally, and attempted to appeal to those who were concerned about the growth of science and the perceived decline in spiritual values.

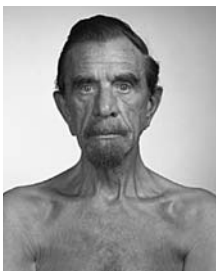
PERIOD OF CHANGE

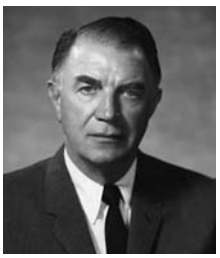
During the early years of the 20th century, in many states of the USA, legislation was introduced mandating basic scientific training. In response chiropractic colleges taught sufficient science to pass the basic tests, while continuing to stress the importance of the earlier teachings. A good example of this is the response to the germ theory of disease. Chiropractic initially taught that bacteria were unrelated to disease. In response to the science legislation, some bacteriology was introduced into chiropractic education, but chiropractors were taught that bacteria were not causally related to disease. It was vertebral subluxations that 'caused' disease by making a person susceptible to bacterial infection.

This was an important period during which chiropractic tried to retain sufficient distance from scientific

Back to The Past

Continued...





Clockwise: DD Palmer (seated centre) with BJ Palmer behind him; BJ Palrmer in later life; and his son David D Palmer who took over his mantle.

medicine to be seen as a distinct alternative, while absorbing enough of the teachings of science and medicine to retain credibility.

Initially these attempts were unsuccessful, and chiropractic entered a period of decline. Even as recently as the 1960s many chiropractic schools in the USA were using textbooks that had not been updated for decades.

Beginning in the 1970s the tide began to turn, and interestingly it was a growing scepticism about medicine and science that helped things along.

Scientific medicine was accused of being 'reductionist', and of having ignored the more 'human' aspects of health care. Chiropractic joined this chorus of criticism, and an alliance was formed between chiropractic and the growing 'holistic' health movement. In some quarters chiropractic even dusted off its spiritual emphasis, having once again found a receptive audience.

THE CHIROPRACTIC WARS

The dramatic improvements in chiropractic education lowered the barriers between it and orthodox science, conferring greater academic credibility. The result was, and is, an increasingly bitter debate over the content and character of chiropractic. Principally the debate is about whether chiropractors are limited practitioners like dentists or podiatrists, primary care practitioners who incorporate some of medicines tools and knowledge, or primary care practitioners who reject 'orthodox' medicine.

Those who cling to the original concepts of Palmer believe that to accept the assumptions of orthodox science is to destroy crucial elements of chiropractic's identity, while those who see chiropractors as valid limited practitioners believe that accepting orthodox science will help establish the efficacy of chiropractic and confer upon it legitimacy.

The following are brief examples of writings from the opposing sides of this debate. Obviously I have been selective due to the limited space available, but I believe these quotes accurately reflect the nature of the difference in approach between the two sides. All quotes are from chiropractic journals and I am happy to provide full references to interested persons.

Students practising toggle recoil on tire sections in the lower level of the PSC, and the patented table by J V McManis oesteopath-chiropractor in 1909.

"The chiropractic profession as a whole spends more on competing with each other in the yellow pages than it does in supporting research." (Robert D Mootz, 1990)

"Chiropractic would not exist today had B J Palmer waited for scientific validation." (Larry L Webster, 1994)

"The case for preventative chiropractic is based upon a priori reasoning. Although such reasoning may be logical, ie internally consistent, it bears no proven relationship to reality." (Jennifer Jamison, 1991)

"It has been found, for example, that by 'blocking' the nervous system, measles can be prevented." (John F Hart, 1992)

"Some members of our profession would like us to believe that medicine is our greatest enemy. I think it is becoming obvious that arrogant ignorance within our own profession is really what is holding us back." (A Christiansen, 1987)

"It has been studied that both healers' hands and magnets could accelerate the kinetic activity of enzymes in a subject." (Peter L Lind, 1992)

"Patient satisfaction is a worthy clinical goal, in and of itself, so long as it is not mistaken for experimentally demonstrated effectiveness... Astrologers have been satisfying their customers for millennia, but this hardly supports any scientific claims about the accuracy of their predictions nor the wisdom of their

advice." (Joseph C Keating, 1993)

"Chiropractic is good for anyone and everyone who has a scientifically demonstrable subluxation, regardless of medical diagnosis or lack thereof." (John F Hart, 1992)

BUT DOES IT WORK?

The debate within chiropractic is interesting, but as this is a Skeptics publication, it's about time we asked: "What about the evidence?"

Over the years there have been a number of scientific reviews that have included an assessment of the evidence for and against chiropractic, and the most recent comprehensive review was a report prepared for the Ontario Ministry of Health, by Pran Manga and Associates ("The Ontario Report"). This review was, in my opinion, methodologically sound, but flawed in its conclusion.

The authors of the Ontario Report conducted a detailed literature review, and found that the first randomised control trial (RCT) of spinal manipulation in the management of low back pain (LBP) was published in 1974. The first controlled trial of chiropractic (not a RCT) was published in 1986, and the authors of this study commented at the time that "any efficacy of chiropractic therapy can only be inferred from the studies of manipulative therapy for the treatment of LBP which have been performed utilising medical, osteopathic or physiotherapy trained practitioners of manipulation." (GN Waagen et al, 1986)

The Ontario Report authors, in reviewing the pre and post 1986 research, identified a definite trend in favour of spinal manipulation as a valid treatment in low back pain: "These results corroborate the value of spinal manipulation ... The results demonstrated a consistent (and strong) trend favouring ... spinal manipulative treatment ... support is consistent for the use of spinal manipulation."

Thus, prior to 1986, spinal manipulation had been shown to be effective in LBP trials that did not include chiropractic management. Once trials began to use chiropractic these also demonstrated that spinal manipulation was effective. The logical conclusion to reach, I would have thought, was that spinal manipulation is an effective form of management for some cases of low back pain, but the conclusion the Ontario Report came to was more specific: "In the bulk of the methodologically sound clinical studies spinal manipulation applied by chiropractors is shown to be more effective than many alternative treatments for LBP."

Given that another major review - the so-called "RAND Report" - had concluded that "No well-conducted randomised controlled trials have been done comparing different techniques of manipulation for patients with low back pain", I cannot understand, or agree with, the conclusion reached by the authors of the Ontario Report.

I believe that the evidence supporting spinal manipulation as a valid treatment for low back pain is strong, though I accept that there is still some debate about its relative efficacy in chronic pain states. As far as specific chiropractic manipulation is concerned, my assessment of the available evidence leads me to concur with the view that "no single uniquely chiropractic method of healing can yet be considered scientifically validated. ... Despite the many satisfied patients, despite nearly a century of apparently useful and successful clinical practice and despite the many testimonials of remarkable recoveries and cures, the chiropractic art remains scientifically unevaluated for the most part, and therefore, necessarily unproven. No strong claims for the adjustive arts are justified at this time." (J C Keating & D T Hansen, 1992)

WHERE TO FROM HERE?

In light of the evidence how, then, should we 'deal' with chiropractic, and chiropractors?

Firstly, as a scientist and a health professional I believe that we must accept the evidence that does exist. Chiropractic manipulation is, on the basis of existing evidence, a valid management option for lower back pain, and has no more or no less evidence to support its use than other treatments, such as physiotherapy.

Secondly, as there is insufficient evidence at present to support the claim that chiropractic is useful, either in a primary or complementary role, in the management of 'visceral conditions' (eg asthma, headache, gastric ulcer), its use in such cases should be discouraged until supportive evidence is available. None of the major reviews of chiropractic have concluded that chiropractic is useful in these conditions.

> "Chiropractors fighting the battle for more research deserve our full support."

Thirdly, as there is insufficient evidence at present to support the claim that patients may benefit from preventative or 'maintenance' adjustments, their use should be limited to a research setting.

Fourthly, the clinical and academic chiropractors who are fighting the battle for more research into chiropractic deserve our full support. Perhaps chiropractic does have something unique to offer? Perhaps it can help in some 'visceral' conditions? Perhaps patients can benefit from preventative adjustments? Only sound scientific research will allow us to answer these questions.

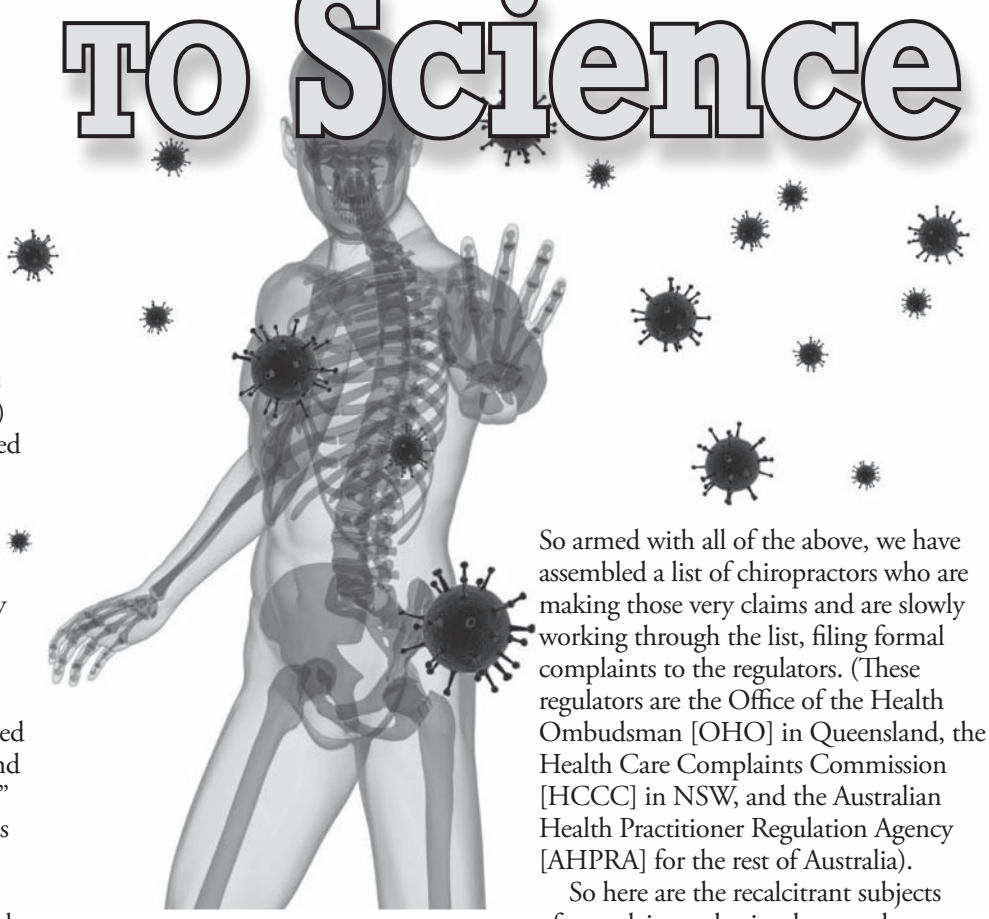
Finally, and most importantly, we must try to create a spirit of cooperative dialogue between chiropractic and 'orthodox' medicine, and seek to break down the 'us vs them' barriers that have been built up over many years by those on both sides who cannot accept that they just might be wrong. ■

Note: *This Classic Catch article was first published in The Skeptic, Vol 15 No, Spring 1995.*

About the author: **Dr Stephen Basser** is a Melbourne-based retired GP. At time of writing he was also VP of Vic Skeptics.

Immune to Science

Ken McLeod and Mal Vickers complain about chiropractors' pseudomedical claims, including immunity and COVID-19, and discover that … shock horror … they're still at it, but regulators are not.



Early this year colleagues at Friends of Science in Medicine Inc (FSM) conducted a random search of registered health care practitioners' advertising, searching for breaches of legislation, Codes of Conduct, advertising rules, and warnings from the Australian Health Practitioner Regulation Agency (AHPRA) and relevant professional boards. This included a specific warning from AHPRA and the Chiropractic Board reminding registered chiropractors not to engage in "false and misleading advertising on COVID-19" and warning of the significant penalties that can be applied (AHPRA - tinyurl.com/y6wjhzaq).

AHPRA and the Chiropractic Board said that they "are seeing some examples of false and misleading advertising on COVID-19" and "it is vital that health practitioners only provide information about COVID-19 that is scientifically accurate and from authoritative sources". And they remind practitioners that "According to these authoritative sources, there is currently no cure or evidence-based treatment or therapy which prevents infection by COVID-19."

They went on to warn that "registered health practitioners should not make advertising claims on preventing or protecting patients and health consumers from contracting COVID-19 or accelerating recovery from COVID-19. To do so involves risk to public safety and may be unlawful advertising. For example, we are seeing some advertising claims that spinal adjustment/manipulation, acupuncture and some products confer or boost immunity or enhance recovery from COVID-19 when there is no acceptable evidence in support. We will consider taking action against anyone found to be making false or misleading claims about COVID-19 in advertising. If the advertiser is a registered health practitioner, breaching advertising obligations is also a professional conduct matter which may result in disciplinary action, especially where advertising is clearly false, misleading or exploitative. There are also significant penalties for false and misleading advertising claims about therapeutic products under the Therapeutic Goods Act 1989."

What could be plainer than that? Chiropractors must stop saying that spinal adjustment could "boost immunity" and could prevent and/or treat COVID19.

So armed with all of the above, we have assembled a list of chiropractors who are making those very claims and are slowly working through the list, filing formal complaints to the regulators. (These regulators are the Office of the Health Ombudsman [OHO] in Queensland, the Health Care Complaints Commission [HCCC] in NSW, and the Australian Health Practitioner Regulation Agency [AHPRA] for the rest of Australia).

So here are the recalcitrant subjects of complaints submitted to regulators since 1 March 2020, some concerning chiroquacks claiming to treat COVID 19, and some claiming to "boost immunity" which is of course not only bulldust but a breach of recent warnings from the Chiro Board and AHPRA. At no extra cost to the regulators we have included in our complaints examples of other evidence-free claims and quackery. (All claims listed below are fully verified with screen captures of the relevant websites.)

THE LIST

Neil Brodie, Perth Wellness Centre, 9 Colin St, West Perth, WA 6005:

Claims to boost immunity and specifically mentions treatment or prevention COVID 19; increase energy levels; lower blood pressure; breathe better; sells items and treatments that are claimed to "assist your immune system".

Brian Callan, Hands on Super Health, Railway Pde Leura 2780:

Claims to boost immunity and specifically mentions treatment or prevention COVID 19; sells Vitamin C as a possible cure for COVID 19; sells "Essential Oils - Long established as a powerful antidote to bugs of all types. Thyme, lavender doTerra On Guard blend. There are many options to kill bugs and also boost your internal defences."

Tracey Lademann, Bedford Road Ringwood East, VIC, 3135:

Claims to boost immunity and specifically mentions treatment or prevention of COVID 19; treats children's bed-wetting, allergies, feeding and attachment issues, colic and other digestive concerns, sleeping problems, ear aches, difficulty turning head, acid reflux, head shape concern, poor co-ordination, poor balance, asthma, spinal posture, concentration; treating pregnancy by relieving pain, reducing labour time, encourages optimal foetal position, improves nervous system function, brain development; claims that "Vitamin C has long been known to boost immune function, but early studies are finding that high dose vitamin C might actually be able to reverse the effects of the Coronavirus"; recommends zinc as part of an anti-coronavirus plan; plugs a "quantum law of attraction and vibrational energy", and "Neuro Impulse Protocol".

Brad Moore, Coolum Chiropractic, Shop 19, Pacific on Coolum, Birtwill St, Coolum Beach, Qld 4573:

Claims to "boost immunity" and specifically mentions treatment or prevention of COVID 19 by treating "vertebral subluxations"; tells clients to "TAKE! Vitamin C (a well-known immune booster currently being used effectively in China to treat coronavirus), have your spine checked and adjusted regularly to maintain optimal spinal alignment. Your health depends on it!"

Cameron Ashe, Total Health, 32a Orchard Rd Brookvale NSW 2100:

Claims to "boost immunity" with spinal adjustment without mentioning COVID 19; citation of a paper that never existed; offers gift certificates.

Nathan Petridis, Balanced Life Chiropractic Health Care Level 1 823 Burwood Hwy, Ferntree Gully, Vic 3156:

Claims to "boost immunity" via cupping to "activate the immune system" and treating subluxations.

Camille Rahme, Chiro & Sports Med, 175 Victoria Rd, Gladesville, NSW 2111:

Claims "Chiropractic adjustments have shown to boost the immune system."

Adam Rocchi, Spine Scan, 1st Floor, 1 The Esplanade, Mount Pleasant, Perth, WA 6153:

Claims to "boost immunity" by treating subluxations; offers "tune-ups".

Bree Weber, Olive Chiropractic, 1399C Logan Rd, Mt Gravatt, QLD 4122:

Claims to "boost immunity" by treating subluxations; claims that chiropractic treatment is safe, natural, and scientific, offers as evidence a report issued in New Zealand over 40 years ago and not available online; offers X-ray examinations without an indication; offers the "Webster Technique" for pregnant women contrary to warnings in a statement issued by the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) and the Chiropractic Board of Australia on 7 March 2016. (Weber was reported to the OHO on 11 November 2016, 14 March 2018 and 17 January 2019 and clearly nothing was done.) Claims to be able to give babies a "tune-up".

Ross Windsham, Total Health, 32a Orchard Rd Brookvale NSW 2100:

Claims to "boost immunity" via "spinal adjustment"; citation of a research paper that has never existed; offers gift certificates.

Wendy Froyland, Total Health, 32a Orchard Rd Brookvale NSW 2100:

Claims to "boost immunity" via "spinal adjustments"; citation of a research paper that has never existed; offers gift certificates.

Sam Liveriadis, North Road Chiropractic, 1161 North Rd, Oakleigh, VIC 3166:

Claims to "boost immunity" via "spinal adjustment"; offers exploratory X-ray examinations without indication.

Simon Weekes, Better Back Chiropractic, 218 Onkaparinga Valley Rd, Oakbank, SA 5243:

Claims to "boost immunity" via spinal adjustment of subluxations; misrepresents a citation; claims that his treatment of pregnant women and babies results in babies with less crying, better sleep, better breast and bottle feeding, better bowel movements, general sense of a happier baby, better with tummy time, improved torticollis, contrary to the Council of Australian Governments (COAG) Health Council Safer Care Victoria report "Chiropractic spinal manipulation of children under 12 Independent Review" (tinyurl.com/y8m73ejn). He claims to treat "Breastfeeding, Tongue and Lip Tie;" treat flat head / plagiocephaly to restore normal head shape, using citations of research papers that do not support his claims.

Derek Silva, Rise Chiropractic, 2/85 Aerodrome Rd, Maroochydore, QLD 4558:

Claims to "boost immunity" by treating "subluxations".

Jerome Dixon, Melbourne Wellness Group, 89 Whitehorse Rd, Balwyn VIC.

Under the heading "Corona virus" on behalf of the clinic he states "We're also know the latest data & research on CoronaVirus and preventation" which is easily our most grammatically incorrect example.

Dennis Collis, North Cairns Chiropractic, 327 Sheridan St, Cairns North:

Advertises "Chiropractic BioPhysics", which sounds a lot like real physics, so it must be good. He also assures that chiropractic was useful in the coming coronavirus pandemic: "it can definitely help to ensure your body is fighting ready. An adjustment can also help to prevent sickness and disease by boosting your immune system and ensuring your nervous system is functioning optimally to help heal and repair."

Immune to Science

Continued...

Jeremy Dive, OneWay Chiropractic, 2353 Gold Coast Hwy Mermaid Beach QLD 4218:
Claims to treat subluxations "which can cause sickness and disease"; uses a 125 year old anecdote as evidence supporting his claims; uses the BICOM Bioresonance Therapy machine (not listed with the TGA); offers "Cold Laser Therapy and IQ Impulse", whatever they are.

Lina Shiyab, ChiroRelief, 208 Enmore Rd, Enmore NSW 2042:
Offers cupping; dry needling; treats animals.

We have many more chiropractors to report to the regulators. Remember the above were found in a random search, not a scouring of every website of every chiropractor in Australia. No doubt there are plenty more.

The above complaints follow 174 specific complaints about chiropractors submitted in the decade before 1 March 2020. In that time, only one specific complaint was resolved successfully, with the practitioner surrendering registration. The COAG Health Ministers/Safer Care Victoria Inquiry should be regarded as another success following formal complaints and a media uproar. We also point to the stream of warnings to chiropractors from the Chiropractic Board of Australia in response to our complaints as another success, even if these warnings are often ignored, as above.

So why have we been so unsuccessful, we hear you ask. Well, as one kind woman from one regulator explained to us at length, they can only act on the breaches reported to them. If the complaints concern only what is contained in the practitioner's advertising, they can do nothing more than advise the practitioner to tidy up their advertising. To do more requires firm evidence of actual harm caused. (So what we really need is someone prepared to sue because their illness or injury was caused because they followed the chiropractor's advice, and we are willing to help.)

What this means of course is that there are no on-site audits unless a complaint concerning malpractice or injury has been received.

But, it is not good enough for AHPRA, the HCCC, the OHO, and the Chiropractic Boards to refer to these matters as breaches of advertising requirements. If a chiropractor advertises bogus, exploitative and dangerous treatments it is very likely that he or she is actually conducting them. It is incumbent on the regulators to determine if they have done that in the past and will not do that in the future. Only on-site audits without notice can ensure that the regulators fulfil their charters to ensure that the public is safe.

Could you imagine a restaurant industry not subject to regular on-site inspections by health inspectors? Can you imagine an airline advertising that they use counterfeit spare parts and nobody caring? (Yes, it is a problem in the aviation industry - en.wikipedia.org/wiki/Unapproved_aircraft_part - and the Civil Aviation Safety Authority does care; they would descend on that airline like a ton of bricks.)

So why are the regulators of chiropractors not conducting on-site audits? We can hazard a guess that the regulators charged with ensuring public safety do not have the legislative authority and the resources. The Safer Care Victoria report called for "The Australian Health Practitioner Regulation Agency (AHPRA) and the national boards should continue to audit practitioners in the application of their guidance regarding advertising." (Recommendation 8)

As the FSM survey showed above, even this minor checking is not happening.

So as long as their advertising is OK, nobody cares what happens in the clinic, and all 10 recommendations in the SCV Report are ignored.

Considering the dangers involved and the huge financial losses to Medicare, private health insurers, and the Department of Veterans Affairs, this is a shameful situation. ■

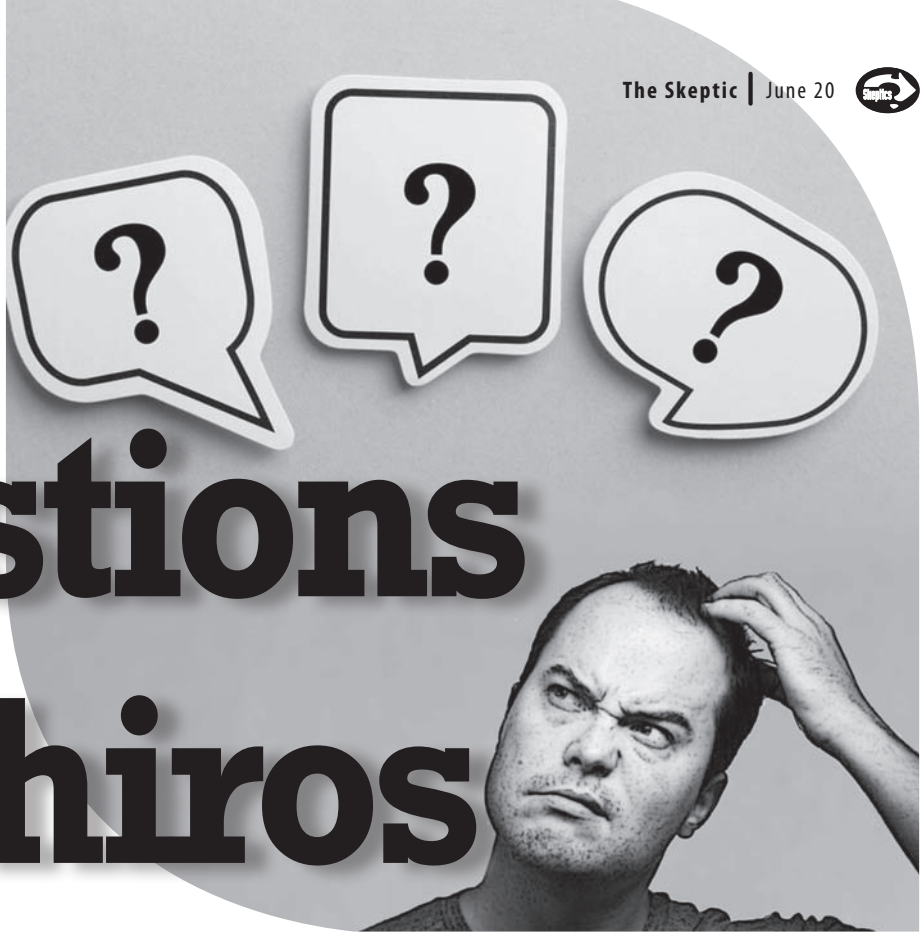
About the authors: **Ken McLeod** and **Mal Vickers** are active campaigners against mispractice in alt med areas. They are both past winners of the Skeptic of the Year award.

IMMUNITY . . . THE CHIROPRACTORS SAY NO!

The Canadian Chiropractic Association has warned members about making unsubstantiated claims: "We would be remiss to ignore the rise of misinformation at this difficult time. While we firmly believe in the efficacy and benefits of chiropractic care in supporting the health of Canadians, there is no scientific evidence that supports claims of a meaningful boost in immune function from chiropractic adjustments," the association wrote in a post from March 16 2020. *(tinyurl.com/y9t8ksmc)*

The American Chiropractic Association has issued a warning to chiropractors: "The claims of some in the profession that spinal adjustments can boost immunity and decrease the risk of contracting COVID-19 are misleading. While spinal adjustments are effective for a number of conditions, there is no quality evidence to support that they can improve immunity to COVID-19." (tinyurl.com/yau7zgey)

The World Federation of Chiropractic in its report dated March 2020, "The Effect of Spinal Adjustment / Manipulation on Immunity and the Immune System: A Rapid Review of the Relevant Literature" (tinyurl.com/rrn73w7), concluded that: "No credible, scientific evidence that spinal adjustment / manipulation has any clinically relevant effect on the immune system was found.." ■



Skeptics seek answers from industry regulators

Questions *for* Chiros

Australian Skeptics has grave concerns about the current practices and services of chiropractors in Australia. In many instances, it would seem that certain chiropractors are flouting regulations, findings, and warnings issued by the Australian Health Practitioner Regulation Agency (AHPRA) and the Chiropractic Board of Australia (CBA), which organisations look after the professional integrity of practitioners. These problems feature both in advertising by chiropractors and in the range of services they offer, some of which are ineffective, and more importantly some of which put patients' health and safety in danger.

We recently put the following list of questions – developed in association with Stop the AVN and Friends of Science in Medicine – to both bodies. We look forward to their response.

VACCINATION

Concerning the warnings from the Chiropractic Board that chiropractors must give evidence-based information to patients and not disparage vaccination:

a) What steps have been taken by the Chiropractic Boards to ensure that chiropractors are conforming to the warnings?

b) How many chiropractors have been detected in breach of those warnings over the last 12 months?

c) If any were detected, what disciplinary steps were taken?

d) How many chiropractors were the subjects of complaints to AHPRA, the OHO, the HCCC and the Chiropractic Boards concerning the breach of these warnings over the last three years?

WEBSTER TECHNIQUE

Concerning the warnings from the Chiropractic Board and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) of 7 March 2016 relating to the so-called Webster Technique:

a) What steps have been taken by the Chiropractic Boards to ensure that chiropractors are conforming to the warnings?

b) How many chiropractors have been detected advertising the use of the Webster Technique over the last three years?

c) How many chiropractors have been detected using the Webster Technique over the last three years?

d) If any were detected, what disciplinary steps were taken?

e) How many chiropractors were the subjects of complaints to AHPRA, the OHO, the HCCC and the Chiropractic Boards concerning the breach of these warnings over the last three years?

SUBLUXATIONS AND IMMUNITY

Concerning the many publications over the years debunking the existence of "vertebral subluxations" and the treatment of them to "boost immunity", most recently the publication in Chiropractic and Manual Therapies journal of the paper "A united statement of the global chiropractic research community against the pseudoscientific claim that chiropractic care boosts immunity" by eight chiropractic researchers and 140 scientific supporters (doi.org/10.1186/s12998-020-00312-x)

a) How many chiropractors have been detected advertising the treatment of "vertebral subluxations" to "boost immunity over the last three years"?

b) How many chiropractors have been detected treating "vertebral subluxations" to "boost immunity" over the last three years?

c) If any were detected, what disciplinary steps were taken?

d) How many chiropractors were the

Questions for Chiros

Continued...

subjects of complaints to AHPRA, the OHO, the HCCC and the Chiropractic Boards concerning the advertising and treatment of "vertebral subluxations" to "boost immunity" over the last three years?

IMMUNITY

Concerning the many statements from AHPRA and the Boards over the years, and the Codes of Conduct, that chiropractors should stay within their scope of practice:

a) How many chiropractors have been detected advertising the "boosting" of immunity over the last three years?
b) How many chiropractors have been detected treating clients with procedures claimed to "boost immunity" over the last three years?
c) If any were detected, what disciplinary steps were taken?
d) How many chiropractors were the subjects of complaints to AHPRA, the OHO, the HCCC and the Chiropractic Boards concerning the advertising and treatment of procedures to "boost immunity" over the years?
e) Is "boosting immunity" a safe procedure? What are the effects on auto-immune diseases?

X-RAYS

Concerning the Chiropractic Code of Conduct which requires that X-rays of children are obtained only where there are clinical indications for the procedure, that the indications for X-Ray examinations must be clinically justified in an evidence-based context, and exposure to radiation should not be adopted unless it produces sufficient benefit to the exposed individuals or to society to offset the radiation detriment it may cause:

a) How many chiropractors have been detected advertising the unjustified use of X-Ray examinations over the last three years?
b) How many chiropractors have been detected conducting the unjustified use of X-Ray examinations over the last three years?
c) If any were detected, what disciplinary steps were taken?
d) How many chiropractors were the subjects of complaints to AHPRA, the OHO, the HCCC and the Chiropractic Boards concerning the advertising and treatment of the unjustified use of X-Ray examinations over the last three years?
e) Are chiropractic x-rays audited to ensure that there is tracking of how many are taken on any one person?

COAG HEALTH MINISTERS / SAFER CARE VICTORIA REPORT

Concerning the Report *Chiropractic spinal manipulation of children under 12 - Independent review:*

a) What steps have AHPRA, the OHO, the HCCC and the Boards taken to implement the 10 Recommendations?
b) Specifically, what steps have been taken to implement Recommendation 8, that they should "continue to audit practitioners in the application of their guidance regarding advertising"?
c) What steps were taken in the three years prior to the release of the report to audit practitioners in the application of their guidance regarding advertising?

ON-SITE AUDITS

a) How many on-site audits of chiropractors have been conducted by the Boards over the last three years to ensure that they are conforming to legislation and Codes of Practice?

ADVERSE EVENTS

a) What steps have AHPRA, the OHO, the HCCC and the Boards taken to implement a Mandatory Adverse Events Reporting System relevant to chiropractic?
b) What statistics have been collected by AHPRA concerning adverse events in chiropractic over the last three years?

ADVERTISING:

a) How many breaches of advertising rules have been detected by AHPRA, the OHO, the HCCC and the Boards over the last three years?
b) How many breaches of advertising rules have been reported by the public over the last three years?
c) If any were detected, what disciplinary steps were taken?

REGULATORY CAPTURE

a) What management processes have been implemented by the Chiropractic Board of Australia to prevent regulatory capture by the chiropractic industry and chiropractors?

CONTINUING PROFESSIONAL DEVELOPMENT

How many CPD points are awarded to chiropractors for courses that include:

a) Activator method chiropractic technique
b) Advanced applied kinesiology, basic kinesiology
c) Allergies
d) Autism
e) ADHD
f) Obesity
g) Anatomical acupuncture
h) Atlas orthogonal
i) Auriculotherapy
j) Neuroscience of neuro-behavioural disorders
k) Musculoskeletal acupuncture and dry needling
l) Epigenetics
m) Gonstead technique
n) Enhancing brain development in children
o) Impulse adjusting system
p) 'Magnesium crisis'
q) Anything presented by the MINDD Foundation
r) Neural organisation technique (NOT)
s) Perinatal care - Webster certification
t) Sacro-occipital technique (SOT)
u) Gut-immune connection
v) Adjusting subluxations
w) Immunology and vaccination
x) Thompson technique ■

What is the Webster Technique

Many chiropractors advertise that they treat pregnant women with the so-called "Webster Technique." As the Australian Skeptics reported on May 23, 2017 (tinyurl.com/ybollse9) the Webster technique is used by chiropractors to "adjust" the spines of pregnant women to "assure normal delivery" and to prevent breech birth caused by "intrauterine constraint". It involves turning the baby within the womb.

According to the website Chirobase, "This dubious treatment is based on the equally dubious theory that vertebral subluxations can cause malfunction in the uterus by putting pressure on spinal nerves. Reliance on the Webster technique during the final weeks of pregnancy can endanger both the mother and the child."

Use of the Webster Technique by chiropractors is contrary to Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)'s and the Chiropractic Board of Australia's statement of 7 March 2016:

Delivery of Chiropractic Therapies to the Unborn Child: "The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) is aware that some chiropractors are advertising and attempting to turn breech babies in utero using the 'Webster Technique'."

On 7 March 2016, the Chiropractic Board of Australia released the following statement in relation to chiropractic care of pregnant women and their unborn child:

Care of pregnant patients: "Chiropractors are not trained to apply any direct treatment to an unborn child and should not deliver any treatment to the unborn child. Chiropractic care must not be represented or provided as treatment to the unborn child as an obstetric breech correction technique.

"RANZCOG supports the Chiropractic Board of Australia in its clear position that chiropractic care must not be represented or provided

as a treatment to the unborn child as an obstetric breech correction technique. Chiropractors should not be using the 'Webster Technique' or any other inappropriate breech correction technique to facilitate breech version as there is insufficient scientific evidence to support this practice.

"In addition, RANZCOG does not support chiropractors treating pregnant women to reduce their risk of caesarean delivery. There is insufficient evidence to make any claims to consumers regarding the benefits of chiropractic treatment to reduce the risk of caesarean delivery. We commend the Chiropractic Board on their statement that: Advertisers must ensure that any statements and claims made in relation to chiropractic care are not false, misleading or deceptive or create an unreasonable expectation of beneficial treatment."

In spite of that, for over four years some Australian chiropractors, including some mentioned in this issue of The Skeptic, have continued to advertise, and we must presume treat, pregnant women with the Webster Technique. Based on a random survey, though not definitive, Friends of Sciencde in Medicine first reported breaches by 104 Australian chiropractors to AHPRA on 11 November 2016. This was updated in May 2017 to show that almost all of the mentioned chiropractors had not changed their ways. Then on 17 January 2019 FSM reported to AHPRA that 59 were still advertising that they treat pregnant women with the Webster Technique. On 8 May 2020 a further check revealed that of those 59, 51 are still advertising their use of the Webster Technique. Of those 51, many had updated their websites but made no effort to remove references to the Webster Technique. FSM assumes that AHPRA wasted no time reading our reports.

Clearly there have been major failures by Australian chiropractors, AHPRA, the NSW Health Care Complaints Commission, the Queensland Office of the Health Ombudsman, and the Chiropractic Boards, all of which were approached. How many pregnant women have been mistreated in that time? Only a thorough audit of their practice records will determine that. ■

The Complex SUBLUXATION Complex

For many chiropractors, "subluxation" is central to their practice, but its very existence has been hotly disputed, including by chiropractors. Currently chiropractic is taught at four Australian universities – RMIT, Murdoch, Macquarie, and Central Queensland. For the record, the following is a statement from RMIT's chiropractic program on the "subluxation complex", written in 2010 by then Assoc Prof Phillip Ebrall.

This paper reinforces the RMIT Model of Chiropractic that has been in place for over a year. This paper will join it as a public statement on how this Discipline applies its understanding of the Vertebral Subluxation Complex (VSC) to both its teaching and clinical learning activities.

However it takes another important step in that it emphasises the need for clinical evidence to support a diagnosis that leads to intervention by adjustment.

SIMPLISTIC STATEMENT

The most acceptable form of simplistic statement about the vertebral subluxation complex is emerging in the scientific and educational communities as being: "Something in the spinal column or other joints that alters the flow of information to and from the brain."

RMIT POSITION STATEMENT ON VSC

RMIT University's position on the clinical entity that is central to the practice of chiropractic is based on a contemporary interpretation, understanding and application of the historical premise of chiropractic. This is explored more fully in the Position Statement on the RMIT Model of Chiropractic.

The Discipline understands that functional derangement of the spine and other articulations may occur; where spinal we call this a vertebral subluxation complex (VSC) and where elsewhere we use a range of terms suited to the presentation that clearly describe the functional articulation disorder.

The Discipline only accepts a working diagnosis of VSC when it is supported by clinical evidence. We use the suffix "change" against each of the five historical elements instead of the older term "pathology" because not all change is pathologic; an example being kinematic change that is a benign compensation at one spinal level for kinematic change at another spinal level that has the evidence it is a VSC.

Similarly we do not use the US acronym PARTS because of its inability to thoroughly capture all clinical evidence due to its reductionistic approach to Pain, Asymmetry, Range of Motion, Tone/Texture, and Special tests. We see the VSC as greater than a simplistic biomechanical concept.

We recognise that the historical elements are weakened by suggesting each may be an individual element and see the clinical reality as an interconnectedness where, for example, muscle change cannot exist without neural change, and connective tissue change cannot exist without vascular change, and so on.

However for the express purpose of looking for and then documenting clinical evidence to support a diagnosis that warrants our intervention, we are obliged to provide a framework for learners and teachers.

Within RMIT University's Discipline of Chiropractic the framework we use to reach a working diagnosis of VSC can be thought of as being:

1. A statement of kinematic change that may eventually be represented as a listing in either Diversified or Gonstead dialects. Our knowledge and understanding of developing the listing subsumes the detailed diagnostic palpation skills and mental interpretation of our findings to allow us to capture these as a standardised listing. We see Motion Palpation as a propriety technique therefore we use movement palpation that ranges from inducing micro to macro movements within a spinal motion unit (SMU)

to identify the quantity of movement (and thus restriction due to fixation), the quality of movement (through whatever range of movement is present) and the quality of end-feel (at the end of the presenting range of movement). We appreciate many of these aspects are subjective and combine such findings with objective data where possible, such as a measurement of regional range of motion.

2. A statement of neural change following the assessment of all dimensions from the quantitative (Newtonian) elements of pain to the qualitative elements (cognitive, affective) of human function. In this sense our model moves beyond pain and into the realm of functional neurology and wellness. We appreciate that neural change typically exists in multiple combinations with other changes and we seek to explore these in an inter-connected sense.
3. A statement of muscle change following the assessment of indicator muscles for the SMU under question, and related muscles. We are interested in not only differences of left/right strength but also in left/right functionality, including speed of 'lock-in' (indicative of functional neurologic processing of hearing the auditory command, processing the information, signalling the response, and the actual response of the muscle during the test). We are interested in hypertrophy and atrophy, trigger points, and other characteristics that may signal VSC. We appreciate that muscle change typically exists in multiple combinations with other changes and we seek to explore these in an inter-connected sense;
4. A statement of connective tissue change, where these tissues include z-joint capsules, the intervertebral disc, associated ligaments and tendons, and other connective structures that may be affected by injury or other assault; and
5. A statement of vascular change that describes a range of findings related to structures such as arterioles influenced by the SMU, both arterial and venous and represented by cutaneous warmth or coolness; lymphatic drainage which has been recently shown to have segments under neural control; gross change such as oedema and inflammation; and larger-scope elements such as cervicocranial vascular insufficiency. We appreciate there is a range of instruments with varying degrees of known validity that may be useful in the clinical context to support the search for vascular change.

A chiropractic adjustment to an SMU should not be delivered in the absence of thoughtful consideration to identifying, describing, understanding and inter-relating the above elements and the documentation of these elements.

The working diagnosis that indicates chiropractic adjustment as the preferred intervention will include summary statements of findings in the above categories which in turn form the outcomes measures against which the clinical effects of the adjustment are measured.

Functional articulation presentations away from the spine require a similar assessment, analysis, description, understanding and inter-relating before a mechanical intervention is considered to be an appropriate trial intervention.

RMIT University appreciates there are many approaches to chiropractic intervention and their delivery systems and that no one program is able to teach all of them at the standard each deserves. We encourage our students and graduates to pursue areas of special interest to them with a view to further refining their individual approach to identifying, describing and optimally treating the VSC.

RMIT University holds the view that to achieve this capability in its graduates requires a skills-set based on the above foundation.

DOCUMENTATION OF CLINICAL FINDINGS

The following describes the manner in which the registered student chiropractor will record in the patient Health Care Record the SMUs they wish to adjust, why they wish to adjust them, and how.

Clinical experience suggests it is most unusual for a patient to present with many levels of VSC. Accordingly the visit-specific record allows for no more than five suggestions to be made by a registered student chiropractor. The supervising clinical educator should confirm then approve as appropriate the level/s nominated for therapeutic intervention, and then approve the indicated method of delivery (for example, manual Diversified, manual Gonstead, drop-piece, Activator, flexiondistraction, and so on).

The student will record the required findings in a manner similar to that given below.

At the initial patient visit each spinal level will be assessed and documented; as the patient becomes familiar to the clinician the spinal levels for assessment will become targeted by the history.

Clinical findings relative to the VSC will be recorded in a manner that includes reference to:

THE SMU

Identification of the spinal motion unit (SMU) where the fixated segment is given as the superior segment. There will then be descriptive statements that should make reference to findings in the following categories. These categories are not individually segregated; however the registered student chiropractor is expected to consider these elements in their thought process about identifying subluxation.

Kinematic change: Fixation is translated into a listing and using the principle above, Occ/C1 would imply occipital contact, C1/C2 a C1 contact, and L5/S1 an L5 contact. Where a listing such as L) SIJ is given to identify fixation in a left sacro-iliac joint it implies the segmental contact point (SCP) is the ilium, therefore if the SCP is actually the sacrum the listing would be LP sacrum to imply a contact of the left sacral alar.

The first key principle underlying kinematic change is that restriction of movement in one direction, palpated as a mix of reduced quantity, altered quality, or different endfeel, implies fixation in the opposite direction. Hence reduced movement (restriction) of a spinous process to the right implies

Subluxation Complex

Continued...

fixation in a left position. The second key principle is that the vectors of the adjustive thrust will always be to reduce fixation and restore normal movement.

Neural change: This term subsumes neurologic and orthopaedic tests and allows documentation of a left/right asymmetry or, at an advanced level, any systemic change, to be attributed to the VSC. An example is pain referred to the iliac crest as being suggestive of Maigne's Syndrome at T12/L1.

Muscle change: This term also subsumes neurologic and orthopaedic tests with an emphasis on function, such as a deltoid weak on the right compared to the left suggesting VSC in the low cervical spine around the C5 spinal nerve. It also captures trigger points and statements about muscle tone.

Connective tissue change: This term collects findings related to tendons, fascial planes, joint capsules, disc, and so on. In relation to the SIJ it helps differentiate between articular fixation and ligamentous fixation, and should always be included in a diagnosis when evident on imaging as a disc bulge.

Vascular change: This term allows the inclusion of findings from a range of instruments that indicate left/right thermal asymmetries attributed to different arteriolar flow but it goes further to include oedema, inflammation and rubor, major signs such as cervico-cranial insufficiency evidenced by certain tests in cases where such insufficiency may be evident, and autonomic findings such as decreased patency in an auditory tube or decreased drainage within the lymphatic system.

The two final elements are decisions on the delivery system, and confirmation as approval by the registered chiropractor.

Delivery system: This describes the delivery system used for the therapeutic intervention, and ranges from manual Diversified thrust to blocking by wedges, and so on.

Approved: The signature of the senior person responsible for the care of the patient, in most cases the Clinical Educator.

USE OF THIS STATEMENT

This statement replaces individual teaching about the VSC with a uniform Discipline perspective.

This position is the substantive position to be presented to students at all year levels and in all learning environments, including clinic.

This statement is to be read and understood alongside RMIT's Model of Chiropractic.

This statement will inform the teaching of diagnosis and technique in the chiropractic program at RMIT University.

This statement will inform the philosophical concepts presented to students within all courses delivered by the Discipline of Chiropractic.

This statement describes the definitive behaviours of clinicians and registered student chiropractors with regard to identifying and describing the VSC in the patient health care record.

I welcome your embrace of this statement. ■

About the author: At time of writing (October 2010), **Assoc Prof Phillip Ebrall** was Discipline Head, Chiropractic, at RMIT's School of Health Sciences.

SUBLUXATION ... THE CHIROPRACTORS SAY NO!

The International Chiropractic Education Collaboration (ICEC) issued a position statement in 2017 that the chiropractic programs would only teach about subluxation in a historical context. This collaboration included ten chiropractic programs outside of North America *(tinyurl.com/ybv85h4k)*.

Several internationally-accredited chiropractic colleges from the UK, Europe and South Africa made an open statement which included: "The teaching of the vertebral subluxation complex as a vitalistic construct that claims that it is the cause of disease is unsupported by evidence. Its inclusion in a modern chiropractic curriculum in anything other than an historical context is therefore inappropriate and unnecessary." (tinyurl.com/y8t87d2t)]

In May 2010 the statutory regulatory body for chiropractors in the United Kingdom, the General Chiropractic Council, issued guidance for chiropractors stating that the chiropractic vertebral subluxation complex "is an historical concept" and "is not supported by any clinical research evidence that would allow claims to be made that it is the cause of disease or health concerns." (tinyurl.com/yc6ytvzv)

In 2015 Chiropractic Australia published a statement that it was in agreement with the UK General Chiropractic Council policy statement and supported the GCC's position on the term vertebral subluxation complex. (tinyurl.com/y9afox6w)

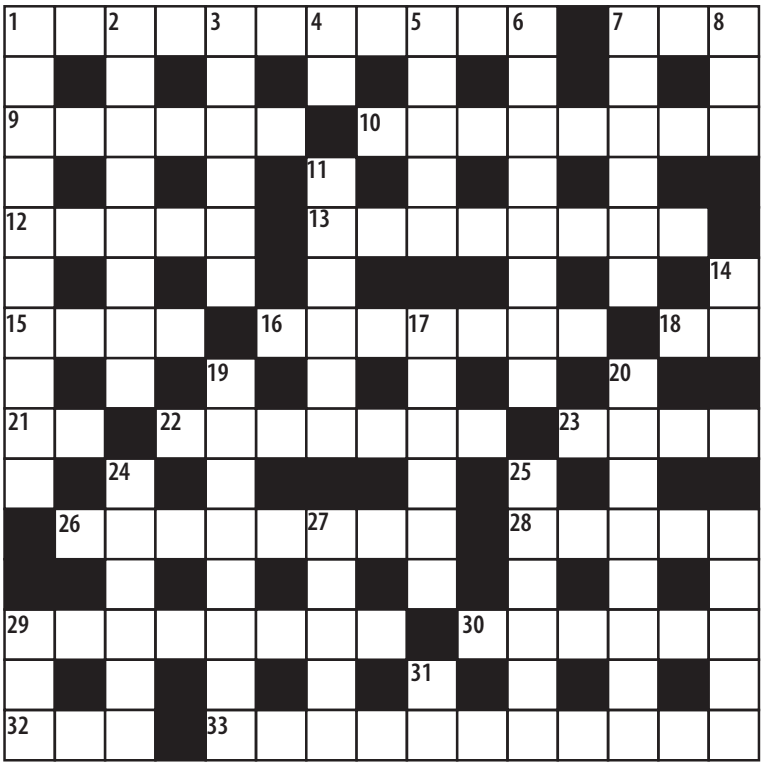
"There is a perception that a significant percentage of chiropractors believe that subluxations are the cause of all health problems. … This definition of a subluxation has been redundant for decades and the concept that all disease is caused by subluxation was abandoned in the early 1900s." – Dr Lawrence Tassell, the then president of the Chiropractors Association of Australia, president's report February 2013

However …

"Recent claims that the subluxation is an imaginary entity that should be limited to a historic reference is in direct contradiction to the ever-growing body of evidence supporting the foundational tenets upon which the Chiropractic profession was founded almost 125 years ago." - ICA President Dr Stephen Welsh, in remarks to the 50th Anniversary Chiro Congress, November 2019 ■

Brain testers

CRYPTIC CROSSWORD no 46



Tim Mendham + Steve Roberts

ACROSS

1. & 10. Never melt a dietician into what isn't established health treatment. (11,8)
7. One on a charged particle. (3)
9. Gambol where the French are soft not loud. (6)
12. Sort of jerk who reacts quickly. (1,4)
13. The limits reached by a broken sex meter. (8)
15. Spots a broken cane. (4)
16. Fashion a trick company for medical scan. (7)
18. Santa's brief comment to old Vietnamese leader. (2)
21. He backs an interrogatory. (2)
22. Require less detailed provocations. (7)
23. Not sure it's a trick. (4)
26. Four in a priest makes you feel better. (8)
28. Not a very crisp bit of paper of ownership.
29. Fit coins into falsehoods. (8)
30. It will mislead you into da place. (6)
32. Editor's version of electronic data systems. (1-1-1)
33. Organise run to apathy for herbalism. (11)

DOWN

1. A dominant person signals neural oscillations. (5,5)
2. Travelling by rail for teaching. (8)
3. Noisy but no bat – it's a con job. (6)
4. What you say to a throat doctor after hours. (2)
5. Hamfisted writer put back in it. (5)
6. Even dice need proof. (8)
7. gets up with the flowers. (6)
8. She was born a woman. (3)
11. Take note of a top performance. (6)
14. Oh, atom hype is much ado about nothing. (12)
17. Harsh needlework? (6)
19. Not ideas I would use to calm things down. (8)
20. It's good for you to rent unit in a mess. (8)
24. Ducks make dodgy doctors. (6)
25. Nodded off? Please not. (6)
27. Contrary view isn't expanded. (2,3)
29. Charge before fie. (3)
31. Time for an imperial title? (1-1)

DR BOB'S QUIZ

1. What instrument did Jimi Hendrix play before he got an electric guitar?

2. Pliny the Elder recounts the story of two painters who brought covered paintings to see who was the better artist; one unveiled his painting, which was of grapes so realistic that birds immediately swooped down to peck at it. He then leaned over to pull the veil from his rival's painting – and what happened?

3. In the 1970s the King of Sweden applied for a parking permit to park his car in the Stockholm CBD. What happened?

4. After the Pilgrim Fathers had landed in America, the first Native American to walk into their camp said, to their amazement "Hello, Englishmen!" and what did he ask for next?

5. There are several regular, powerful or otherwise remarkable winds that have names – Mistral, Fremantle Doctor, Simoom, etc – but only one is native to Great Britain. What is it?

Answers on page 62

Chiros Lose their bottle

The continuing saga of the internal disputes in the chiropractic community over basic principles.

In the bizarre world of chiropractic, the war between vitalistic subluxationists and reformers has reached a new climax. Following the 2019 biennial convention of the World Federation of Chiropractic (WFC), that body announced that its president, Laurie Tassell*, had resigned. The move followed what the International Chiropractor's Association (ICA) called a "blatant offensive behaviour on a public stage" that "speaks for itself" and "cannot be excused under any circumstances."

The ICA alleged an embarrassing display of unprofessional and disruptive behaviour of presenters and attendees at the WFC Conference in Berlin in March 2019. It involved attacks on subluxationist chiropractors and included the throwing of water bottles onto the stage and clapping and cheering as the management of subluxation was denigrated. [**Editor's note:** *For some time, members of the WFC, and in particular from the WFC Research Council, have been adamant in denying the existence of subluxation. The ICA takes the opposite view.*]

The ICA President, Stephen Welsh, subsequently demanded – "with a heavy heart" - that:

- The current Chair of the WFC Research Council be immediately removed from his current position and denied future participation in any activities on behalf of the WFC.
- An additional member of the WFC Research Council be publicly reprimanded and sanctioned and prohibited from the opportunity to serve in any leadership role at the WFC for at least five years.
- The sponsoring organisation that coordinated, reviewed and permitted the alleged questionable presentations be sanctioned for conduct not reflecting the professional, inclusive and collegial respect for the values embedded in the WFC Strategic Plan, Governing Documents and the WFC Official Policy Statements.

According to Welsh, and others who attended, the Chair of the WFC Research Council, Greg Kawchuk DC, PhD, compared bringing a child to a vitalistic chiropractor to bringing them to a Catholic priest at a children's school.

The Factions' Friction

The US-based Federation for Subluxation – "Dedicated to the Founding Principles & Tenets of the Chiropractic Profession" – issued a policy comment in 2018 in which it derided some elements of the chiropractic profession.

"The profession as a whole has sought to position itself as a cost effective alternative for the treatment of back pain. This is due to the fact that certain individuals, organisations and businesses within the profession decided to focus their policy efforts in this area. While this cartel comprises only a minority, splinter faction of the profession, they control the most significant regulatory, organisational and corporate bodies within the profession.

"The subluxation-based community on the other [hand] has abdicated its roles and responsibilities in the area of policy and as such subluxation-based care is often portrayed by the controlling faction of the profession as a threat to public health.

"We see this manifest in policies that summarily reject a subluxation diagnosis as the sole rationale for care. ... We see this in policies that reject the use of radiographs to identify the misalignment component of vertebral subluxation and their use to acquire a vector necessary to reduce that misalignment. We see this in policies that restrict, disallow or condemn a vitalistic, non-therapeutic or meta-therapeutic approach to health and well being.

"Overall, the controlling faction of the profession has sought to marginalise, and in many cases criminalise, a subluxation-based, vitalistic approach and substitute for it a more narrow, musculoskeletal-oriented approach focused on the short term amelioration of pain syndromes and management and treatment of disease in an allopathic model." ■

The WFC announced the appointment of Vivian Kil DC as Interim President to take over from Tassel. Kil is the owner of a multidisciplinary clinic in the Netherlands. Kil is an advocate for chiropractors as practitioners of so called "primary spine care". She stated her vision as follows:

- That we (the chiropractic profession) will set aside our differences within the profession, unite as a profession, and agree that becoming the source of nonsurgical, nonpharmacological, primary, spine care expertise and management should be a primary common goal.
- That for us to do the necessary work to fulfil this role and do it with the entire profession, every chiropractor will be involved and not just a small active group of leaders.
- And finally, that we will become the source of nonsurgical, nonpharmacological, primary, spine care expertise and management worldwide.

In my view, the problem of the chiropractic profession is unsolvable. Giving up Palmer's obsolete nonsense of vitalism, innate intelligence, subluxation etc, is an essential precondition for joining the 21st century. Yet, doing so would abandon any identity chiropractors will ever have and render them physiotherapists in all but name. Neither solution bodes well for the future of the profession.

– Edzard Ernst

* ***Laurie Tassel is former president of the Chiropractors' Association of Australia. In February 2013, in his president's report for the CAA journal, he said: "The profession faces constant criticism for its insistence on referring to and using the term 'subluxation'. There is the perception that a significant percentage of chiropractors believe that subluxations are the cause of all health problems. There is also criticism that the subluxation has no evidence to prove that it actually exists. This definition of a subluxation has been redundant for decades and the concept that all disease is caused by subluxations was abandoned in the early 1900s."*** ■

The Disappearing Research

From the very first days of the chiropractic industry, chiropractors have been claiming that their treatments will perform many wonders, even going so far as to claim that "during the [1918] epidemic of Spanish Influenza hundreds have taken chiropractic adjustments and have been speedily relieved". That claim morphed over the years into "improving immunity" and, from about 1995, into "boosting immunity".

Many chiropractors these days claim that their chiropractic treatment of "vertebral subluxations" boosts immunity. Some omit the word "subluxations" but make the same claim of boosting immunity. Some offer no citation or evidence to substantiate the claim, and none explain why this is a good idea.

Some base their claims on supposed research by a Dr Ronald Pero, as was published on one chiropractor's website: "One of the most important studies was performed by Dr Ronald Pero, PhD, chief of cancer prevention research at New York's Preventive Medicine Institute and professor medicine at New York University. Dr Pero measured the immune systems of people under chiropractic care as compared to those in the general population and those with cancer and other serious diseases.

"His initial three-year study was of 107 individuals who had been under chiropractic care for five years or more. The chiropractic patients were found to have a 200% greater immune competence than those people who had not received chiropractic care, and they had 400% greater immune competence than those people with cancer and other serious diseases. The immune system superiority of those under chiropractic care did not appear to diminish with age, Dr Pero stated."

Those claims and that citation are repeatedly endlessly by chiropractors on the web, including some mentioned in this issue of *The Skeptic*. A Google search for "chiropractor + immunity + Dr Ronald Pero" returned 560,000 results, so these claims are widespread throughout the world and are easy to find. But Pero's research was not. In fact it was impossible to find, for one simple reason: it does not exist.

Chiropractors are citing research that has never existed, and if any of them had done 20 seconds of Googling, they would have discovered that. In 20 seconds we were able to find that the United States Federal Trade Commission took action against an American chiropractor, Dr Tedd Koren, in 1995 for making the same claims. That was reported in the American industry magazine *Dynamic Chiropractic* (September 1 1998, Vol 16 Issue 20) in the article "FTC Questions Chiropractor's Claims". They report that "The FTC apparently focussed on his [Koren's] claims because they had relatively poor research support. The immunity study by Dr Pero ... was apparently never published by any research journal, but taken from 'an edited videotape transcript of an interview with Ronald Pero, PhD'.

"That [FTC] review demonstrated that the conclusions reported on Dr Pero's work were inappropriate and the actual data does not support them. Most telling is the fact that the purported results of enhancement in immunological status through chiropractic has never been published by Dr Pero in either the chiropractic or medical peer reviewed and indexed literature."

"The use of this type of evidence, in today's milieu of recognised methodology for guidelines and protocols of care, is at best naive and worst foolhardy and irresponsible."

Thus the many chiropractors citing Pero are engaging in a simple copy-and-paste promotion of their services and deceiving clients with a claim and citation that never existed. ■

Richard Saunders (with help from Ian Bryce and Steve Roberts) tests the Premium Wine Card, and shows that marketing and pseudoscience can leave a bad taste in the mouth.

Sometime in the year 2014, the Premium Wine Card, marketed by a Brisbane company, Millennium International Group, came to my notice. It may have been via someone contacting me who had seen it online, or maybe it was via a producer at *Today/Tonight* on the 7 Network, I honestly cannot remember. Nevertheless my first reaction upon seeing it in action via an instructional video, which at the time of writing is still embedded on the product's website, was to burst out laughing. This is still the reaction I get from the audience at public events when I talk about the product.

So what is the Premium Wine Card and how does it claim to work? Briefly, the card is the same size as a credit card, made from a light metal with small holes punched through on the right side. These holes, about 100 of them, form the stylised shape of a wine glass. The idea is that you press the card against a wine glass as you pour in, say, a cheap or mediocre wine. The "embedded frequencies" in the card go to work and improve the taste of the wine supposedly turning it into a more expensive and better tasting wine. The Wine Card can be yours for only $65.

You may now burst out laughing.

But it gets better. Has the wine already been poured? Fear not, as you can rub the Wine Card on the glass for 15 seconds, wait 30 seconds (keep that mind as I'll return to it later) and what do you know … the taste of premium wine is yours!

You may now keep laughing.

A review of the Wine Card published in The Australian in July 2014 concluded with the reporter writing "The Premium Wine Card failed to pass the taste test. Which is why I've returned it to the manufacturer and got my money back."

In early 2015, CHOICE ran some tests on the card and reported it did not appear to work as claimed. Understandably, they did not take the card too seriously. (You can view their report at tinyurl.com/ycl45ups).

However, CHOICE was happy to then pass their Wine Card on to Australian Skeptics for our own investigations.

About the same time I was contacted by a producer at *Today/Tonight* who was interested in doing a story on the Wine Card and had already filmed a session with Peter Scudamore-Smith, who bills himself as a "Master of Wine". Scudamore-Smith was filmed giving a demonstration of the Wine Card, however the story never did make it to air. Many stories never make it to air for one reason or another. What is fortunate for us is that someone else filmed the session, showing Scudamore-Smith and the TV crew. This video ended up on the official YouTube channel of the Premium Wine Card (that channel has since been deleted). But before that video and others from the company disappeared, they were captured and archived by your correspondent. What they show is, in my opinion, damning.

Let's start with the video of Scudamore-Smith giving a demonstration to the TV crew. He pours two glasses of wine from the same bottle, treats one with the Wine Card and declares it tastes better than the wine in the other glass. But in the process of doing this demonstration, he ignores the three instructions given by the company on using the Wine Card:

- The two glasses he uses are only centimetres apart and not the one metre specified.
- He rubs the Wine Card on the glass for four seconds and not the 15 seconds specified. In fact he hardly rubs it at all and lets the wine swirl around in the glass.
- He can tell the Wine Card has had

Richard Saunders prepares the audience for the wine tasting held at Skepticamp, February 2020, in Airey's Inlet, Victoria.

an effect almost immediately without waiting the 30 seconds specified.

One wonders why the company bothered issuing instructions at all! Maybe it is to give the impression of the Wine Card actually doing something if you follow the directions. But it reminds me of a fake medical practitioner wearing a white lab coat. It is worth noting that someone posting on the Face Book page of the Premium Wine Card in December 2014 claims Channel 7 did conduct a test of the Wine Card with 10 members of a Brisbane Wine Appreciation Club. The card passed with flying colours. "9 out of 10 members preferred the white wine treated with the Premium Wine Card. 7 out of 8 preferred the red wine treated with the Premium Wine Card." We are unable to verify how these tests were conducted and as we'll see, they don't match results of testing by Australian Skeptics or CHOICE. The posting also states that the company is not interested in further testing.

> " Following the Sydney trial, it can now be said that the Wine Card literally failed the pub test ."

Another video posted and since deleted is possibly the most telling of all: "Experiences from the high tea party - a gorgeous excuse to catch up with the girls". It shows representatives of the the Premium Wine Card in an exhibition centre in their booth to demonstrate and sell the card. As various ladies attending the event pass by, they are invited to 'test' the Wine Card for themselves by first rubbing the card against a small plastic glass of wine, tasting it, then tasting from another glass of untreated wine that is "straight from the bottle".

While their facial expressions upon tasting the first glass are ones of "mmm, that wine tastes okay", their expressions upon tasting the "wine straight from the bottle" is dramatically and starkly different. What we see is the involuntary human reaction to tasting something bitter or sour or off. The women contort their faces as their natural reactions kick in.

These, I submit, are not the reactions one would expect if they were tasting wine that was alright but not yet treated. These are the reactions from tasting something bad. Never in all our testing of the Wine Card have we seen anything even remotely like these strong reactions and similar reactions were not reported by CHOICE. Was there something else in the glass to make the wine taste bad? We cannot say but challenge Millennium International Group to repeat this demonstration with proper oversight.

Clinical neurologist and assistant professor at Yale University School of Medicine Dr Steve Novella (New England Skeptical Society and producer of the Skeptics' Guide to the Universe podcast) viewed the video and thinks the women seem to have had a genuine disgust reaction to the wine in the second glass, but would not entirely discount them being actors. He notes that this is based purely on the video alone."

TESTING TIMES

For the March 2015 Sydney Skeptics in the Pub, Australian Skeptics challenge coordinator Ian Bryce and I devised an informal test of the Wine Card. This involved the card itself, a dummy card of the same size and weight, a coin to toss to add a random aspect to the tests and lots of willing volunteers.

The dummy card was made by Ian Bryce, the Skeptics' challenge coordinator, and was of the same size and mass as the Wine Card. Both cards were concealed in paper and labelled X and Y. Each subject saw us tap two glasses with them, and then was asked to select the better wine.

It was unknown to the people tasting the wine - or water in some cases - whether the real Wine Card or the dummy was in use.

Bryce reports that, after 20 trials, it was revealed that seven people favoured the wine treated with the real Wine Card, six thought the wine treated with the dummy card was better, and seven could not tell the difference.

It can now be said that the Wine Card literally failed the pub test. You can hear the audio report on the event at

A tasteless experience

Continued...

Potential buyers of the wine card at an exhibition tasting the 'pre-treated' wine.

tinyurl.com/y7b3l2mr.

Steve Roberts, a member of Victorian Skeptics, a statistician, and someone who likes a drop or two, picks up the story five years later, with a report on further tests carried out at Skepticamp, held in February this year at Airey's Inlet, Victoria.

"When the card hove within our ken (Richard Saunders, Michelle Bijkersma and myself) it did indeed energise us, by motivating us to set up a double-blind test at Skepticamp. We got hold of about 50 wine glasses and bought some red wine. On the day, in the privacy of the kitchen, the hapless and lonely Wine Pourer (me) washed and dried all the glasses, separated them into two sets socially-distanced two metres apart, poured the wine while applying the Wine Card to one set, and then brought both sets out separately into the lecture room when there was nobody around, placing them on two tables A and B, and avoiding being in that area after that. The Recorder (Richard) then turned up, grabbed some passing skeptics, persuaded them to try one of each wine, and tell him if wine A or B was nicer, or were they the same.

"We made four different runs of the test. The wine samples were very small (15-25 mL), but nevertheless we provided a Useful Bucket for dumping unwanted wine into. It was good fun to be the Wine Pourer; you operate in isolation and you get all the tips (that were tipped into the Useful Bucket).

"Punters were told that all the wine on table A or on table B (or on both, or neither) might or might not have been secretly charged by the Wine Card - the null hypothesis being that when the card was used, no difference would be noted. Thus, it would be have been a waste of time to charge neither or both sets; I charged only one set. I did, however, surreptitiously change to another wine for the third run, and I used water for the fourth run, because the Wine Card claims also to improve that."

The results are shown in Table 1.

"There's no need for statistics; these figures easily show that the use of the Wine Card made no significant difference overall, except that on run #1 it markedly made the wine worse!

"Now, the cost of the $15 Shiraz Cabernet was actually $15 for six bottles, complete with a natty little box to put them all in and carry them out of the ALDI store where we found them. Through earnest research the night before, applying great zeal, we found that this $2.50 wine could be drunk, and it was red, and it contained alcohol; but we were disappointed to note that it was relatively devoid of the character, bouquet, hue, complexity, mouthfeel, finish, aftertaste and adjectives that the experienced connoisseur traditionally associates with this particular beverage. And the label on the bottles had no waffly text. Spilt wine did not attack the bench top, but it cleaned the sink beautifully. How on earth could this $2.50 stuff be made any worse than it already was ... but that's what the Wine Card did.

"The Wine Card's small holes do have a particularly useful function: if you have a crusty old wine that has thrown a sediment (or, a really ghastly wine with things sort of floating in it) you could bend up the edges of the Wine Card and strain the wine through it. But for $65 it'd be cheaper to buy a sieve.

"It was amusing to see the punters, when sampling the awful $2.50 wine, adopting the stern facial expression of a discerning wine connoisseur, as if about to snort the best Grange Hermitage. And nobody remarked on how cheap the wine tasted. My guilty conscience

Table 1: Skepticamp wine test results, February 2020

Run	Wine used	Better with card	Worse with card	No difference
1	$15 Shiraz Cabernet	2	7	8
2	$15 Shiraz Cabernet	6	5	4
3	$25 Shiraz	6	7	7
4	Tap Water	3	3	8

led me to provide a decent well-known Coonawarra Shiraz for the third run - but nobody commented that the wine suddenly tasted better than before, which it really did. Honestly, I could have saved my money. Next time, you all get the cheap wine every time, OK?"

Dr Brad McKay, MD, Aust Skeptics committee member, and connoisseur, says "Taste is extremely subjective, especially with wine. I remember Steve Novella mentioned a study on the SGU a few years ago about wine tasting, where white wine was dyed red and then described to professional sommeliers in terms normally used for red wine - and no one identified the wine was actually white wine with red food colouring.

"Telling someone that wine will taste good or bad will heavily influence their opinion. Their outward expression may also become exaggerated when cameras are in operation.

"From the high tea party video, there is no way to tell if the wine from the 'good' or 'bad' cups came from the same bottle, or if the liquid had been subsequently adulterated.

"There is no scientific plausibility for a Premium Wine Card to change the taste of the wine. However, if I'm being extremely generous, there could be a beneficial effect due to the swirling motion of the cup.

"In the video, staff members running the stand move the plastic cup full of wine and keep the card stationary, whereas it would be more logical to move the card and keep the wine glass still, in order to minimise the chance of spillage. Physically moving the cup could potentially aerate the wine, enhancing its bouquet and contribute to a well-rounded taste. But this effect could also be achieved by swirling the cup in a similar motion, without the need for a Wine Card.

"And why would you serve wine in a plastic tumbler, when everyone knows wine tastes better from a glass."

THE SCIENCE

Bryce points out that the Wine Card is promoted as using "21st Century Micro Engineering".

"The website claims that 'The brief our research team was to … produce a safe, small non-electronic device that is able to enhance normal consumption size samples of beverages. … The process, called Sonication, is more engineering than science in that it involves the application of sound energy created at precise frequencies … which are embedded in the holes in the card.'

"The evidence provided is a video of an attractive socialite sipping wine from one glass, and screwing up her face at the unpleasant taste. She then rubs the card against the glass, has another sip, and beams 'Ah, that's much better!'"

> "As far as scientific evidence is concerned, there is none. Really ... no science at all."

In other words, as far as scientific evidence is concerned, there is none. Really … no science at all.

"Embedded frequencies" is a nonsense term. You might as well say "The colour of the number 3 is red". As Dr Harriet Hall puts it, "You can't embed a frequency. You might be able to embed something that would produce vibrations or electromagnetic waves with a frequency, but it would require a power source. If a product contained a frequency generator, so what?"

We very much doubt that there is a generator embedded in the Wine Card. And what if there was? How on earth would "frequencies" change the taste of wine (or water or coffee or tea as claimed) for the better? As the company themselves put it on a reply to a query about the science "Using the Premium Wine Card is simple but the technology behind it is complex and a closely guarded secret." I bet it is!

CONCLUSION

There can be no doubt that the Premium Wine Card does not and cannot work as claimed. There is no science backing up the claims, it failed multiple testing, the inventor has yet to front up for the Nobel Prize in Physics, whoever wrote up the product information either knows nothing about physics or just made stuff up, video evidence shows instructions given by the company are meaningless and also suggests possible tainted tests and the company seems disinterested in any more tests.

It is a joke and fails on every level apart from being a marketable product.

And that last point leads me to what is maybe the biggest failure of all in this story. That is the failure of the relevant authority to take action against this product. That something can be marketed and sold using the claim of "embedded frequencies" should be an automatic red flag. After all, the Power Balance wristband made similar claims in 2009 before action was taken against it by the Australian Competition and Consumer Commission (tinyurl.com/yd5z9vtk).

You may stop laughing now as the Millennium International Group has taken all your laughs to the bank.

A positive twist? For this Skeptic at least, the Premium Wine Card has given me a good example to use in my public talks and a good excuse to drink more than a few glasses of wine with some good skeptical company. ■

About the authors:
Richard Saunders is chief investigator for Australian Skeptics, and producer and host of *The Skeptic Zone* podcast.

Ian Bryce is challenge co-ordinator for Australian Skeptics.

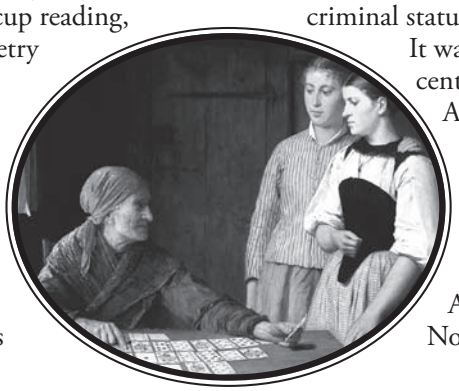
Steve Robertd is a mathematician, cryptography expert, and oenophile.

At the start of the 20th century, and particularly during World War I, fortune tellers were popular, prosecuted, and pilloried. But as Alana Piper points out, the treatment of the largely female profession says as much about early Federation class-consciousness, jingoism, and paternalism as it does about attitudes to the paranormal.

&Mystics Misfits

In the first decade of the 20th century, Australians were focused on the future. It was the dawn of a new century, and of a newly formed nation.

Perhaps this forward outlook was part of why fortune-telling was being heralded as the latest "craze" in local newspapers. Advertisements appeared offering readings through palmistry, tarot cards and clairvoyancy, as well as crystal-gazing, tea-cup reading, astrology, psychometry and aura-reading. Fortune tellers populated market stalls, shop arcades, travelling sideshows, private homes, society parties and even church fetes as they used teacups, crystal balls, cards or spirit guides to peer into people's futures.



Yet fortune-telling was illegal under laws inherited from England. Some feisty futurists challenged the legality of these anti fortune-telling provisions. In response, during the early decades of the 20th century, legislators around Australia affirmed fortune-telling's criminal status in statutory law.

It was only in the 21st century that most Australian jurisdictions repealed these laws. Even today, telling fortunes for payment remains a crime in South Australia and the Northern Territory.

CLIENTELE

Fortune-telling for financial gain was criminalised because such activity was viewed as fraud. Occasionally attempts were made to defend against fortune-telling charges on the grounds that a psychic had genuine abilities – or genuinely believed they did – and so their actions were not fraud. However, the wording of legislation against fortune-telling was so definitive that judges ruled such matters irrelevant; at law, fortune-telling was automatically a form of pretence.

According to Australian newspapers in the 1900s, the main 'victims' of this pretence were women. Paternalistic editorials argued for police crackdowns on fortune-telling in order to protect "members of the weaker sex" from themselves.

While men also visited fortune tellers, they were portrayed as doing so less often, and usually to seek answers to practical inquiries about investment opportunities or locating lost property. Women's reasons for visiting fortune tellers were represented to be more frivolous, and rooted in innate female character defects.

Women apparently became hooked on visiting fortune tellers due to preoccupations with romance and gossip, or because their "neurotic impulses" left them credulous.

Newspapers warned of the dangerous repercussions fortune-telling might have for "weak-minded women". Suburban matrons were accused of frittering away household funds on charlatanism.

It was joked that housemaids would quit their jobs on the basis of prophecies of rich husbands soon to come. Marriages were said to be breaking down as clairvoyants confirmed wives' suspicions about their husbands' infidelity, or counselled them that separation would bring brighter prospects.

It was also feared that fortune tellers provided a conduit to abortionists and contraceptive information for women worried that their future would bring children conceived outside wedlock or that they could not afford.

Yet, for many, a visit to a psychic was probably simply an affordable entertainment in an era before the 'talkies', much less Netflix, arrived. For others, fortune-telling consultations perhaps provided a positive outlet where they could talk through emotional life events; a kind of informal counselling long before such services became available.

PRACTITIONERS

The typical cost of a psychic reading during the Federation period was two shillings and sixpence. A clairvoyant with a few dozen regular clients could expect to earn around four pounds each week, twice the average pay of a domestic servant.

Some celebrated seers earned considerably more. By the time of her 1928 death, Mary Scales, an illiterate laundress turned fortune teller, had amassed a fortune that would be the equivalent of several million dollars today.

The practitioners of fortune-telling, like the clientele, consisted mostly of women. It was an occupation that women could embark upon with few business costs while working from home.

Deserted wives and widows with children to support featured disproportionately in those prosecuted for fortune-telling. So did older women, particularly those with ailments that meant they could no longer undertake more physically taxing work in factories or domestic service.

Newspapers voiced resentment that women – particularly working-class women – should be earning good money at a trade that was technically illegal but openly practised, and even advertised in the papers themselves. It was ridiculous, The Traralgon Record stated in February 1909, that "the fact that she was a washerwoman yesterday will not debar the fool crowd from believing she is a sorceress to-day".

Another journalist in the Fitzroy City Press, June 1903, urged women to confine themselves to domestic duties or, if forced to earn their own living, seek more genteel occupations. Dog-walking was considered a step up: "Many women with a love for dogs, but dislike for the necessary care and exercise of them, are glad to turn those duties over to someone else, and it seems as if any one of the humble ways of earning a livelihood were preferable to the palmistry, fortune-telling, mediums and phrenological lines of business."

Left to right: Albert Anker's "Fortune Teller", 1880; Zola's fortune teller sideshow poster; and tent outlets for mystics at the Adelaide Children's Hospital fete in 1913.

Mystics & Misfits

Continued...

PROSECUTIONS

Of 247 reported prosecutions of fortune-telling in Australia between 1900 and 1918, 82% were against women.

Several of the men prosecuted were charged as accomplices, minding the shopfront of wives or female relatives who were doing a thriving business in fortune-telling. Most of the others came from non-Anglo-Saxon backgrounds, the association of divination with "foreign" superstition another factor in the prevailing prejudices against it.

Despite public criticism of fortune-telling, it was only intermittently policed. This was because it was not enough that an individual was known to be or even advertising themselves as a fortune teller; prosecution required a witness to money being exchanged for a reading. Collecting this evidence involved officers going undercover to pose as clients, with police in major cities undertaking such sting operations every few years during the 1900s.

However, as police at the time were all men, fortune tellers were increasingly suspicious of male customers. Some started taking the precaution of only seeing female clients. To overcome this, police began hiring women to pose as clients during the periodic fortune-telling raids. When women were later introduced into police forces across Australia during World War One, they were quickly set to prosecuting clairvoyants.

FORTUNE TELLERS AT WAR

There was increased pressure to crack down on fortune tellers during World War One due to fears that they were preying on soldiers' loved ones, or that predictions of dire futures might undermine recruiting efforts and national morale.

The uncertainty of wartime meant more people than ever wanted a glimpse of the future, which in turn led to an increased number of people offering such omniscience … for a price. According to Truth (October 1917), the war had proved "almost as great a windfall to fortune tellers" as it had "to the food profiteers and munition-makers". The vitriol directed against fortune tellers for such profiteering went deeper than a simple concern about protecting families left on the homefront. In various ways, the figure of the fortune teller was constructed as the antithesis of the national values being defended overseas, as well as of the image of the ideal citizen that the war was helping to shape. As a result, 1917 would see a nation-wide crackdown against fortune tellers, one undertaken at the urging of Prime Minister Billy Hughes himself.

Left: Kaiser Wilhelm consults a fortune teller for the end of the war. **Below:** Mme Slapooffsky can tell an undercover policeman by his shoes.

Before that, a month after Australia pledged to support Britain in the hostilities, a fortune-telling booth was one of the attractions at a fete for the South Brisbane Patriotic Fund. Over the years, fortune tellers also appeared at events for various causes related to the war, including the Red Cross Society, Belgian Relief Fund, Army Nurses Fund and Wounded Soldiers' Fund. Even in 1917 and 1918, when condemnation of fortune tellers was at its height, they continued to appear at commemorative events, including Anzac Day festivities and war memorial appeals. Fortune-telling was only illegal if the practitioner collected a fee; the legality of fortune tellers soliciting for charitable donations was debatable, but mostly seems to have been exempt from prosecution. Some clairvoyants would even use their charity work as proof of good character when prosecuted for more business-like fortune-telling transactions.

Such activities occurred in England and other countries as well, and reports of the overseas vogue probably further encouraged its ascent in Australia, even though the English press were as damning of the practice as their Australian counterparts.

During the war this concern with protecting the public became a more serious question of national honour as the public being deceived by fortune tellers was increasingly defined as the wives and mothers of the nation's soldiers.

In August 1917, the Bulletin newspaper thus declared: "Somebody should make trouble hot for the heartless swindlers of women who have relatives at the Front. Clairvoyants and 'mediums' put up the most cruel sort of confidence trick in taking money for alleged communications with sons and husbands and sweethearts who have gone to France. Generally a grief-stricken client pays for messages from the spirit world; sometimes men alleged to be still living send messages of comfort which in at least two cases - in Brisbane - were denied by official intimations of death weeks before. When to the suspense of the lonely women in Australia is added the money spoliation by these almost-always foreign and sometimes coloured charlatans, the case calls for a large, indignant police man or a big brawny relative who refuses to hear explanations."

Most commentators echoed this call for action against fortune tellers. Despite its apparent popularity, there was little public support for the practice. In response to the diatribe published in the Bulletin, the socialist

anti-war publication Ross's Monthly offered the backhanded defence that while fortune-telling might be a fraud, it was no more exploitative than organised religion, which publisher Robert Samuel Ross alleged had also profited by the need for spiritual consolation and interest in the afterlife stimulated by the war.

During their court hearings, some fortune tellers likewise styled themselves as providers of spiritual comfort, claiming that the prosecutions against them amounted to a form of religious persecution.

FORTUNE TELLERS V NATIONALISM

Opponents of fortune-telling, however, did not see it as a religion, nor were their objections to it founded on religious grounds. Fortune-telling was perceived not in opposition to Christianity, but rather to the newly-awakened creed of Australian nationalism, which the events of the First World War had stimulated to an almost religious fervour.

While saying the country was born at Gallipoli discounts the sense of Australian cultural identity forged in the decades immediately prior to Federation, most historians would agree that the war was a crucial moment in the development of Australia's sense of itself as a nation.

Historian Prof Marilyn Lake suggests two enduring archetypes came to dominate the national imagination in this period: the citizen-soldier, who defended the country while exhibiting the qualities that had come to be associated with Australian masculinity; and the citizen-mother, who stoically sacrificed her sons to the national cause. The depiction of clairvoyants preying on the sufferings of both these groups undermined justifications of fortune-telling as a simple entertainment, victimless crime or a source of spiritual solace, transforming it instead into a national threat.

It did not help that fortune-telling was viewed by many as an incursion by foreign cultures. Although the English had engaged in fortune-telling for centuries, and the majority of Australian practitioners appear to have come from Anglo-Saxon backgrounds, fortune-telling was derided by commentators like the Bulletin as a product of non-British societies. It was most prominently associated with nomadic gypsies or Romani, a group historically vilified as thieves and vagrants. Fortune-telling was also associated more generally with Orientalism, and to a lesser extent with continental European cultures. This included Germanic associations, with mocking reports published during the war that Kaiser Wilhelm II and Kaiser Wilhelm I before him had consulted mediums who predicted Germany's downfall.

Fortune tellers themselves tended to play up the practice's foreign mystique by adopting exotic aliases coupled with prefixes such as 'Madame' or 'Signora'. While this may have proved a lure for business, it only exacerbated the anti-fortune-telling commentary. Newspapers commented snidely on the "bronze-coloured" or "hebraic-looking" appearance of some practitioners. A letter to a newspaper urging the eradication of fortune-telling in 1916 was tellingly signed "White Australia". That the few men involved in fortune-telling in this period tended to come from Asian or Middle Eastern backgrounds also led to insinuations that divination was providing a cover for luring young female clients into white slavery.

The ethnic connotations of fortune-telling thus increased hostility towards it in a period when commentators were particularly sensitive about the need to define who and what the nation stood for. Despite the enlistment of men from indigenous and varied immigrant backgrounds in the Australian armed services during the First World War, the national vision for the future remained one in which only white males of British descent would fully share the duties and benefits of citizenship. The perceived ethnic heritage of fortune tellers placed them outside the realm of those considered ideal citizens.

> "1917 would see a nationwide crack-down against fortune tellers, undertaken at the urging of PM Billy Hughes."

This was also true of fortune-telling's female associations.

While women's contributions to the war effort and nation were seen as valuable, their inferiority as persons and citizens remained entrenched in many of Australia's legal, social and cultural structures. The attacks on fortune-telling were gendered in various ways. That women were preying on other women was constructed as especially evil, all the more so when contrasted against the discourse of mateship that had come to dominate coverage of men's actions in battle. Fortune tellers were consistently referred to by demeaning female terms, most commonly as harpies and harridans.

Meanwhile commentators ignored the restricted employment options that often propelled women to take up the trade. Even before the First World War, most professional female fortune tellers were those with limited means of support, particularly women with

Mystics & Misfits

Continued...

Two visions of fortune tellers - Stella May of Donaldson Louisiana, and the flapper version.

infirmities, or females widowed or deserted by their husbands. During the war even more turned to fortune-telling as a means by which they could support their families with little capital outlay or interference with their childcare or domestic duties.

For instance, when Maisie Worth was charged with fortune-telling in Perth in 1916, she explained to police that with her husband at the front, and only a small pension to manage on, she had taken up fortune-telling in order to maintain her four children, the youngest of whom was only three months old. (Daily News, May 1916). Another woman prosecuted that same day likewise informed the court that she told fortunes to supplement her dressmaking income, from which she supported both herself and her invalid sister. While the frequency of such tales had little impact on media attitudes to fortune-telling, they did influence the courts to adopt lenient sentencing practices, generally letting women off with a warning or a fine.

Newspapers, however, tended to focus on the vulnerability of the women at the mercy of the clairvoyant. Calls to stamp out fortune-telling during the early 1900s had referred to a need to defend "members of the weaker sex" from the consequences of their own foolishness and gullibility. The war heightened such paternalistic sentiments, with the State seen to have an even greater duty of care towards women left vulnerable by the absence of men on the nation's service. There was a sense that it was still being left to the nation's defenders to protect their female family members.

A returned soldier wrote an indignant letter to the Hobart Mercury in January 1916, complaining about the police's inactivity in regard to the "fortune-telling scandal". That same month the Perth Daily News commended another returned soldier for intimidating a fortune teller into leaving the city after she allegedly told his sweetheart that he had been taken prisoner. The newspaper declared that the authorities should act with similar decisiveness.

A WOMAN'S PLACE

Yet, while diatribes against fortune-telling were said to be motivated by a need to protect vulnerable women, they also implicitly acted as a criticism or judgement against such women. In this sense, anti-fortune-telling rhetoric can be seen as simply part of wider attempts to delimit what constituted acceptable female behaviour. The nineteenth-century cult of domesticity, which mandated that women's interests should be confined principally to family and domestic matters, continued to hold sway during the Edwardian period, although it would be challenged by the war's conclusion by the emergence of the flapper and expansion of popular entertainment culture.

Prior to and during the war, however, female recreations were largely expected to occur within the home. The war may have even increased pressure for women to abstain from leisure activities. An article in the Australian periodical The Woman in 1917 advised readers that "women should hold aloof from social functions, sports meetings, and amusements of all kinds" not designed for recruiting or patriotic purposes. Fortune-telling was thus potentially objectionable merely as an amusement that drew women's attention from their homes or the war effort.

Denouncements of fortune-telling can also be read as part of attempts to police working-class life. Many newspapers claimed that the victims of fortune tellers stood in all the more need of protection as their chief clients were usually the "simple women" of the working-classes.

Historian Richard Waterhouse has described how recreational culture itself became a battleground in Australia during the late nineteenth and early twentieth centuries, as the middle classes sought to impose their values on wider society. Pressure was exerted on the working classes to forsake amusements such as drinking, gambling, and music halls for pursuits aimed at moral and educational self-improvement. These efforts culminated during World War One with the introduction of early closing hours in bars and hotels, as well as stricter provisions against games of chance.

The attempted eradication of fortune-telling was similarly a top-down process, with middle class journalists censuring an activity

that they believed was mainly the province of working class women. It was not only men who authored such criticisms, but middle class women too. In January 1918, for example, popular women's magazine the Everylady's Journal published a series of articles denouncing the "perils of Spiritism" and echoing the protective attitude voiced by the mainstream press towards those women who understandably but naively "in these days of deep anxiety should desire to see into the future".

The need to protect working class women from themselves by prosecuting fortune tellers was justified on two main grounds. Firstly, that the money spent on fortune-telling was an unwarranted expense that working women could ill afford to spare. Secondly, that the economic costs were nothing to the emotional damages done to women by fortune-telling prophecies. Rarely, though, did newspapers cite specific examples of women financially ruined or psychologically devastated by visits to fortune tellers.

MONEY, FUN, AND SOLACE

The prices charged by fortune tellers varied, with many described operating on a sliding scale of fees based on how long a consultation lasted or the method of divination employed. That standard fee during the of two shillings and sixpence, at the time, was equivalent to the cost of two loaves of bread, or in today's purchasing power a little less than a movie ticket. Even critics of fortune-telling admitted customers did not stand to lose much monetarily by a single visit; the danger, they warned, was that fortune tellers encouraged anxious women to become dependent on them for information about absent soldiers, or contact with those deceased.

In 1916 Victoria's Camperdown Chronicle recounted the plight of an unnamed widow, so eager for news of her two sons at the front, that within the space of only a few weeks she had been defrauded of fifty pounds before the war office informed her that the sons of which she had been receiving comforting reports had both been lost in battle several weeks previously.

While cases of such exploitation likely did occur, newspapers also assumed that all customers implicitly believed the predictions made to them; the credulity of women, never considered to be strong, was said to have been weakened by the war's devastations. There was no conception that in the midst of such tragedy fortune-telling might simply have been resorted to by some as a pleasant diversion, one that could be shared in the company of other women. Accounts of women's visits to seers intimate that this may very well have been the case. For instance, during a 1915 fortune-telling prosecution, two working class women visiting the premises together were observed by police; they had taken a bucket of peas to shell in order to combine the amusement with a dull domestic task.

> "Prior to and during the War, female recreations were largely expected to occur within the home."

Even for those women who did return to the fortune teller on a regular basis in the belief their powers were genuine, the effect of such consultations may have been benign if not positive. Fortune tellers were described encouraging clients to talk about themselves during readings, ostensibly with the object of picking up clues to assist them in coming up with believable fortunes and predictions relevant to women's situations.

Alternatively, however, such sessions might be viewed as a space where women, particularly those under strain from the loss of loved ones, were able to discuss their concerns and personal lives in a way not usually available prior to the advent of modern forms of therapy and grief counselling. This may have been especially refreshing during the war, when the nation's citizen-mothers were expected to remain stoic and avoid public displays of grief.

GOOD AND BAD FORTUNES

However, some commentators considered the advice delivered by fortune tellers itself dangerous, believing that the content of predictions might have "serious effects", as one Police Magistrate warned in 1917.

Since the early 1900s, having bad fortunes foretold had been blamed for instances of suicide; in 1914 the death of a young Victorian man who had allegedly been brooding over a bleak prophecy was likewise reported.

The types of predictions fortune tellers were liable to make during wartime made them especially contentious. If seers were described giving good reports of relatives in combat they were accused of giving false hope; if they suggested that a loved one might not return home they were fear-mongering. Either way, fortune-telling was seen as undermining morale.

While such actions were mostly represented simply as the product of greed and indifference, in some cases it was said to be motivated by treachery. In April 1917, the Queensland police received a letter claiming that a fortune teller at Ipswich was deliberately sabotaging recruiting efforts. The anonymous letter-writer claimed that they felt compelled by their duty to the Empire to inform the police that a woman named 'Madame McKenzie' was persuading boys not to enlist by telling them fortunes that suggested they would not return from the war. She had also allegedly said that the country would do just as well "under the German flag" as the British one.

Subsequent police investigation revealed that while Mackenzie was a fortune teller, none of her clients had ever heard her use any "disloyal expressions", describing her instead as a "decent woman and loyal citizen".

When Mackenzie herself was interviewed she denied ever trying to prevent anyone joining the war effort, and added that she would not be inclined to do so as her own two brothers were in France. She stated that she had only four young male clients, but had successfully encouraged them

Mystics & Misfits

Continued...

Left: Fortune telling was a criminal activity, with police in the shadows
Below: Gipsy fortune telling card game - a touch of the exotic

all to enlist.

Ultimately, there was little solid evidence that any fortune tellers compromised morale or even cheated their clients. In fact, one of the reasons that fortune-telling was seldom prosecuted was that police struggled to amass evidence of such illegal transactions, usually having to go undercover themselves to do so, as customers were unwilling to testify against their fortune tellers.

EROSION OF VALUES

The pressure placed upon police to undertake such investigations was partly due to fears that, even if the content of fortune tellers' predictions were not compromising morale or even touching on the war directly, their counsel on other issues might jeopardise the fabric of a society already in peril.

Under the stress of war-time conditions, traditional values were being challenged. Fortune tellers were described facilitating the erosion of moral norms by encouraging customers to immoral courses with their predictions. The revelations given about romantic and marital relationships, one of the main areas on which the advice of fortune tellers was supposedly sought, were regarded especially dubiously.

A February 1918 exposé on mediums in the Everylady's Journal argued that there was "an almost constant attempt" among them "to loosen the marriage tie" through predictions of future marriages to spouses to whom clients would be better suited.

Divorce court proceedings suggested there was occasionally some truth to such assertions. In December 1914, for instance, a farm manager from Albany seeking to divorce his wife declared that they had separated after she repeatedly accused him of infidelities that had been revealed to her by a fortune teller.

Some fortune tellers also suggested to clients that the deaths of their husbands or sweethearts overseas were preordained, because they had a better match waiting for them.

There were also more serious concerns that fortune tellers were advocates for illegal activity. During the nineteenth century fortune tellers had been portrayed as members of a criminal underworld, including in the famous 1886 Australian crime novel Mystery of a Hansom Cab.

Such associations persisted during the war, with fortune tellers accused of encouraging gambling by prophesying wins for their patrons, and of facilitating prostitution by stoking romantic daydreams that left girls prey to seduction. There was an even stronger association between fortune-telling and abortion, going back to the tradition of village 'cunning women' whose skill in both divination and herbalism meant they were often consulted on matters of reproductive health.

While by the early twentieth century it was rarer for the typical fortune teller to have a sideline in abortion, their services were certainly sought by single women who 'got into trouble' and married women who hoped their futures would not include more children. Some fortune tellers merely acted as intermediaries between women and abortionists, others themselves performed operations or sold contraceptive means.

During 1917 police in both Melbourne and Perth investigated fortune tellers accused of performing "illegal operations". That same year Brisbane was engrossed by the mysterious death of Mabel Cameron following a botched abortion involving a nurse and a chemist; the case was given added piquancy when it was revealed that the nurse had consulted a fortune teller as to whether the victim would survive the operation.

With the war heightening existing fears about Australia's ability to continue to grow its population, such connections only further increased the pressure to stamp out the trade.

By 1917 the calls to deal with fortune-telling had reached fever pitch. On March 30 a circular was sent to all the State Premiers from the Prime Minister's Office stating that the Prime Minister and the Defence

Force expected the states to take action to prevent fortune tellers 'preying' on soldiers' relatives.

In England, a spate of convictions was reported in April, and by May prosecutions had been launched in Sydney, Melbourne, Adelaide and Perth. On May 17, the State Recruiting Committee wrote to Queensland's Minister for Justice to urge that decisive steps be taken against what was described as the "growing army of Fortune Tellers in Brisbane".

In June, Detective Sergeant Power reported an obstacle: a police detective had visited all the local advertised fortune-telling establishments and all had refused to tell him his fortune. The raids in other cities had made practitioners wary of dealing with men.

> "Fortune tellers were described facilitating the erosion of moral norms with their predictions."

Women were sometimes employed as undercover operatives by all-male police forces during lesser crackdowns. Later it was female police who successfully gained the demanded fortune-telling convictions, with Australia's first women police officers introduced in New South Wales in 1915, and in all states but Queensland by mid-1917. In August prosecutions were finally launched in Brisbane after police recruited a mother and daughter team as independent investigators.

Ultimately, the war years saw at least 140 prosecutions of fortune tellers across Australia, more than the entire Federation period, with over half of these prosecutions occurring in 1917 alone.

It is difficult to discern what long-term effects these prosecutions had. Certainly the popularity of fortune-telling did seem to diminish after the war's conclusion, but this may also have been influenced by other factors, including a lessened demand for such services in peacetime, as well as the rise of other forms of cheap, popular entertainments in the form of dance-halls and cinemas. Yet fortune-telling never entirely disappeared, and would experience another resurgence in World War Two and during the post-war rise of New Age spirituality.

Although prosecutions were increasingly rare, laws against fortune-telling remained on the books across Australia into the twenty-first century, and are still in place in some jurisdictions today.

The historical importance of the crackdown on fortune-telling during the First World War is thus not really about what it meant for the practice itself. Rather, it is significant due to what it reveals about the anxieties of the homefront.

The figure of the fortune teller became an enemy that those at home could focus on; one less menacing and more easily defeated than the threat posed by foreign powers, but which was still seen as antithetical to an array of national interests. Fortune-telling came to symbolise more diffuse concerns that occupied the public's mind during the war period, from the sufferings of war widows and waning numbers of recruits, through to fears about Australia's racial destiny and the direction of its national values.

While the war on fortune tellers is thus often a forgotten or sidelined story in the history of the First World War and the pre-war years before, it is one that speaks to many of the more central issues on the homefront during this period. ■

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the Logical Place

The Argument from Consequences

This logical fallacy, also known as "Appeal to Consequences", is an argument which concludes that a belief is either true or false based on whether the belief leads to desirable or undesirable consequences. Such arguments are closely related to the fallacies of Appeal to Emotion and Wishful Thinking. They generally have one of two forms:

The positive form is:

Premise 1: If P, then Q will occur.
Premise 2: Q is desirable.
Conclusion: Therefore, P is true.

Some examples are "Humans must be able to travel faster than light, because that will be necessary for interstellar space travel" and "I believe in an afterlife, because I want to exist forever."

The negative form is:

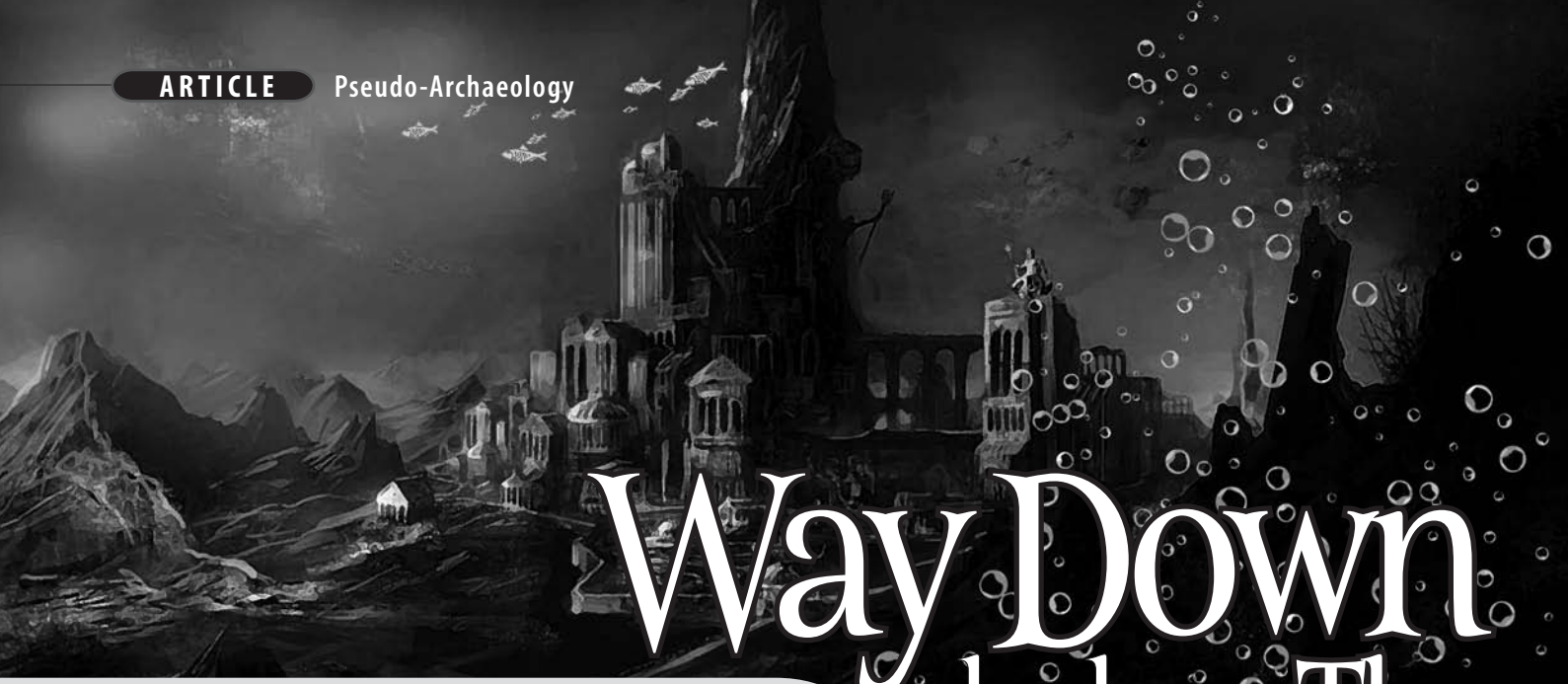
Premise 1: If P, then Q will occur.
Premise 2: Q is undesirable.
Conclusion: Therefore, P is false.

Examples of this form are "Evolution must be false: if it were true then human beings would be no better than animals" and "God must exist; if He did not, then people would have no reason to be good and life would have no meaning."

Such arguments are invalid because the conclusion does not logically follow from the premises. The desirability of a consequence does not make a conclusion true; nor does the undesirability of a consequence make a conclusion false.

There is one type of cogent argument with which this fallacy is easily confused. When an argument is about a proposition, it is reasonable to assess the truth-value (whether it is true or false) of any logical consequences of the proposition. However, when an argument concerns a policy or plan of action - instead of a proposition - then it is reasonable to consider the consequences of acting on it, because policies and plans are good or bad rather than true or false.

- by Tim Harding



Way Down below The Ocean

For centuries, alternative history fans have been denying Plato's intent and trying to frame Atlantis as a real island. Brian Dunning lays the myth to rest.

It's a legend that's inspired more than 200 TV shows and movies. The US Library of Congress has over 4400 listings for books about it. It is scarcely possible to grow up and not hear stories of Atlantis, the legendary ancient civilisation that faced the wrath of the gods and was crushed beneath the seas - but not before lending its name to the ocean itself.

The myth of Atlantis is, in the simplest terms, an Elvis sighting. When Elvis Presley was found unresponsive in his bathroom in 1977, doctors tried to revive him. He was pronounced dead at the hospital. He was autopsied. There is no doubt that he died on that day; it is an absolute fact - any dispute of this is little more than philosophical gymnastics. And so, when someone reports an Elvis sighting, we do not bother looking into it because we already know that person is mistaken at best. Similarly, over the course of the 2400 years since Plato wrote of Atlantis, and countless people have tried to match his fiction to some actual island or geographical structure, we already know that all such efforts are in vain. For Atlantis was never anything but an allegorical device used briefly by a philosopher who made up such things all day long, and this is as established a fact as is the death of Elvis Presley.

So it's not surprising that Atlantis left us no art, no language, no literature, no foreign trade goods scattered about the Mediterranean, no currency. Such things exist for all ancient cultures, well outside their geographical boundaries, and they would have for Atlantis as well. If we take the details of Atlantis given by Plato and consider any other ancient civilisation for which we have a similar level of detail - names and histories of people who lived there, the population and their possessions and the decorations on their buildings, the attire of their kings - without exception, we find that innumerable other lines of evidence also survive of that society. But for Atlantis, not a single speck of this exists. Not a coin, not a shard of pottery, not a clay tablet, not a descendant language family, not a word mentioned by any historian. Nothing at all, except two mentions by a single philosopher, who never travelled far, never did any archaeology, never would have been expected to make such a monumental discovery.

> "Countless people have tried to match Plato's fiction to some actual island or structure."

PLATONIC PHILOSOPHISING

The reality of Atlantis does include an implied claim that Plato was the civilisation's discoverer. If this had been the case, how would he have announced his discovery? We don't know, as this is not something that Plato ever did in his career. His only discussion of Atlantis came in two of his writings: a brief mention in his dialogue Timaeus, in which he asks for examples of the perfect society and the politician and author Critias answers with Atlantis as an example of the antithesis of a perfect society.

Plato brought up Atlantis again in his dialogue titled Critias in which Critias launches into a lengthy and greatly detailed discussion of the island nation, its lands and people and history, describing it as a tale handed down from a man known to his great grandfather - but Plato left the book

incomplete for an unknown reason, literally cutting off in the middle of a sentence - and all that survives is this introductory fragment.

Both dialogues include the same four characters: Socrates as the leader of the debate; plus Timaeus who has his say in the first book; Critias who has his say in the second book; and Hermocrates, who, from references in the texts we infer was to be the main speaker in a third book to complete a trilogy which Plato never finished. *Timaeus* and *Critias* were written around 360 BCE.

These books are examples of works that we collectively describe today as Socratic dialogues, and were written by Plato and others of his contemporaries. Their basic form has Socrates (or occasionally someone else) leading a discussion in which he invites one or more opponents to present him with a moral argument. Socrates lets them have their say (which would often employ allegory), then he deconstructs their argument to find its inconsistencies. The dialogues always end with that person seeing the error in their thought, and with Socrates having illuminated the path to true wisdom. They embody what we now call the Socratic method of philosophical questioning.

Because Plato wrote so little of *Critias*, the story of Atlantis only got started, and Critias himself never really got around to presenting his moral argument around the story. So we can't guess too much about how Plato was going to have his Socrates character respond, or what Plato's point might have been with this dialogue. One thing we can say for certain, however, is that this was a Socratic dialogue. It was a philosophical exploration, and - unless this particular dialogue was unlike every other one ever written - the story of Atlantis was an allegorical device devised by the Critias character to illustrate a moral argument. To consider that it was instead a literal historical account of an actual civilisation, oddly enveloped in a Socratic debate, is to grossly misunderstand who Plato was and what the dialogues were.

Much of Greek mythology is profoundly entangled with philosophical allegory. Homer's epic poems, Plato's parable of the cave, Hercules at the crossroads, neo-Pythagoreanism, neo-Platonism, indeed nearly everything about the Greek gods and their conflicts and interactions with humans was allegorical.

ATLANTIS EVIDENCE

That the evidence for Atlantis came from a Socratic dialogue tells us two things. First, that it had some larger intent other than as mere literal evidence of Atlantis being a real place; and second and consequently, that it was actually evidence that Atlantis was not a real place.

In both books, the character Critias states that the great battle between Athens and Atlantis had happened some 9000 years prior, or more than 11,000 years ago from today. The imperial Atlanteans had taken over the Mediterranean as far as Italy to the north and Egypt to the south. Alone among all nations, Athens fought back the invaders; and upon their mighty triumph, Zeus punished the Atlanteans by sinking their island into sea. A war of such epic proportions would not have escaped the notice of every historian in the ancient world, so we can conclude that this sole event for which Atlantis is known did not take place. And certainly nothing like it

Below: The island of Santorini in the Aegean Sea, waiting for the next explosion?
Right: The Richat Structure in Mauretania

Way down below the Ocean

Continued...

took place 11,000 years ago, as the human populations in the region at the time consisted only of pre-civilisation stone age people, with no known population centres.

While it's easy to determine that the only event in Plato's story is fictional, it's equally easy to use hard physical evidence to say for a certainty that Atlantis itself did not exist.

Plato's Atlantis was enormous, and it was unambiguously located in the Atlantic Ocean just west of the Straits of Gibraltar. It was the size of "Libya and Asia put together", and the Mediterranean was as a harbour to it. Atlantis had herds of elephants, great mountains, lakes, marshes, and rivers. Of its structures and geographical features, one linear dimension alone was given as 3000 stadia, which is 450 km; by Plato's description we can infer that Atlantis was approximately the size of Iceland.

It's not easy to lose an island the size of Iceland. The tectonic structure and history of the Western Mediterranean is well known to modern geology, as are the character and movements of the African, Eurasian, and Caribbean plates which underlie the Atlantic Ocean west of the Mediterranean. We can emphatically assert that there is no potential candidate from the geographical record for what Plato's character described - at least not within the past 100 million years or so, longer ago than Critias' apocryphal great grandfather.

And yet, clearly, many have pointed to today's actual geographical features and claimed them as Atlantis for centuries - features which cannot possibly be reconciled with the only description of Atlantis. This makes them Elvis sightings with the added element of the guy not looking anything like Elvis.

Nevertheless, Wikipedia's article "Location hypotheses of Atlantis" lists more than 25 candidates, with their proponents and origins of the belief.

These candidates include some that have been around for centuries, since before we had detailed geographical knowledge of the continents, such as Atlantis being in Sweden, in the Americas, in the Azores. They include newer claims made by alternative history enthusiasts such as any number of places inside the Mediterranean and around the Straits of Gibraltar. They even include a new one that springs from the world of YouTube conspiracy mongering: a circular igneous intrusion in Mauritania called the Richat Structure - the "Eye of Africa" - in a part of the continent that hasn't been undersea for hundreds of millions of years, and that's less than 1% the size of Plato's description.

In these great lists of proposed locations, we find many of the famous names from pseudoscience and alternative history: Charles Berlitz, leading advocate of the Bermuda Triangle and Roswell mythologies; Erich von Däniken, author of *Chariots of the Gods?;* Peter Kolosimo, author and promoter of "ancient aliens" claims; Graham Hancock, a leading proponent of the anti-scientific notion of ancient advanced civilisations; and even early 20th-century celebrity psychic healer Edgar Cayce claimed to have wisdom from Atlantis.

All such proposed locations are unacceptable candidates for Atlantis for at least several reasons - we can find inconsistencies about each that can't be reconciled with Plato's story - and they all share one fatal flaw in common: they attempt to explain a structure that we know from the geographical record to be non-existent, and that we know from its only source to have been a work of philosophical allegory. In addition, since each of these proposed sites is a physical location that we can actually go study, we find it easy to dismiss them as having been the sites of ancient civilisations, as the evidence that must remain is obviously not there.

So, no matter how many YouTube videos come out with some new proposed location for Atlantis, they will all continue to be provably wrong by these same measures. When Plato describes an island the size of Iceland, located just west of the mouth of the Mediterranean, with a circular canal 1500 km in circumference - you don't get to say you located a small circular lake in Outer Mongolia and claim success in finding Plato's fabled city.

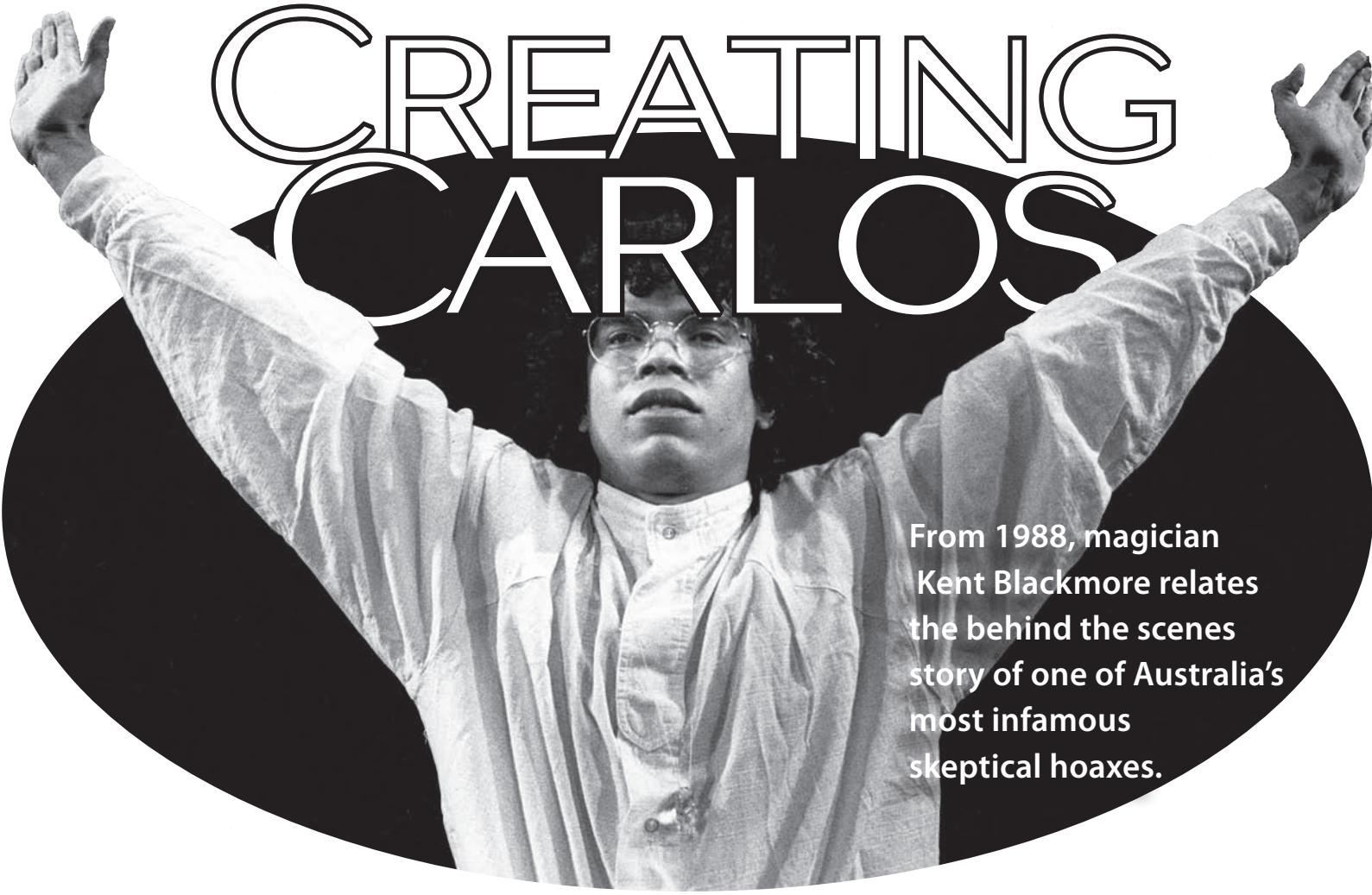
We won't conclude by saying that we've laid the claims to rest, because they won't ever rest. Another book and new claim will come out tomorrow (when it does, please don't email me that Atlantis has finally been found and I need to retract this article). The same allure of ancient miracles that's kept von Däniken and Graham Hancock rolling in book sales for decades is now keeping YouTube conspiracy videos high on the list of what's trending, and will continue to mesmerise tomorrow's alternative theorists.

There is a great irony in that we never really got to learn what point Plato intended to make with his story, since he discontinued the book so abruptly - he never really got to have his say with Atlantis, and yet it ended up being his work that had the biggest impact on popular culture. By saying almost nothing, he said the most. ■

Note: *Reprinted with permission from Skeptoid #667, March 19, 2019*

About the author: **Brian Dunning** is host and producer of the award-winning podcast, *Skeptoid (skeptoid.com).*

CREATING CARLOS



From 1988, magician Kent Blackmore relates the behind the scenes story of one of Australia's most infamous skeptical hoaxes.

Over the last month [March 1988], I have been in the rather privileged position of being the only magician, and the only member of Australian Skeptics, to have known about and worked on one of the biggest hoaxes to be perpetrated in Sydney. Having now seen the episode unfold, I am able to let you in on the great Carlos scam.

AS THE PUBLIC SAW IT

Following some television publicity a young man by the name of Jose Alvarez arrived in Sydney, accompanied by his minder, Jorje Grillet. Jose was touted as a great Spirit Channeller; through him spoke an ancient spirit named Carlos. In the period of transition from Jose to Carlos, the channeller's pulse slowed to a complete halt! Carlos was coming to Australia to give a vital message to the country.

In the week following Jose's arrival (February 14), the mystic and his manager appeared on several current affairs television shows, where their claims were greeted with considerable skepticism – indeed, the Australian Skeptics fielded one of their experts, who dismissed the "pulse-stopping" as a mere magician's trick. Things came to a head when manager Grillet, in a heated dispute with interviewer George Negus, threw a cup of water at Negus and stormed off the set of Channel 9's *Today Show*.

In the flurry of publicity that followed, over 450 people came to the Sydney Opera House Drama Theatre on February 21st, to hear the spirit Carlos deliver his message to Australia.

Many of those who came also believed – Carlos was indeed a voice from beyond. Carlos answered questions from both believers and skeptics, sometimes showing a knowledge of his audience greater than humanly possible.

A week later and Channel 9's *60 Minutes* program uncovered the whole affair. Not only was Carlos not a real 'channeller', the entire event had been set up by magician James Randi in conjunction with *60 Minutes*, in order to show how easily a fake 'mystic' could generate free publicity and make a fortune. In the uproar that followed, hoax victim Mike Willesee sacked his director for alleged disloyalty. The media were shocked at the perfidy of Richard Carleton [one of the hosts of *60 Minutes*] and his team for "stabbing their mates".

BEHIND THE SCENES

James Randi had been to Australia twice before, once in 1980 to conduct tests of water diviners, and very briefly a few years ago. Having written to Randi before, I was invited to assist with the water divining tests, and from this came a letter in January this year [1988], asking for my participation in a 'sting' and warning me to keep the matter a secret, even from the

Creating Carlos

Continued...

Australian Skeptics (of which I am a member!). Of course, this placed me in an interesting position; I could not tell magicians that Randi was coming to Australia, and I had to sit back and observe the Skeptics in action without tipping my hand to members such as Steve Walker and Peter Rodgers.

Randi stayed at the Boulevarde Hotel on William Street in Sydney, attempting to stay unrecognised, but he found that he was still remembered by some passers-by from the days when Don Lane told him to "Piss off!" The mystic duo, Jose and Jorje, stayed at the Sebel Town House [in Kings Cross], where they gawped at celebrities such as AC/DC, and were in turn treated with deference by those who had heard of Carlos' powers. Both were rank amateurs to the art of deception, and very nice people in a strange situation. Jorje, as the manager, had been deliberately made to look rich and sleazy by his clothing and moustache; on arrival at Sydney Airport, the pair were subjected to a strip search!

As the week went by, I met up with Randi to discuss the events to come and to chat about magic and mentalism in general. Richard Carleton and his team had already been on the job for some weeks, training Jose and organising phoney press kits, tapes, etc – there was a lot of work put into the whole hoax, fake photos and a book, offices and phones to be manned, and the most important item, publicity to be arranged. The breakthrough wasn't hard to achieve – simply throw a bit of water on a TV host, hit him with a curse, and walk off the set – and instant front page news.

(In the fallout from the hoax, it was commonly stated that things had backfired. True, Channel 9 had the biggest proportion of media caught, but it was clear beforehand that there would be a considerable backlash from the media. As Randi as later to say, "We laid the knife on the table, others picked it up and stabbed themselves.")

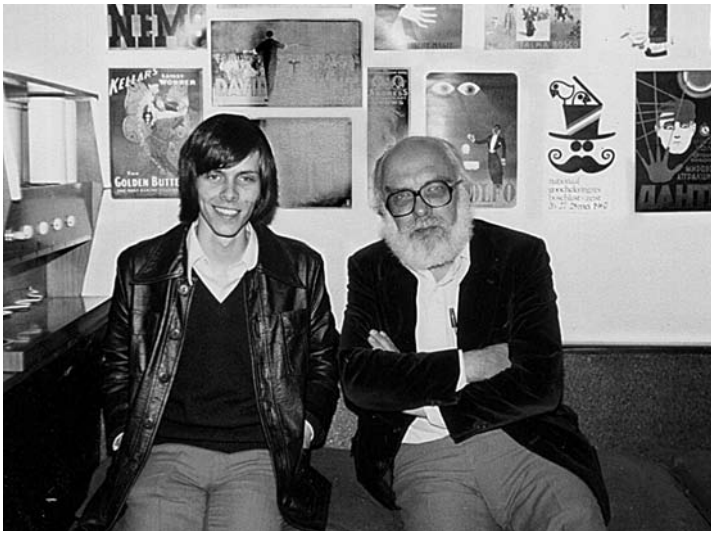
> "It was clear beforehand that there would be a considerable backlash from the media."

And so to the Opera House appearance on the 21st, the big test of whether Carlos had made an impact on the public. My jobs were concerned with this day, and I spent part of the day handing out promotional leaflets at Circular Quay (I'll never be cruel to a leaflet distributor again!). Around one o'clock, the Drama Theatre was set up for Carlos' "introduction to Australia". There was quite a delay – someone from overseas rang the Opera House and made a bomb threat against the Carlos Foundation. It isn't known, but the possibility exists that someone didn't like Carlos muscling in on a profitable operation.

After the Dog Squad inspected the theatre, the doors were opened, and I went to work asking early arrivals if they wished to ask Carlos a question. As they wrote, I noted their clothing, appearance etc, gathering information which I relayed to Randi backstage via concealed radio device. The questions gathered visually by me were to be the only ones answered by Carlos. Although the audience had a chance to write questions later on, they were simply put in a basket with the known questions on top of the pile – it was the old carnival Question and Answer act all over again.

Backstage with the performers during the show, there were some bad cases of stage fright. Jose/Carlos was hooked up to the radio device, and Randi cued him for all the actions and answers to be given to the audience. It

Photos from the media kit sent out to promote Carlos' visit (note the radio station's call sign).



Magicians and conjurers - the author with James Randi during a pre-Carlos visit.

was a funny sensation to hear Randi say something backstage and to hear it a second later from the mouth of Carlos, onstage. (To cut down possible noise from backstage, Randi had to be covered by a heavy quilt.)

Over 450 people came to the Opera House including the media, believers, the curious and the skeptical. [There was no charge for admission. - Ed] Before the 'transition' to Carlos was made the audience was given the opportunity to ask the 'mortals' questions, and the Skeptics weighed in strongly. After a break, Jose did his act of heavy breathing and pulse stopping, and the spirit of Carlos spoke. Here I found out the real power of the mentalist. A lady to whom I had spoken was addressed by Carlos. He knew, without looking, that she was wearing aqua beads of cut glass from Venice, and that she sought relief from migraines. How? She had told me, in response to my comment about how nice the beads were. And yet, this lady made no connection between me and the knowledge Carlos seemed to possess.

Carlos, having spouted a load of absolute garbage on the power of crystals and the imminent approaches of UFOs and radiation showers, terminated his audience. People left the theatre to inspect an impressive array of crystals, waters, stones etc which were "full of energy" and available by order only, no cash) at very reasonable prices – for example, "Carlos Crystal" from $52 to $220, "Tears of Carlos" for $850, and the "Atlantic Crystal" for a mere $20,000 (we had two people interested in Atlantis).

I stood behind one of the display tables, selling this rubbish for all I was worth. I used to play a game with my family in which the player had to speak non-stop for two minutes about any subject given to them. My success at this had led me to suspect that I had the ability to talk under wet cement, and now I know it to be true. For half an hour I told the most outrageous lies about crystals and their healing powers, all with the sincere look which would have done credit to a used car salesman.

The frightening thing was that people believed me. Within that time. I met a man from Atlantis, others who wanted to feel the energy of the crystals, and a man who already had a crystal and wished to compare energies! (He did, taking a deep breath and holding crystals to his forehead, and agreed with me when I suggested that I could see the amazing aura surrounding the objects.) Without question, I was manipulating these folk with no more than a glib line of patter.

> "For half an hour I told the most outrageous lies about crystals and their healing powers."

There was one more problem. I knew that friends from the Skeptics would be present, and would doubtless want to know why I was working with the Carlos Foundation. The solution was to act as a double agent, and imply to them that I was working solo in an attempt to 'infiltrate' the Carlos group. This worked sufficiently to ensure that our cover would not be blown, but I knew that I wold have to face the music when the hoax was finished.

And so, the setup was complete, and the following week 60 Minutes exposed the affair, making their point that a trickster looking for money can profit just as much from bad publicity as he can from good. The question of whether the hoax was handled properly must be left to you to decide, since it raised so many different issues. From my point of view, I would have liked to see more emphasis on the 'real' spirit channellers who make fortunes out of speaking nonsense with a funny voice, but all in all, there were a lot of valid points made.

As a participant behind the scene, I had great fun joining in the secret, meeting Randi and Carleton, seeing the success of a major venture, and reaping some practical rewards. But was the hoax set up for fun? Let me end by quoting just one of the question forms filled out by a person at the Opera House. Bear in mind that this person could just as easily have been attending a gathering held by one of the many con-artists who have visited, and you will realise why skeptics such as Randi and myself are angry enough to fight against such snakes:

"I have had several serious spinal operations and I am in terrible pain, Can Carlos tell me how I might be healed?"

The Carlos affair may have been a hoax, but it was no joke. ■

Note: *Reprinted from Magic Chatter, Volume 21 No 3, March 1988.*

A contemporary skeptical account of the Carlos hoax can be found in *The Skeptic*, Vol 8, No 1, available for free download at skeptics.com.au/the-magazine.

About the author: **Ken Blackmore** is a magician, was editor of *Magic Chatter*, and runs the Magic in Sydney website *sydneymagic.net*

The 7 Traits of Conspiratorial Thinking

John Cook, Sander van der Linden, Stephan Lewandowsky, and Ullrich Ecker

take a look at Plandemic and how it fits in with classic conspiracy characteristics.

The conspiracy theory video *Plandemic* recently went viral. Despite being taken down by YouTube and Facebook, it continues to get uploaded and viewed millions of times. The video is an interview with conspiracy theorist Judy Mikovits, a disgraced former virology researcher who believes the COVID-19 pandemic is based on vast deception, with the purpose of profiting from selling vaccinations.

The video is rife with misinformation and conspiracy theories. Many high-quality fact-checks and debunkings have been published by reputable outlets such as Science, Politifact and FactCheck.

As scholars who research how to counter science misinformation and conspiracy theories, we believe there is also value in exposing the rhetorical techniques used in the video. As we outline in our "Conspiracy Theory Handbook" (tinyurl.com/ydfxa9a4) and "How to Spot COVID-19 Conspiracy Theories" (tinyurl.com/ycc86t7m), there are seven distinctive traits of conspiratorial thinking. *Plandemic* offers textbook examples of them all.

Learning these traits can help you spot the red flags of a baseless conspiracy theory and hopefully build up some resistance to being taken in by this kind of thinking. This is an important skill given the current surge of pandemic-fueled conspiracy theories.

1. **Contradictory beliefs** - Conspiracy theorists are so committed to disbelieving an official account, it doesn't matter if their belief system is internally contradictory. The Plandemic video advances two false origin stories for the coronavirus. It argues that SARS-CoV-2 came from a lab in Wuhan – but also argues that everybody already has the coronavirus from previous vaccinations, and wearing masks activates it. Believing both causes is mutually inconsistent.

2. **Overriding suspicion** - Conspiracy theorists are overwhelmingly suspicious toward the official account. That means any scientific evidence that doesn't fit into the conspiracy theory must be faked. But if you think the scientific data is faked, that leads down the rabbit hole of believing that any scientific organisation publishing or endorsing research consistent with the "official account" must be in on the conspiracy. For COVID-19, this includes the World Health Organisation, the US Centers for Disease Control and Prevention, the Food and Drug Administration, Anthony Fauci … basically, any group or person who actually knows anything about science must be part of the conspiracy.

3. **Nefarious intent** - In a conspiracy theory, the conspirators are assumed to have evil motives. In the case of Plandemic, there's no limit to the nefarious intent. The video suggests scientists including Anthony

Fauci engineered the COVID-19 pandemic, a plot which involves killing hundreds of thousands of people so far for potentially billions of dollars of profit.

4. **Something must be wrong** - Conspiracy theorists may occasionally abandon specific ideas when they become untenable. But those revisions tend not to change their overall conclusion that "something must be wrong" and that the official account is based on deception. When Plandemic filmmaker Mikki Willis was asked if he really believed COVID-19 was intentionally started for profit, his response was "I don't know, to be clear, if it's an intentional or naturally occurring situation. I have no idea." He has no idea. All he knows for sure is something must be wrong: "It's too fishy."

5. **Persecuted victim** - Conspiracy theorists think of themselves as the victims of organised persecution. Plandemic further ratchets up the persecuted victimhood by characterising the entire world population as victims of a vast deception, which is disseminated by the media and even ourselves as unwitting accomplices. At the same time, conspiracy theorists see themselves as brave heroes taking on the villainous conspirators.

6. **Immunity to evidence** - It's so hard to change a conspiracy theorist's mind because their theories are self-sealing. Even absence of evidence for a theory becomes evidence for the theory: The reason there's no proof of the conspiracy is because the conspirators did such a good job covering it up.

7. **Reinterpreting randomness** - Conspiracy theorists see patterns everywhere – they're all about connecting the dots. Random events are reinterpreted as being caused by the conspiracy and woven into a broader, interconnected pattern. Any connections are imbued with sinister meaning. For example, the *Plandemic* video suggestively points to the US National Institutes of Health funding that has gone to the Wuhan Institute of Virology in China. This is despite the fact that the lab is just one of many international collaborators on a project that sought to examine the risk of future viruses emerging from wildlife.

There are various strategies you can use in response to conspiracy theories. One approach is to inoculate yourself and your social networks by identifying and calling out the traits of conspiratorial thinking. Another approach is to "cognitively empower" people, by encouraging them to think analytically. The antidote to conspiratorial thinking is critical thinking, which involves healthy skepticism of official accounts while carefully considering available evidence.

Understanding and revealing the techniques of conspiracy theorists is key to inoculating yourself and others from being misled, especially when we are most vulnerable: in times of crises and uncertainty. ■

Note: *Reprinted from The Conversation, May 16, 2020*

About the authors:

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Sander van der Linden is Director, Cambridge Social Decision-Making Lab, University of Cambridge

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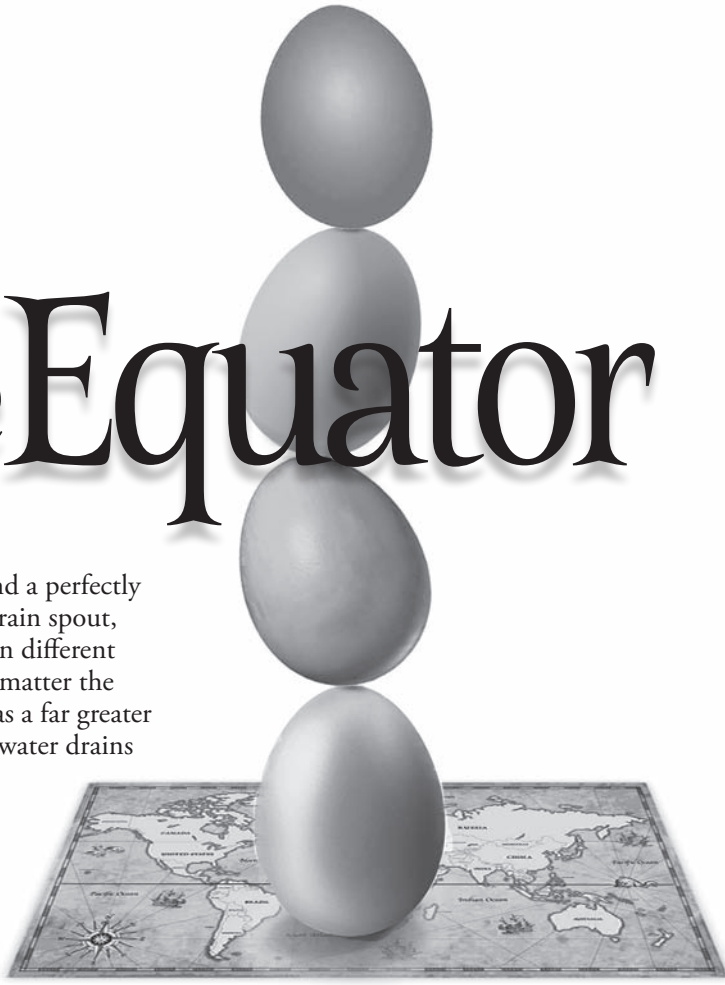
Ullrich Ecker is Associate Professor of Cognitive Science, University of Western Australia

Ben Radford goes to the line to check up on a long-standing ovulatory claim.

Egging The Equator



A reader of my columns asked "I've heard that there are some special science tricks you can accomplish only at the equator, including balancing an egg on its end. Is that true?"

On a recent trip to Ecuador I spent a week at a jungle lodge near the borders with Colombia and Peru. The only access is by boat on the Napo River, one of the major tributaries of the Amazon. The protected preserve is home to several Indian tribes and eco-tourism is popular; the days are filled with jungle hikes, birdwatching, kayaking, and watching monkeys and river dolphins.

Among the touristy things to do in Ecuador - a country named for its geographical location - is visit the equator. In the dozen or so countries through which the equator passes, a small but significant commercial industry has emerged associated with it, including equator tours, t-shirts, and hats (an impressive feat for an imaginary line).

There are several claims about interesting or unusual natural phenomena said to happen only at the equator. Perhaps the most famous is that water goes down a drain in opposite directions above and below the equator due to the Coriolis Effect. Though this nugget of curiosa appears in many trivia books, it is dubious. While it is true that, given a large enough body of water and a perfectly symmetrical basin and drain spout, the water would empty in different directions, as a practical matter the curve of the container has a far greater influence on which way water drains (Bobick 2003).

THE EGGSTRAORDINARY CLAIM

One day during a jungle hike my companions and I paused at a concrete monument bearing a metal plaque declaring it Monumento Mitad Del Mundo, or the monument at the middle of the world. After obligatory tourist photos were taken, our guide offered to show us an amazing sight. From a backpack at his feet he produced an egg and a wood stake. The stake was about 40cm long and had a nail hammered partway in at the top. He carefully centered the stake about 60cm in front of the monument and drove it into the moist earth. As he did he announced, correctly, that we weigh slightly less at the equator due to the centrifugal force of Earth's rotation (a difference of about 0.3% compared to the poles). He then told us - incorrectly in my growing suspicion - that this effect would be demonstrated by a simple science experiment involving an egg.

> "There seemed no logical or scientific connection between the claimed principle and effect."

Once he was satisfied that the stake was perpendicular to the ground and correctly aligned with the equator our guide then placed an egg on top of the nail and after about two minutes he stepped back so that we could all admire his achievement: the egg was indeed standing upright atop the nail on the stake. It was impressive, and we all took turns photographing this apparent quirk of physics.

I could not deny that it had been done, and I had no reason to suspect trickery or legerdemain, and when our guide removed the egg he handed it to me to try it for myself. I confirmed that it was indeed a genuine raw egg. I attempted to duplicate the feat but gave up in under a minute, passing the egg to someone else whose patience was rewarded with another success, resulting in another ovulation-related ovation.

However there seemed no logical or scientific connection between the claimed principle and effect: assuming an egg did in fact weigh less at that particular spot than another only a few metres or miles away it wasn't clear

why that would allow it to stand on its end. The mass of the egg was the same and thus presumably the center of gravity over the nail head was the same regardless of its location. Did that mean that a lighter egg would more easily balance on a nail? And if so, why? If anything I assumed that the more an egg weighed the easier it would be to balance on a nail, having more mass than a lighter one.

Left: The tour guide balances an egg on a nail in front of a monument to the Equator in Eastern Ecuador. Below: The author tries the same thing, but some distance from the line.

THE EGGSPERIMENT

On the trip our guide was very knowledgeable, finding and identifying hundreds of birds, fish, insects, mammals, and plants in the jungle. His ability to locate seemingly invisible tracks and burrows was astonishing, and his information about the area was both first-hand (he grew up in the area) and encyclopedic. Thus we had every reason to assume that he was right about the egg balancing; it wasn't presented with a wink and a nod but as a simple scientific fact, as obvious and irrefutable as photosynthesis or symbiosis. (This was not the first myth I encountered while in the jungle; in Costa Rica I heard - and promptly researched and soon debunked - the legend of the so-called "walking tree"; see Radford 2009.)

Not wanting to embarrass our guide, but also not wanting to let apparent pseudoscience pass unremarked, I politely but pointedly asked him if he'd ever tried to balance the egg anywhere else except in that area. He said no, it only worked at this location on the exact equator. That of course didn't answer my question; if he had never tried to balance the egg away from the equator, then he had no way of knowing whether or not it could be done there. From a research design point of view what was missing from this 'experiment' was a control.*

I made a mental note to test it when I got back home, but I realised that even if I got an egg to stand on a nail in the United States my experiment may be flawed: though the egg shape and size would be more or less standard I'd have to use a different nail, one that may have a slightly different width or slight bend, or something else that would change the conditions.

We continued the jungle hike with the distant guttural hollers of howler monkeys in the air, seeing surprises such as the poison arrow frog and a deadly fer-de-lance snake that I very nearly stepped on during the only hike I decided to wear open-toed sandals instead of jungle hiking boots (that oversight did not happen twice).

About an hour later we took a canoe back to our camp and headed toward our cabins to relax before dinner. As we disembarked I noticed that our guide still carried the stake with the nail on it. I asked him if I could borrow the stake and the egg, as I wanted to try

Egging The Equator

Continued...

the experiment again. He grinned and happily supplied both before retiring to a shaded porch for a cold Coke.

I wandered over to a grassy area and sat down to see if I could balance the egg. I shouldn't be able to, since we were at least a mile away from the equator. Though it wasn't clear exactly how wide the equator was considered to be for egg-balancing purposes (how wide is an imaginary line?), it was obvious that our guide believed that attempting it anywhere other than in front of the Monumento Mitad Del Mundo would be a fool's errand since the egg's normal weight would make it unbalanceable.

So it was that I spent several long minutes trying to balance the same egg on the same stake and nail. As a few companions watched with beer-enhanced bemusement I tried to make the egg balance, and it kept falling off into my hand. Two, then three, then nearly five minutes of trial and error finally resulted in balancing the egg atop the stake. I gingerly stepped back, revealing the achievement to the small crowd who offered some scattered enthusiastic applause. I took some photos in case a stiff wind (or one of the feral three-foot lizards that freely roamed the area) knocked it over. I left it there for others to see, and about twenty minutes later when we assembled for dinner one of my companions called our guide over to the grassy area. As my flashlight revealed the geographically anomalous egg he seemed genuinely surprised.

He knelt down and inspected it closely with his flashlight, trying to see if I'd used any gum, adhesive, sand, grass, or other mechanical trickery. He asked me how I did it, and I just shrugged and said "with practice" (and Gringo saliva, since I'd licked the egg bottom as a joke). But it was genuine, and done some distance from the

equator. I didn't want to embarrass our guide by pressing the issue so I diplomatically dropped the subject (but not the egg).

THE EGGSPLANATION

As for why our guide believed it, Martin Gardner, writing in *Skeptical Inquirer* about the myth that egg balancing can only be done on the first day of Spring (a tradition he traces back to ancient China) explains that "Such self-deception is not hard to understand. If you are convinced that an egg will balance more easily on a certain day you will try a little harder, be more patient, and use steadier hands. If you believe that eggs won't balance on other days, this belief is transmitted subconsciously to your hands. It's the old Ouija-board phenomenon." (Gardner 1996, 9)

Since our guide assumed it could only be done on the equator, it made sense that he'd never tried it elsewhere - what's the point if you 'know' it won't work? The fact that he (and others) had made the egg stand on the nail at the equator hundreds of times for thousands of tourists over the years at the Monumento Mitad Del Mundo confirmed his biases and expectations. There was no need to test the hypothesis because its outcome was both assumed and self-evident.

I'd tried diligently to avoid doing any skeptical work or investigations while on vacation, but in the end I couldn't resist. My reaction to research an extraordinary claim overcame my potent desire to lay in a hammock and nurse a cold Pilsener beer. I assume our guide is still doing the egg trick, though perhaps he and the others in my group got an indirect caution (and maybe a humorous anecdote) about believing what you're told, and about how to test a hypothesis.

* *The conspicuous lack of a valid control group plagues many paranormal subjects. For example, if asked to predict a given person's future, two Tarot readers should simultaneously draw the same cards (or at least offer very similar information), just as two 'aura photographs' taken at the same time should be identical, two 'expert' dowsers operating under identical conditions should have similar results, and so on.* ■

Note: *Rprinted from Skeptical Inquirer. All photos are by the author.*

About the author: **Ben Radford** is an investigator of the paranormal and research fellow for the Committee for Skeptical Inquiry.

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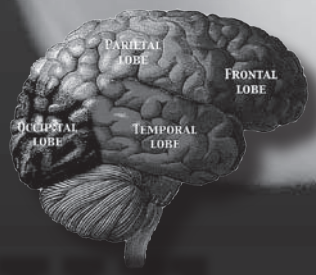
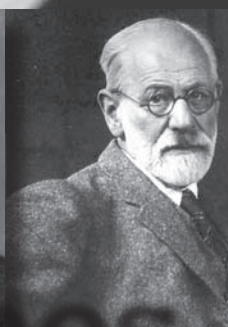
The cycle of life

Deliriums, delusions, and memories. And so it goes, the almost inevitable realisation that all knowledge is connected and connectable.

DELIRIUM OF NEGATION

Cotard's delusion, also known as walking corpse syndrome or Cotard's syndrome, is a rare mental disorder in which the affected person holds the delusional belief that they are dead, do not exist, are putrefying, or have lost their blood or internal organs. In 1880, the neurologist Jules Cotard described the condition as "le délire des négations" (the delirium of negation), a psychiatric syndrome of varied severity. A mild case is characterised by despair and self-loathing, while a severe case is characterised by intense delusions of negation and chronic psychiatric depression. The case of Mademoiselle X describes a woman who denied the existence of parts of her body and of her need to eat. In the course of suffering the delirium of negation, Mademoiselle X died of starvation.





What goes

MEMORIES

Crews has published skeptical and rationalist essays on a variety of topics including Freud and recovered memory therapy, some of which were published in *The Memory Wars: Freud's Legacy in Dispute* (1995). Recovered memory therapy (RMT) is a term for psychotherapy using one or more method for the recalling of memories. Proponents claim that traumatic memories can be buried in the subconscious and affect current behaviour, and that these can be recovered by RMT. It is linked to the debunked false memory syndrome, and is one of various delusional disorders which include Capgras delusion (people replaced by impostors), Fregoli syndrome (different people are the same person in disguise), Munchhausen syndrome (exaggerated symptoms of illness), and Cotard delusion.

THE CREWS CUT

Frederick Campbell Crews (b.1933) is Professor Emeritus of English at the University of California, Berkeley. He is the author of numerous books, including *The Tragedy of Manners: Moral Drama in the Later Novels of Henry James* (1957), *E. M. Forster: The Perils of Humanism* (1962), and *The Sins of the Fathers* (1966), a discussion of the work of Nathaniel Hawthorne. Initially a proponent of psychoanalytic literary criticism, Crews later rejected it, becoming a critic of Sigmund Freud and his scientific and ethical standards. Crews was a prominent participant in the "Freud wars" of the 1980s and 1990s, a debate over Freud's reputation, scholarship and impact on the 20th century.

Frederick Crews looking for truth in psycho-analysis and the deeper meaning of Winnie the Pooh.

Sources: Wikipedia

COTARD'S WAY

Jules Cotard (1840 -1889, pictured below left)) was a French neurologist who studied medicine in Paris and later went on to work as an intern at Hospice de la Salpêtrière. He became particularly interested in cerebrovascular accidents (commonly known as strokes) and their consequences and undertook autopsies to better understand how these affected the brain. In 1869, he left Salpêtrière and joined an infantry regiment as a regimental surgeon at the outbreak of the Franco-Prussian War. He made particular contributions to the understanding of diabetes and delusions. In August 1889, Cotard's daughter contracted diphtheria and he reportedly refused to leave her bedside for 15 days until she recovered. He eventually contracted diphtheria himself and died on 19 August.

Mademoiselle X said she was condemned to eternal damnation and couldn't die - "a walking corpse". She died.

around ...

THE VERY MODEL

Cotard served as the real-life model for the character of Dr Cottard in the Marcel Proust novel *In Search of Lost Time*. Valentin Louis Georges Eugène Marcel Proust (1871 –1922) was a French novelist, critic, and essayist best known for his monumental novel *À la Recherche du Temps Perdu* (*In Search of Lost Time*; earlier rendered as *Remembrance of Things Past*), published in seven parts between 1913 and 1927. It totals about 4000 pages (depending on the edition) and features more than 2000 characters. Proust died before he was able to complete his revision of the drafts and proofs of the final volumes, the last three of which were published posthumously. He is considered to be one of the most influential authors of the 20th century.

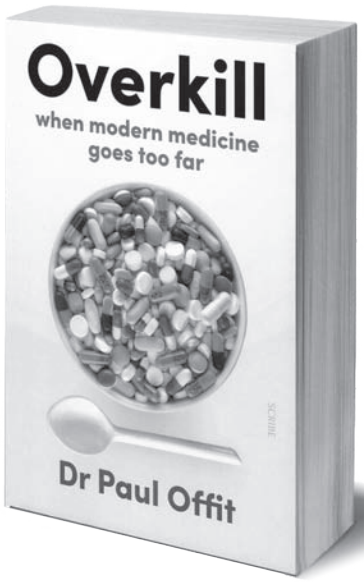
POOH STICKS IT TO THEM

À la Recherche du Temps Perdu is also one of the least-read "great" novels because of its length. It was referenced by American essayist and literary critic Frederick Crews, in his book *The Pooh Perplex*, in a chapter titled "À la Recherche du Pooh Perdu". *The Pooh Perplex: A Student Casebook* (1963), is presented as a group of analytical essays for use in Freshman English. Each essay caricatures the methods, obsessions and style of a particular kind of critic, such as Marxist, Freudian, Christian, etc. The Pooh Perdu essay is written by "Woodbine Meadowlark". Other essays include "O Felix Culpa! The Sacramental Meaning of WTP", by CJL Culpepper; and "A Bourgeois Writer's Proletarian Fable" by Martin Tempralis.

Valentin Louis Georges Eugène Marcel Proust, "dilettante and social climber", strikes a pose while remembering about things past.

The battle within

Overkill: When modern medicine goes too far
By Dr Paul Offit
Scribe Publications, **A$32.99**



In 2010, Dr David Gorski wrote an editorial in the Science-Based Medicine blog (tinyurl.com/lpybrfr) in which he said "In my five years in the blogosphere, two years blogging for SBM, and over a decade in Internet discussion forums about medicine and 'alternative' medicine, I've learned a few things. One thing that I've learned is that one of the biggest differences between those whose world view is based on science and who therefore promote science-based medicine and those promoting pseudoscience, quackery, and anti-science is that science inculcates in its adherents a culture of free, open, and vigorous debate.

"Indeed, to outsiders, this debate can seem (and sometimes is) vicious. In other words, if you're going to be a scientist, you need to have a thick skin because you will have to defend your hypotheses and conclusions, sometimes against some very hostile other scientists.

"That same attitude of a Darwinian struggle between scientific ideas, with only those best supported by evidence and with the most explanatory power surviving, is a world view that those not steeped in science have a hard time understanding.

"Among those who don't understand science, few have a harder time with the rough-and-tumble debate over evidence and science ... than those advocating pseudoscience."

But is it always that way in the world of "real" medicine? Dr Paul Offit might be courting accusations of betrayal; at the very least he is putting to the test that "free open and vigorous debate" that Gorski refers to.

Offit is no stranger to vigorous responses to his work. He has been a tireless campaigner against the tactics used by the anti-vaccination movement, and in particular the sect that has gathered around Andrew Wakefield and his debunked vaccine/autism link. This has resulted in law suits, hate mail, and death threats.

This time, though, his target is recalcitrance in evidence-based medicine, his own field of operation.

He covers many specific cases where medical 'breakthroughs' have faced recalcitrance rather than support. Too many to mention here, but he breaks his story into: the approach to infections; the use of supplements and drugs; food and over-the-counter products; cancer screening; surgery; and some common medical myths like vitamin C.

In each area he looks at the established view, the backgrounds of those who go up against that view, and how (and whether) they successfully changed the way the medical world works.

It is surprising that Offit doesn't address one of the more famous cases of "innovative researchers versus intractable establishments" – the discovery of the link between *Helicobacter pylori* and peptic ulcers by Australian researchers and eventual Nobel Prize winners Barry Marshall and Robin Warren. Supporters of alt med have regularly used this as proof that 'western' medicine refuses to hear the truth (as represented by alt med, of course).

It should be noted that the *H Pylori* saga is not as protracted as is commonly accepted: Marshall and Warren did their research in the early 80s, their first paper was rejected in 1983, Marshall famously drank his broth of ulcer-inducing bacteria in 1984, and the results of this experiment were published in the *Medical Journal of Australia* in 1985, becoming one of the most-cited papers ever published in that publication. They faced recalcitrance, but they won.

And that might be the reason it doesn't appear – this was not a decades-long battle as evident in many of the cases he does cite – or roughly a century in the case of the role of fever and pills in disease management.

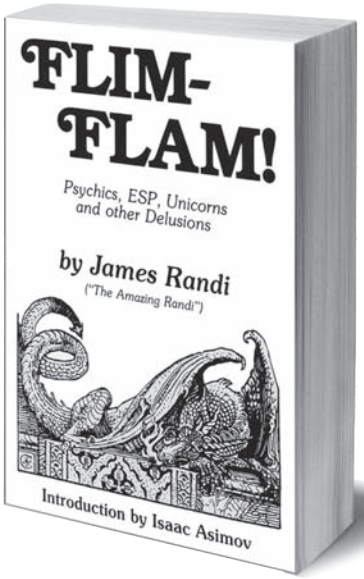
Offit does ask why it might be so, and sees explanations that range from unavoidable human weaknesses (too much knowledge to take in) to avoidable human weaknesses ("I've got to offer the patient something"; "this is the way I've done it for years") to undue influence from vested interests. He says patients need to be fully informed of why a particular solution is suggested (and hopefully required). "Otherwise you will continue to fall prey to the inertia, financial influences, and dogma that continues to allow for outmoded, unnecessary and potentially dangerous therapies."

Offit might be asking for trouble for turning a negative spotlight on his own profession, and he might be offering ammunition to "the other side", but that's what the Darwinian struggle is all about. It's what science and medicine are all about, and that's why they will always be superior to what the advocates of pseudoscience have to offer.

- Reviewed by Tim Mendham

Assailing the walls

Flim Flam! Psychics, ESP, Unicorns and other Delusions
By James Randi
Lippincott Crowell (an imprint of Harper & Row)



The Oxford Dictionary defines "flimflam" (one word) as nonsensical or insincere talk, or a confidence trick. In the context of this book, the title could refer to both.

In the previous issue of *The Skeptic* we reminded readers of what is perhaps the earliest Skeptical compendium ever published in English – Martin Gardner's *Fads and Fallacies in the Name of Science* (1952). *Flim Flam!* (1982) follows in that vein, with the added benefit of 30 more years to develop the themes and subjects.

James "the Amazing" Randi is probably the best known Skeptic in the world, and easily the most inspirational. When Randi visited Australia in 2010 for the local version of TAM, he attended a preconvention function at a local pub. The room was packed, but as Randi entered the throng parted and allowed him to move to the back of the room unhindered where he proceeded to meet the gathered as they lined up. To this author, it was a bit daunting; to Randi, it was par for the course. He is a consummate entertainer, happy to bend a spoon or do a card trick at the drop of one of his stylish hats. He takes the adulation – and it is often overwhelming adulation – in his stride, and no doubt with a touch of amusement.

Flim Flam! was Randi's third book, the first two being about Harry Houdini and Uri Geller, two extremes of the world of magic.

But *Flim Flam!* was not devoted to single individuals. It was, like Gardner's book, a compendium of topics, laced with Randi's own investigations. It covers a broad range of topics: the subtitle is "Psychics, ESP, Unicorns and other Delusions" though he gets rid of the third of those topics swiftly: "The unicorn is said to be a beast with the configuration of a horse and a long spiralled horn in the centre of the forehead. Only a virgin, we are told, is able to approach a unicorn. For this and other reasons, no reliable reports exist to verify the reality of this animal. So much for unicorns. Now for the other nonsense."

And a lot of nonsense there is, including many of the contemporary myths of the time: Geller, of course; Bermuda triangle; von Daniken; astrology; pseudotechnology; transcendental meditation; psychic surgery; water divining; sundry psychics, gurus, and the list goes on.

A highlight of the book is Randi's surgical takedown of the Cottingley Fairies. Not everyone is interested in fairies, gnomes, and Edwardian girls with cameras, but all skeptics would be interested in the way Randi sets about his task. In this chapter, Randi shows that he is more than a consummate entertainer, he is also a diligent and indefatigable researcher. In fact, he apologises for "the exhaustive analysis" he presents. One thing he makes very clear is how appallingly slack and over-confident were those "diligent researchers" of the time. Again and again the experts - or "self-seeking incompetents" as he calls them - claim 100% confidence; they cannot be fooled, and certainly not by a couple of young girls. But that's exactly what happened.

You'd laugh at the amusing ways of the paranormal investigators of old if you didn't realise that Randi had just exposed some equally over-confident and equally wrong researchers of the 1970s - Targ and Puthoff, parapsychologists from the Stanford Research Institute, whom Randi describes as "the Laurel and Hardy of Psi" and devotes a chapter to in his book.

Randi is blunt about his descriptions of purveyors of nonsense. He warns them in his first chapter: "In this book I will hit as hard as I can, as often as I can, and sometimes quite bluntly and even rudely. Good manners will be sacrificed to honesty, and the Marquis of Queensberry be damned."

Gloves off, it is.

"I have said these things for years in my lectures, now I am putting them in print."

In the introduction to the book by Isaac Asimov, that doyen of the science fiction world says "Randi has, at one time or another, assailed every wall and buttress of the vast Castle of Pseudoscience and has never pulled his punches. He has, for that reason, been called the 'hitman' of the Committee for Scientific Investigations of Claims of the Paranormal … and he doesn't completely deny the label."

That label doesn't come without cost. As Randi himself points out, "*Flim Flam!* was

an albatross of sorts."

"The harsh fact is that the market for books promoting belief in the paranormal is possibly the single greatest money-maker in publishing today." This lead to *Flim Flam!* being passed from publisher to publisher, with print runs well below what was promised. And this is despite what Randi calls "a huge file of letters from interested persons wanting to purchase the book".

In other words, skeptical books don't sell. But why then does (or did) Randi have such a huge file of letters? "I think it is because there is so little available in the way of rational skeptical treatment of the supernatural/paranormal/occult atmosphere so much in evidence today." And that was in 1982 – 40 years later, sadly, it's still the same.

If *Fads & Fallacies* was the first real broad-coverage of pseudoscience and the paranormal, Randi has followed Gardner's template and taken it quite a few steps further. Randi offers research, personal anecdote, a great deal of vitality and occasional vituperation; and he provides a way out.

At the end of the chapter on the Cottingley fairies, he cites 20 "hallmarks of paranormal chicanery". These are an excellent list of excuses and typical responses made by proponents of the paranormal that can be applied across many of the topics he covers, and beyond.

Randi has as broad an experience of paranormal chicanery as anyone on the planet. He is revered, and this book has proven to be an entry point and inspiration and confirmation for tyro Skeptics and experienced debunkers alike.

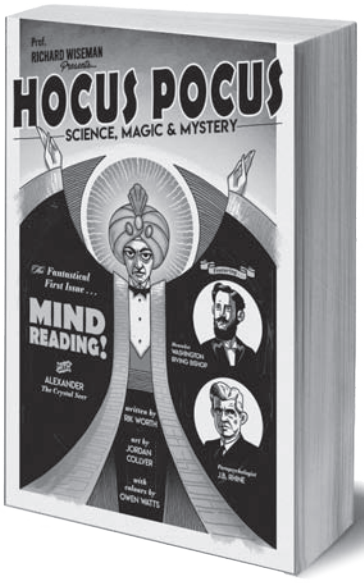
Despite Randi's despair on the chequered early history of the book in publishing terms, it is still available, at least in e-book versions at a very reasonable price. Hard copies are available second-hand on eBay for similar amounts, or elsewhere 'new' copies for fairly hefty prices.

As an example of an author who doesn't hesitate to call nonsensical insincere talk and confidence tricks "bullshit", it's worth it at whatever the price.

- Reviewed by Tim Mendham

Comical skepticism

Hocus Pocus - Science, Magic and Mystery
Presented by Richard Wiseman
HocusPocusComic.com, **free download**



You don't often get something for free, but a 28-page comic on skeptical issues is now available for free download.

Published by Prof Richard Wiseman (whose book *Paranormality*, among many others, is a must read), written by journalist Rik Worth, and drawn by Jordan Collver, *Hocus Pocus* presents discussion on paranormal claims and scientific approaches to assessing them.

The first of an intended series of six, the current volume is devoted to mind reading, and covers Washington Irving Bishop, JB Rhine, and Alexander 'the Great Seer'.

Bishop was a 'muscle reader' whose tendency to go into cataleptic fits may very well have led to his being given an autopsy while still alive; Rhine, of course, was the father of parapsychology; and Claude Alexander (The Great Seer) Conlin was a magician and mentalist.

The message of all three "strange but true" stories is how easily you can be fooled, and what you need to be aware of to prevent that – all good skeptical messages and all presented in comic book fashion, though in appearance probably tending more towards a moderate Robert Crumb style than a high level Disney.

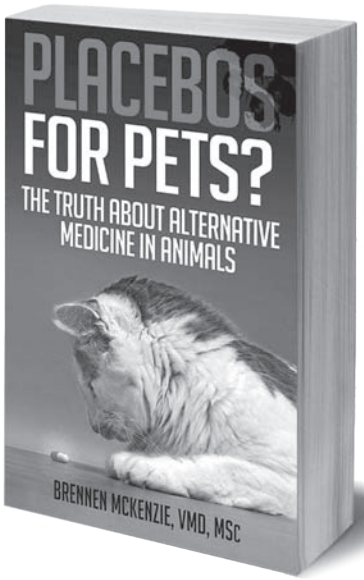
With its format, drawing style, and simple and often first person text, it is immediately accessible, especially for a younger audience (although many adults would be introduced to subjects they were not aware of, as well as to the skeptical appproach, which underpins the whole concept).

Download it for free (hocuspocuscomic.squarespace.com), although traditionalist comic book fans can buy hard copies for £6.99. It's fun quick reading, filled with interesting information and good digestible messages. Well worth the price!

- Reviewed by Tim Mendham

Woof and woo

Placebos for Pets? The Truth about Alternative Medicine in Animals
By Brennen McKenzie
Ockham, **A$51.99**



I have known Dr Brennen MacKenzie for nearly two decades now and have come to respect his views highly. A general veterinary practitioner in the US, he also lectures in veterinary medicine, is the former president of the Evidence-Based Veterinary Medicine Association and runs the respected SkeptVet blog. In short, what he doesn't know about alternative medicine in animals isn't worth knowing – so this book's arrival is not before time.

Placebos for Pets is an important book, being the latest of only three* on the subject of critical thinking and complementary and alternative veterinary medicine (CAVM). Proponents of alternative medicine often claim that because it can appear to work in animals this is proof of effectiveness since animals can't tell if they've been given a placebo. As the title suggests, MacKenzie's book puts this idea firmly to bed with curtains drawn, lights out and no cocoa.

The first two chapters cover the generalities - the definitions of and the politics behind CAVM, how to assess medical therapies of any sort for use in animals, and a broad-brush summary of the scientific method and how it helps in this process. The final chapter deals with the ways we can all be taken in by slick salespersons and outlines a number of warning 'red flags' to be on the alert for. The remaining chapters cover individual therapies - homeopathy, acupuncture, herbal medicine, and so on in more or less detail depending on their popularity.

The book is a delight; it is everything one would expect from one as knowledgeable on the subject as the author. Individual chapters adopt a structured, methodological approach, in each case asking three questions: what is it, does it work, and is it safe. In this way the foundations of CAVM are carefully dissected and exposed for what they are – "more likely to do nothing much at all and sometimes they can make things worse for the animals we love".

Drawing on his years of experience in the subject MacKenzie describes how the practices under consideration are alleged to work, their supposed uses, and their claimed modes of action. It addresses how the principles of CAM, implausible as they are in humans, are beyond ludicrous when applied to animals. How, he asks, does one perform a homeopathic proving in a hamster who is incapable of telling you whether or not he has an itch on the outside of his foot, and how can the 'gallbladder' channel described in horses possibly be of use in that species devoid, as it is, of a gallbladder? The text has a readable, common-sense style; it is enlivened throughout by anecdotes from the frontline of general veterinary practice and a number of black and white illustrations and is comprehensively referenced.

MacKenzie is emphatic about the dangers of believing that placebo effects are a sign of real improvement when they are not, so it came as a considerable surprise to me that the author himself practices acupuncture on his animal patients. His rationalisations for this, coming at the end of the chapter dealing with the fallacies and implausibilities of this practice (something he acknowledges as "mostly a placebo") make for interesting reading.

Placebos for Pets is highly recommended to anyone interested not just in a critical assessment of the use of CAM in animals but also in its general underpinnings and some of the mistaken rationalisations employed to justify its use - mistaking placebo effects for genuine improvements and apparent effectiveness in animals being proof of effectiveness, but principally just how easy it is to fool ourselves into thinking something has worked when in reality it hasn't.

* *The other two being Complementary and Alternative Veterinary Medicine Considered by David Ramey and Bernard Rollin, and No Way to Treat a Friend: Lifting the Lid on Complementary and Alternative Veterinary Medicine by Niall Taylor and Alex Gough.*

– Reviewed by Niall Taylor
General veterinary practitioner, co-author of No Way to Treat a Friend, and who runs the Rational Veterinary Medicine blog (rationalvetmed.net).

What you think …

Publish and be damned

The problem of research replication (*The Skeptic*, March 2020, p19) is a tricky one. Could it be there is simply too much material being published in the first place?

Scientific research is a lot like buying a lottery ticket – a few winners but a whole lot of losers.

And it's a rather unusual occupation too. You can spend months – maybe even years – working on something only to have almost nothing to show for it at the end. It could be just bad luck, poor experimental design or simply there was never any effect there to start with.

Although almost no researcher would ever deliberately falsify their work, massaging results to only show the good stuff is very common.

I am convinced much of the problem is caused by researchers being forced to publish stuff they would rather not merely because their employer tells them to.

Sometimes there really is nothing much to see for all your effort – that's the nature of research. But no-one wants to be made to look like they've been sitting around doing nothing.

So human nature being what it is, it is all too easy to get a bit creative and produce an impressive looking report that you know full well will simply be filed away, never to see the light of day again.

Many years ago I worked for a small, semi-private agricultural research institute that churned out research reports like there was no tomorrow. And I got to see the lot!

- Dartboard charts cleaned up via software to show straight line correlations.
- No statistics or error bars.
- Measuring some variableswithout controlling the others.
- Cherry picking to show only those experiments which produced the desired effect.
- Reporting levels of precision that the instruments were incapable of measuring.
- Drawing unreasonable conclusions from just a couple of experiments.
- Repeating exactly the same work every few years without checking existing literature.

Unfortunately some organisations are more interested in making themselves look good instead of conducting decent science. No-one speaks up because that would make them most unpopular and quite likely out of a job.

It is said that, on average, less than three people in the entire world will ever read a particular scientific paper and only then probably just skim the heading.

Maybe it's time for a scientific paradigm shift – quality not quantity!

David Frankland
Edgewater WA

5G silliness

I find it funny that people are so afraid of 5G broadcasts. In Australia, 5G is broadcast using the C-Band range of frequency (~3.5GHz). The same frequency that a range of satellite TV broadcasts use, like Foxtel TV. This means we've been irradiated constantly from above, with nowhere to hide.

Pat Bullman
Murwillumbah NSW

Religious politicians

I found your article on politicians' religious beliefs, "Illogic in the Lodge" [*The Skeptic*, March 2020, p24] very interesting and informative. I didn't know about our second PM, Alfred Deakin, being a follower of spiritualism. I think that was a pretty popular belief in those days - witness Arthur Conan Doyle.

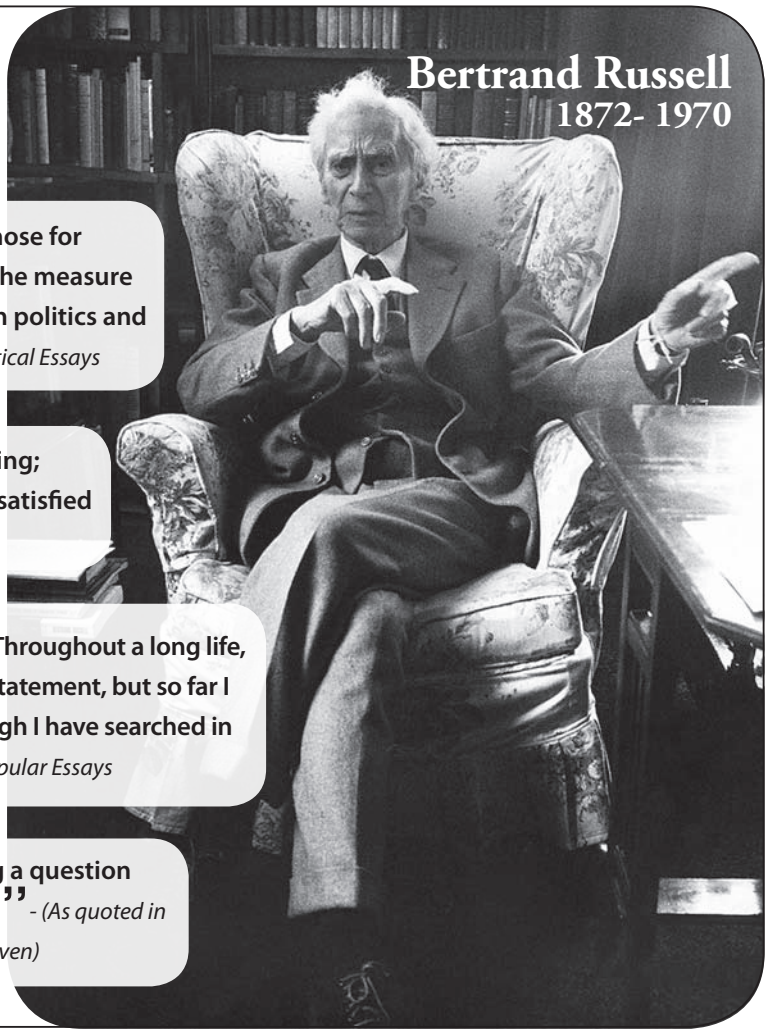
I did know about our current PM Scott Morrison's Pentecostal religious beliefs, as he hasn't been coy about it. But the anti-science, anti-evolution, and frankly pessimistic (for the rest of us) "articles of faith" are a real concern. How can you follow anyone who believes in the literal Devil (Doctrine 4.5)? How can any leader who believes in the "imminent" return of Jesus to set up "his millennial reign on his earth" have any truly long-term vision that does not incorporate an end of days (4.17)? And what sympathy do you expect from someone who believes "in the everlasting punishment of the wicked (in the sense of eternal torment) who wilfully reject and despise the love of God manifested in the great sacrifice of his only Son on the cross for their salvation" and that "whoever is not found written in the book of life shall be consigned to everlasting punishment in the lake which burns with fire and brimstone, which is the second death" (4.18)?

You would hope that the PM wouldn't apply those doctrines in his political decision making.

But you are right that those doctrines are hard to find on the Church's website. You could believe that they were trying to hide them. Fortunately they are also available in the Church's constitution (shorturl.at/fgCN5). That was updated as recently as May last year, so even if the doctrines you found are old, the rules in the constitution must still apply.

Dan Thomas
via email

What they said ...



"The opinions that are held with passion are always those for which no good ground exists; indeed the passion is the measure of the holder's lack of rational conviction. Opinions in politics and religion are almost always held passionately." *- Sceptical Essays*

"Man is a credulous animal, and must believe something; in the absence of good grounds for belief, he will be satisfied with bad ones." *- Unpopular Essays*

"Man is a rational animal – so at least I have been told. Throughout a long life, I have looked diligently for evidence in favour of this statement, but so far I have not had the good fortune to come across it, though I have searched in many countries spread over three continents." *- Unpopular Essays*

"In all affairs it's a healthy thing now and then to hang a question mark on the things you have long taken for granted." *- (As quoted in* The Reader's Digest, Vol. 37 (1940), p. 90 - *no specific source given)*

CRYPTIC CROSSWORD SOLUTION

E	D	S	■	N	A	T	U	R	O	P	A	T	H	Y
E	■	K	■	O	■	O	■	H	■	E	■	N	■	H
F	I	C	T	I	O	N	S	■	D	E	C	E	I	T
■	■	A	■	T	■	S	■	L	■	L	■	I	■	A
■	C	U	R	A	T	I	V	E	■	S	C	R	I	P
S	■	Q	■	D	■	■	■	W	■	A	■	T	■	O
E	H	■	N	E	E	D	L	E	S	■	R	U	S	E
V	■	G	■	S	■	R	■	R	■	E	■	N	■	M
A	C	N	E	■	C	O	N	C	O	C	T	■	H	O
W	■	I	■	T	■	C	■	■	■	N	■	S	■	H
A	K	N	E	E	■	E	X	T	R	E	M	E	S	■
H	■	I	■	K	■	R	■	P	■	D	■	S	■	■
P	R	A	N	C	E	■	M	E	D	I	C	I	N	E
L	■	R	■	A	■	H	■	N	■	V	■	R	■	E
A	L	T	E	R	N	A	T	I	V	E	■	I	O	N

DR BOB'S QUIZ SOLUTIONS

1. Air guitar (using his mother's yard broom).
2. The veiled cover was the painting, thus fooling him as much as the birds.
3. His application was refused by the city burghers. Being a King is obviously not what it used to be.
4. Beer!
5. The Helm Wind, coming off the Pennines.

Local Skeptical Groups

QLD

Queensland Skeptics Association Inc
www.qskeptics.org.au
Email: info@qskeptics.org.au
Mobile: 0429 143 955

Monthly dinner and talk meetings currently on hold until further notice. Check website for latest information. (Meetings normally held on the last Monday of February - November, Junction Hotel, cnr Ipswich & Annerley Rds, Annerley, from 6pm, guest speaker at 7.30pm)

Brisbane Skeptics in the Pub
www.brisbaneskeptics.org
Twitter: @BrisbaneSitP
Facebook: search "Brisbane Skeptics"

Brisbane Skeptics hold regular social evenings, SkeptiCamp and other events. Join our Facebook group or sign up to the email list on our website for event updates.

Gold Coast Skeptics – *Dr Paulie*
www.gcskeptics.com
Email: gcskeptics@gmail.com
Facebook: https://www.facebook.com/gcskeptics
Twitter: @gcskeptics Instagram: @gcskeptics

GC Skeptics in the Pub meet every third Monday. Join us at Parkwood Tavern, cnr Olsen Avenue & Wintergree Drive, Parkwood 4214, or online via Zoom.
See website and Facebook for details.

SA

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

Thinking and Drinking - Skeptics in the Pub
Contact: nigel.dobsonkeeffe@gmail.com
www.meetup.com/Thinking-and-Drinking-Skeptics-in-the-Pub/calendar/10205558
or http://tinyurl.com/loqdrt

Meets on the third Friday of every month at The Benjamin on Franklin pub, 233 Franklin St, Adelaide.

TAS

Hobart Skeptics – *Leyon Parker*
PO Box 84, Battery Point TAS 7004
Tel: 03 6225 3988 BH, 0418 128713 parkerL3948@gmail.com

Skeptics in the Pub - 2nd Monday each month, 6.30pm, Ball & Chain restaurant, Salamanca Place

Launceston Skeptics – *Jin-oh Choi*
0408 271 800 info@launcestonskeptics.com
www.launcestonskeptics.com

Launceston: Skeptics in the Pub third Thursday of each month 5.30pm @ The Royal Oak Hotel
Launceston: Skeptical Sunday, 2nd Sunday of each month 2.00pm @ Cube Cafe

WA

WA Skeptics – *Dr Geoffrey Dean*
PO Box 466, Subiaco, WA 6904
www.undeceivingourselves.org

Details of all our meetings and speakers are on our website.

Perth Skeptics – *Tanya Marwood*
https://perthskeptics.com.au
www.meetup.com/Perth_Skeptics
Meetings on third Wednesday of every month 7-9pm, at the Vic Hotel, 226 Hay Street, Subiaco

NT

Darwin Skeptics – *Michelle Franklin*
PO Box2027 Humpty Doo NT 0836
Tel: 0408 783 145; www.facebook.com/group/darwinskeptics/
DarwinSkeptics@gmail.com

Meetings to be announced - see Facebook page for details

NOTE: LISTINGS WELCOME

We invite listings for any Skeptical groups based on local rather than regional areas. Email us at editor@skeptics.com.au with details of your organisation's name, contact details and any regular functions, eg Skeptics in the Pub, with time, day of the month, location etc. Because this is a quarterly journal and most local groups meet monthly, it is unlikely we will be able to include references to specific speakers or events.

SKEPTICON 2020 GOLD COAST

ONLINE

OCTOBER 24-25

Further information at: **skepticon.org.au**